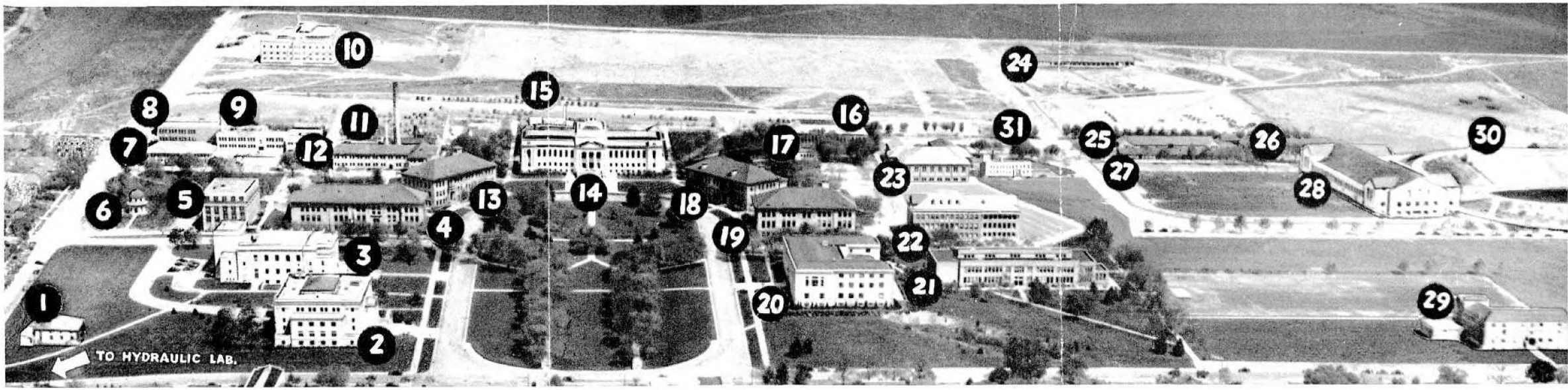
UNIVERSITY OF UTAH CAMPUS



BUILDINGS

1. Music Hall **(Mu)**.
2. Union **(Un)**.
3. Kingsbury Hall **(KH)**.
4. Physical Science **(PS)**.
5. Engineering Hall **(EH)**.
6. Observatory.
7. Civil Engineering **(CE)**.
8. Experiment Station **(ES)**.
9. Garage and Stores.
10. U. S. Bureau of Mines.
11. Heating Plant.
12. Mechanics **(Me)**.
13. Liberal Arts **(LA)**.
14. John R. Park Memorial **(Pk)**.
15. Greenhouse.
16. Geology **(Ge)**.
17. Seismograph Laboratory.
18. Biology **(B)**.
19. Industrial Education **(IE)**.
20. Library **(Li)**.
21. Wm. M. Stewart School **(St)**.
22. Medical **(Md)**.
23. Gymnasium **(Gm)**.
24. Gun Shed **(GS)**.
25. North Stables **(NS)**.
26. South Stables **(SS)**.
27. Military Science **(MS)**.
28. Field House **(FH)**.
29. Carlson Hall **(CH)**.
30. Stadium.
31. Health Service **(HS)**.

BULLETIN *of the* UNIVERSITY OF UTAH

Volume 35 June, 1945 No. 20

CATALOGUE

OF THE

UNIVERSITY OF UTAH

Announcement for 1945-46

SALT LAKE CITY 1, UTAH

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UNIVERSITY CALENDAR 1945-46

(All dates are inclusive and all are subject to change.)

Summer Quarter, 1945

June 9, Saturday.....Assembly for entering freshmen, 9:00 a.m., Kingsbury Hall.
English and college aptitude tests for all new students entering in the summer quarter, 10:00 a.m.

June 11, Monday.....Registration, summer quarter and first term of summer session.

June 12, Tuesday.....Regular classwork begins.

July 4, Wednesday.....Independence Day (holiday).

July 20, Friday.....First term of summer session ends.

July 23, Monday.....Second term of summer session begins.

July 24, Tuesday.....Pioneer Day (holiday).

August 22-25, Wednesday-Saturday...Examination week.

August 25, Saturday.....Summer quarter and summer session end (except for the **Medical School**).

September 1, Saturday.....Summer quarter ends for the Medical School.

Autumn Quarter, 1945

September 5, Wednesday.....Faculty meeting, 10:00 a.m., Kingsbury Hall.

September 6, Thursday.....English and college aptitude tests for all new students, 9:00 a.m., Physical Science 104.

September 7, Friday.....Assembly for entering freshmen, 9:00 a.m., Kingsbury Hall; engineering examinations, 1:00 p.m., Physical Science 104.

September 8, Saturday.....Registration of freshmen.

September 10, Monday.....Registration of sophomore, upper division, and graduate students.

September 11, Tuesday.....Regular classwork begins. New class begins in the School of Medicine.

September 17, Monday.....Registration closes. Last day to pay fees.

October 8, Monday.....Last day for withdrawing from classes.

October 8-13, Monday-Saturday.....Mid-term week.

November 22, Thursday.....Thanksgiving Day (holiday).

November 24, Saturday.....Classwork ends.

November 26-December 1, Monday-Saturday.....Examination week.

December 2-9.....Recess.

Winter Quarter, 1945-46

December 8, Saturday	Assembly for entering freshmen, 9:00 a.m., Kingsbury Hall. English and college aptitude tests for all new students, 10:00 a.m., Physical Science 104.
December 10, Monday	Registration for all students. New class begins in Nursing Education.
December 11, Tuesday	Regular classwork begins.
December 17, Monday	Registration closes. Last day to pay fees.
December 23-January 1, Sunday-Tuesday	Christmas holidays.
January 14, Monday	Last day for withdrawing from classes.
January 14-19, Monday-Saturday	Mid-term week.
February 22, Friday	Washington's Birthday (special assembly).
February 23, Saturday	Classwork ends.
February 28, Thursday	Founder's Day.
February 25-March 2, Monday-Saturday	Examination week.
March 3-10	Recess.

Spring Quarter, 1946

March 9, Saturday	Assembly for entering freshmen, 9:00 a.m., Kingsbury Hall. English and college aptitude tests for students, 10:00 a.m., Physical Science 104.
March 11, Monday	Registration for all students.
March 12, Tuesday	Regular classwork begins.
March 18, Monday	Registration closes. Last day to pay fees.
April 8, Monday	Last day for withdrawing from classes.
April 8-13, Monday-Saturday	Mid-term week.
April 27, Saturday	English and college aptitude tests for high school seniors.
May 4, Saturday	Engineering examination for high school seniors.
May 25, Saturday	Classwork ends.
May 25-June 1, Saturday-Saturday	Examination week.
May 30, Thursday	Memorial Day (holiday).
June 2, Sunday	Baccalaureate sermon.
June 2, Sunday	Reception of the President and University of Utah Women's Club.
June 3, Monday	Senior class day exercises.
June 4, Tuesday	Commencement exercises.

OFFICERS AND STAFF OF THE UNIVERSITY

BOARD OF REGENTS

OFFICERS OF ADMINISTRATION

INSTRUCTIONAL STAFF

BOARD OF REGENTS

1945-46

D. H. Christensen.....Salt Lake City
Term expires 1947

John E. Carver.....Ogden
Term expires 1947

James W. Wade.....Salt Lake City
Term expires 1947

Mrs. Dan B. Shields.....Salt Lake City
Term expires 1947

Roy D. Thatcher, Chairman of the Board.....Ogden
Term expires 1947

E. E. Monson, Secretary of State.....Salt Lake City
Member ex officio

Sterling W. Sill.....Salt Lake City
Term expires 1947

Mrs. A. J. Gorham.....Salt Lake City
Term expires 1949

Dr. L. E. Viko.....Salt Lake City
Term expires 1949

A. H. Reiser.....Salt Lake City
Term expires 1949

Thornton D. Morris.....Salt Lake City
Term expires 1949

William H. Leigh.....Cedar City
Term expires 1949

Earl J. Glade.....Salt Lake City
Term expires 1949

LeRoy E. Cowles, President of the University.....Salt Lake City
Member ex officio

Officers of the Board—1945-46

Roy D. Thatcher.....Chairman

John E. Carver.....Vice-Chairman

Leon D. Garrett.....Secretary

Clyde N. Randall.....Assistant Secretary

Charles L. Smith.....Treasurer

OFFICERS OF ADMINISTRATION

Office of the President

LeRoy E. Cowles.....President
Paul W. Hodson*.....Executive Secretary to the President

Office of the Secretary and Comptroller

Leon D. Garrett.....Secretary and Comptroller
Clyde N. Randall.....Assistant Secretary and Assistant Comptroller

Office of the Registrar

Joseph A. Norton.....Acting Registrar
Jeanne M. Horne.....Assistant Registrar

Lower Division

Sydney W. Angleman.....Dean

School of Arts and Sciences

E. E. Ericksen.....Dean

State School of Education

J. T. Wahlquist.....Dean
Roald F. Campbell.....Director, Wm. M. Stewart School
Eva C. Lund*.....Principal, Stewart School
Marion Merkley.....Acting Principal, Stewart School

State School of Mines and Engineering

A. LeRoy Taylor.....Dean
J. Hugh Hamilton.....Director, Utah Engineering Experiment Station
Arthur A. Center.....Head, Mining and Metallurgical Research

School of Medicine

Charles E. McLennan.....Chairman
H. L. Marshall.....
C. A. Swinyard.....
} Administrative Committee

School of Law

William H. Leary.....Dean

School of Business

Dilworth Walker.....Dean

School of Social Work

Arthur L. Beeley.....Dean

Graduate Division

Orin Tugman.....Chairman, Graduate Council

*On leave of absence.

Extension Division

I. Owen Horsfall.....Director
Karma J. Dixon.....Secretary to the Director
Emma Flandro.....Secretary

Other Officers

Myrtle Austin.....Dean of Women
John L. Ballif.....Dean of Men
Fred G. Barker.....Secretary of the Faculty

Bureau of Student Counsel‡

Arthur L. Beeley.....Director
George Pierson.....Associate Director

Placement Bureau‡

Herald L. Carlston.....Director

Student Activities

Theron S. Parmelee†.....Manager

Alumni Association

Douglas O. Woodruff.....Executive Secretary

Library

L. H. Kirkpatrick.....Librarian
Ralph D. Thomson.....Assistant Librarian

University of Utah Press

B. Grundmann.....Manager

Purchasing Department

Seibert W. Mote.....Purchasing Agent
William L. Christensen.....Assistant Purchasing Agent

University Book Store

Seibert W. Mote.....Manager
F. W. Nichols.....Head, Office—Student Supplies Department
Florence Beers.....Text Book Department

Buildings and Grounds

W. Kent Evans.....Superintendent

Kingsbury Hall

Gail Plummer.....Manager

Union Building

Douglas O. Woodruff.....Manager

Carlson Hall

Anna Marie Driscoll.....Director

‡The directors of these bureaus serve also as co-ordinators of the University's programs for veterans.
†On leave of absence with the armed forces.

THE DEANS' COUNCIL

LeRoy E. Cowles.....President
William H. Leary.....Dean, School of Law
Leon D. Garrett.....Secretary, Board of Regents
I. Owen Horsfall.....Director, Extension Division
Arthur L. Beeley.....Dean, School of Social Work
A. LeRoy Taylor.....Dean, School of Mines and Engineering
Joseph A. Norton.....Acting Registrar
John T. Wahlquist.....Dean, School of Education
Sydney W. Angleman.....Dean, Lower Division
E. E. Ericksen.....Dean, School of Arts and Sciences
Dilworth Walker.....Dean, School of Business
H. L. Marshall.....
.....Member, Administrative Committee, School of Medicine

THE ADMINISTRATIVE COUNCIL

The President of the University (chairman), the deans and directors of schools and divisions, and the following elected members of the faculty:

	Term Expires
W. P. Cottam	1945
Mervin B. Hogan	1945
R. S. Lewis	1945
Myrtle Austin	1945
Jacob Geerlings	1945
E. C. Lorentzen	1945
Orin Tugman	1946
Leo G. Provost	1946
E. L. Quinn	1946
Don M. Rees	1946
Alice O. Bronson	1946
Leland H. Creer	1946

THE GRADUATE COUNCIL

Orin Tugman (chairman), Arthur L. Beeley, Walter D. Bonner, Ralph V. Chamberlin, E. E. Ericksen, B. Roland Lewis, J. R. Mahoney, S. B. Neff, John T. Wahlquist.

THE LOWER DIVISION COUNCIL

Sydney W. Angleman (chairman), Myrtle Austin, John L. Ballif, William Behle, Alice O. Bronson, Herald Carlston, Elizabeth Cary, Jacob Geerlings, Hazelle B. Macquin, Ray E. Marsell, Helen Marshall, H. L. Marshall, Llewellyn McKay, Alma Nemir, Joseph Norton, George Pierson, Gail Plummer, Jewel Rasmussen, Waldemer P. Read, Dorothy Snow, J. Irvin Swigart, Hulda Van Steeter, A. M. Woodbury.

DEPARTMENTS OF INSTRUCTION AND THEIR HEADS

Anatomy.....Clay B. Freudenberger (Md300)
Art.....LeConte Stewart (Pk415)
Bacteriology.....Louis P. Gebhardt (acting) (Md107b)
Biological Chemistry.....Leo T. Samuels (Md411)
Biology.....Ralph V. Chamberlin (B203)
Business.....E. C. Lorentzen (IE304)
Chemistry .....Walter D. Bonner (PS102)
Civil Engineering.....A. Diefendorf (CE102)
Classics.....Jacob Geerlings (KH301)
Economics.....Dilworth Walker (IE313)
Educational Administration.....John T. Wahlquist (Pk207)
Electrical Engineering.....A. LeRoy Taylor (EH101)
Elementary Education.....Roald F. Campbell (St219)
English.....S. B. Neff (LA204)
Geology.....Hyrum Schneider (Ge206)
Health, Physical Education, and Recreation....N. P. Neilson (Gm100)
History and Political Science.....Leland H. Creer (LA104)
Home Economics..... (IE216)
Law (School and Department).....William H. Leary (Pk316)
Mathematics.....Ernest Pehrson (ES210)
Mechanical Engineering.....William J. Cope (EH308)
Medicine.....Maxwell M. Wintrobe (S. L. Co. General Hospital)
Metallurgical Engineering.....John R. Lewis (ES205)
Military Science and Tactics.....Rumsey Campbell (MS100)
Mining Engineering.....Robert S. Lewis (ES318)
Modern Languages.....James L. Barker (LA301)
Music.....Thomas Giles (Mu3)
Nursing Education.....Mrs. Hazelle B. Macquin (Gm318)
Obstetrics and Gynecology.....
.....Charles E. McLennan (S. L. Co. General Hospital)
Pathology.....Francis D. Gunn (Md115)
Pediatrics.....John A. Anderson (S. L. Co. General Hospital)
Pharmacology.....Louis S. Goodman (Md210)
Philosophy.....E. E. Ericksen (Pk205)
Physics.....Orin Tugman (PS214)
Physiology .....
Public Health and Preventive Medicine.....H. L. Marshall (HS1)
Secondary Education.....Leo G. Provost (St120)
Social Education.....George A. Pierson (LA101b)
Social Work (School and Department).....Arthur L. Beeley (LA201)
Sociology and Anthropology.....Arthur L. Beeley (LA201)
Speech.....C. Lowell Lees (KH201)
Surgery.....Philip B. Price (S. L. Co. General Hospital)

COMMITTEES OF THE FACULTY

1945-46

(The President of the University is ex officio a member of each committee.)

Advisory Committee to Bureau of Student Counsel: Beeley (chairman), Barlow, Carlston, H. L. Marshall, Pierson.

Advisory Committee on Nursing Education: Horsfall (chairman), Angleman, Beeley, H. L. Marshall, Wahlquist.

Advisory Committee to Regents' Building Committee: A. L. Taylor (chairman), W. K. Evans.

Advisory Committee on Student Assemblies: Plummer (chairman), Ballif, Clive, Garff, Madge Howe, 1st Vice-President, A. S. U. U.

Advisory Council to Union Building Management: Woodruff (chairman), Austin, Ballif, Hodson, President, A. S. U. U.

Athletic Council Representative: Kerr.

Commencement Exercises: Parmley (chairman), Ballif, H. L. Marshall, McKay.

Credits and Admissions: Creer (chairman), Bearnson, Hassell, Kerr, Norton, Pehrson, H. G. Richards, Schell, C. A. Swinyard.

Eligibility Committees:

Fraternities and Sororities—Austin (chairman), Ballif, J. R. Lewis.

Student Activities—Ballif (chairman), Austin, Durrant, Horsfall, Neilson.

Faculty Regulations: Jensen (chairman), Barlow, Behle, Cottam, Hubbard, Stephens, Stucki.

Finance Planning: Lorentzen (chairman), Campbell, Mahoney, Rasmussen.

Fraternities and Sororities: Ballif (chairman), Austin, Hogan, Norton.

Graduation and Classification: D. Rees (chairman), Bearnson, Roald F. Campbell, Gebhardt, Haycock, Macquin, Norton, Pomeroy, Provost, Runzler.

Housing Committee: Austin (chairman), Ballif, Bronson, Driscoll.

Legal Adviser on Residence: Jensen.

Library: Kirkpatrick (chairman), Roald F. Campbell, Clapp, Hogan, Madge Howe.

Physical Fitness: Wahlquist (chairman), Couch, Neilson.

Program of Classes and Rooms: Norton (chairman), Home, Provost.

Research: Mahoney (chairman), Roald F. Campbell, Cope, Cottam, Fenning, J. R. Lewis, Schneider.

Resolutions: Neff (chairman), Pehrson, Woodbury.

Scholarship Standards and Scholarship Awards: Geerlings (chairman), Frost, Pierson.

Student Employment: Carlston (chairman), Armstrong, Austin, Ballif.

Student-Faculty Committee on Social Affairs: President A. S. U. U. (chairman), Austin, Ballif, Woodruff, A. S. U. U. Executive Council.

Student Behavior: Ericksen (chairman), Angleman, Austin, Ballif, W. K. Evans, Wahlquist.

Student Loans: Lorentzen (chairman), Austin, Ballif.

EMERITI

George Thomas.....President Emeritus. B.A., 1896, M.A., 1901, Harvard University; Ph. D., Halle University, 1903; LL.D., University of Utah, 1940.

Maud May Babcock.....Professor Emeritus of Speech. B.E., 1886, Philadelphia National School of Oratory; Harvard University, summers 1890-92; University of Chicago, 1901; Europe, 1906-07, 1928-29; Litt.D., University of Utah, 1938.

Thomas A. Beal.....Dean Emeritus, School of Business, and Professor Emeritus of Economics and Business. B.A., 1906, University of Utah; M.A., 1910, M.S., in Business Administration, 1919, Columbia University; Heidelberg, Berlin, and Columbia Universities, 1925-26.

Elias Hyrum Beckstrand.....Professor Emeritus of Mechanical Engineering. B.S. in Electrical Engineering, University of Michigan, 1900; M.M.E., Cornell University, 1901; Columbia University, 1924-25.

Milton Bennion.....Dean Emeritus, School of Education, and Professor Emeritus of Philosophy and Education. B.S., University of Utah, 1897; M.A., Columbia University, 1901; University of Wisconsin, 1912-13; University of California, 1924; Ed.D., University of Utah, 1931.

Richard Bird Ketchum.....Dean Emeritus, School of Mines and Engineering, and Professor Emeritus of Civil Engineering. B.S. in Civil Engineering, 1896, C.E., 1900, University of Illinois.

Esther Nelson.....Librarian Emeritus. B.A., University of Utah, 1899; B.L.S., New York State Library School, 1906; M.A., University of Michigan, 1924.

Lynn Arthur Quivey.....Professor Emeritus of English. B.A., 1914, M.A., 1915, University of Nebraska; Stanford University, 1924-25.

James Claborn Thomas.....Assistant Professor Emeritus of Chemistry. B.S., 1903; Harvard University, 1903.

Lucy M. Van Cott.....Dean of Women Emeritus. Normal Graduate, University of Utah, 1888; B.S., Teachers' College, Columbia University, 1906.

Althea Wheeler.....Assistant Professor Emeritus of Home Economics. B.S., Columbia University, 1903; B.S., University of Utah, 1916; Columbia University, 1916-17.

MEMBERS OF THE INSTRUCTIONAL AND ADMINISTRATIVE STAFF

Adix, La Vern.....Instructor in Speech. B.A., University of Iowa, 1937; University of Minnesota, 1939-43. KH314.

Allen, Mark K.....Clinical Assistant in Medicine (Psychiatry). B.A., Brigham Young University, 1926; M.A., Stanford University, 1935. Utah State Training School, American Fork, Utah.

Allen, M. Lowry.....Associate Clinical Professor of Medicine (Radiology). M.D., University of Pennsylvania, 1924. Judge Building.

Allison, Charles W.....Instructor in Business. B.S., University of Utah, 1931; M.S., University of California, 1935. IE311.

Alway, Robert H.....Assistant Professor of Pediatrics. B.S., 1937, M.D., 1940, University of Minnesota. S. L. Co. General Hospital.

Alway, Sophia C.....Clinical Instructor in Pediatrics. B.A., Smith College, 1937; M.D., Yale University, 1941. S. L. Co. General Hospital.

Anderson, John A.....Professor and Head of the Department of Pediatrics. M.D., 1934, Ph.D., 1940, University of Minnesota. S. L. Co. General Hospital.

Anderson, Hugo B.....Lecturer in Social Work. B.A., University of Utah, 1911; J.D., University of Chicago, 1914. Continental Bank Building.

Angleman, Sydney W.....Dean of the Lower Division and Professor of English. B.A., Amherst College, 1923; M.A., 1925, Ph.D., 1937, University of California. Pk212.

Armstrong, Ike J.....Athletic Coach and Lecturer in Health, Physical Education, and Recreation. B.C.S., Drake University, 1923. Gm211.

Austin, Myrtle....Dean of Women and Associate Professor of English. B.A., Brigham Young University, 1917; M.A., University of Utah, 1926; University of California, 1930-31; Columbia University, 1925-26, summers 1934, 1937. Pk209.

Bailey, Fuller B.....Associate Clinical Professor of Medicine. B.S., University of Nebraska, 1917; M.D., Rush Medical College, 1919. Boston Building.

Baker, Ralph D.....Associate Professor of Mechanical Engineering. B.S., University of Utah, 1927; M.S., University of Kansas, 1931; Ph.D., California Institute of Technology, 1938. EH309.

Ballif, John L.....Professor of Modern Languages and Dean of Men. University of Paris, certificate de L'Abbe Rousselot, 1911; B.A., University of Utah, 1925; M.A., 1929, graduate study, summer 1931, University of Chicago. Pk218.

Bane, Laverne.....Assistant Professor of Speech. B.A., 1924, M.A., 1930, University of Iowa; Ed.D., Stanford University, 1940.

Barker, Fred G.....Assistant Professor of Psychology and Secretary of the Faculty. B. A., 1921, M.A., 1929, University of Utah; University of Chicago, 1943, summers 1928-29, 1936-38, 1931-42. Pk310.

Barker, James L.....Professor and Head of the Department of Modern Languages. L. es L. (Neuchatel), 1911; Institute Catholique, College de France, 1911-12, 1912-13; Paris, 1924-25, Europe, 1926-27. LA301.

Barlow, Myron C.....Professor and Head of the Department of Psychology. B.A., University of Utah, 1913; M.A., George Peabody College for Teachers, 1914; Ph.D., University of Chicago, 1926. Pk308.

Barrett, E. LeVerl.....Clinical Assistant in Medicine. B.A., University of Utah, 1940; M.D., Washington University, 1943. S. L. Co. General Hospital

Bauerlein, T. C.....Assistant Clinical Professor of Medicine. B.A., St. Mary's University, 1928; M.D., Cornell University, 1934. 699 East South Temple St.

Beal, Owen F.....Professor of Sociology. B.A., 1912, M.A., 1915, University of Utah; Ph.D., Columbia University, 1923; University of California, summer 1913; University of Chicago, summers 1917, 1933; University of Southern California, summer 1934. LA203.

Beard, George Victor.....Assistant Professor of Chemistry. B.A., 1928, M.A., 1934, University of Utah; University of Southern California, summer 1935; University of California, summer 1936; California Institute of Technology, 1936-37; Ph.D., Purdue University, 1941. PS109.

Bearnson, J. B.....Associate Professor of Economics. B.S., Utah Agricultural College, 1914; M.A., Stanford University, 1917; University of Chicago, 1925-26; Stanford University, 1931-32; University of Virginia, 1941-42, summers 1940-44. IE308c.

Beeley, Arthur L.....Dean of the School of Social Work; Professor and Head of the Department of Sociology and Anthropology; Associate Clinical Professor of Public Health and Preventive Medicine. B.A., Brigham Young University, 1913; M.A., 1918, Ph.D., 1925, University of Chicago; University of London, 1932-33. LA201.

Behle, William H.....Assistant Professor of Biology. B.A., 1932, M.A., 1933, University of Utah; Ph.D., University of California, 1937. B105.

Biesele, F. C.....Assistant Professor of Mathematics. B.A., 1932, M.A., 1933, Ph.D., 1941, University of Texas. LA111.

Bigelow, Welby W.....Clinical Lecturer in Public Health and Preventive Medicine. B.A., University of Utah, 1928; M.D., University of Louisville, 1932; C.P.H., University of California, 1937. State Capitol.

Bilger, Annette.....Instructor in Nursing at S. L. Co. General Hospital in association with the Department of Nursing Education. B.A., University of Utah, 1925; R.N., St. Vincent's Hospital School of Nursing, Portland, Oregon, 1937; B.A., University of Oregon, 1938.

Bingham, John Leonard.....Resident Assistant in Obstetrics and Gynecology. B.A., University of Utah, 1941; M.D., University of Pennsylvania, 1943. S. L. Co. General Hospital.

*Blake, A. Harold.....Associate Professor of Mechanical Engineering. B.S. in Mechanical Engineering, University of Utah, 1920; M.M.E., Cornell University, 1926.

Bonner, Walter D.....Professor and Head of the Department of Chemistry. B.S., Nebraska Wesleyan, 1906; M.A., Princeton University, 1908; Ph.D., University of Toronto, 1911. PS102.

Bowers, Mildred.....Assistant Professor of Home Economics and Director Food Service Department. B.S., Utah State Agricultural College, 1938; M.S., Columbia University, 1939. Un101A.

Bramhall, E. H.....Clinical Instructor in Public Health and Preventive Medicine (Laboratory Practice) and Lecturer in Bacteriology. Director of State Public Health Laboratory. B.S., University of Idaho, 1923. State Capitol.

Bridger, Clyde A.....Instructor in Mathematics. B.A., Whitman College, 1931; M.S., Oregon State College, 1938; Harvard School of Public Health and Massachusetts Institute of Technology, 1937-38. LA111.

Brimhall, Lila Eccles (Mrs. D. R.).....Instructor in Speech. B.A., University of Utah, 1914; graduate, 1916, certificate, 1929, American Academy of Dramatic Art; Columbia University, 1917-18, summers 1933, 1935; University of London, summer 1937; M.A., University of Southern California, 1939. KH316.

*Brittin, Norman Aylsworth.....Instructor in English. B.A., 1927, M.A., 1930, Syracuse University; University of Southern California, 1934; University of California, 1934-37; University of Washington, summer 1941. LA108.

Brockbank, Hazel.....Assistant Professor of Elementary Education and Supervisor of Primary Grades, Stewart School. B.S., Brigham Young University, 1927; M.A., 1930, graduate study, summer 1936, Columbia University; Europe, summer 1938. St115.

Bronson, Alice Oakes (Mrs. M. J.).....Assistant Professor of Health, Physical Education, and Recreation. B.S., University of Wisconsin, 1922; M.A., University of Utah, 1932; Stanford University, summer 1938. Gm210.

Brown, Mrs. Mary D.....Instructor in Business. B.S., 1934, M.S., 1938, University of Utah; University of Chicago, 1939-41. IE105.

Burton, Sarah.....Catalogue Librarian with rank of Instructor. B.A., University of Utah, 1921; University of California, 1937-38. Li203.

*On leave of absence.

*Calder, Grant H.....Instructor in Economics. B.S., Utah State Agricultural College, 1935; M.B.A., Harvard University, 1937.

Campbell, Roald F.....Associate Professor and Head of the Department of Elementary Education and Director, Stewart School. B.A., 1930, M.A., 1934, Brigham Young University; Ed.D., Stanford University, 1942. St219.

Campbell, Rumsey.....Professor and Head of the Department of Military Science and Tactics. B.A., Yale University, 1907; Field Artillery School, 1925. Colonel, Field Artillery. MS100.

Canavan, Lila M.....Assistant Professor of Home Economics. B.A., University of Kansas, 1919; M.S., Kansas State Agricultural College, 1929; New York University, 1942-43. IE201.

Cannon, J. Floyd.....Clinical Assistant in Medicine. B.A., University of Utah, 1934; M.D., George Washington University, 1941. 115 East South Temple St.

Carlquist, John H.....Assistant Professor of Pathology. B.S., University of Utah, 1932; M.D., Cornell University, 1935. Md100.

Carlston, Herald LaMar.....Director, Placement Bureau, with the rank of Instructor in Business, and Co-ordinator for Veterans. B.S., 1936, M.S., 1941, University of Utah. Pk211.

Carr, Lura (Mrs. R. B.).....Acting Circulation Librarian with the rank of Instructor. Ph.B., University of Vermont, 1937; B.S. in Library Science, Simmons College, 1938.

Carter, George W.....Assistant Professor of Mechanical Engineering. B.S., 1933, M.S., 1934, University of Utah. Me201.

Cartwright, George Eastman.....Resident Instructor in Medicine. B.A., University of Wisconsin, 1939; M.D., Johns Hopkins University, 1943. S. L. Co. General Hospital.

Castleton, Kenneth B.....Associate Clinical Professor of Surgery. B.A., University of Utah, 1923; M.D., University of Pennsylvania, 1927; Ph.D. (Surgery), University of Minnesota, 1933. Boston Building.

*Cary, Elizabeth R.....Instructor in English. B.A., University of Kentucky, 1916; M.A., University of Wisconsin, 1927; University of Chicago, 1934-35. LA206.

Center, Arthur A.....Professor and Head of the Department of Mining and Metallurgical Research. M.E., 1911, Met.E., 1936, Montana School of Mines; D.Eng., Yale University, 1943. ES211.

Chamberlin, Ralph Vary.....Professor of Zoology and Head of the Department of Biology. B.S., University of Utah, 1898; Ph.D., Cornell University, 1905; Sc.D., University of Utah, 1942. B203.

Chapman, Edward F.....Assistant Professor of English. B.A., 1925, graduate study, 1925-26, University of British Columbia; M.A., University of California, 1929; Ph.D., University of London, 1935. LA210.

*On leave of absence.

Cheney, Mrs. Maurine H.....University Nurse. R.N., Grove's L. D. S. Hospital, 1931. HS.

Christensen, William L.....Assistant Purchasing Agent. B.A., 1933, M.A., 1934, University of Utah. Pk120.

Christenson, V. A.....Clinical Instructor in Obstetrics and Gynecology. B.A., University of Utah, 1930; M.D., Cornell University, 1933. 8 East Broadway.

*Clapp, Edwin R.....Professor of English. B.A., Stanford University, 1923; M.A., 1925, Ph.D., 1931, Harvard University; New York University, 1927-29; University of Hawaii, 1937-38. LA205.

Clapper, W. E.....Assistant Professor of Bacteriology. B.A., 1932, M.A., 1937, Ph.D., 1943, University of Colorado. Md107.

Clausen, Fred Wylie.....Instructor in Medicine. B.A., 1934, M.A., 1936, University of Utah; M.D., Rush Medical College, 1940. S. L. Co. General Hospital.

Clegg, Will L.....Instructor in Education and Directing Teacher, Stewart School. B.S., University of Illinois, 1930; Utah State Agricultural College, 1932-39-43, Colorado State Agricultural College, 1936. St118.

Clive, Joseph C.....Instructor in Music. Student of Miegli (Lombardi), 1924; B.S., University of Utah, 1934; Columbia University, Juliard School of Music, summer 1936; University of Utah, summers 1942-43. MS100.

*Coleman, Beulah Smertz (Mrs. L. B.).....Instructor in Health, Physical Education, and Recreation. B.A., 1935, M.A., 1936, University of Utah; University of California at Los Angeles, summer 1939. Gm100.

Collins, Genevieve (Mrs. F. T.).....Instructor in Secondary Education, and Directing Teacher, Stewart School. Northern State Teachers College, 1904-06; (extension), University of Utah, 1932-1940. St209.

Condie, Richard.....Instructor in Music. B.A., Brigham Young University, 1923; graduate, New England Conservatory of Music, 1927; Fontainbleau, France, 1928-29. Mu3.

Cope, William J.....Professor and Head of the Department of Mechanical Engineering. B.S., M.E., University of Utah, 1923; M.E., Stanford University, 1929; Sc.D., Massachusetts Institute of Technology, 1937. EH308.

Coray, Q. B.....Clinical Lecturer in Medicine (Radiology). B.A., University of Utah, 1921; M.D., Washington University, 1923. Medical Arts Building.

Cornwall, C. R.....Clinical Assistant in Medicine. B.A., University of Utah, 1921; M.D., University of Pennsylvania, 1924. Medical Arts Building.

*On leave of absence.

Cottam, Walter Pace.....Professor of Botany. B.A., 1916, M.S., 1919, Brigham Young University; Ph.D., University of Chicago, 1926. B310.

Couch, Sherman R.....Assistant Professor of Health, Physical Education, and Recreation, and Assistant Athletic Coach. B.S., 1929, M.S., 1937, University of Utah; University of Southern California, summer 1932; Stanford University, 1942. Gm300.

Cowles, LeRoy Eugene.....President and Professor of Educational Administration. Ph.B., University of Chicago, 1910; M.A., University of Chicago, 1913; Ph.D., University of California, 1926. Pk224.

†Cox, Geraldine.....Catalogue Librarian with rank of Instructor. B.A., 1939; B.S. in Library Science, 1940, University of North Carolina.

Coy, Herschel L.....Adjutant, Army Specialized Training Program. Wabash-Browns College, 1938-40; Army Administration School, 1942. First Lieutenant, Army of the United States. MS100.

Crabtree, Robert Arthur.....Assistant Professor of English. B.A., Trinity College (Duke University), 1924; M.A., 1926, Ph.D., 1939, University of California. LA207.

Crawford, Arthur L.....Assistant Professor of Ore Dressing Microscopy in Mining and Metallurgical Research. B.A., Brigham Young University, 1924; M.A., Stanford University, 1926. ES220.

Creer, Leland H.....Professor and Head of the Department of History and Political Science. B.A., 1916, M.A., 1920, University of Utah; Ph.D., University of California, 1926. LA104.

Croxall, Nanon.....Instructor in Elementary Education and Directing Teacher and Supervisor of Home Economics, Stewart School. B.A., 1913, University of Utah; University of California, summer 1915; University of Wisconsin, summer 1921; University of Utah, summers 1925, 1933-36. IE112.

Curtis, Louis R.....Lecturer in Bacteriology. B.A., University of Utah, 1931; Ph.D., Cornell University, 1934. Md107.

Dalgleish, R. C.....Clinical Lecturer in Preventive Medicine. D.D.S., Northwestern University, 1918; M.P.H., Harvard University, 1940. State Capitol.

Dalgliesh, W. Harold.....Professor of History and Political Science. B.A., 1922, M.A., 1923, University of Western Ontario; Paris and College de France, 1924-25; Ph.D., University of Pennsylvania, 1931. Li306.

Davies, Margaret.....Instructor in Secondary Education, and Directing Teacher, Stewart School. B.A., University of Utah, 1937; M.A., University of Southern California, 1940. St208.

Davis, Frances Gilroy (Mrs. M. W.).....Instructor in Elementary Education, and Directing Teacher, Stewart School. B.S., 1924, M.S., 1941, University of Utah. St213.

†On leave of absence with the armed forces.

Davis, James Z.....Assistant Clinical Professor of Medicine. B.S., 1934, M.D., 1937, M.A., 1937, University of Nebraska. 73 South Main St.

†Demars, Theodore E.....Instructor in Secondary Education and Directing Teacher, Stewart School. B.A., 1934, M.A., 1939, University of Utah.

Dibble, Charles E.....Assistant Professor of Sociology and Anthropology. B.A., University of Utah, 1936; M.A., 1938, Ph.D., 1942, National University of Mexico; Harvard University, summer 1943. Pk417.

Dibble, George Smith.....Assistant Professor of Education and Supervisor of Art, Stewart School. B.S., 1938, M.A., 1940, Columbia University; Art Students League of New York. St111.

Diefendorf, A.....Professor and Head of the Department of Civil Engineering. B.S.C.E., 1911, C.E., 1914, Ohio Northern University; University of Illinois, 1921-24; Iowa State College, summers 1932-34. CE102.

Dobson, Caroline.....Instructor in Elementary Education, and Directing Teacher, Stewart School. B.S., 1930, M.S., 1940, University of Utah; Columbia University, summer 1935. St113.

Draper, Delbert M.....Lecturer in Business. B.A., University of Utah, 1911; University of California, summers 1915-16. IE308.

Driscoll, Anna Marie.....Assistant Professor of Home Economics and Director of Carlson Hall. B.S., University of Washington, 1927; M.A., 1941, and graduate study, Columbia University, summers 1942, 1944. CH.

†Due, John Fitzgerald.....Assistant Professor of Economics. B.A., University of California, 1935; M.A., George Washington University, 1936; Ph.D., University of California, 1939.

Durham, G. Homer.....Assistant Professor of History and Political Science. B.A., University of Utah, 1932; Ph.D., University of California, 1939. Li303.

Durrant, Stephen D.....Assistant Professor of Zoology. B.A., 1929, M.A., 1931, University of Utah; University of Minnesota, 1931-32; University of California, summers 1933, 1938-39. B104.

Elsey, P. J.....Research Engineer with rank of Lecturer, Utah Engineerin Experiment Station. B.S., University of Utah, 1932. ES113.

*Ensign, Berniece.....Instructor in Education and Directing Teacher, Stewart School. B.S., 1937, M.S., 1942, University of Utah; University of California, summer 1938; University of Wisconsin, summer 1939.

Ericksen, Ephraim Edward.....Dean of the School of Arts and Sciences and Professor and Head of the Department of Philosophy. B.A., Brigham Young College, 1908; Ph.D., University of Chicago, 1918. Pk205.

†On leave of absence with the armed forces.
*On leave of absence.

Erickson, William.....Resident Assistant in Surgery. B.S., 1940, M.D., 1943, Northwestern University. S. L. Co. General Hospital.

Evans, Frederick Read.....Assistant Professor of Biology. B.A., 1934, M.A., 1936, University of Utah; Ph.D., Stanford University, 1941. B108.

Evans, W. Kent.....Superintendent of Buildings and Grounds. B.S. in Mechanical Engineering, University of Utah, 1924. Pk105.

*Facer, Elden J.....Instructor in Business. B.A., Brigham Young University, 1933; M.B.A., Stanford University, 1935, 1939-40. IE309.

Felt, Paul R.....Instructor in Secondary Education and Directing Teacher, Stewart School. B.A., 1938, M.A., 1941, University of Utah. St206.

Fenning, Con.....Professor of Physiology. B.S., 1929, M.A., 1931, M.D., 1932, University of Nebraska. Md203.

Firestone, George M.....Resident Assistant in Medicine. B.S., Harvard University, 1940; M.D., 1943, University of Minnesota. S. L. Co. General Hospital.

Flandro, Emma N.....Secretary, Extension Division, with rank of Instructor. LA306.

Flowers, Seville.....Associate Professor of Botany. B.A., University of Utah, 1925; M.A., Brigham Young University, 1928; Ph.D., University of Chicago, 1931; Long Island Biological Station, 1934. B303.

†Folland, Harold Freeze.....Associate Professor of English. B.A., 1929, M.A., 1934, Ph.D., 1940, Harvard University.

Frans, Arda E.....Assistant Cataloguer with rank of Instructor. Pd.B., Teachers College, Gunnison, Colorado, 1917; B.S., University of Oklahoma, 1923; B.A., University of Oklahoma Library School, 1931; M.A., University of Oklahoma, 1933; University of Chicago Library School, summer 1937. Li203.

Frazer, Mabel.....Assistant Professor of Art. B.A., University of Utah, 1914; Art Students League, N. Y., 1916-17, 1919-20; N. Y. Evening Industrial Arts School, 1916-17; Beaux Arts, 1917-18; Italy, 1930-32. Pk412.

Freber, Arthur P.....Professor of Music. Graduate, All Hallows College; violinist, New York Philharmonic Orchestra, 1907-1912; conductor, Salt Lake Symphony Orchestra; Berlin, London, 1935-36. Mu2.

Freudenberger, Clay B.....Professor and Head of the Department of Anatomy. B.A., Colorado College, 1925; M.A., University of Colorado, 1926; Ph.D., University of Minnesota, 1931; M.D., Rush Medical College of the University of Chicago, 1938. Md300.

*On leave of absence.
†On leave of absence with the armed forces.

Frost, Henry H., Jr.....Associate Professor of Sociology. B.A., 1930, M.A., 1932, Ph.D., 1934, University of California. LA112.

Fryer, Mrs. Lutie H.....Assistant Professor of Home Economics. B.S., 1920, M.S., 1921, University of Utah; Columbia University, 1926-27, summer 1928; M.A., Iowa State College, 1934-35.

Gardner, Harvey E.....Instructor in Education and Directing Teacher, and Supervisor of Manual Arts, Stewart School. Brigham Young University, summer 1938. IE107.

Garff, Royal L.....Assistant Professor of Speech. B.A., University of Utah, 1930; M.A., 1932, Ph.D., 1939, Northwestern University. Li302.

Garrett, Leon D.....Secretary, Board of Regents, and Comptroller with rank of Associate Professor. B.S., Utah State Agricultural College, 1920. Pk225.

Gebhardt, Louis P.....Professor and Acting Head of the Department of Bacteriology. B.A., 1929, M.A., 1934, Ph.D., 1937, M.D., 1942, Stanford University. Md107b.

Geerlings, Jacob....Professor and Head of the Department of Classics. B.A., Hope College, 1926; M.A., 1927, Ph.D., 1929, University of Michigan. KH301.

Ghiselin, Brewster.....Assistant Professor of English. B.A., 1927, M.A., 1928, University of California; Oxford University, 1928-29; University of California, 1931-33. LA210.

Gilchrist, Sidney Evans.....Lecturer in Bacteriology. Director of Salt Lake City Health Laboratory. B.A., University of Utah, 1931.

Giles, Thomas.....Professor and Head of the Department of Music. Berlin, 1905-09; Vienna, 1909-10; Paris, 1910-11; Rome, 1911; Paris, 1920-21; University of Iowa, 1927-28. Mu3.

Gilmore, Mrs. Addie J.....Head Teacher, Home Economics Department Nursery School. University of Utah, 1917-18; summers 1922-23, 1938, 1940; Utah State Agricultural College, summers 1937, 1939, 1941; Oregon State College, summer 1943. IE208.

Glade, Melba.....Instructor in Elementary Education, and Directing Teacher, Stewart School. B.A., University of Utah, 1931; M.A., University of Southern California, 1938; Harvard University, 1940-41; Stanford University, summer 1944. St209.

Gledhill, Lee F.....Instructor in Secondary Education and Directing Teacher, Stewart School. B.S., University of Utah, 1938. St205.

†Goates, Wallace A.....Associate Professor of Speech. B.A., University of Utah, 1929; Yale University, 1930-31; M.A., 1935, Ph.D., 1937, University of Iowa.

Goldthorpe, Harold C.....Professor of Biological Chemistry. B.S., Utah State Agricultural College, 1917; Ph.D., University of Chicago, 1925. Md404.

†On leave of absence with the armed forces.

Goodman, Louis Sanford.....Professor and Head of the Department of Pharmacology. B.A., Reed College, 1928; M.A., University of Oregon, 1932; M.D., University of Oregon School of Medicine, 1932. Md210.

Greenburg, Goodman.....Fellow in Medicine. B.A., 1941, M.S., 1942, Ph.D., 1944, University of Minnesota. S. L. Co. General Hospital.

*Greene, Mark H.....Professor of Business. B.S., Utah State Agricultural College, 1913; M.S., University of Wisconsin, 1916.

Gunn, Francis D.....Professor and Head of the Department of Pathology. B.A., Cornell University, 1921; M.D., 1925, Ph.D., 1930, Northwestern University.

Hackney, Roy O.....Army Specialized Training Program. Army Administration School, 1943. First Lieutenant, Army of the United States. Fieldhouse.

Hagan, Blanche.....Medical Librarian. B.S., University of Utah, 1938. Li103.

Hagerman, Rita.....Instructor in Elementary Education and Directing Teacher, Stewart School. B.S., 1928, M.S., 1936, University of Utah; Columbia University, summer 1935. St214.

Hamilton, J. Hugh.....Director, Utah Engineering Experiment Station, with the rank of Professor. B.S., 1925, M.S., 1927, Ph.D., 1928, California Institute of Technology. ES207.

Hamm, Randall E.....Assistant Professor of Chemistry. B.S., 1935; M.S., 1937; Ph.D., 1940, University of Washington. PS202.

Harris, Franklin S., Jr.....Assistant Professor of Physics. B.A., 1931, M.A., 1936, Brigham Young University; Ph.D., 1941, California Institute of Technology. PS113.

Harris, L. Dale.....Assistant Professor of Electrical Engineering. B.S. in Physics, 1935, B.S. in Electrical Engineering, 1937, University of Utah; M.S. in Electrical Engineering, Purdue University, 1939. EH105.

Harrow, Reed.....Associate Clinical Professor of Surgery (Neurology). B.A., University of Utah, 1926; M.D., University of Pennsylvania, 1929. Medical Arts Building.

Hashimoto, Edward Ichiro.....Associate Professor of Anatomy. B.A., 1930, M.A., 1937, University of Utah; M.D., Harvard University, 1934. Md308.

Hass, Charles G.....Classification and Assignment Officer, Army Specialized Training Program. B.A., Denver University, 1937; Stanford University, 1940-42; Adjutant General's School, 1943. First Lieutenant, Adjutant General's Department. MS101.

*Hassell, Howard J.....Assistant Professor of Mechanical Engineering. B.S. in Mechanical Engineering, 1928, M.S. in Mechanical Engineering, 1938, University of Utah; University of Michigan, summer 1940. EH305.

*On leave of absence.

Hatch, Floyd F.....Associate Clinical Professor of Surgery. B.A., University of Utah, 1912; M.D., Harvard University, 1914. 699 East South Temple St.

Haugsten, Martha.....Instructor in Nursing at St. Mark's Hospital, in association with Department of Nursing Education. B.S., Columbia University, 1934.

Hawkins, Clarence J.....Instructor in Education and Directing Teacher, Stewart School. Graduate, 1910, and graduate study 1910-12, Boston Conservatory of Music; New York, 1915; Bordeaux Conservatory, 1918; University of Chicago, 1921; B.S., Utah State Agricultural College, 1930. St105.

Haycock, Obed Crosby.....Associate Professor of Electrical Engineering. B.S., University of Utah, 1925; M.S. in Electrical Engineering, Purdue University, 1931. EH209.

Hayes, Elizabeth Roths.....Assistant Professor of Health, Physical Education and Recreation. B.A., West Virginia University, 1932; M.S., University of Wisconsin, 1935; Sigtuna School (Sweden) and Wigman School of Dance (Dresden, Germany), summer 1937; Bennington School, Mills College, and Hanya Holm (U. S.), summers 1938-40. Gm110.

Hayes, Junius J.....Instructor in Mathematics. B. S., University of Utah, 1911. LA111.

Hazen, Winifred.....State Co-ordinator of Parent Education, Extension Division. B.S., Oregon State College, 1921; Columbia University, summers 1923-33; University of Toronto, 1932; Merrill-Palmer School, Detroit, 1933. LA306.

Hecht, Hans H.....Instructor in Medicine. M.D., University of Berlin, 1936. S. L. Co. Hospital.

Henderson, Blanche P.....University Nurse. R.N., 1917, St. Luke's Hospital, Cleveland, Ohio. HS.

Heninger, O. P.....Clinical Instructor in Medicine (Psychiatry). B.A., University of Utah, 1930; M.D., University of Chicago, 1935. Utah State Hospital, Provo, Utah.

Henriques, Anna A. Stafford (Mrs. D. E.).....Assistant Professor of Mathematics. B.A., Western College for Women, 1926; M.S., 1931, Ph.D., 1933, University of Chicago; Institute for Advanced Study, Princeton, 1933-35; University of Chicago, summers 1937, 1938, 1941. LA111.

Hibbard, Roger.....Assistant Clinical Professor of Medicine. B.A., University of Alberta, 1921; M.D.C.M., McGill University, 1924. State Sanatorium, Ogden, Utah.

Hicken, N. Frederick.....Associate Clinical Professor of Surgery. B.A., University of Utah, 1925; M.D., University of Pennsylvania, 1929. Medical Arts Building.

*Hintze, Ferdinand F.....Professor of Geology. B.A., 1908, M.A., 1911, University of Utah; Ph.D., Columbia University, 1913; University of California, 1937-38. Ge104.

Hirst, Alice.....Assistant in Library. B.S., University of Utah, 1943. Li203.

*On leave of absence.

*Hodson, Paul W.....Executive Secretary to the President with rank of Instructor in Business. B.A., University of Utah, 1936; M.B.A., Harvard University, 1938. Pk224.

Hogan, Mervin B.....Professor of Mechanical Engineering. B.S., University of Utah, 1927; M.S., University of Pittsburgh, 1929; M.E., University of Utah, 1930; Ph.D., University of Michigan, 1936; Yale University, 1937-38. EH302.

Holmstrom, Emil G.....Associate Professor of Obstetrics and Gynecology. M.D., University of Minnesota, 1938. S. L. Co. General Hospital.

Home, Jeanne M.....Assistant Registrar with rank of Instructor. Pk203.

Horsfall, I. Owen.....Director, Extension Division, and Professor of Mathematics. B.A., University of Utah, 1908; M.A., University of Chicago, 1929; Ph.D., Cornell University, 1932. LA306.

Horst, Gretchen.....Instructor in English. B.A., Belvue College, 1908; M.A., University of Utah, 1930; Columbia University, 1935-36. LA102.

Howard, Philip M.....Assistant Clinical Professor of Surgery. B.A., 1933, M.A. in Anatomy, 1935, University of Utah; M.D., Rush Medical College, 1936. Boston Building.

Howe, Louise Hill (Mrs. R. E.).....Instructor in Speech. B.A., 1920, M.A., 1938, University of Utah. KH315.

Howe, Madge.....Instructor in Modern Languages. B.A., University of Utah, 1923, University of Mexico, summer 1922; Spain, 1925; M.A., University of Southern California, 1935. LA310.

Hubbard, Lester Andrews.....Professor of English. B.A., University of Utah, 1920; M.A., University of Chicago, 1925; Ph.D., University of California, 1933. LA207.

*Hull, Robert H.....Associate Professor of Electrical Engineering. B.S. in Electrical Engineering, University of Colorado, 1912; E.E., University of Colorado, 1925. EH208.

Hurst, Howard M.....Clinical Instructor in Sanitary Engineering. B.S., University of Utah, 1934; University of California, 1936; Massachusetts Institute of Technology, 1939-40. State Capitol.

Ivie, Wilton.....Curator in Zoology. B.S., 1930; M.S., 1932, University of Utah; Ohio State University, summer 1935; Stanford University, summer 1937. B204.

Jager, Blair Valdemar.....Assistant Professor of Medicine. B.A., 1934, M.D., 1938, Harvard University. S. L. Co. General Hospital.

†Jarrett, James L., Jr.....Instructor in Philosophy. B.S., 1930, M.S. 1940, University of Utah; University of Michigan, 1941-42.

Jellison, Robert T.....Clinical Lecturer in Medicine. M.D., Creighton University, 1914. First National Bank Building.

*On leave of absence.
†On leave of absence with the armed forces.

Jensen, Adolph Ladru.....Professor of Law. B.A., Brigham Young University, 1917; M.A., 1924, J.D., 1925. University of California. Pk406.

Johns, J. W., Jr.....Assistant Professor of Metallurgy. B.S., 1935, M.S., 1936, Montana School of Mines. ES204.

Johnson, Maria.....Superintendent of Nurses at L.D.S. Hospital in association with Department of Nursing Education. R.N., W. H. Groves, L. D. S. Hospital, 1919; B.S., Teachers College, Columbia, 1926.

Johnston, J. A.....Professor of Business. B.S., Mt. Union College, 1905; Ph.C., University of Pittsburgh. 1905; M.A., 1925, Ph.D., 1929, University of Iowa. IE303.

*Jones, David Tracy.....Associate Professor of Zoology. B.A., 1923, M.S., 1925, University of Iowa; Ph.D., 1933, graduate study, 1936-37, summers 1934, 1937, Indiana University; University of Chicago, 1929; Iowa State College, 1940-41. B108.

Jones, Douglas K.....Assistant Professor of Civil Engineering. B.S., 1932, M.S., 1933, University of Utah; Cornell University, 1938-40. CE104.

Jones, J. H.....Clinical Instructor in Obstetrics and Gynecology. B.A., University of Utah, 1932; M.D., University of Louisville, 1934. Magna, Utah.

*Jones, Ruth.....Catalogue Librarian with rank of Instructor. B.A., 1932, University of Utah; B.S. in Library Science, University of California, 1939.

Kerr, Walter A.....Professor of Modern Languages. B.A., University of Utah, 1909; M.A., University of Chicago, 1917; University of Lausanne, 1911; University of Paris, 1911-12, 1920-21; University of Chicago, 1927; University of California, 1928. LA303.

Kesler, Mack S.....Instructor in Civil Engineering. B.S., 1937, University of Utah. CE406.

Kirkpatrick, L. H.....Librarian with rank of Assistant Professor. B.A., 1929, M.A., 1935, Stanford University; summer 1936, 1944-45, University of Chicago.

Klink, Hazel G.....Instructor in Education and Directing Teacher, Stewart School. B.A., Iowa State Teachers College, 1939. St202.

Kohler, Alice.....Assistant Professor of Nursing Education. B.S., 1939; M.A., 1944, Columbia University. Gm305.

Kohnhorst, John.....Instructor in Biological Chemistry. Ph.G., 1924, B.S., 1925, University of Utah. Md403.

Kriete, Frederic M.....Clinical Instructor in Pediatrics. B.A., DePauw University, 1934; M.D., Rush Medical College, 1938. State Capitol.

*On leave of absence.

Latimer, Clara A.....Assistant Professor of Civil Engineering. B.A., 1908, M.A., 1917, University of Utah. EH402.

Leary, William H.....Dean of the School of Law; Professor and Head of the Department of Law. B.A., Amherst College, 1903; J.D., 1908, graduate study, 1939-40, University of Chicago; LL.D., University of Utah, 1944. Pk316.

LeCompte, Edward D.....Lecturer in Surgery (Otolaryngology). B.A., University of Utah, 1911; M.D., Rush Medical College, 1913. Boston Building.

*Lee, Hector.....Instructor in English. B.A., University of Utah, 1935; M.A., University of California, 1938; University of Southern California, summer 1941; University of California, summer 1943. LA108.

Lee, Tunnie F.....Fellow in Surgery. B.A., 1932, M.D., 1937, University of Oregon. Md206.

Lees, C. Lowell.....Professor and Head of the Department of Speech. B.A., University of Utah, 1926; M.A., Northwestern University, 1932; Ph.D., University of Wisconsin, 1934. KH201.

Lewis, B. Roland.....Professor of English. B.S., 1905, M.S., 1907, Ohio Northern University; University of Chicago, 1907-08; M.A., Harvard University, 1915; D.Litt., Ohio Northern University, 1941 and University of Utah, 1943. Pk213.

Lewis, John R.....Professor and Head of the Department of Metallurgical Engineering. B.A., Brigham Young University, 1919; M.S., University of Utah, 1920; Ph.D., University of Wisconsin, 1924; Princeton University, 1936-37. ES205.

Lewis, Robert S.....Professor and Head of the Department of Mining Engineering. B.A. in Mining Engineering, 1905, E.M., 1912, graduate study, 1921, Stanford University; University of Michigan, 1926; California Institute of Technology, 1932. ES318.

Lippenberger, Ruth Marian.....Instructor in Education and Supervisor of Science, Stewart School. B.A., University of Colorado, 1934; M.A., Colorado State College of Education, 1940. St210.

Llewellyn, John R.....Clinical Lecturer in Medicine. B.A., University of Utah, 1913; M.D., Rush Medical College, 1916. 115 East South Temple St.

Lorentzen, E. C.....Professor and Head of the Department of Business. B.S. in Commerce, Utah State Agricultural College, 1921; M.A., University of California, 1923; Ph.D., Northwestern University, 1943. IE304.

*Lund, Eva C.....Assistant Professor of Elementary Education and Principal, Stewart School. B.A., B.E., 1923, University of Colorado; M.A., 1934, graduate study, summers 1935-37, 1939, Columbia University. St101.

†Lund, Max W.....Assistant Professor of Psychology. B.A., 1936, M.A., 1937, University of Utah; Ph.D., Stanford University, 1939.

*On leave of absence.
†On leave of absence with the armed forces.

Macquin, (Mrs.) Hazelle Baird.....Associate Professor and Head of Department of Nursing Education. B.S., R.N., University of Cincinnati, 1925; M.A., 1941, graduate study, 1941-42, Columbia University. Gm318.

Mahaney, Louella.....Director of Nurses, S. L. Co. General Hospital, in association with Department of Nursing Education. R.N., St. Joseph's Hospital School of Nursing, Kansas City, 1908.

Mahoney, J. R.....Professor of Economics, and Director, Bureau of Economic and Business Research. B.A., University of Utah, 1918; M.A., 1928, Ph.D., 1929, Harvard University. IE314.

Malm, Lloyd E.....Associate Professor of Chemistry. B.S., Bethany College, 1928; M.A., 1930, Ph.D., 1932, University of Kansas. PS305.

Marsell, Ray E.....Assistant Professor of Geology. B.S., 1929, M.S., 1932, University of Utah; Stanford University, 1933-34. Ge201.

Marshall, H. L.....Professor and Head of the Department of Public Health and Preventive Medicine, and Director, Student Health Service. B.A., University of Utah, 1908; M.D., Columbia University, 1914; M.S., University of Michigan, 1930. HS1.

Marshall, Helen.....Instructor in Psychology. B.A., Lake Erie College, 1913; M.A., Ohio State University, 1918; Stanford University, 1921-23, 1927-28, 1938-39. Pk309.

Mason, John T.....Clinical Instructor in Pediatrics. B.A., 1933, M.D., 1936, University of Michigan. State Capitol.

†Matson, G. Albin.....Associate Professor of Bacteriology. B.A., University of Utah, 1927; M.A., University of Kansas, 1929; Ph.D., Washington University, 1935.

McKay, Llewellyn R.....Associate Professor of Modern Languages. B.A., 1928, M.A., 1930, University of Utah; University of Heidelberg, 1930; Ph.D., Stanford University, 1940; University of Mexico, summer, 1943. Pk313.

McKay, William M.....Associate Clinical Professor of Public Health. M.D., Rush Medical College, 1924; Columbia University, 1939-40. State Capitol.

McLennan, Charles E.....Professor and Head of the Department of Gynecology and Obstetrics. M.D., University of Minnesota, 1934. S. L. Co. General Hospital.

McLennan, Margaret Thomas.....Clinical Assistant in Medicine. B.A., University of Missouri, 1932; M.D., University of Minnesota, 1936. S. L. Co. General Hospital.

Merkley, Marion Gibb.....Instructor in Secondary Education, and Acting Principal, Stewart School. B.S., 1938, M.S. 1939, University of Utah; University of California, summer 1944. St101.

Merrill, Virginia.....Instructor in Elementary Education and Directing Teacher, Stewart School. Student, summers 1923-24, Idaho Technical Institute; Brigham Young University, 1925-26, and summers 1929, 1933; Utah State Agricultural College, summer 1927; San Francisco State Teachers College, summer 1939; University of Idaho, summer 1941. St102.

†On leave of absence with the armed forces.

Merrill, Rowland H.....Assistant Clinical Professor of Surgery (Ophthalmology). B.S., University of Utah, 1923; M.D., Johns Hopkins University, 1930. First National Bank Building.

Middleton, Anthony W.....Assistant Clinical Professor of Surgery (Urology). B.S., University of Utah, 1932; M.D., University of Pennsylvania, 1934; M.S. in Urology, University of Minnesota, 1938. Boston Building.

Middleton, R. P.....Associate Clinical Professor of Surgery (Urology). B.A., University of Utah, 1925; M.D., Harvard University, 1927. Boston Building.

*Minard, George W.....Assistant Professor of Chemical Engineering. B.S., Armour Institute, 1940; M.S., 1941, Ph.D., 1943, Ohio State University.

Miner, Mrs. Rhoda W.....Instructor in Nursing at Dee Memorial Hospital, Ogden, in association with the Department of Nursing Education. B.S., University of Idaho, 1929; R.N., Massachusetts General Hospital, 1933.

Moench, Louis G.....Clinical Instructor in Medicine. M.D., University of Chicago, 1938. 115 East South Temple St.

Mohr, Ray M.....Assistant Professor of Military Science and Tactics. B.S., Pennsylvania State College, 1923. Captain, Infantry. MS100.

Moorhead, Mary E.....Periodical Librarian with rank of Instructor. Moore Institute of Art, School of Design for Women, 1926-27; Drexel Institute Library School, summer 1934. Li204.

Mote, Seibert W.....Purchasing Agent, and Manager, Bookstore. B.S., Ohio State University, 1922.

Mott, Clarence.....Instructor in Physiology. B.A., 1937, M.A., 1941, University of Utah Md202.

Muirhead, R. Mowatt.....Assistant Clinical Professor of Surgery (Otolaryngology). B.S., University of Saskatchewan, 1921; M.D., Rush Medical College, 1928. First National Bank Building.

Mulaik, Stanley.....Instructor in Biology. B.S., Pennsylvania Teachers College, 1928; M.S., Cornell University, 1931. B302.

Murphy, Edwin R.....Associate Clinical Professor of Pediatrics. M.D., Rush Medical College, 1908. Boston Building.

Neff, Sherman Brown.....Professor and Head of the Department of English. B.A., 1908, M.A., 1909, Yale University; M.A., 1910, Ph.D., 1916, Harvard University. LA204.

Neilson, N. P.....Professor and Head of the Department of Health, Physical Education, and Recreation. B.S., Utah State Agricultural College, 1919; M.A., 1922, Ph.D., 1936, University of California. Gm100.

Nemir, Alma (Mrs. L. H. Bryer).....Associate Professor of Health, Physical Education, and Recreation; Clinical Lecturer in Public Health and Preventive Medicine; Medical Examiner, Student Health Service. B.A., Rice Institute, 1926; M.D., University of California, 1931. Gm320.

*On leave of absence.

†Nicholes, Henry J.....Instructor in Biological Chemistry. B.A., Brigham Young University, 1935; M.A., 1939, Ph.D., 1941, University of Wisconsin. Md404.

Nickerson, Mark.....Instructor in Pharmacology. B.A. Linfield College, 1939; M.S., Brown University, 1941; Ph.D., Johns Hopkins University, 1943. Md213.

Noall, Maurine.....Instructor in Home Economics. B.S., 1936, M.S., 1943, University of Utah. IE215.

†Newby, William Wallace.....Associate Professor of Zoology. B.A., University of Kansas, 1926; M.A., Iowa State College, 1927; Ph.D., Stanford University, 1939.

Norton, Joseph A.....Acting Registrar. (Orthopedics). B.A., 1929, M.A., 1931, University of Utah; B.A., University of Utah, 1932. Pk203.

Okelberry, A. M.....Assistant Clinical Professor of Surgery

Ossman, Lawrence N.....Assistant Clinical Professor of Surgery (Orthopedics). B.A., University of Utah, 1913; M.D., Western Reserve University, 1916. Walker Bank Building.

Palmer, Bascom Willcox.....Assistant Clinical Professor of Surgery (Opthalmology). B.S., College of Charleston, 1924; M.D., University of South Carolina, 1928; M.A., University of Minnesota, 1932. Boston Building.

†Parmelee, Theron S.....Instructor in Physical Education and Graduate Manager, Student Activities. B.A., University of Utah, 1918.

Parmley, Thomas J.....Professor of Physics. B.S., University of Utah, 1921; Ph.D., Cornell University, 1927. PS215a.

Pearsall, Clifford J.....Associate Clinical Professor of Medicine (Dermatology). B.S., Beloit College, 1914; M.D., Rush Medical College, 1918. Boston Building.

Pehrson, Ernest William.....Professor and Head of the Department of Mathematics. B.A., Brigham Young College, 1904; M.A., University of California, 1928. ES210.

Perry, Jessie.....Assistant Professor of Education and Supervisor of Music, Stewart School. New York, 1921-23; University of California, 1927-29; B.S., University of Utah, 1935; M.A., 1937, graduate study, summers 1938-43, Columbia University. St106.

Peterson, Hazel M.....Assistant Professor of Social Work. B.S., University of Utah, 1923; M.A., University of Chicago, 1928; New York School of Social Work, summer 1939. LA101c.

Peterson, Vadal.....Athletic Coach and Lecturer in Health, Physical Education, and Recreation. B.A., University of Utah, 1920. Gm212.

Peterson, William O.....Professor of Music. B.S., Utah State Agricultural College, 1919; B.A., New York Institute of Musical Art, 1926; France, 1934-35. Mu5.

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†On leave of absence with the armed forces.

Phillips, Ralph F.....Assistant Professor of Chemistry. B.A., University of Nebraska, 1930; M.S., University of California, 1932; Ph.D., Massachusetts Institute of Technology, 1939. PS311.

Pierson, George A.....Associate Professor of Social Work; Associate Professor and Head of the Department of Social Education; Associate Director, Bureau of Student Counsel. B.A., 1929, M.A., 1934, University of Utah; Ed.D., University of Southern California, 1944. LA101b.

Plummer, Gail.....Assistant Professor of Speech and Manager, Kingsbury Hall. B.A., Brigham Young University, 1927; M.A., University of Utah, 1935; University of Wisconsin, summer 1940; Stanford University, 1941. KH210.

Pomeroy, Dwight A.....Professor of Law. B.S., Kansas State Teachers College, 1914; Ph.B., 1920, J.D., 1923, University of Chicago; LL.M., Harvard University, 1931. Pk404.

Price, Philip B.....Professor and Head of the Department of Surgery. B.A., Davidson College, 1917; M.D., Johns Hopkins University, 1921. S. L. Co. General Hospital.

Provost, Leo Gordon.....Professor of Secondary Education, and Military Co-ordinator, ASTP. B.S., 1924, M.S., 1933, University of Idaho; Ed.D., 1936, University of California. St120.

Queen, Frank H.....Lecturer in Pathology. B.S., Washington State College, 1925; M.D., Washington University (St. Louis), 1929. Chief of Laboratory Service, Bushnell General Hospital. Lieutenant Colonel, Medical Corps.

Quinn, Elton Leroy.....Professor of Chemistry. B.A., Bates College, 1910; Ph.D., Princeton University, 1913; Stanford University, 1926-27. PS203.

Ralph, Leonard S.....State Co-ordinator of Distributive Education, Extension Division. B.A., 1936; M.A., 1940, University of Utah; New York University, summer 1938; Indiana University, 1941. LA306.

Ramsey, H. H.....Clinical Instructor in Medicine (Psychiatry). M.D., Memphis, 1903.
Utah State Training School, American Fork, Utah.

Randall, Clyde N.....Assistant Secretary, Board of Regents, Assistant Comptroller, and Instructor in Business. B.A., University of Utah, 1932; C.P.A., State of Utah, 1943; M.B.A., Stanford University, 1944. Pk225.

Rasmussen, Jewell J.....Assistant Professor of Economics. B.S., 1934, M.S., 1936, University of Utah; Stanford University, 1939-40, 1941-42. IE308.

Rasmussen, L. Paul.....Assistant Clinical Professor of Pediatrics. B.A., University of Utah, 1932; M.D., Duke University, 1935. Boston Building.

Read, Waldemer P.....Assistant Professor of Philosophy. B.S., University of Utah, 1928; M.A., 1933, graduate study, 1935-36, University of Chicago. LA103.

Redd, Marion.....Instructor in Speech. B.S., University of Utah, 1919; M.A., Northwestern University, 1935. KH315.

Rees, Don M.....Professor of Zoology. B.S., 1926, M.S., 1929, University of Utah; Ph.D., Stanford University, 1936. B305.

Rees, Vincent L.....Assistant Professor of Surgery. B.S., Utah State Agricultural College, 1935; M.D., University of Chicago, 1938; M.S. in Surgery, University of Michigan, 1942. S. L. Co. General Hospital.

Reichman, H. R.....Assistant Clinical Professor of Surgery (Proctology), and Lecturer in Health, Physical Education, and Recreation. B.A., University of Utah, 1932; M.D., Northwestern University, 1934. Medical Arts Building.

†Relyea, Gladys.....Assistant Professor of Education and Supervisor of Science, Stewart School. B.A., New York University, 1929; M.A., 1934, Ed.D., 1937, Stanford University.

Rich, C. O'Neal.....Assistant Clinical Professor of Medicine (Dermatology). B.A., University of Utah, 1928; M.D., Washington University, 1932. Medical Arts Building.

Richards, G. Gill.....Associate Clinical Professor of Medicine. M.D., New York and Bellevue Hospital, 1906. 115 East South Temple St.

Richards, Heber G.....Associate Professor of English. B.A., University of Utah, 1910; M.A., University of Chicago, 1922; Stanford University, 1927-28, summer 1929. LA208.

Richards, Paul S.....Clinical Professor of Public Health and Preventive Medicine (Industrial Medicine). B.A., University of Utah, 1920; M.D., Harvard University, 1920. Bingham Canyon.

Richards, Ralph T.....Associate Clinical Professor of Surgery. M.D., New York University, 1903. 115 East South Temple St.

*Richins, Calvin A.....Instructor in Zoology. B.A., 1935, M.A., 1937, University of Utah; University of Southern California, 1937-38. B302.

Ritter, Willis W.....Professor of Law. B.A., University of Utah, 1938; LL.B., University of Chicago, 1924; S.J.D., Harvard University, 1940.

Robbins, A. F.....Instructor in Health, Physical Education, and Recreation. B.A., Brigham Young University, 1925; University of Edmonton, Oregon State College, summers 1927-28. Gm200.

Robison, Alice Venise.....Librarian, Stewart School, with rank of Instructor. B.A., 1923, M.A., 1925, University of Utah; Library Certificate, University of California, 1936. St207.

Rohrbough, Elsie G.....Instructor in English. B.A., University of Illinois, 1919; M.A., 1927; graduate study, 1931-32, Columbia University. LA102.

†On leave of absence with the armed forces.
*On leave of absence.

Rordame, Mrs. Mildred Derricot.....Assistant in Nursing Education. R.N., S. L. Co. General Hospital, 1932; University of Utah (extension), 1932-33; Greeley State College (extension), 1940; University of Oregon Medical School, 1941-42. Gm318.

Ross, O. Louis.....Assistant Clinical Professor of Pediatrics. B.A., University of Utah, 1927; M.D., Northwestern University, 1932. Boston Building.

Rumel, William Ray.....Assistant Clinical Professor of Surgery (Chest). B.A., University of Utah, 1932; M.D., Northwestern University, 1936. Medical Arts Building.

Runzler, William Theodore.....Professor of Modern Languages. B.A., University of Wisconsin, 1903; M.A., Harvard University, 1905; Columbia University, 1905-06; Stanford University, 1918; Ph.D., University of Erlangen, 1929. LA214.

Russon, Allien R. (Mrs. Stanley).....Instructor in Business. B.A., University of Utah, 1927; University of Southern California, summer 1944; University of Utah, 1944-45. IE313.

Samuels, Leo T.....Professor and Head of the Department of Biological Chemistry. B.A., Emmanuel College, 1925; Ph.D., University of Chicago, 1930. Md411.

Sanders, M. S.....Assistant Clinical Professor of Obstetrics and Gynecology. M.D., Northwestern University, 1935. 115 East South Temple St.

Saunders, L. S.....Assistant Clinical Professor of Surgery (Otolaryngology). B.A., University of Utah, 1929; M.D., Temple University, 1932. First National Bank Building.

Sayers, George.....Assistant Professor of Pharmacology. B.S., Wayne University, 1934; M.S., University of Michigan, 1936; M.S., Wayne University, 1941; Ph.D., Yale University, 1943. Md204.

Sayers, Marion.....Research Assistant in Pharmacology. B.S., 1933, M.A., 1936, Wayne University. Md204.

Schell, Margaret.....Assistant Professor of Zoology. B.A., 1924, M.A., 1925, Ph.D., 1930, University of California. B206.

†Schleckman, Karl.....Instructor in Health, Physical Education, and Recreation. B.S., 1938, M.S., 1942, University of Utah. Gm212.

Schiller, Herbert M.....Professor of Law. B.A., University of Utah, 1916; LL.B., Harvard University, 1922.

*Schleicher, Charles P.....Associate Professor of History and Political Science. B.A., College of the Pacific, 1928; M.A., University of Hawaii, 1931; Ph.D., Stanford University, 1936.

Schneider, Hyrum.....Deseret Professor and Head of the Department of Geology. B.A., Brigham Young College, 1908; M.A., 1911, Ph.D., 1926, University of Wisconsin. Ge206.

*Selby, Carol.....Reference Librarian with rank of Instructor. B.S., University of Utah, 1936; B.S. in Library Science, University of Denver, 1937.

*On leave of absence.
†On leave of absence with the armed forces.

*Selfridge, George.....Associate Professor of Geology. B.S., Oregon State College, 1927; M.S., 1931, Ph.D., 1936, Columbia University.

Sharp, Emma.....Instructor in Elementary Education, and Directing Teacher, Stewart School. B.S., 1932, M.S., 1942, University of Utah. St103.

Sheldon, Eleanor.....Instructor in Nursing Education at W. H. Groves L. D. S. Hospital, in association with the Department of Nursing Education. B.A., 1940, M.A., 1941, University of Utah.

Shields, Claude L.....Clinical Lecturer in Surgery. B.A., University of Utah, 1910; M.D., Rush Medical College, 1912. Judge Building.

Skidmore, Demoivre R.....Lecturer in Health, Physical Education, and Recreation, Clinical Instructor in Obstetrics and Gynecology. B.A., University of Utah, 1930; M.D., University of Pennsylvania, 1933. 54 East South Temple St.

Skidmore, Rozina.....Assistant Professor of Home Economics. B.S., Utah Agricultural College, 1915; M.A., Columbia University, 1926; Europe, 1934; Columbia University, 1943-44. IE215.

Sleeter, Richard Lee, B.S., M.D.....Resident Assistant in Pediatrics. B.S., University of Oregon, 1940; M.D., Washington University, 1943. S. L. Co. General Hospital.

Sloane, Richard L.....Assistant Professor of Civil Engineering. B.C.E., 1938, M.S., 1941, Ohio State University; California Institute of Technology, 1938, 1939-40. CE104.

Smith, Bert W.....Assistant in Sociology and Anthropology. B.A., 1943, M.A., 1944, University of Utah; University of Chicago, summer 1944.

*Smith, Elmer Richard.....Assistant Professor of Sociology and Anthropology. B.S., 1931, M.S., 1932, University of Utah; University of California, 1937. Pk411.

Smith, Eugene H.....Associate Clinical Professor of Pediatrics. M.D., University of Nebraska, 1901. Eccles Building, Ogden, Utah.

Smith, Linwood.....Clinical Instructor in Obstetrics and Gynecology. B.S., University of Utah, 1936; M.D., Rush Medical College, 1938. 9 Exchange Place.

Smith, Samuel S.....Assistant Professor of Mathematics. B.S., 1916, M.S., 1917, University of Utah; Ph.D., University of Chicago, 1940. LA111.

Smith, Scott M.....Assistant Clinical Professor of Surgery (Anesthesiology). B.A., B.S., 1937, University of Missouri; M.D., University of Louisville, 1939. L.D.S. Hospital.

Snow, Dorothy.....Assistant Professor of English. B.A., University of Utah, 1923; M.A., Radcliffe College, 1925; Ph.D., University of California, 1936. LA206.

Snow, Spencer.....Clinical Instructor in Pediatrics. B.A., University of Utah, 1929; M.D., Rush Medical College, 1933. First National Bank Building.

*On leave of absence.

Spilman, Mignonette.....Professor of Classics. B.A., University of Kansas, 1907; M.A., University of Chicago, 1913; Ph.D., University of California, 1930. KH316.

Stauffer, F. Leaver.....Assistant Clinical Professor of Surgery (Otolaryngology). B.S., University of Utah, 1916; M.D., Columbia University, 1918. Medical Arts Building.

Stephens, Fayette E.....Associate Professor of Biology. B.A., Brigham Young University, 1916; Ph.D., Cornell University, 1926. B103.

Stevens, Alice .....Instructor in Elementary Education, and Directing Teacher, Stewart School. B.S., 1924, M.A., 1938, University of Utah; University of California, summer 1928. St215.

Stewart, LeConte.....Assistant Professor and Head of the Department of Art. Art Students' League, New York City, 1913-14; A.S.L. Landscape School, Woodstock, New York; Pennsylvania Academy of Fine Arts, Philadelphia, 1924. Pk415.

Stookey, W. M.....Medical Examiner, Student Health Service. M.D., University of St. Louis, 1898; Vienna, Berlin, London, 1907, 1913. Gm320.

Straup, D. N.....Lecturer in Law. B.S., 1887, LL.B., 1889, LL.D., 1924, Valparaiso University. Former Justice of the Supreme Court of Utah. Pk316.

Stringham, Bronson F.....Assistant Professor of Geology. B.S., University of Utah, 1933; Ph.D., Columbia University, 1941. Ge205.

Stucki, Roland.....Assistant Professor of Economics. B.S., Brigham Young University, 1930; M.S., University of Utah, 1932; M.B.A., Stanford University, 1935; Ph.D., Cornell University, 1943. IE311.

†Sullivan, Selma.....Circulation Librarian with rank of Instructor. B.A., University of Utah, 1940; B.S. in Library Science, University of Denver, 1941.

Sundwall, Harry W.....Lecturer in Business. B.S., 1934, graduate study, 1937-40, Brigham Young University; University of California, 1935. IE105.

Swigart, J. Irvin.....Associate Professor of Physics. B.S., Illinois Wesleyan University, 1929; M.A., 1930, Ph.D., 1938, Indiana University. PS111.

Swinyard, Chester A.....Professor of Anatomy. B.S., 1928, M.S., 1929, Utah State Agricultural College; Ph.D., University of Minnesota, 1934. Md304.

Swinyard, Ewart A.....Lecturer in Pharmacology. B.S., Utah State Agricultural College, 1932; B.S. in Pharmacy, University of Idaho College of Pharmacy, 1936; M.S., University of Minnesota, 1941.

†On leave of absence with the armed forces.

Taylor, Albert LeRoy....Dean of the School of Mines and Engineering, and Professor and Head of the Department of Electrical Engineering. B.S., 1907, graduate study, 1909, University of Utah; M.S.E., University of Michigan, 1918; Stanford University, 1925, 1928-29. EH101.

Taylor, Heber R.....Instructor in Social Work. B.S., Brigham Young University, 1925; New York School of Social Work, 1926-27; University of Washington, summer 1935; University of Minnesota, summer 1938; Pennsylvania School of Social Work, summer 1940; University of Chicago, summers 1943, 1944. LA101c.

Taylor, Lucille.....Superintendent of Nurses, Dee Hospital, Ogden, in association with Department of Nursing Education.

Tempest, Norinne.....Secretary to Home Study Department, Extension Division. B.A., University of Utah, 1935.

*Thackeray, Helen.....Instructor in Home Economics. B.A., University of Utah, 1934; M.A., State College of Washington, 1942. IE215.

Thomason, J. Robert.....Resident Assistant in Surgery. B.S., Presbyterian College, 1940; M.D., Vanderbilt University, 1943. S. L. Co. General Hospital.

Thomson, Ralph D.....Assistant Librarian with rank of Instructor. B.A., Brigham Young University, 1934; B.S. in Library Science, University of Southern California, 1940. Li203a.

Titus, Edward G.....Clinical Lecturer in Public Health and Preventive Medicine (Vital Statistics). B.S., 1899, M.S., 1901, Colorado Agricultural College; Sc.D., Harvard University, 1911. State Capitol.

Tolstoy, Mrs. Larissa Merrick.....Acting Reference Librarian with rank of Instructor. B.A., 1936, M.A., 1938, University of California, Los Angeles; B.S. in Library Science, University of Southern California, 1939. Li201.

Toman, James Edward Philip.....Assistant Professor of Physiology. B.A., Clark University, 1937; Ph.D., Princeton University, 1940. Md202.

Tugman, Orin.....Professor and Head of the Department of Physics and Chairman of the Graduate Council. B.A., 1903, M.A., 1906, Indiana University; Ph.D., 1909, Cornell University. PS214.

Tyndale, W. R.....Associate Clinical Professor of Medicine. B.A., University of Chicago, 1899; M.D., Rush Medical College, 1900. 699 East South Temple St.

Van Steeter, Hulda.....Assistant Professor of Home Economics. B.A., University of Utah, 1926; M.A., Cornell University, 1941; Mills College, summer 1942. IE215.

Viko, Louis E.....Clinical Lecturer in Medicine. M.D., Harvard University, 1920. 699 E. South Temple St.

Voss, Arthur H.....Supply Officer, Army Specialized Training Program. Ph.B., University of Wisconsin, 1942; Army Administration School, 1942. First Lieutenant, Army of the United States. Fieldhouse.

*On leave of absence.

Wahlquist, John T.....Dean of the School of Education and Professor and Head of the Department of Educational Administration. B.S., 1924, M.S., 1926, University of Utah; Ph.D., University of Cincinnati, 1930; Columbia University, spring 1939. Pk207.

Walker, Dilworth.....Dean of the School of Business and Professor and Head of the Department of Economics. B.A., Brigham Young University, 1916; M.A., Utah State Agricultural College, 1923; Ph.D., Cornell University, 1926. IE313.

Wallace, Mrs. Anne Widtsoe....Reserve Book Librarian with rank of Instructor. B.S., Brigham Young University, 1926; B.S. in Library Science, University of Southern California, 1939.

Ward, Vernon L.....Assistant Clinical Professor of Obstetrics and Gynecology. M.D., University of Pennsylvania, 1920.
First Security National Bank Building, Ogden.

Webster, Mary E. Johnson (Mrs. J. U.).....Assistant Professor of Speech. B.A., University of Utah, 1912; University of California, summer 1914; University of Wisconsin, 1926-27; Northwestern University, summer 1931; M.A., University of Iowa, 1936; University of Wisconsin, 1938. KH314.

Welsh, Thomas F.....Clinical Lecturer in Surgery. B.S., 1923, M.D., 1925, Creighton University; University of Vienna, 1927-28. First National Bank Building.

Wherritt, J. Russell....Assistant Clinical Professor of Obstetrics and Gynecology. M.D., University of Pennsylvania, 1926.
699 East South Temple St.

White, V. P.....Clinical Lecturer in Surgery (Otolaryngology). B.A., University of Utah, 1921; M.D., Harvard University, 1923.
Tribune-Telegram Building.

Wight, Guy H.....Lecturer in Surgery (Dental Surgery). D.D.S., University of Pennsylvania, 1928. Boston Building.

Winn, N. Field.....Instructor in English. B.A., 1931, University of Utah; Ph.M., 1932, University of Wisconsin; University of California, 1937-38.

Wintrobe, Maxwell M.....Professor and Head of the Department of Medicine. B.A., 1921; M.D., 1926; B.S., in Medicine, 1927, University of Manitoba; Ph.D., Tulane University, 1929.
S. L. Co. General Hospital.

†Wonder, Charles W.....Instructor in Secondary Education and Directing Teacher, Stewart School. B.A., 1935, M.A., 1936, University of Utah; University of Chicago, summer 1937; University of California, 1938; Mexico, 1939, 1941.

Woodbury, Angus M.....Professor of Zoology B.S., Brigham Young University, 1927; M.S., University of Utah, 1928; Ph.D., University of California, 1931; University of Wisconsin, University of Minnesota, and Duke University, 1940.
B209.

Woodland, Shelah.....Instructor in Health, Physical Education, and Recreation. B.S., University of Utah, 1934; Colorado State College of Education, summer 1936; M.S., University of Wisconsin, 1942. Gm111.

†On leave of absence with the armed forces.

Woodruff, Douglas O.....Manager, Union Building. Utah State Agricultural College, 1916-17, University of Utah, 1919-21; New York University, 1922.

Woolley, Roscoe H.....Instructor in Mechanical Engineering. B.S., 1931, M.S., 1933, University of Utah. ME206a.

Woolsey, Ray T.....Clinical Lecturer in Obstetrics and Gynecology. B.A., University of Utah, 1914; M.D., Washington University, 1916. Boston Building.

Wright, Clarence E.....Lecturer in Business. LL.B., George Washington University, 1916. IE309.

Wright, Gilbert L.....Clinical Assistant in Surgery. B.S., 1938, M.D., 1940, University of Illinois. Boston Building.

Wright, Spencer.....Clinical Lecturer in Surgery. B. S., University of Utah, 1916; M.D., Columbia University, 1918. Medical Arts Building.

Wyler, Paul Edward.....Assistant Professor of Modern Languages. Maturitaet, Gymnasium Bern (Switzerland), 1929; University of Bern, 1929-35; Ph.D., Stanford University, 1943; University of Mexico, summers 1943, 1944. LA301.

Young, David.....Assistant Clinical Professor of Medicine. (Psychiatry and Neurology), Lecturer in Social Work. B.A., University of North Carolina, 1928; M.D., Harvard University, 1931. Boston Building.

Young, William R.....Assistant Clinical Professor of Pediatrics. B.A., University of Utah, 1932; M.D., Washington University, 1936. Medical Arts Building.

Zucker, Louis C.....Professor of English. B.A., 1920, M.A., 1921, University of Pennsylvania; Columbia University, 1922; Ph.D., University of Wisconsin, 1928; Harvard University, 1934-35. LA205.

STAFF OF THE WILLIAM M. STEWART SCHOOL

(Elementary and Junior High Schools)

Roald F. Campbell.....Director
Eva C. Lund*.....Principal
Marion G. Merkley.....Acting Principal
Jane Endow.....Secretary

Supervisors

Hazel Brockbank.....Primary
.....Intermediate
George S. Dibble.....Art
Nanon Croxall.....Homemaking
Harvey E. Gardner.....Industrial Arts
Jessie Perry.....Music
Gladys Relyea.....Science
Ruth Lippenberger.....Science

Directing Teachers

Caroline Dobson	Kindergarten
	First Grade
Virginia Merrill	Second Grade
Emma Sharp	Third Grade
Rita Hagerman	Fourth Grade
Frances G. Davis	Fifth Grade
Alice Stevens	Sixth Grade
Nanon Croxall	Homemaking
Harvey E. Gardner	Industrial Arts
Marion G. Merkley	Social Studies
Lee F. Gledhill	Social Studies
George S. Dibble	Art
Jessie Perry	Music
Clarence J. Hawkins	Music
Charles W. Wonder†	Modern Languages
Paul R. Felt	Modern Languages
Will L. Clegg	Physical Education
Berniece Ensign*	Physical Education
Hazel G. Klink	Physical Education
Theodore A. DeMars†	Mathematics
Genevieve Collins	Mathematics
Venice Robison	Librarian
Margaret Davies	English
Melba Glade	Art and Remedial Instruction
Ruth Lippenberger	Science

*On leave of absence.
†On leave of absence with the armed forces.

STAFF OF THE EXTENSION DIVISION

I. O. Horsfall, Ph.D.	Director
Karma Dixon	Secretary to the Director
Emma N. Flandro	Secretary
Leonard S. Ralph, M.S.	Co-ordinator, Distributive Education
Winifred Hazen, B.A.	State Co-ordinator, Parent Education
Norinne Tempest, B.A.	Secretary, Home Study
Martha Hatfield	Treasurer
	Visual Aids

ADVISORY BOARDS

School of Mines and Engineering

Ralf Rumel Woolley, Senior Hydraulic Engineer, U. S. Geological Survey.
B. C. J. Wheatlake, Manager, Salt Lake Division, General Electric Company.
Elton W. Pace, Partner, Lee, Pace and Turpin.
Oscar A. Glaeser, Personnel Division, U. S. Smelting, Refining, and Mining Co.

L. A. Walker, Manager, Utah Mines, U. S. Smelting, Refining, and Mining Co.
R. W. Leslie, Consulting Engineer, Wasatch Oil Refining Co.
Earl Hansen, Geologist, Tintic Standard Mining Co.

Utah Engineering Experiment Station

A. B. Young (chairman), Metallurgical Manager, International Smelting and Refining Co.
Ora Bundy, Department of Publicity and Industrial Development, State of Utah.
Arthur Fleischer, Technical Director, Kalunite, Inc.
G. M. Gadsby, President and General Manager, Utah Power and Light Co.
Walther Mathesius, President, Geneva Steel Co.
D. D. Moffat, President and General Manager, Utah Copper Co.
W. J. O'Connor, Manager, Utah Department, American Smelting and Refining Co.
H. J. Plumhof, Department of Publicity and Industrial Development, State of Utah.
S. F. Ravitz, Principal Metallurgist, Western Region, U. S. Bureau of Mines.
J. H. Tempest, Partner, Wheeler and Tempest, General Contractors.
S. R. Zimmerley, Regional Engineer, Western Region, U. S. Bureau of Mines.

Department of Mining and Metallurgical Research of the Utah Engineering Experiment Station

Ora Bundy, Department of Publicity and Industrial Development, State of Utah.
O. N. Friendly, Vice-President and General Manager, Park Utah Consolidated Mines Company.
James Ivers, Vice-President and General Manager, Silver King Coalition Mines Company.
B. P. Manley, Secretary, Utah Coal Operators Association.
D. D. Moffat, President and General Manager, Utah Copper Company.
F. S. Mulock, Vice-President and General Manager, United States Smelting, Refining, and Mining Company.
Peer D. Nielsen, General Superintendent, Geneva Steel Company.
W. J. O'Connor, Manager, Utah Department, American Smelting and Refining Company.
H. J. Plumhof, Department of Publicity and Industrial Development, State of Utah.
B. L. Sackett, General Superintendent, Tooele Smelter, International Smelting and Refining Company.
E. H. Snyder, General Manager, Combined Metals Reduction Company.
J. W. Wade, President and General Manager, Tintic Standard Mining Company.

GENERAL INFORMATION

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STUDENT SERVICES AND ORGANIZATIONS

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ORGANIZATION

Control of corporate property is vested in a board of fourteen Regents, appointed by the Governor of the State, including the President of the University and the Secretary of State, ex officio. The Board of Regents appoints all officers of administration and instruction and determines general University policies.

The President is the chief executive officer of the University, chairman of the University faculty and of the Deans' Council and Administrative Council and ex officio member of the school faculties and University committees. The principal administrative officers are the deans and directors of the several schools and divisions, who have immediate charge of the educational work of the University.

The Deans' Council consists of the President, the deans and directors of schools and divisions, the Secretary of the Board of Regents, and the Registrar. The council acts in an advisory capacity to the President, is concerned with routine administration, and has jurisdiction in matters of discipline.

The Administrative Council is composed of the President, and the deans and directors of schools and divisions, ex officio, and elected members of the faculty, whose number is two more than the number of ex officio members. The purpose of this council is to facilitate cooperation between the faculty and Board of Regents and to consider appointments, removals, resignations, and promotions.

The faculty of the University consists of the members of the instructional staff with the rank of instructor or above.

HISTORY

An act of the Provisional Government of the State of Deseret, February 28, 1850, incorporating the University of Deseret, was ratified October 4, 1851, by the Legislature of the Territory of Utah. The charter thus obtained vested authority in a chancellor and a board of twelve regents, appointed by the Governor.

In November, 1850, the University was opened, but in 1851 instruction was discontinued and not resumed until November, 1867. In 1869, under Dr. John R. Park, the institution was reorganized.

The Legislature in 1884 amended the charter, and gave the University definite power to confer degrees. In 1892 a new charter was granted, reducing the membership in the governing board to nine, inclusive of the Chancellor, and changing the institution's name from "The University of Deseret" to "The University of Utah." A legislative enactment of 1911 increased the number of Regents to fourteen, including the President of the University and the Secretary of State, ex officio.

A normal school was early established as a department of the University. A normal course was given in 1868-1869; and in 1888 the Territorial Assembly made provision for the selection annually of fifty scholarship students and their instruction in this department of the University. The number of normal scholarships has since been fixed at one hundred.

Engineering courses had been given as early as 1891-92. In 1901 the State School of Mines was formally established by act of the Legislature as a part of the University.

Further expansion of University services to the community has come through the establishment of the schools of Medicine, Law, Business, and Social Work.

In 1942, a department of Nursing Education was created, cooperating with the hospital schools of nursing and the United States Public Health Service in offering three and four-year courses in nursing.

The existing two-year School of Medicine was expanded in 1942 to a four-year school giving the degree of Doctor of Medicine. By arrangement with the Salt Lake County Commission, hospital facilities and new classroom space have been made available to the School at the Salt Lake County General Hospital.

During the years, the campus and physical plant of the University have likewise been greatly enlarged and improved. The University received in 1884 the grant of a 60-acre tract of land on the Fort Douglas reservation, to which the federal government later added 32 acres adjoining. In 1899 the State Legislature provided for the removal of the University to this site, and the erection of buildings there. And in 1934, the government added 61 acres to the campus from the Fort Douglas reservation, increasing the total acreage to 153.

The $400,000 Union Building was opened in 1931. This building was paid for from student and alumni gifts. It is the social center of the campus, housing all student offices, committee rooms, game rooms, ballroom, etc., as well as the University cafeteria.

Kingsbury Hall, the auditorium, was completed and dedicated in the spring of 1930. Made possible by special legislative appropriation, it cost $290,000.

The Library, completed in 1935, was erected at a cost of approximately $500,000 by the Public Works Administration and the State of Utah.

The 1927 Legislature provided $45,000 to construct a Mines Building, which was erected next to the Metallurgy Building on the campus. The 1929 Legislature, in addition to the special appropriation for Kingsbury Hall, provided for a unit of the Engineering Building costing $100,000. This building is being erected in three units, the first of which was ready in the fall of 1930.

With $120,000 realized on bequests of Mr. and Mrs. A. W. Carlson for the erection of a women's dormitory, supplemented by the State, Carlson Hall, a $200,000 residence for women, was erected in 1937-38.

In 1938-39 extensions of present buildings were begun which have increased the space in the Medical Building by one-third, doubled the space in the Experiment Station Building (formerly the Mines Building), and provided for special physical training for girls in the Gymnasium.

A field house 140 by 337 feet was built in 1939, to accommodate indoor football, basketball, track, and field practice. In the same year the United States Bureau of Mines Building was erected at the northeast corner of the campus. Recent also are a new biological greenhouse and buildings to house the equipment of the R. O. T. C. The

latest addition to University facilities is the Health Service Building, completed in 1945.

The University has received a number of notable bequests. Dr. John R. Park bequeathed the larger portion of his property, including his private library, to the University. The interest and issues from $10,000 purchase and maintain the "Park Library of American History and Literature"; the income from $10,000 finances the John R. Park Teachers' Fellowships; and the remainder is used in such manner as the President and the Board of Regents deem most beneficial to the University. More than $70,000 has been realized from Dr. Park's estate.

James McGregor, in 1913, bequeathed $50,000 for the benefit of the School of Mines, and in 1916, Alfales Young by a donation of $2,000 established in the University "The Eliza Burgess Young Library Fund."

The late Mrs. M. Bell Rice, a prominent Utah woman, in her will filed in 1924, left $200,000 to the University for the purpose of erecting a women's dormitory. When the terms of the will have been completed, this dormitory will be built.

The University Art Gallery houses the E. J. Wicks collection, given to the University by E. J. Wicks shortly before his death, and valued at $100,000.

Throughout the present war, the University, in addition to maintaining its usual civilian services, has devoted its staff and facilities to a great range of activities, furthering the national war effort. It looks forward to a considerable expansion of its work in meeting the anticipated needs of postwar education.

LOCATION

The University of Utah is situated in Salt Lake City, famed for its beauty and climate. The State capital and metropolis of the intermountain region is known for its broad and shady streets, its pure mountain water, its many points of interest in western history, its public buildings and beautiful residences, as well as its interest in education, art, music, and drama.

The city is served by the Union Pacific, Western Pacific, and Denver and Rio Grande railroads, by the Bamberger and Orem electric interurban systems, by bus and plane. Thus accessible, it is both an important center of western industry, military activity, and culture, and the gateway to scenic America.

CAMPUS

The University campus lies on the eastern benchland just below the foothills of the Wasatch Mountains. It commands the city to the west and, beyond it, the Salt Lake Valley and the lake itself. The city's business district is two miles from the University. Southeast lie the beautiful canyons of the Wasatch.

On the 153-acre campus within easy walking distance of one another stand some 32 buildings, including the student social center and cafeteria, as well as the college offices, library, auditorium, classrooms, and laboratories. Playing fields and green lawns set off and are a part of the University's facilities, which range from stadium to music hall and from astronomical observatory to underground mine.

BUILDINGS

The principal buildings on the campus, the conventional abbreviations for their names, and the chief University functions or departments they house are as follows:

Biology Building (B): Biology, Botany, Zoology, Museum of Zoology, Herbarium.

Carlson Hall (CH): residence for women.

Civil Engineering Building (CE): Civil Engineering.

Engineering Hall (EH): Civil, Electrical, and Mechanical Engineering.

Experiment Station (ES): Utah Engineering Experiment Station; Metallurgical Engineering, Mining Engineering, Mining and Metallurgical Research.

Field House (FH): indoor football, basketball, track and field; temporarily a barracks for trainees in the Army Specialized Training Program.

Geology Building (Ge): Geology, Mineralogy, Geology Museum.

Greenhouse: experimental units of the departments of Biology and Psychology; vivarium.

Gun Shed (GS): supply office, store rooms, pistol gallery, motor shop housing military equipment.

Gymnasium (Gm): Health, Physical Education, and Recreation; Nursing Education.

Health Service Building (HS): Student Health Service.

Hydraulics Laboratory (Hy): Civil Engineering equipment in hydraulics.

Industrial Education Building (IE): Economics, Business, Home Economics, nursery school.

Kingsbury Hall (KH): auditorium, little theatre; Speech, Classics.

Liberal Arts Building (LA): Bureau of Student Counsel; Extension Division; English, History and Political Science, Mathematics, Modern Languages, Philosophy, Sociology and Anthropology, Social Work.

Library Building (Li): general library, engineering and medical libraries, Rosenbaum collection; History and Political Science, Social Work; University Press.

Mechanics Building (Me): Mechanical Engineering shops, heat power engineering and materials testing equipment.

Medical Building (Md): School of Medicine.

Military Science Building (MS): Military Science and Tactics; north and south stables.

Music Hall (Mu): Music.

Observatory: Astronomy.

Ore Dressing Building: equipment for ore dressing and for the work of the Engineering Experiment Station.

Park Building (Pk): the John R. Park Memorial—general administration offices of the University including those of the President, Secretary and Comptroller, Registrar, Dean of Men, Dean of Women, Lower Division, School of Arts and Sciences, School of Education, School of Law, Buildings and Grounds; Post Office, Book Store, Art Gallery, Archaeological Museum; departments of Anthropology, Art, Law, Psychology.

Physical Science Building (PS): Chemistry, Physics.

Seismograph Laboratory: seismographic equipment of Department of Geology.

Stadium: track and field, football.

Stewart School (St): the William M. Stewart School, teacher training, Elementary and Secondary Education.

Union Building (Un): student office, meeting, and social rooms; cafeteria, coffee shop.

United States Bureau of Mines: headquarters station of the Metallurgical Division and intermountain district offices of the Mining and Health and Safety Divisions of this federal bureau.

THE UNIVERSITY LIBRARY

The University Library, consisting of the general library and departmental libraries, is open to all officers and students of the University, and under certain restrictions, to the public. On June 1, 1945, it contained 174,000 bound volumes and 75,000 pamphlets. It is a depository for United States documents and for the Carnegie Institution.

The library is open daily, during the college year, from 8:00 a. m. to 10:00 p. m., Friday 8:00 a. m. to 6:00 p. m., Saturday 8:00 a. m. to 5:00 p. m. Vacation hours are 9:00 a. m. to 5:00 p. m.; Saturday 9:00 a. m. to 1:00 p. m.

Although immediately serving the University, the library also serves the state at large. Materials for study and investigation are sent to any resident of the state; supplies are forwarded to the high schools of the State Debating League and to any debating club that may desire them.

Departmental libraries maintained for the use of various divisions of the University are: the Engineering Library, the Law Library, the Medical Library, County Hospital branch of the Medical Library, and the Stewart School Library.

MUSEUMS AND ART GALLERY

The Archaeological Museum (Park Building) contains valuable collections of relics, furnishing a laboratory for students in archaeology, anthropology, and western history. The Museum is open to visitors every school day, from 10:30 to 4:00 o'clock.

The Geology Museum (Geology Building) houses a display of ancient life forms, including fossil dinosaurs, mammoths, camels, horses, and archaic mammals, as well as the whole range of invertebrate animals. It also contains exhibits of minerals and ores. The museum is open regularly to both students and public.

The Museum of Zoology (Biology Building) contains synoptic collections of animals representing all the more important groups, together with reserve, study, and research collections. Skeletons and skulls, mounted and study skins, and a series of models aid in the study of comparative vertebrate zoology. The intent is especially to develop the collections of forms of the Great Basin in connection with the Biological Survey of the region.

The Herbarium (Biology Building) includes more than 18,000 mounted specimens of flowering plants in addition to many more available for study and exchange purposes. The diverse flora of Utah is well represented. In addition to flowering plants, the herbarium contains more than 8,000 specimens of mosses and a rapidly increasing collection of other groups of cryptogams.

The Art Gallery (Park Building) contains an interesting collection of works of art, including the valuable Wicks Art Collection.

LABORATORIES AND APPARATUS

Standard, well-equipped laboratories are maintained by the several schools and departments of the University as indicated below:

Biology. The biological laboratories provide for work in the botanical, zoological, and physiological fields. Special facilities are available for staff members and advanced students engaged in research. A vivarium, with constant temperature and animal rooms, laboratories for physical and experimental biology, comparative psychology, and research, and facilities for growth of needed material, gives opportunity for the study of living animals and plants.

Chemistry. The chemical laboratories are equipped for general, analytical, organic, and physical chemistry, and for chemical engineering, with private laboratories for the staff and graduate students.

Engineering. The School of Engineering maintains laboratories for student instruction and research, and also for commercial testing in connection with the Engineering Experiment Station, as follows:

Civil Engineering. The hydraulics laboratory is unique in that it has available for control all the water for the 13th East Street reservoir. The department maintains also laboratories for cement testing, bituminous testing, surveying, soil mechanics, and drafting.

Electrical Engineering. In the high tension laboratory 150,000 volts AC and 100,000 volts DC are available. The following department laboratories are also extensively equipped: machinery, electrical measurement, standards, communication, radio, relay, and oscillograph.

Mechanical Engineering. The aerodynamic laboratory is supplied with wind tunnels for testing airplane models. Excellent laboratories are available for fuels testing, heat power, and materials testing, together with the following shops: forge, machine, pattern, welding, and foundry.

Metallurgical Engineering. The ore-dressing equipment is housed in a separate building; in addition the department maintains laboratories for ore dressing microscopy, pyrometallurgy, hydrometallurgy, and heat treatment.

Mining Engineering. The University has on the campus a complete underground mine with several hundred feet of full-scale workings, affording excellent material for practical experience. There is also a ventilation laboratory.

Mining and Metallurgical Research. The department has laboratories for fellowship work and other research in the following fields: microscopic, petographic, mineragraphic; mineral dressing and pilot mill; mining research and mine; metallurgical (nonferrous and ferrous), pyro-, hydro-, and electrometallurgical; fuels; clays and refractories, nonmetallics.

Geology. The mineralogical laboratory is especially designed for determinative work. An extensive mineral collection, microscopes, and other equipment permit the application of some of the more refined modern methods in the study of minerals.

Home Economics. The department maintains nutrition laboratories with chemical apparatus, bomb calorimeter, and facilities for animal experiment; serving laboratories; and a nursery school.

Mathematics. The department owns a selected collection of models illustrating the forms of mathematical solids, surfaces, and curves. For astronomical work, there are available sextants, celestial globes, a three-inch, and a nine-inch clock-driven refracting telescope.

Medicine. In its campus quarters the School of Medicine maintains laboratories in biochemistry, gross anatomy, histology and neurology, physiology and pharmacology, operative surgery, bacteriology, and pathology. At the Salt Lake County General Hospital are hematological, clinical pathological, and bacteriological laboratories.

Modern Languages. The phonetics laboratory equipment includes phonographic, kymographic, and photographic recording apparatus for the study of speech, speech defects, and sound in relation to the pronunciation of modern languages.

Physics. Facilities are available for study of the general and special branches of physics—mechanics, light, electricity, discharge of electricity through gases at low pressures, and X-rays, with private laboratories for the staff and graduate students.

Psychology. The psychological laboratories include a comparative laboratory with apparatus and animals available for student research, a statistical laboratory equiped with calculating machines, a general and applied psychological laboratory for experimentation in physiological psychology, learning, etc., and a psychological clinic with facilities for the intellectual and personal appraisal of individuals.

Speech. Laboratories include: voice laboratory for sound recording and reproduction, radio studio and control room, speech clinic for study of psychophysical aspects of abnormal and normal voice; theatre laboratory for study of construction, painting, and lighting problems.

GYMNASIUM AND ATHLETIC GROUNDS

The out-door facilities for athletic contests are perhaps the most adequate in the intermountain region. The University of Utah stadium, seating 20,000, with team and rest rooms in connection, is the largest stadium in the state. The excellent stadium playing field and three acres of grass-covered practice field, in addition to putting green, and adjoining tennis courts, provide facilities for out-door physical activities of all students.

For indoor activities, the Gymnasium Building with its men's floor, women's floor, swimming pools, and acccessory rooms, is supplemented by the spacious Field House. Students in physical activities are taught and coached by the Department of Health, Physical Education, and Recreation. The Athletic Council exercises managerial supervision over all intercollegiate contests.

UNIVERSITY CREDITS RECOGNIZED

The University of Utah is approved by the Association of American Universities and the American Association of University Women. Through its School of Arts and Sciences it is a member of the Association of American Colleges.

The School of Education is a member of the National Association of Colleges and Departments of Education. The School of Mines and Engineering is a member of the Society for the Promotion of Engineering Education. The School of Medicine is accredited by the Association of American Medical Colleges and the American Medical Association. The School of Law is a member of the Association of American Law Schools, and is approved by the Council of Legal Education and the American Bar Association. The School of Business is a member of the American Association of Collegiate Schools of Business. The School of Social Work is a member of the American Association of Schools of Social Work. The Extension Division is a member of the National University Extension Association and of the American Association of Adult Education.

Credits obtained at the University are transferable to other standard institutions upon the same basis as standard credits are received here.

WARTIME PROGRAMS

In addition to maintaining its normal peacetime services and curricula, the University has devoted its resources to the prosecution of the war in a great variety of ways. Hundreds of students graduated from the field artillery unit of the Reserve Officers Training Corps in the years between the two world wars are now serving in the Army as officers. Through Civil Pilot Training the University has prepared more than 500 men as pilots in various branches of aviation. A unit of Naval Flying Cadets was for a time stationed on the campus, and classes in photography for enlisted men and in meteorology for enlisted men and officers have been conducted.

STAR and ASTP. The University has participated in a number of training plans instituted by the armed forces. In addition to the Joint College Enlisted Reserve Program, now superseded, it has had active STAR (Specialized Training Assignment and Reclassification) and ASTP (Army Specialized Training Program) units. STAR Unit 3901 was activated at the University April 6, 1943, for a five-month period. During that time nearly 5000 men were tested, classified, reassigned, and given instruction in mathematics, physics, chemistry, and in a few instances psychology and foreign languages.

ASTP Unit 3922 was inaugurated June 14, 1943, with over 200 men in Basic Engineering programs 1 and 2. Advanced Engineering and Area-Language programs began in September, 1943, with approximately 400 men, and ASTP preprofessional training in medicine and dentistry opened in March, 1944. Army and navy professional medical students were enrolled in the summer quarter, 1943-44; in this same quarter our former ROTC students returned for advanced work under the ASTP. Total ASTP enrollments during 1943-44 were: summer, 288; autumn, 1105; winter, 926; spring, 261.

In the summer of 1944, 120 ERC (Enlisted Reserve Corps) students were assigned to the University, marking the beginning of ASTRP (Army Specialized Training Reserve Program) instruction on this campus. Enrollments were: summer, 255; autumn, 250; winter (1944-45), 309.

Nursing, Red Cross, Medicine. The University nursing curriculum has been greatly expanded and revised with the new United States Cadet Nurse Corps program, fully described elsewhere in this bulletin (pages 98 and 259). The School of Social Work is engaged in training Red Cross Field Directors for service in this country and overseas, twenty scholarships for this purpose having been made available by the Red Cross. Accelerated, year-round curricula have been inaugurated in premedical, medical, and nursing education, and are available in other fields as well. The establishment of the new four-year School of Medicine with accelerated curriculum (see pages 132-144) is in part a response to the national emergency.

Engineering and Industry. Wartime needs of industry have been met through production training on the vocational level with twelve-week classes in such subjects as machine shop work and welding, and college-level classes operated under the federal engineering war training program. Courses of the latter type began in

1940 with the Engineering Defense Training Program, continued in 1941 with the Engineering-Science-Management Defense Training Program, and from 1942 to the present with the Engineering-Science-Management War Training Program. During this period, a large number of courses, mostly part-time evening work but also including some full-time day classes, have been conducted in many cities of the State. All together, more than 120 courses in engineering and vocational training have been taken by some 3000 students.

The Engineering-Science-Management program is under the direction of the United States Office of Education; courses are tuition-free and of college grade, requiring graduation from high school as prerequisite. Advanced prerequisites are necessary for certain subjects. College credit is not given, but certificates are awarded those who successfully complete courses. The training is intended to qualify persons now employed in industry for more advanced positions and to provide pre-employment training for those not now engaged in war industry. (For full information write to the Dean of the School of Mines and Engineering.)

The Standard Curriculum. The University's regular curriculum has been modified where necessary to meet the needs of the emergency—both in prosecution of the war and in preparation for the peace. Thus, new courses have been established and new directions given existing courses in such fields as the social sciences, home economics, physical education, and secretarial training, and a new emphasis has been given to the need for thorough basic preparation in standard University subjects, especially in the fields of science, language, mathematics, and the professions.

PROGRAMS FOR VETERANS

In co-operation with the Veterans Administration, the University of Utah offers its resources to service men and women returning to civil life. Two educational training programs are administered by the Veterans Administration. These are the Servicemen's Readjustment Training Program, under Public Law 346, 78th Congress—commonly known as the "G. I. Bill of Rights," and the Veterans Rehabilitation Training Program, under Public Law 16. Brief statements concerning these two programs on the University campus follow. Detailed information concerning eligibility procedure, and benefits is given in a bulletin, "Educational Programs for Veterans," available through the Office of the President, University of Utah, or through the offices of the Co-ordinators named below.

Servicemen's Readjustment Training Program ("G. I. Training Program"): Co-ordinator Herald L. Carlston (Placement Bureau, Park Building 211). Men and women who have served in the armed forces of the United States during the present war, who have been honorably discharged, and whose education has been delayed or impeded are eligible. Veterans wishing to enroll at this University are invited to present their official certificates of eligibility to the Co-ordinator. These certificates may be secured through the Veterans Administration.

Veterans Rehabilitation Training Program: Co-ordinator Dr. Arthur L. Beeley, Associate Co-ordinator Dr. George Pierson (Bureau

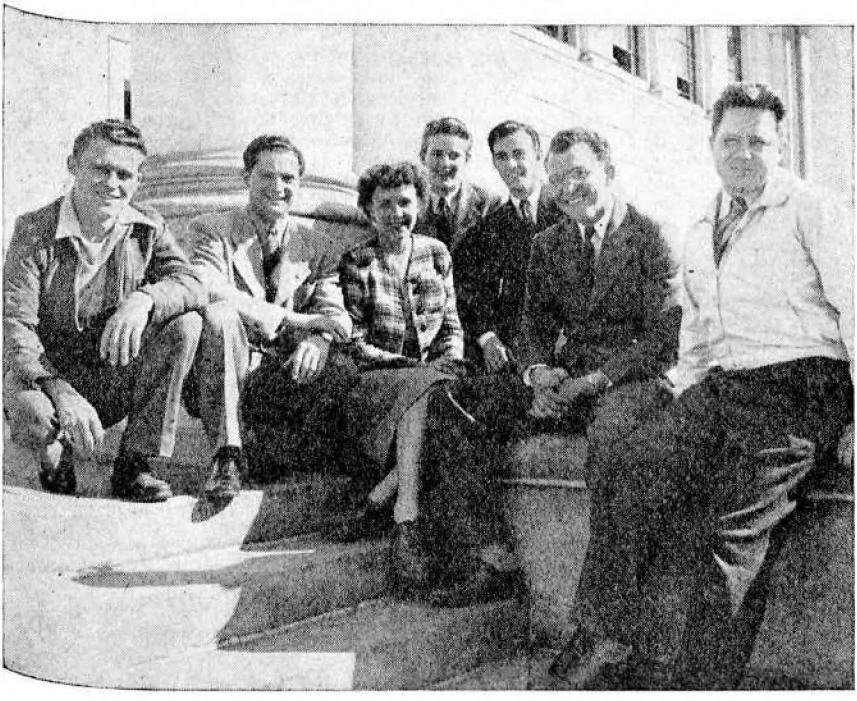
of Student Counsel, Liberal Arts Building 101). Veterans who have been honorably discharged from the armed forces with a medical disability resulting from service in the present war and who are certified for vocational rehabilitation are eligible. Prospective trainees are approved by the Veterans Administration and referred to the Bureau of Student Counsel for advisement and training.

U. S. Veterans Administration: Necessary forms may be secured from any office of the Veterans Administration. That having jurisdiction in Utah is located at 222 South West Temple Street, Salt Lake City 1. A University sub-unit has its office in Liberal Arts Building 213 on the campus.

BUREAU OF STUDENT COUNSEL

The Bureau of Student Counsel was established in 1927 for the purpose of counseling students individually with regard to their personality problems and mental health.

The bureau is in charge of a director and an associate director who are assisted by an advisory committee representing the Student Health Service, the Department of Psychology, and the Deans.



Seven of the two hundred veterans now attending the University.

The work of the bureau is organized around three types of service: (a) routine handling of individual student problems; (b) administration of a course in personality development (Social Education 5); (c) systematic scrutiny of all candidates for practice teaching in the School of Education. The bureau also co-ordinates the U. S. Veterans' Rehabilitation Program at the University of Utah.

STUDENT HEALTH SERVICE

The University is interested in the health of the student and assumes that progress may be physical as well as intellectual. It assumes also that reliable information concerning his own physical condition is an important and vital phase of the student's education.

To this end the Student Health Service is maintained. It is staffed by physicians, medical specialists, and nurses. Facilities are available for examination, consultations, protective inoculation, emergency and minor treatment, and bedcare during daytime hours for students temporarily ill. When authorization is requested and secured in advance from the Health Service, a limited amount of hospitalization for acute illness may be available to students at the expense of the Health Service. As part of the registration process, all students are examined medically on first entering the University.

SPEECH CLINIC

The Speech Clinic offers services to University students who present speech and voice deviations detrimental to personal and academic achievement. The clinic collaborates with the Student Health Service in cases where special examinations and medical treatments are indicated. It functions in a diagnostic capacity and also offers correction and retraining to as many students as the staff can accommodate. It shares in the University veterans' rehabilitation program.

PLACEMENT BUREAU

The Placement Bureau serves as a central switchboard for employers seeking workers and students seeking employment. The types of requests received vary widely. They include occasional part-time, steady part-time, between-quarter, summer, and full-time employment. Both students and alumni have found use of the facilities of this office advantageous. During the past few years, the number of employment opportunities offered through the bureau has been considerably greater than the number of persons available for work.

ALUMNI ASSOCIATION

This association was formed for the promotion of literary, scientific, and artistic pursuits, and in the general interest of the University of Utah, and of the relations between the University and its alumni.

Officers 1944-45. President, Ellis W. Barker, '24; Vice-President, Agnes Lovendahl Stewart, '17; Executive Secretary, Douglas O. Woodruff, '22; Treasurer, Leon D. Garrett.

Board of Control 1944-45. Ardelle Fisher Larson, '32; Charlotte Ulke McLatchy, '29; John Jensen, '06; Henry G. Richardson, '11; Elton W. Pace, '30; Ruth Stewart Romney, '26.

SUPERVISION OF STUDENT LIFE

The Dean of Men and Dean of Women give attention to the general and individual welfare of students. They have charge of the University's fraternities and sororities. The dormitories and private houses in which students board and room are under their supervision. Working with the Committee on Social Affairs, they control campus social activities.

(All social affairs are registered in the office of the Dean of Women and are subject to University regulations.)

Students having individual problems concerning scholarship, living conditions, financial matters, social life, and vocational choice find counsel and assistance in the offices of the Dean of Men and Dean of Women in the Park Building.

LIVING ACCOMMODATIONS

Carlson Hall, named for the donors, August W. and Mary P. Carlson, provides women students with an opportunity to experience group life at its best. It is highly desirable that out-of-town freshman women live in this university residence hall. At present, Carlson Hall is largely occupied by students in the Department of Nursing Education. However, other freshman women should make application to the Hall, and if rooms are not available they will be assisted in finding rooms in private houses.

A spacious living room, library, and recreation room, together with a large dining hall, provide adequate space for social life. Sleeping rooms, both single and double, provide for each girl separate bed, clothes closet, dresser, and study desk. Curtains, rugs, two blankets, and bed linens are provided. Each student living in Carlson Hall must supply her own towels and a dresser scarf. A student laundry in the basement is convenient for laundering and pressing.

Cost of room and board is very reasonable. A descriptive folder containing rates, an application form, and other information may be secured by writing the Director of Carlson Hall, University of Utah.

Fraternity and Sorority Houses. Fraternities and sororities furnish board and room for their members and (during war-time) for a few non-members. Each sorority house is under the supervision of a mature chaperon-manager approved by the Dean of Women.

Approved Houses. Private houses, inspected and approved, provide board and room at reasonable rates for both men and women students. Lists are available in the office of the Dean of Women.

Board. The University Coffee Shop and Carlson Hall provide meals for students living in private rooms. During 1944-45, cost was $28 per month for three meals daily.

Cost of Board and Room. Board and room costs during 1944-45 ranged from $35 to $45 monthly, the average cost being $38.50 for room and two meals; $43 for room and three meals.

Rooms in private homes rented during 1944-45 at from $10 to $20 per month, the average cost being $12.50 per person per month for a double room and $15 per person per month for a single room.

Apartments. The Housing Committee lists available apartments, but does not approve apartments *for undergraduate women students.* Parents who for any reason allow their daughters to live in apartments must secure permission of the Housing Committee and must assume all responsibility for their welfare. Rentals during 1944-45 ranged from $25 to $55 per month.

RESIDENCE REGULATIONS

All men and women must stay in approved houses.

Men and women may not stay at the same house.

Contracts for residence at Carlson Hall are for the year for all students except students in the Department of Nursing Education, whose period of residence on the campus is two quarters.

All students living in private homes, sorority, and fraternity houses are obligated to keep their living accommodations at least one quarter. If a student intends to make a change of residence at the end of a quarter, he or she must give the householder two weeks' notice.

No change of residence during a quarter may be made without the permission of the Dean of Men (for men) or the Dean of Women (for women). When change of residence for a specific cause is approved by the Dean of Men or the Dean of Women, the student must give the householder two weeks' notice of intention to move unless the reason for removal is failure on the householder's part to provide accommodations as specified in the householder's agreement.

The President, acting through the Dean of Men and Dean of Women, has authority to supervise the living arrangements of students not residents of the city and to order the immediate withdrawal of any student from any undesirable boarding or lodging house.

RULES OF DISCIPLINE

For the guidance and discipline of the student body, the following rules are in force:

Conduct. No student is allowed to remain a member of the University or be connected with it whose conduct is considered in any way prejudicial to the interests of the institution.

Disorderly conduct of any kind is forbidden on the campus and in the buildings of the University.

A student who in any course presents as his own the work of some one else, or who otherwise falsifies or cheats, will be reported immediately to his dean by the instructor of the course, and subjected to proper discipline.

Scholarship. The dean of any school or division may drop from a class, or the Scholarship Committee may drop for the rest of a session, any student who is persistent in non-attendance or in nonperformance of University work, or a dean or committee may, upon the recommendation of an instructor, reduce the registered credit of any such student; if he is not dropped or his credit is not reduced he must make up the work missed in a manner satisfactory to the instructor concerned.

A student will be placed on probation if his scholarship average is below "C" for the preceding quarter, except when, in the discretion of the Scholarship Committee, this rule should be waived because of special extenuating circumstances. Repeated probation may result in dismissal.

A regular full-time student who in any quarter passes in less than two-thirds of his registered work, or fails to pass a minimum of ten hours may be dropped from the University.

A student who is dropped in accordance with these rules will be given opportunity to appear before the Scholarship Committee to show cause for readmittance.

When a student is dropped from a class for absence, non-performance of work, or for poor work, the subject is counted as a failure against him.

Enrollment and Withdrawal. After a course has been in progress one full week from its beginning, further enrollments or registrations in it are not permitted. A student is not permitted to withdraw after the fourth week except for special reasons, satisfactory to the dean concerned and the Registrar. Impaired health or physical condition as a reason for withdrawal from part of the student's work must be evidenced by a statement from the Student Health Service.

Students who take listening courses are not allowed to obtain credit for them by taking special examinations.

Advertising. No advertising matter that comes under the following heads can be accepted for any University publication, official or semi-official, or for any publication that uses the name of the University: advertisements of tobacco, investment advertisements promising extraordinary returns, patent medicine advertisements, advertisements in any way immoral or offensive to good taste. The use of the University name may be denied to any publication that violates any part of this regulation.

Unpaid Bills. No student will be allowed University credit at the end of any term when unpaid bills for board, refreshments, food supplies, or lodging, properly approved by the Housing Committee, are filed against him in the Registrar's office. This rule applies also to the members of University organizations against which similar claims are filed.

Meetings. Rooms in the University buildings used by student organizations shall not be used for purposes other than the usual exercises of such organizations without the previously obtained consent of the President.

No arrangements or announcements for any public gathering or exercise in the University buildings shall be made by students unless the consent of the President's Office has been previously obtained.

STUDENT GOVERNMENT AND ORGANIZATIONS

The students of the University of Utah, with regent and faculty approval, are organized in a self-governing body known as the Associated Students of the University of Utah. This body sponsors and supervises such activities as athletics, journalism, debating, dramatics, and music


IVERSITY

Upon payment of an activity fee, all members are entitled to admission to all functions representing these activities. This fee also entitles members to a year's subscription to the Chronicle, weekly newspaper, and the Pen, a literary magazine. Other student publications are the Utonian, college annual published by the junior class, and the Unique, campus pictorial magazine.

On "U Day" in the spring the big letter on the hill is cleaned and whitewashed by lower classmen, and the Songfest is held at Kingsbury Hall with all organizations participating.

The Associated Men Students is an organization (in which all men automatically become members upon registration) for the purpose of promoting activities of interest to men and of fostering a friendly spirit among all men students and men's organizations. Similarly, the **Associated Women Students** (to which all women registered automatically belong) fosters activity and good fellowship among all women students.

The Beehive Club is an honorary organization of seniors, eligibility for which is based upon points won according to a fixed scale, in actual participation in student activities.

The Presidents' Club is composed of the heads of student organizations, fraternities, sororities, and clubs. The president of the A.S.U.U. is chairman ex officio. Through this club co-operation and correlation among the various student groups on the campus are promoted.

Student Groups formed for the advancement of study in certain fields include: the Engineering Council, Barristers, Commerce Club, Cercle Francais, Spanish Club, German Club, and Geology Club.

Fraternities, Professional. Delta Theta Phi (law), Theta Tau (engineering), Delta Sigma Pi (commerce), Alpha Kappa Psi (commerce), Sigma Gamma Epsilon (geology, metallurgy, and mining), Phi Alpha Delta (law), Alpha Chi Sigma (chemistry), Phi Chi Theta (commerce, women), Scabbard and Blade (military), Beta Delta Mu (music), Phi Delta Delta (law, women), Phi Sigma (biology), Phi Delta Kappa (education), Alpha Theta Kappa (band), John R. Park Chapter—Future Teachers of America, Beta Sigma Eta (engineering), and Gamma Chi (chemistry, women).

Fraternities, Honorary. Phi Kappa Phi (scholarship, coeducational), Tau Kappa Alpha (debating), Sigma Upsilon (literature, men), Chi Delta Phi (literature, women), Sigma Kappa Phi (language), Theta Alpha Phi (drama, coeducational), Tau Beta Pi (engineering), Delta Phi (mission service), Mortar Board (senior women), Alpha Lambda Delta (scholarship, freshman women), Phi Beta Kappa (liberal arts scholarship, coeducational), Sigma Xi (science, scholarship, coeducational), Omicron Nu (home economics), Phi Eta Sigma (scholarship, freshman men), Psi Chi (psychology).

Fraternities, Social: Sigma Chi, Pi Kappa Alpha, Beta Theta Pi, Phi Delta Theta, Sigma Pi, Sigma Nu, Kappa Sigma.

Sororities, Social: Chi Omega, Alpha Delta Pi, Pi Beta Phi, Phi Mu, Delta Delta Delta, Delta Gamma, Kappa Kappa Gamma, Alpha Chi Omega.

Clubs: Alpha Beta Theta (literature), Apmin Society (fine arts, women), A. Ch. E. (chemical engineering), A. S. C. E. (civil engineering), A. S. M. E. (mechanical engineering), A. I. E. E. (electrical engineering), A. I. M. E. (mining engineering), American Association of Interns and Medical Students, Capitol Club, Commerce Club, Cwean, DeMolay Club, Fencing Club, Home Economics Club, Intercollegiate Knights, International Club, Jacinthe de L'Azure (women's friendship), Officers' Club, Orchesis (dance), Owl and Key, Pemm (physical education—major and minor), Rho Sigma Mu (veterans), Sociology Society (chapter of American Sociological Society), Speech Arts Society, Spurs, Skull and Bones, University Skiing Club, U. of U. Hiking Club, U. of U. Pep Band, U. Press Club, Utah Premedical Society, Women's Recreation Association, Women's National Aeronautical Association.

ELIGIBILITY FOR ACTIVITIES, FRATERNITIES, AND SORORITIES

Freshmen may participate in only those activities specified by the A. S. U. U. Constitution and the Mountain States Conference.

For student activities including student body and class offices, elective and appointive, a student is eligible who is fully matriculated, registered for twelve resident hours of college work, has completed work specified in the A. S. U. U. Constitution for the given position or activity, and is not on probation. A student's eligibility is determined by his record at the close of the preceding quarter. Removals of conditions and incompletes do not affect eligibility. Passing grades with an average of "C" in at least 12 credit hours of resident work during the preceding quarter are required. For intercollegiate athletics, the Mountain States Conference eligibility rules govern.

For fraternity or sorority pledging, the rules of the preceding paragraph apply, except that the student must have completed at least twelve hours of resident college work and must be successfully carrying twelve hours. For initiation, the same rules apply, except that the student must have been in residence at the University of Utah at least one quarter, and must have completed at least twenty-four hours of college work including twelve at the University of Utah.

For pledging or initiation, all University fees of the candidate must be paid in full.

Before pledging or initiating a candidate, the fraternity or sorority must obtain official certification that the candidate is eligible.

FELLOWSHIPS, SCHOLARSHIPS, PRIZES, AND LOAN FUNDS

FELLOWSHIPS

Research Fellowships. The University offers ten graduate research fellowships at $600 per year, which are assigned by the University Research Committee. These fellowships are open in all fields of study at the University and will be awarded on the basis of the qualifications of the applicants and the relative merits of the research projects.

Fellowships in Mining and Metallurgical Research. The Department of Mining and Metallurgical Research of the Utah Engineering Experiment Station offers a number of research fellowships annually

carrying a stipend of $600 each. These fellowships are open to college graduates who have had the proper training in mining, metallurgy, chemistry, or geology. See page 172 for further details.

John R. Park Teachers' Fellowships are the proceeds of an endowment fund given to the University under the terms of the will of the late John R. Park to enable teachers engaged by the University of Utah to pursue courses of study in educational institutions abroad, or outside the University. The benefits of this fellowship are not granted to any one person for a period of more than three years.

Dr. Washington F. Anderson Memorial Fund. Created by a gift of $10,000 in United States Treasury Bonds. The fund is to be used for the promotion of research in the medical sciences, at the University of Utah Medical School, by paying not to exceed the sum of $1,000 per annum to a member of the faculty doing outstanding work in the medical sciences. At the discretion of the Board of Regents, the sum may be divided between two or more faculty members.

Fellowships in Social Work. The following graduate fellowships are available to fully matriculated students in Social Work.

Amy Whipple Evans Fellowship of $250, given by the National Women's Relief Society.

Salt Lake City Council of Social Agencies Research Fellowship of $250.

One University of Utah Graduate Fellowship of $200, and one of $150.

Salt Lake Junior League Fellowship of $150.

Assistantships. The University offers twenty assistantships at $300 per year which are assigned by the University Research Committee. These are open to properly qualified graduate students and undergraduate students of advanced standing, and in all fields of study at the University. Some are available to students pursuing individual research projects and others for assistance on research projects undertaken by members of the faculty.

Student Fellowships are awarded to students capable of giving the required assistance in the various departments of the University. The departments make recommendations, to be confirmed by the President.

SCHOLARSHIPS

Normal Scholarships. The 100 normal scholarships established by legislative enactment pay $25 of the annual registration fee for each holder. For full information see School of Education, pages 92-93.

Georgia Mather Scholarship. A bequest from the estate of Georgia Mather in the amount of $2,078.92 provides for the aid and assistance of needy young women pursuing studies in the School of Education. A scholarship fund has been created, the income to be awarded annually as a scholarship.

The Women's Auxiliary of the American Institute of Mining Engineers offers a scholarship varying in amount from $300 to $750 each year to a student taking a course in Mining Engineering. The scholarship is a competitive one; applications are received from students at different schools, and the scholarship is awarded to the student of highest standing. Students may apply for this scholarship during any year of the college course, and the scholarship may be continued for more than one year. The university at which the student will continue his course will be specified at the time of awarding this scholarship.

Downie Davidson Muir, Jr. Scholarship of $400 per year for a four-year course in Mining Engineering, offered by the United States Smelting Refining and Mining Company.

Walter Hazen Eardley Scholarship of $400 per year for a four-year course in non-ferrous metallurgy, offered by the United States Smelting Refining and Mining Company.

Edward Alexander Hamilton Scholarship of $400 per year for a four-year course in engineering, offered by the United States Smelting Refining and Mining Company.

Research Scholarships in Geology. Six annual graduate scholarships of $500 each are available, of which one is to be awarded for study and research concerning the Wasatch fault. Consult the head of the Department of Geology for details.

Scholarships in Social Work. The following graduate scholarships are available to fully matriculated students in Social Work.

Salt Lake City Altrusa Club Scholarship of $50, available to a woman student.

Ten American Red Cross Scholarships of $100 per quarter, plus tuition, for three quarters (1944-45).

Edward Rosenbaum Library and Scholarship Fund. Created by gifts from the estate of Edward Rosenbaum, and from Mrs. Harriett Rosenbaum, his widow, the proceeds to be used for the purchase of German books, and for scholarships for juniors, seniors, and graduate students specializing in German.

W. K. Kellogg Foundation Scholarship in Medical Technology. One scholarship of $250 is available to medical technologists during their year of training in hospital laboratories.

Dr. Clarence Snow Memorial Scholarship. An annual grant of $60 by Mrs. Clarence Snow and family in memory of Dr. Clarence Snow, a member of the Board of Regents, to any member of the University not a graduating senior, in recognition of fine scholarship, economic need, and future possibilities. Award to be made jointly by donors and Scholarship Committee in May of each year.

Frederick Samuel Auerbach Scholarship. Madeline Auerbach Werner, on the 19th day of July, 1938, gave to the University $2,000 for the establishment of a scholarship trust fund in memory of her brother, Frederick Samuel Auerbach. The income from the fund is

to be awarded annually to a student of the University in recognition of talent and scholarship demonstrated during the school year in which the award is made, as well as to encourage this student in the further pursuit of education and culture.

Mary Connelly Kimball Scholarship. John Connelly, in memory of his daughter, Mary Connelly Kimball, made a gift of $1,000 to the University. The income from this fund is to be used for a scholarship to be awarded annually by the President and Scholarship Committee.

Cwean, student organization of the University, awards a $25 scholarship to a woman student outstanding in scholarship and activities.

The Salt Lake Exchange Club awards annually four scholarships of $50 each, two to freshman men of high scholastic attainment who have participated in student activities, and two to talented women students of any class who have served the University community with distinction.

Veteran's Scholarship. The proceeds of two war bonds given by President Robert Gordon Sproul of the University of California to be awarded as an undergraduate scholarship to a veteran of the present war of either sex.

PRIZES AND AWARDS

The George Emory Fellows Medal is made available by the honor society of Phi Kappa Phi to the student who attains the highest scholarship record for four years.

The Alpha Kappa Psi Medallion is awarded annually by the Alpha Iota chapter of the Alpha Kappa Psi national commerce fraternity to the male student in the junior class of the School of Business who has the highest scholastic average for his three years' work.

Delta Sigma Pi Scholarship Key. A gold key, the gift of Delta Sigma Pi, professional commerce fraternity, Sigma chapter of which is established at the University of Utah, is awarded annually upon graduation to the senior in the School of Business who, in the judgment of the faculty, has ranked highest in scholarship for the entire course in Business.

The Utah Association of Public Accountants awards a gold key to the highest student in accounting.

Philo Sherman Bennett Prize Fund. A bequest from the estate of Philo Sherman Bennett, accepted by the Board of Regents, June 26, 1905, provides that the income be used annually for a prize for the best essay discussing the principles of free government.

Leah D. Widtsoe Award. A sterling silver bowl is presented each year to the senior in Home Economics ranking highest in scholarship, leadership, and homemaking accomplishments.

Chi Omega Prize. The Chi Omega sorority offers an annual

prize of $25 to the student in Economics or Sociology who presents the best paper on some subject pertaining to one of these fields.

Martha J. Watson Award. The proceeds of a fund created by a gift from Martha J. Watson are to be used for an honor award each year to the freshman girl having the highest scholastic average and the greatest number of honor points.

Interfraternity Council Trophy. Awarded to the social fraternity having the highest scholarship for the year. The fraternity winning three years in succession obtains permanent possession of the trophy, which is engraved with the names of previous winning fraternities.

Paul C. Hansen Plaque. Awarded to the member of the Interfraternity Council who is outstanding in promoting a more friendly feeling among fraternities themselves and between fraternities and the University.

Andrew A. Kerr Tennis Championship Medal. A championship medal is given each spring to the best student tennis player. This is provided from the income from a fund donated by Professor Walter A. Kerr in memory of his brother, Dr. Andrew A. Kerr.

LOAN FUNDS

Loans are made in moderate amounts to deserving students from the following loan funds, which are administered by a committee of the faculty and the administrative officers of the University:

Women's Loan Fund. This fund was established by Dean of Women Emeritus Lucy M. Van Cott, from funds solicited from various citizens, and augmented with proceeds of benefit entertainments, etc.

Lucy Stringham Grant Scholarship Loan Fund. Made available by gifts from Heber J. Grant in memory of his wife Lucy Stringham Grant.

Augusta Winters Grant Student Loan Fund. Made available by gifts from Heber J. Grant in honor of his wife Augusta Winters Grant.

Emily Wells Grant Student Loan Fund. Made available by gifts from Heber J. Grant in memory of his wife Emily Wells Grant.

Heber J. Grant Student Loan Fund. Made available by gifts from Heber J. Grant.

Joseph Hyde Merrill Memorial Loan Fund. Made available to students majoring in Physics or registered in Engineering by a gift from Dr. Joseph F. Merrill in memory of his son Joseph Hyde Merrill, who died while a member of the Student Army Training Corps of the University of Utah.

Etta B. Cowles Loan Fund. Made available by a gift from Etta B. Cowles as a loan fund for women students whose major is Home Economics.

Ichel Watters Loan Fund. Made available by gifts from Dr. Leon L. Watters, a graduate of the University of Utah, in memory of his father, Ichel Watters.

Frank Evans Student Loan Fund. Made available by gifts from Frank Evans, former student and former member of the Board of Regents of the University.

Eric Ryberg Loan Fund. Made available by donations from Eric Ryberg, the proceeds to be used for loans to deserving students.

Emmeline B. Wells Memorial Loan Fund. Made available by a donation of $1,000 by the Emmeline B. Wells Centennial Memorial Committee. Loans to be made only to senior and graduate women students of the University.

Allene Crismon Loan Fund. A gift by Elizabeth T. Cain Crismon, in memory of her daughter Allene.

David Parrish Howells Student Loan Fund. Created by a gift of $5,075.25 by Adele Cannon Howells, to be used for loans to worthy students.

Eva C. Erb Loan Fund. Created by gifts from the estate of Eva C. Erb to be used as a loan fund for girls who are residents of Utah, have completed two years of college work, and have determined upon a business or professional career.

U. of U. Students' General Loan Fund. Created by gifts from the classes of 1915, 1917, and 1918, the Scandinavian Fund, and the High School Fund, consolidated into this fund.

Class of 1908 Loan Fund. Created by a gift of the class of 1908 to be used as a loan fund: descendants of the class of 1908 to be given preference.

U. of U. Women's Club Senior Loan Fund. Established by gifts from the U. of U. Women's Club, to be used as a loan fund for senior students.

David H. Christensen Loan Fund. Created by a gift of $1000 from the Christensen Construction Company as a loan fund for students in the School of Engineering.

Catherine Dean Christensen Memorial Loan Fund. Created by a gift of $500 from Regent D. H. Christensen as a memorial to his wife, Catherine Dean Christensen, as a loan fund for deserving students, preferably girls who intend to enter the profession of teaching.

Dr. Lyman Luther Daines Memorial Loan Fund. Created by a gift of $500 from the Christensen Construction Company, D. H. Christensen, President; G. M. Paulson, Vice-President, to be used as a loan fund for medical students.

W. K. Kellogg Foundation Medical Student Loan Fund. Established by a grant of $5,000 from the W. K. Kellogg Foundation of Battle Creek, Michigan.

W. K. Kellogg Foundation Medical Technologist Loan Fund. The Foundation has made available a fund of $3,000 for loans, not to exceed $300 per year, to junior and senior students majoring in medical technology and training in the state of Utah.

American Association of Interns Loan Fund. Established by a gift of $822 from the Utah Chapter of the American Association of Interns and Medical Students as a loan fund for future medical students.

FEES AND EXPENSES

(For Autumn, Winter and Spring Quarters)

Students in the Lower Division, the School of Arts and Sciences, the School of Education, the School of Social Work, and the Graduate Division (except when students in these schools or divisions register for work in the Schools of Medicine, Law, Engineering, and Business) pay fees amounting to $112.00 for the year as follows:

	Autumn	Winter	Spring
Registration†	$10.00		
Tuition	27.00	$27.00	$27.00
Building Fee	3.00	3.00	3.00
Student Activity and Class Fee	6.00 Plus Tax	3.50 Plus Tax	2.50 Plus Tax
	$46.00	$33.50	$32.50

†Students from outside the State of Utah pay an additional fee of $55.00. See "Regulations Governing Residence," page 72.

The change in the tuition fee from $22.00, as listed in the 1944-45 catalogue, to $27.00 is due to the consolidation of the tuition fee with the laboratory fees, the health service fee, the towel fee, and the examination book fee.

Students in the following schools pay each quarter a tuition fee as indicated (instead of $27.00): School of Business, $28.00; School of Mines and Engineering, $37.00; School of Law, $45.00; School of Medicine, $137.00.

Students entering in the winter or spring quarter pay the registration fee in addition to those shown for the quarter.

Graduate students are not required to pay the student activity and building fees.

Students in other schools may take subjects in the following professional schools or in the Department of Business by paying additional tuition fees:

Department of Business, for upper division subjects only	$ 1.00
School of Law, per credit hour	2.00
School of Medicine, per credit hour	8.00

In no case, however, is the total tuition fee more than that required of students registered in the professional school.

Students in other schools taking any work in the School of Mines and Engineering pay the tuition of $37.00 per quarter.

Students taking subjects listed below pay additional fees as indicated.

Departmental Breakage Deposits

Anatomy 103-104	$ 5.00
Anatomy 110-114	5.00
Bacteriology—all laboratory courses	3.00
Biological Chemistry—all courses	5.00
Biology 180	3.00
Botany 110, 120	3.00
Chemistry—all laboratory courses	2.50
Home Economics 108, 110a, 110b	2.00
Metallurgical Engineering 111, 112	2.50
Pharmacology 200, 201	3.00
Physiology 100, 200, 201	5.00
Zoology 4, 5, 108, 109, 121, 125, 140, 141	3.00

Private Instruction

For private lessons in music the following fees are required:

Per Subject Per Quarter

Music 7, 8, 9, 57, 58, 59, 107, 108, 109, 157, 158, 159	$ 30.00
Music 17, 18, 19, 117, 118, 119	20.00
Music 27, 28, 29, 77, 78, 79, 127, 128, 129, 177, 178, 179	35.00
Music 37, 38, 39, 87, 88, 89, 137, 138, 139, 187, 188, 189	30.00
Music 47, 48, 49, 97, 98, 99, 147, 148, 149, 197, 198, 199	35.00

Listening Courses Only

Registration as listener in courses in which no credit is desired, per quarter, per subject ..... $ 5.00

Students registering for listening courses only pay no activity fee. Listeners are not admitted to professional courses in Law, Medicine, Engineering.

Graduation Expenses

Baccalaureate (B.A., B.S., and LL.B.) and master's degrees, M.D., etc. $10.00
(Alumni Association and senior class fees are payable at time of graduation.)

All other diplomas and certificates of graduation 5.00
(Except when diploma or certificate is issued when degree is conferred.)

Cap and gown to be furnished by candidate for graduation.

Miscellaneous Fees

Rental of microscopes, for medical students, per quarter ..... $ 5.00

Rental of pianos, per hour of daily practice, per quarter 3.00

Excess registration fee: For each excess hour (except one hour of M. S. & T., Physical Education, or Orientation) 5.00

Late registration fee: $2.00 during the first week and $3.00 after the first week. *Registration is not complete until the student has presented his fee card at the cashier's window, Secretary's Office, and settled for his fees.*

Make-up examination fee, per subject 1.00

Change of registration fee, for each subject added ..... .50

Special Examinations, under certain conditions, may be taken in subjects not registered for, on approval of the Credits Committee, and upon payment of a fee of $1.50 per credit hour, provided that the total fee for one subject shall not exceed $5.00. Special examinations cannot be given in subjects taken as listening courses.

Special examinations are given only to students in residence regularly registered at the University at the time request for examination is made.

Transcript of Credits. Each student is entitled to one transcript free. Additional transcripts, 50 cents to $1.00 each.

Locker Fees. Small lockers, $1.25; large lockers, $1.75.

Fifty cents of this fee is refunded to students at the Superintendent's Office, if locker key is returned before the first Friday following June Commencement.

Gymnasium Fees:

Girls' swimming suit cards, per quarter	$ 1.25
Duplicate girls' swimming suit card	.25
Duplicate gymnasium basket card	.25

Refunds

No refunds will be granted to students who are requested to withdraw from the University because of scholarship or any other cause.

All fees paid, with the exception of the $10.00 registration fee and the $55.00 non-resident fee, will be refunded to any student in residence who withdraws from school before the end of the quarter, in the proportion that the number of instructional weeks subsequent to withdrawal bears to the number of instructional weeks in the period covered by the fees paid. No refund of the $10.00 registration fee or the non-resident fee will be made.

All students when paying fees are given official receipts from the Secretary's office. These receipts must be presented before refunds are allowed.

REGULATIONS GOVERNING RESIDENCE

A prospective student whose credentials indicate non-resident status will be so classified. All requests for resident classification must be filed with the Registrar's office at the time of registration. These requests will be considered in accordance with the following general rules:

The residence of a minor is determined by that of his legal guardian.

Residence in Utah merely for the purpose of attending the University does not entitle the student to resident classification.

Resident classification requires permanent residence within the State of Utah for at least one year immediately preceding registration, together with the concurring intention to make Utah one's permanent abode.

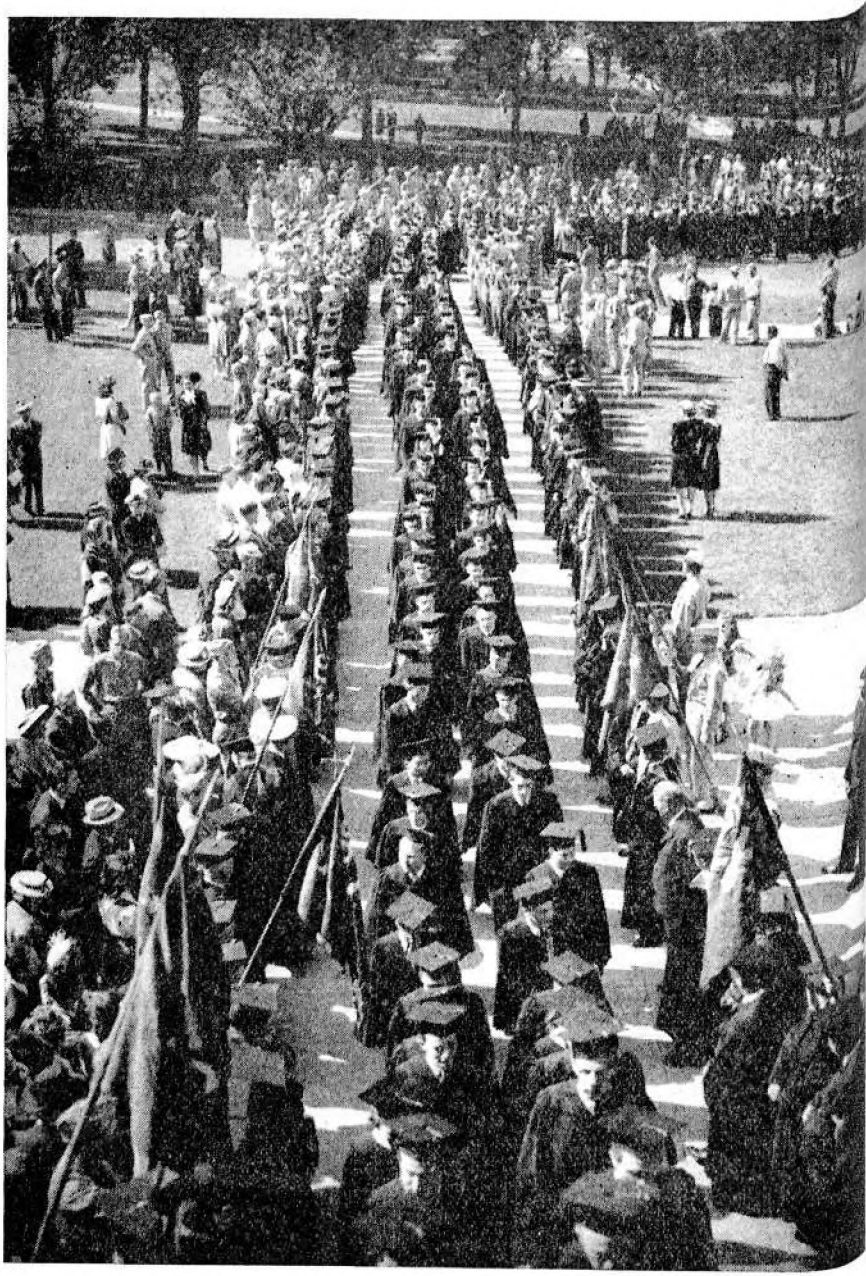
ADMISSION AND GRADUATION

APPLICATION AND REGISTRATION

ENTRANCE REQUIREMENTS

ADVANCED STANDING

GRADUATION



Commencement Procession.

ADMISSION AND GRADUATION

APPLICATION AND REGISTRATION

Official registration days are designated on pages 7 and 8 under "University Calendar."

Credentials. High school students who expect to enter the University must make application in writing, and must have certificates of high school credits sent to the Registrar at least four weeks before registration day. Forms will be furnished by the Office of the Registrar upon request.

Applicants for admission *with advanced standing* must make application and file official transcripts showing high school and college work completed at least two weeks in advance of registration.

Late presentation of credentials causes the student inconvenience and delay. Students who present their credentials on registration day should not expect to complete registration on that day.

Permits. Registration permits bearing detailed registration instructions are sent to those applicants whose credentials are satisfactory and who can be reached by mail before registration day. Permits not mailed may be obtained at the Office of the Registrar.

Entrance Examinations. Before registration, all new students are required to take entrance examinations as indicated below. Students who have previously taken these tests for the University do not repeat them. See "University Calendar" for dates.

English Placement Test. Required of all students except those presenting satisfactory college credit in freshman composition.

Mathematics Placement Test. Required of all freshmen in the School of Mines and Engineering.

College Aptitude Test. Required of all freshmen and of all other Lower Division students.

Health Examination. Required of all regular students.

Freshman Assembly. Required of all beginning freshmen. See "University Calendar" for dates.

Registration Instructions. See "University Calendar" for registration dates.

New students must complete all required entrance examinations before registration, and register in accordance with instructions on their permits.

Former students not registered during 1944-45 report at the Office of the Registrar. Students who have attended other collegiate institutions since attending the University of Utah are required to file complete credentials of their transferred work before registration cards are issued.

Former students registered during 1944-45 report at the Union Building for autumn quarter registration. In the winter and spring quarters, only those registered the previous quarter report at the Union Building. Others report at the Office of the Registrar.

Students in the Schools of Law and Medicine register with their Deans, Park Building and Medical Building.

Registration Hours. Unless permits indicate otherwise, all students register according to the following schedule:

PROGRAM OF REGISTRATION HOURS—UNION BUILDING
(By alphabetical position of surname)

	Autumn	Winter	Spring
8:30— 9:20	I—M	D—H	A—C
9:30—10:20	N—Sl	I—M	D—H
10:30—11:20	Sm—Z	N—Sl	I—M
1:10— 2:00	A—C	Sm—Z	N—Sl
2:10— 3:00	D—H	A—C	Sm—Z

Payment of Fees. All fees are payable at the time of registration. No registration is complete until fees are paid. Registrations incomplete at the close of the first week are canceled, subject to reinstatement upon payment of all fees, including the $3 late registration fee.

Late Entrance Examinations. Any University examination taken at a time other than that officially specified is subject to the $1.00 make-up examination fee.

Late Registration. The $2.00 late registration fee is charged after registration day and through the remainder of the first week. If registration is permitted after the first week, the late fee is increased to $3. Such registrations, if not completed within the week, are canceled as explained under "Payment of Fees."

ENTRANCE REQUIREMENTS

Applicants for admission to the freshman class must present satisfactory evidence of successful completion of a full high school course or must pass entrance examinations. A full high school course is estimated at 15 units. A unit of credit represents successful study in any subject pursued through an academic year of 36 weeks, five recitations a week for 45-minute periods, or 135 hours per year. Applicants over 21 years of age who have not completed a high school course may be admitted by the Committee on Credits and Admissions as unmatriculated students upon filing transcripts of such credits as they have earned. In exceptional cases, students who are 19 or 20 years of age and who are recommended by the dean or deans concerned may petition the Committee and, upon filing such credits as they have earned and passing such general aptitude tests and such special achievement tests as the Committee may require, may be admitted to the University as unmatriculated students. No unmatriculated student may become a candidate for a degree except by satisfying the regular entrance requirements or by action of the Committee.

Students whose scores fall within the lowest one-fifth of the college aptitude examination scores and whose grades also fall within the lowest one-fifth of their high school graduating class may not be admitted except by special action of the Committee on Admissions and Credits.

For the duration of the emergency, the University will accept for entrance high school students who have completed with an average of "B" or better a minimum of three years of high school work, consisting of at least 15 units. Whether the student has completed his

course or not, for the Lower Division these 15 units must include 3 units of English, 1 unit of algebra, and 6 additional units of English, mathematics, natural science, history and social science, or foreign language. In addition to the required 3 units of English and 1 of algebra, the University recommends 1 additional unit of mathematics, 2 units of science, 2 of history and social science, and 3 of one foreign language.

A candidate for admission by certificate must present an official statement from an approved high school, showing that the candidate has completed satisfactorily at least 15 units of high school work in subjects recognized by the University. Twelve of the 15 units must have been earned in the second, third, and fourth years of the high school course.

For convenience, subjects considered of high school grade are classified as follows:

Group 1. English composition, literature, and speech.

Group 2. Algebra, plane geometry, solid geometry, trigonometry.

Group 3. General science, physiography, botany, physiology, zoology, physics, chemistry, astronomy.

Group 4. United States history and civics, European history, general history, ethics of citizenship, economics, sociology, psychology, education, and a maximum of one-half unit in commercial geography or commercial law.

Group 5. French, German, Spanish, Latin, Greek.

Group 6. Agriculture, home economics, mechanic arts, accounting, stenography and typewriting, commercial arithmetic, high school arithmetic.

Group 7. Music, art, physical education, Bible history.

The candidate must have completed at least ten units in groups 1, 2, 3, 4, and 5, including prescribed subjects in groups 1, 2, and 3, shown in the following tabular statement:

ENTRANCE REQUIREMENTS BY GROUPS

	Lower Division		Mines and Engineering	
	Required	Recommended	Required	Recommended
Group 1: English	3 units		3 units	
Group 2: Mathematics	1 Algebra	1 additional	3 units including 1½ Algebra and 1 Pl. Geom.	½ additional
Group 3: Science		2 units	1 unit	1 additional
Group 4: History and Social Science		2 units		2 units
Group 5: For. Language Groups		3 units		3 units
6 and 7: Elective		3 units		2½ Mech. Arts

Foreign language is accepted as part of the ten basic units only upon condition that the applicant has completed one or more units of a language.

Three units of one language (French, German, classical Greek, Latin, Spanish) satisfy foreign language requirements for the Bachelor of Arts degree.

Less than one-half unit in any subject is not accepted.

Entrance examinations (in lieu of entrance credits) may be taken at the beginning of any quarter. Applications for such examinations must be made in writing and filed with the Registrar or or before registration day.

Entrance credit granted in any subject may be canceled if in University work the student's preparation in the subject proves insufficient.

No credit toward a degree is given for any courses completed in high school.

The University reserves the right to change at any time the requirements for entrance.

The University reserves the right also to reject applicants from other states who are not qualified to enter their own state universities in good standing.

ADVANCED STANDING

Applicants for admission with advanced standing must make application and file official transcripts in advance showing high school and college work completed. See "Application and Registration," page 75.

The University reserves the right to reject transferred students whose scholastic record is low.

Residence work completed in other institutions of recognized collegiate grade is accepted for advanced standing by the University of Utah. The University reserves the right, however, to reject transferred credit of "D" or barely passing grade. Transferred credit earned in correspondence study is accepted only upon special examination. Transferred extension credit is accepted upon the recommendation of the head of the University department in which the subject is taught. If students are found defective in subjects in which transferred credit has been allowed, such credit may be canceled upon recommendation of the departments concerned.

Residence work earned in junior colleges is accepted towards advanced standing, subject to the conditions mentioned in the preceding paragraph, provided that such work is taken after all requirements for admission to the University are satisfied, and provided further that the courses offered for advanced standing have been approved by the University. The maximum of advanced standing allowed for junior college work is one-half the total hours required for the bachelor's degree. A student who is allowed credit for junior college work must attend senior college two full years or more to qualify for the bachelor's degree. Extension and correspondence credit earned in junior colleges is not accepted.

Students regularly matriculated in an accredited college or uni-

versity offering baccalaureate degrees who transfer to the University of Utah after having completed one-fourth or more of the work requisite for a bachelor's degree and whose total college work is of an average grade of "C" or better are registered as having completed the matriculation requirements of the Lower Division.

GRADUATION

Baccalaureate Degrees. The University confers the baccalaureate degrees Bachelor of Arts, Bachelor of Science, and Bachelor of Laws.

Minimum Requirements. In the schools of Arts and Sciences, Education, and Business, at least 183 credit hours of college work are required for graduation. In the schools of Law, Medicine, and Mines and Engineering, prescribed courses of study must be completed. For more detailed statements of requirements for graduation from the various schools, see pages 89, 93, 105, 107-131, 138, 160.

Of the total hours required for graduation, 45 must be earned in residence in three consecutive quarters*; 60 must be upper division work, and the last 45 must be earned in the University.

In the schools of Arts and Sciences, Education, Medicine, and Business, the candidate for graduation must have completed 12 credit hours in each of the four groups of classified subjects, and 36 to 45 hours in a major subject to be selected not later than the beginning of the junior year.

Each candidate is required to pass a comprehensive written or oral examination, or both, in the field of his concentration, during the last two quarters of his senior year, but not later in any event than the first of May of the year of graduation. This comprehensive examination does not excuse anyone from any regular examination.

Candidates for the degree of Bachelor of Arts must have completed in high school or college the equivalent of 25 credit hours in one language: French, German, Spanish, Latin, or Greek.

Extension and Correspondence Credits. Of the last 45 hours earned in the University, not more than 15 hours may be in extension and correspondence work.

In the schools of Arts and Sciences, Business, and Education, a maximum of one-fourth of the total credit hours required for graduation may be earned in extension and correspondence work.

Restricted Courses. No credit toward a degree is given for any course completed in high school.

Credit for business mathematics, elementary school methods, mechanic arts (including metalcraft, leathercraft, etc.), pharmacy, shop practice, stenography, and typewriting is not counted toward the degree of Bachelor of Arts. In the School of Arts and Sciences this restriction applies also to the Bachelor of Science degree.

Not more than 45 credit hours from the following group of technical and professional subjects may be counted toward the degree of Bachelor of Arts: anatomy, education, engineering, law, methods of teaching trades and industries, pharmacology, physical education,

*The requirement of three consecutive quarters of attendance does not apply to candidates who were in the teaching service before July 1, 1936; such candidates, however, must complete a minimum of 45 credit hours in residence at the University of Utah and must meet all other residence requirements.

pathology. In the School of Arts and Sciences, nursing education and social work are also included in this group, and the restriction applies also to the Bachelor of Science degree.

Not more than 15 credit hours in elementary chemistry, 6 in elementary typewriting, 12 in private music, or 20 in all applied music may be counted toward a baccalaureate degree.

In the schools of Arts and Sciences, Education, Medicine, and Business, not more than 60 credit hours, including required work, major, and electives, may be counted from any one department toward graduation with a baccalaureate degree, except that a maximum of 90 credit hours from the Department of Nursing Education may be counted toward the Bachelor of Science degree in the School of Education. "Department" means here a subject in which a major is offered; e.g., Latin, German, History. Required freshman English is not included in the application of this rule.

Beginning work in a foreign language of less than 15 credit hours or its equivalent is not counted toward graduation.

Grades Required. The candidate must have an average of not less than "C" in all of his registered work. His aggregate standing is expressed in honor points, computed as follows: Three honor points for each credit hour of "A" grade; two honor points for each credit hour of "B" grade; one honor point for each credit hour of "C" grade; no honor points for each credit hour of "D" grade; minus one (—1) for each credit hour of "E" grade. A student's average or ratio is computed by dividing the total of honor points received by the total number of credit hours registered. Accepted transferred work is not considered in computing the ratio or average grade.

Honors are awarded at graduation on completion of at least 90 credit hours at the University of Utah. A student whose ratio in all registered work is not less than 2.5 is awarded High Honors; a student whose ratio in all his registered work is not less than 2.15 is awarded Honors. The names of students winning High Honors and Honors are published in the commencement program, and elsewhere as the President may direct.

Other Requirements. Students who are not graduated with the class with which they entered are held to the requirements, including entrance, applicable to the class with which they are graduated.

All candidates for graduation must have been registered in the University at some time since the last regular commencement.

All conditions must be removed at least three weeks before the time at which graduation is sought, except when arrangements have been made with the instructor of a given class for the regular examination in that subject.

All student credit work which affects graduation must be completed by five o'clock on the Saturday preceding Commencement.

All candidates for degrees are required to be present at the Baccalaureate and Commencement exercises unless excused by the President. Application for such excuse should be addressed in writing to the President.

The University reserves the right to change at any time the requirements for graduation, and every candidate for a degree will be expected to comply with such changes, so far as the uncompleted portion of his course is concerned.

THE SCHOOLS AND DIVISIONS OF THE UNIVERSITY

THE LOWER DIVISION

THE SCHOOL OF ARTS AND SCIENCES

THE STATE SCHOOL OF EDUCATION

THE SCHOOL OF BUSINESS

THE STATE SCHOOL OF MINES AND ENGINEERING

THE SCHOOL OF MEDICINE

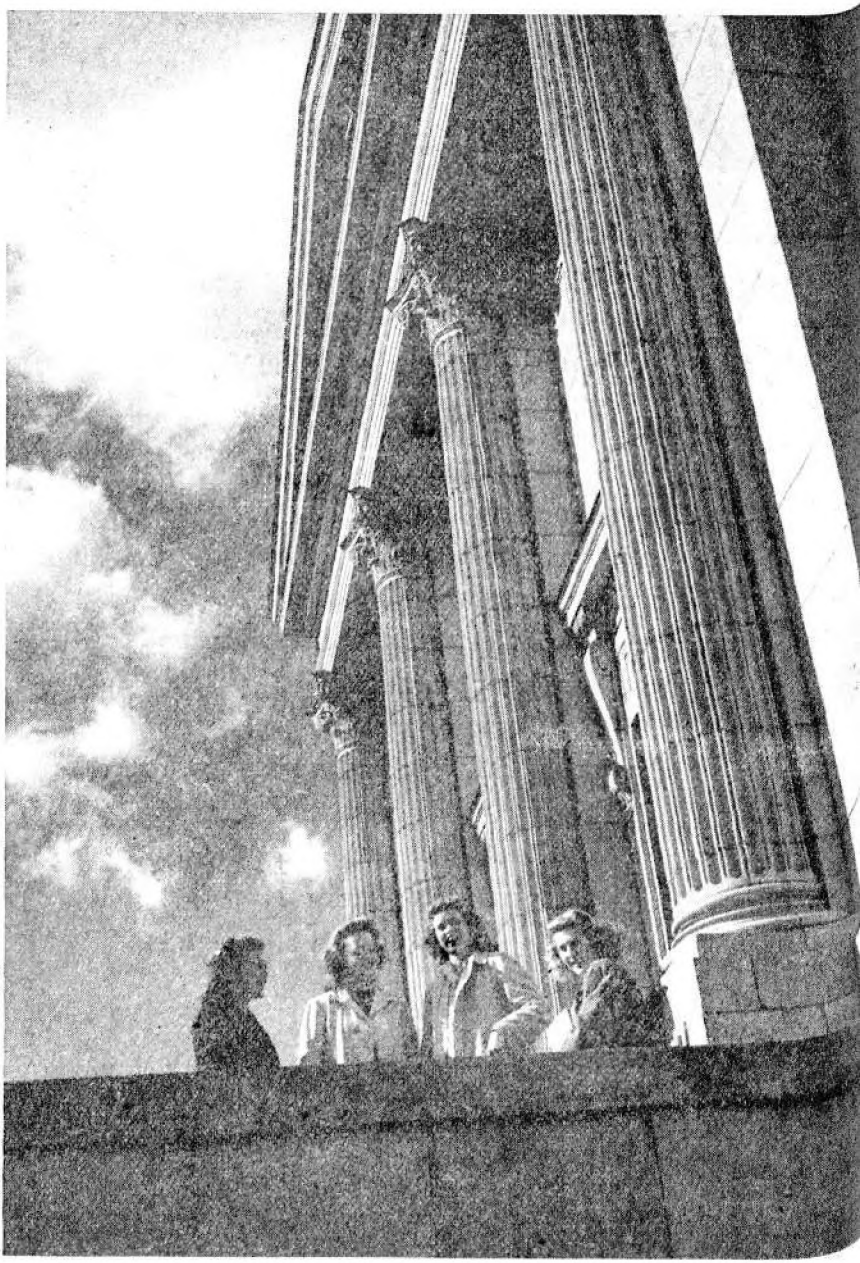
THE SCHOOL OF LAW

THE SCHOOL OF SOCIAL WORK

THE GRADUATE DIVISION

RESEARCH AGENCIES

THE EXTENSION DIVISION



Kingsbury Hall—The University Auditorium

THE LOWER DIVISION

Dean ANGLEMAN (Pk212).

The Lower Division Council

Section A	Mr. Rasmussen, IE308B
Section B	Prof. Marsell, Ge201
Section C	Miss Marshall, Pk309
Section D	Dr. Woodbury, B209
Section E	Prof. Van Steeter, IE215
Section F	Prof. Read, LA103
Section G	Miss Cary, LA206
Section H	Dr. McKay, Pk313
Section I	Prof. Bronson, Gm210
Section J	Prof. Plummer, KH210
Section K	Dr. Swigart, PS111
Section L	Dean Angleman, Pk212
Section M	Dr. Snow, LA206
Section N	Prof. Macquin, Gm319
Section O	Dr. Behle, B105
Section V	Dr. Pierson, LA101B
Dean of Women	Prof. Austin, Pk209
Dean of Men	Prof. Ballif, Pk218
Representative, Student Health Service	Dr. Nemir, Gm320
Representative, Bureau of Student Counsel	Dr. Pierson, LA101B
Chairman, Scholarship Committee	Dr. Geerlings, KH301
Registrar	Mr. Norton, Pk201
Director, Placement Bureau	Mr. Carlston, Pk211
Graduate Manager	Un305

Purposes of the Lower Division

1. To enable all students to extend and round out their general education as a preparation for intelligent and useful living as well as for advanced study in the University.

2. To assist students to formulate educational and vocational plans and to make satisfactory readjustments of wrong choices.

3. To provide as quickly and economically as possible the training necessary for entrance into the more highly specialized or professional work of the upper division schools.

The program for fulfilling these purposes is directed by the Lower Division Council, consisting of the Dean, the advisers, and representatives of the other guidance services of the University. Each entering student is assigned an adviser whose counsel is available throughout his Lower Division course.

Admission

All freshmen and sophomores (except those who register in the School of Mines and Engineering) and all unmatriculated students register in the Lower Division. For statement of specific entrance requirements see pages 76-78.

REQUIREMENTS OF THE LOWER DIVISION

The Lower Division normally requires two years of directed study, the completion of which leads to a Lower Division Certificate. This study involves (I) a total specified number of credit hours, (II) specific course requirements, (III) group requirements.

I. A total of 93 credit hours of approved work, which must include II and III.

II. Specific Course Requirements:

A. Freshman Orientation. Required of all freshmen in their first quarter.

B. Freshman English 1, 2, and 3; or 11, 12, and 13.

C. For men: Physical Education, three quarters, or Military Science and Tactics, three quarters. For the duration of the war, however, all freshman men are required to take both Physical Education and Military Science and Tactics and all sophomore men are required to take Physical Education.
For women: Physical Education, three quarters.

D. Health Education 1.

III. Group Requirements:

A minimum of 12 credit hours of work in each of the following groups of related subjects.*

A. Mathematics and Physical Science: Astronomy, Chemistry, Geology, Mathematics, Mineralogy, and Physics.

The following sequences are suggested to the student not planning to major in a department in the group. However, he should follow any sequence prescribed by his prospective major department or school.

For students who have high school chemistry but not physics:

Physics 1, Geology 1, Mathematics 13 (Astronomy).

Mathematics 13, Physics 2, Geology 1 or 1a.

For students who have had high school physics but not chemistry:

Chemistry 1, Geology 1, Mathematics 13.

For students who have had neither chemistry nor physics in high school:

Chemistry 1, Geology 1, Physics 3.

Chemistry 1, Physics 2, Mathematics 13.

Students who so desire may take sequences in the various departments as follows:

* Students who definitely indicate that they will not be applicants for admission to the upper division of the University may substitute for any one of these groups 12 hours in Art, Music, Business, Home Economics, or an approved combination of any two of these subjects.

Chemistry 1, 2, 3.
Geology 1 or 1a, 3, 4, 13.
Physics 1, 2, 3.

B. Biological Science: Anatomy, Bacteriology, Biology, Botany, Health Education, Home Economics, Physiology, Zoology.

The student must fulfill the group requirements in the following sequence, except that premedical students fulfill the requirement by taking Zoology 4, 5, and 10:

1. Biology 1. Principles of Biology. This course, or equivalent, is prerequisite to all other work in biological sciences. Students with previous biological training may apply for a placement test to determine whether they shall enter Biology 1 or some other biological course.

2. At least one of the following courses:
   Biology 2, 7. Heredity.
   Botany 1. General Botany.
   Zoology 1. General Zoology.
   Bacteriology 1. General Bacteriology.
   Anatomy 1. General Anatomy.
   Physiology 1. General College Physiology.

3. One or more of the following courses to satisfy any unfulfilled portion of the group:
   Biology 3. Organic Relationships in Nature.
   Botany 5. Spring Flowers of the Wasatch.
   Botany 6. Utah Trees.
   Zoology 5. Comparative Anatomy.
   Zoology 17. Insect Life.
   Zoology 20. Utah Birds.
   Zoology 23. Utah Mammals.
   Zoology 50a. Evolution.
   Zoology 50b. Science and Progress.
   Zoology 51. Social Life of Animals.
   Home Economics 80. Nutrition and Health.
   Home Economics 81. Child Development.
   Health Education 20. Matrology (for women).

C. Language: Classical Languages, English, Modern Languages, and Speech.

The following courses and sequences of courses are suggested to the student not planning to major in a department in the group:

English 21, 22, 23. English Masterpieces.
English 31, 32, 33. Introduction to Literature.
English 51, 52, 53. American Masterpieces.
English 54. Modern American Literature.
French 73. France: Her Language and Her People.
French 74, 75, 76. Masterpieces of French Literature in Translation.
German 73. Germany: Her Language, Literature and People.

German 75, 76, 77. Masterpieces of German Literature in Translation.
Greek 12. Greek Literature in English Translation.
Greek 16. Classical Mythology in English.
Latin 60. The Latin Element in the English Language.
Latin 90. Roman Literature in English Translation.
Speech 1a, 1b, 1c. Fundamentals of Speech.
Speech 2a, 2b, 2c. Voice and Diction.
Speech 3a, 3b, 3c. Film, Radio, and Drama.
Speech 40, 41, 42. Interpretation.

Freshman English may be included in the required 12 hours.

D. **Social Science:** Anthropology, Archaeology, Economics, History, Philosophy, Political Science, Psychology, and Sociology.

It is suggested that the student select courses from two or more departments, including:

1. One of the following courses:
   Anthropology 2. Introduction to Cultural Anthropology.
   Economics 1. Elementary Economics.
   Economics 5. Economic Behavior.
   Economics 6. Consumer Finance.
   History 9, 10, or 11. American History.
   Philosophy 1. Social Ethics.
   Political Science 1. American National Government.
   Political Science 50. Political Problems.
   Psychology 1. Practical Psychology.
   Psychology 11. Principles of Psychology.
   Sociology 1. Introduction to Sociology.

2. Courses sufficient to meet the remainder of the requirement selected from any one of the following groups or, with the adviser's approval, from two or more of these groups:
   Anthropology 1, 2, 3, 30, 50.
   Economics 1, 2, 3, 4, 5, 6, 7.
   History 1, 2, 3, 5, 6, 9, 10, 11, 15, 21.
   Philosophy 1, 2, 3, 5, 11, 12, 13.
   Political Science 1, 2, 3, 5, 6, 50.
   Psychology 1, 3, 4, 11, 21, 22.
   Sociology 1, 5, 7, 8, 10.

REQUIREMENTS FOR ENTRANCE TO UPPER DIVISION SCHOOLS AND FOR SPECIAL CURRICULA

The student should carefully consult the full statements of his prospective major department and upper division school. For convenience the following special references are given:

School of Arts and Sciences.....See page 88
School of Education.....See page 92

School of Medicine.....See page 132
School of Law.....See page 158
School of Business.....See page 105

Nursing Education: Full information on all programs in Nursing Education will be found under the School of Education, pages 98-104. Students interested in nursing but not ready to make a definite decision in their first few quarters at the University are encouraged to register for the first year of the four-year program outlined on page 103. All of these subjects count toward meeting Lower Division requirements.

Preprofessional Curriculum in Social Work.....See page 166
Medical Technology .....See page 156
Suggested Courses for Women.....See Arts & Sciences, page 89

TWO-YEAR SECRETARIAL PROGRAM

This course is designed to give students a knowledge of general business organization and operation as well as training in office skills and procedures. It is a terminal course in secretarial and clerical training for students who are not planning to follow the four-year program leading to the Bachelor of Science degree. A special certificate will be awarded to students completing the course with an average of "B" or better.

Freshman Year

	A.	W.	S.
Business 40*, 41*, 42*. Typewriting	2	2	2
Business 61*, 62*, 63*. Shorthand	5	5	5
Economics 1, 2, 3	3	3	3
English 1, 2, 3	3	3	3
Physical Education (3 quarters)	1	1	1
Orientation	1	0	0
Electives (Lower Division requirements recommended)	2	3	3
	17	17	17

Sophomore Year

	A.	W.	S.
Business 1, 2, 3. Accounting	3	3	3
Business 9. Business Mathematics	3	0	0
Business 18. Business English	3	0	0
Business 47. Office Machines	0	2	0
Business 64, 65. Advanced Shorthand	5	5	0
Business 160. Office Practice	0	3	0
Business 165. Secretarial Procedure	0	0	5
Business 168. Shorthand Speed and Reporting	0	0	4
Business 169. Office Management	0	0	3
Electives (Lower Division group requirements recommended)	3	4	2
	17	17	17

*Students who have had previous training in stenography or typewriting will substitute more advanced courses.

THE SCHOOL OF ARTS AND SCIENCES

Member, Association of American Colleges

Dean ERICKSEN (Pk205).

The School of Arts and Sciences undertakes to acquaint the student with the accumulated record of the significant experiences of human kind. It invites him to a richer understanding of his world, and to a more complete sense of responsibility to the society of which he and this School are a product.

Admission. Students entering the School of Arts and Sciences should have satisfied the requirements for completion of the Lower Division (see pages 84-86). Students transferring from junior colleges and other institutions will, in the main, be governed by these, but should also consult the University regulations on admission and graduation. The Registrar, the deans, and the heads of departments will render helpful guidance to students who have not fully completed the entrance requirements.

Integration of Courses. Students passing from the work of the first two years of college to the more complex problems of advanced studies will pursue their work successfully in proportion to the care with which they select and pursue their studies as well as the ability which they bring to them. In addition to providing foundations in subject matter for specialized training, the School of Arts and Sciences introduces its students to the techniques and methods of research in the various fields of learning. Its courses are grouped in departments, each representing a well-defined discipline, so that the student may secure a general conception of the accumulated knowledge in the field, and thus satisfy the demands of higher education in the society in which he lives. Our civilization has an immense accumulation of knowledge, but the individual must make it available to and for himself. To train students in the selection and integration of knowledge is one of the high responsibilities of the University and great opportunities of the student.

Departmental Major and Allied Subjects. To ensure to the student the benefits of concentrated effort, a departmental major is required. Each student will select at the beginning of his course a major subject in which at the time of graduation he must have completed 36 to 45 credit hours approved by his major department and the Dean. In addition, he must also select, with approval, work in one or more allied fields which shall amount at the time of graduation to at least 20 credit hours.

Majors may be taken in the following fields: Anthropology, Art, Bacteriology, Basic Biological Sciences (for medical students), Biological Chemistry, Botany, Chemistry, Economics, English, French, Geology, German, Greek, History, Home Economics, Latin, Mathematics, Military Science, Modern Languages, Music, Philosophy, Physical Education, Physics, Physiology, Political Science, Psychology, Sociology, Spanish, Speech, and Zoology.

To prevent undue specialization and at the same time provide a broad foundation for future study, the University limits the work which the undergraduate student may do in any one department. In no case shall more than 60 credit hours be counted from any one department towards graduation with a baccalaureate degree. If all allied courses are elected from one department, a limit of 20 hours may be attached. (Consult the Dean and head of department concerned.) The student is encouraged to elect courses supporting his major interest from several departments and thereby avail himself of expert assistance in various fields. The undergraduate major with its supporting courses is the beginning, not the end, of specialized training.

Graduation. The general University requirements for graduation (see pages 79-80) include, for the Bachelor of Arts degree, completion of 25 hours or their equivalent, in one foreign language. For both the degree of Bachelor of Arts and the degree of Bachelor of Science, the School of Arts and Sciences makes the following additional conditions:

1. Required Courses: specified by the departments and the School for the major and allied work.

2. Elective Courses: the remainder of the work for a degree may be selected from the non-technical, non-professional courses. In response, however, to the growing demand for specialization by students whose aim is a liberal education, but who besides look forward to professional occupations, the School of Arts and Sciences provides an opportunity for candidates for a degree to take a limited amount of purely technical or professional work in law, medicine, engineering, and education.

3. Not more than 45 credit hours selected from the following group of technical and professional subjects may be counted toward either degree: anatomy, education, engineering, law, methods of teaching trades and industries, nursing education, pathology, pharmacology, physical education, and social work.

4. No credit for business mathematics, elementary school methods, mechanic arts, pharmacy, shop practice, stenography and typewriting may be counted toward either degree.

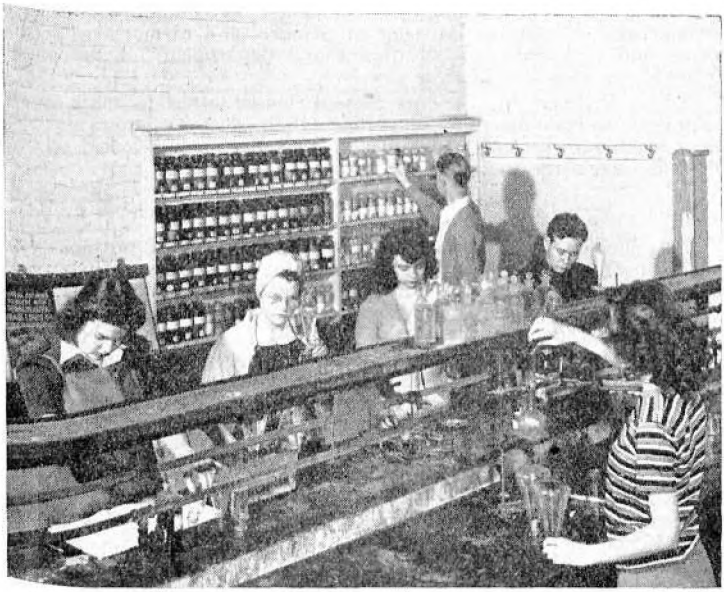
SUGGESTED COURSES FOR WOMEN

The educated woman must be an intelligent citizen and an effective home-maker. Whatever she chooses as her major field of specialization, she should keep in mind these two important functions and choose courses which will prepare her to perform them adequately. The following courses are suggested as valuable in this preparation. Those marked with an asterisk (*) fulfill Lower Division group requirements.

Art 120. Art Today. (3) S.
*Bacteriology 1. Elementary Bacteriology. (5) Su. W. S.
*Economics 1, 2. Elementary Economics. (3-3) A. W.
*Economics 5. Economic Behavior. (5) A. W. S.

*Economics 6. Consumer Finance. (3) W.
Education 5. Guidance for College Students. (3) W. S.
*English 21, 22, 23. English Masterpieces. (3-3-3) A. W. S. or
*English 31, 32, 33. Introduction to Literature. (3-3-3) A. W. S.
*English 54. Modern American Literature. (5) A.
English 167. World Literature. (5) S.
*Health Education 20. Matrology. (2) A. S.
*History 1. Ancient Civilization. (5) A. S.
*History 3. Modern and Contemporary European History. (5) S.
*History 9, 10, 11. American History. (3-3-3) A. W. S.
History 173. Recent American History. (Omitted 1945-46.)
Home Economics 1. Foods. (4) A. W. S.
Home Economics 2. Food Preparation and Service. (4) A. W.
Home Economics 10. Clothing. (3) A. W. S.
Home Economics 16. Clothing for the Family. (4) A. W.
Home Economics 20. Interior House Design. (3) A. S.
Home Economics 25. Clothing Selection. (2) A. W. S.
Home Economics 51. Home Management. (3) A. S.
*Home Economics 80. Nutrition and Health. (3) A. W. S.
*Home Economics 81. Child Development. (4) A. S.
Home Economics 82. Child Guidance. (4) W.
Home Economics 100. Food Economics. (2) A.
Home Economics 120. Economics of Consumption. (3) S.
Home Economics 180. Marriage and Family Relationships. (3) A. W.
Home Economics 183. Children in the Family. (3) W.
*Philosophy 1. Social Ethics. (5) Su. A. W. S.
Philosophy 103. Political Ethics. (5) W.
Philosophy 111. America's Social Morality. (5) Su. A.
*Physiology 1. General College Physiology. (5) A. W. S.
*Political Science 1. American National Government. (5) A. W.
Political Science 109. Current Political Problems. (2) A. S.
Political Science 113. International Relations. (5) S.
Political Science 122. History of American Political Thought. (5) S.
*Psychology 22. Child Psychology. (4) W. S.
*Sociology 1. General Sociology. (5) A. W. S. or
*Sociology 7. Social Psychology. (5) A. W. S.
*Sociology 8. The Family (Courtship and Marriage.) (4) A. W.
Sociology 126. Public Opinion and the American Mind. (4) A.
*Speech 2b. Voice and Diction. (3) W.
*Speech 40. Beginning Interpretation. (3) A.

Special Certificate. Students in the School of Arts and Sciences who, in regular courses, secure credit for work done in the technical or professional departments of any other school of the University, may upon application and the payment of the fees, receive a special certificate stating the extent of the technical or professional work done, such certificate to be signed by the Registrar. No fee will be charged for the certificate if it is granted at the same time as a degree.



Students at work in one of the University's Chemistry laboratories.

THE STATE SCHOOL OF EDUCATION

Member, National Association of Colleges and Departments of Education.

Dean WAHLQUIST (Pk207).

The School of Education offers courses leading to the degrees of Bachelor of Arts or Bachelor of Science, and to teachers' certificates and diplomas "for all grades and departments of the public schools" as provided in state law.

The William M. Stewart School, kindergarten to ninth grade inclusive, is maintained for experimentation, demonstration, and student teaching. Student teaching is also carried on in selected schools of Salt Lake City and vicinity.

ADMISSION

Applicants for admission to the School of Education must present satisfactory evidence of the successful completion of two years of college work (93 quarter hours earned in the Lower Division of the University of Utah or in some other accredited institution, with an average grade of not less than "C").

The following courses (in addition to Lower Division requirements, page 84) are expected of students desiring to enter the School of Education in the junior year to prepare for teaching: freshman year—Library Science 2, Education 51; sophomore year—Psychology 11 or 22. See pages 97-98 for courses recommended as electives satisfying the Lower Division group requirements.

Normal Scholarships. In pursuance of an act of the Legislature the School of Education may receive 100 students who will be exempt from $25.00 of the annual tuition fee.

"One hundred scholarships shall be maintained in the School of Education. The holders of these scholarships shall be exempt from the payment of the registration fee of $25.00. The appointment shall be made for a term of years corresponding to the length of the course or prescribed work the student elects to pursue and shall terminate at the time such student is graduated, or receives a teacher's certificate or diploma. On or before the first day of May of each year, the President of the University shall determine the number of appointments to be made for the succeeding year, and shall send notice thereof to the State Superintendent of Public Instruction.

"On or before the fifteenth day of September of each year appointments to normal scholarships shall be made by the State Superintendent of Public Instruction on the nomination by the county and city district boards of education. Each county and city school district shall be entitled to at least one scholarship each three years. After the 15th day of September of each year appointments of normal scholarships may be made by the President of the University.* Stu-

*Application for appointment to vacant normal scholarship should be made in writing to the President of the University.

dents who have been appointed to normal scholarships may be examined before admission to the school by or under direction of the university faculty, and such students may be rejected, if found to be unqualified.

"Holders of normal scholarships shall be required to declare their intention to complete the prescribed work of normal instruction for a degree, diploma or certificate, and after completion of such work to teach in the public schools of this state. The President of the University may grant leave of absence not exceeding one year at any time to a holder of a normal scholarship and may appoint another incumbent during the absence on leave of the regular holder. The President of the University may at any time cancel for neglect or incompetency the normal scholarship of any student, and he may require upon such cancellation the payment to the University of all fees abated by reason of the scholarship."

GENERAL REQUIREMENTS FOR GRADUATION

For University requirements see pages 79-80. Every candidate for an elementary or secondary school teacher's certificate meets the requirements of a major in Education in fulfilling those for the certificate. A teaching major and minor are required of the candidate for the secondary school teacher's credential; 30 hours in one academic field or 18 hours in each of two such fields are required of the candidate for the elementary school teacher's certificate. With a few exceptions, the professional subjects specified by the Utah State Board of Education must be taken before graduation. Details concerning the various programs and diplomas follow.

TEACHING CERTIFICATES AND DIPLOMAS

State elementary school certificates are issued on not less than four years of college credit.

High school teachers may be legally certificated by four-year courses with bachelor's degree although five-year courses with master's degree are recommended.

1. Four-year courses (including Lower Division years) lead to the bachelor's degree with teacher's elementary school diploma or with teacher's high school certificate.

2. Five-year courses (including Lower Division years) lead to the master's degree and a teacher's diploma or a diploma in supervision or in educational administration.

For requirements for these diplomas, see below.

For requirements for the master's degree, see Graduate Division, pages 168-170.

Legal Requirements for a License to Teach. The Utah school law provides that holders of teachers' diplomas issued by the University of Utah for completion of courses in the State School of Education shall be entitled thereafter, without further examination as to scholarship, to teach the grade authorized by the respective diplomas.

State Board Requirements. Students who complete regular courses in the State School of Education have thereby met the legal

requirements, and need only present their University diplomas or certificates to the Secretary of the State Board of Education for record.

Graduate Work in Education. Before being recommended by the departments of education to the committee on graduate work for candidacy for the master's degree, the candidate must meet the following requirements: He must indicate at the time of registration as a graduate student the department of education in which he desires to major. He must present undergraduate work in education satisfactory to a committee consisting of the heads of the departments of education with his major professor as chairman. During his first quarter of graduate work, he must pass a qualifying examination given under the direction of this committee. The committee reserves the right to prescribe undergraduate courses if in its judgment the candidate's preparation is inadequate. A satisfactory course in methods of educational research (Education 156 or equivalent) will be required before the candidate will be permitted to proceed with the preparation of a thesis. The graduate student may major in one of the following fields:

Educational Administration, Educational Supervision, Elementary Education, Secondary Education, Social Education, Physical Education, Educational Psychology.

Counseling and Guidance. Students who desire to prepare themselves for positions in counseling and guidance and who meet the requirements for graduate study in education may be admitted to the following curriculum leading to the master's degree with a major in Social Education: autumn quarter—Education 156, 183; Psychology 106; Social Work 151a; winter quarter—Education 109, 116, 125, 185; spring quarter—Education 116, 126, 140, 185; Psychology 123; plus recommended electives. See Social Education, pages 271-272.

DIPLOMA IN SUPERVISION

This diploma is granted with the master's degree in Education if the candidate has a valid teacher's certificate or diploma, has completed the required sequence in either Elementary Education (Education 137 or 100, 150 and 156), or Secondary Education (Education 137 or 100, 150, and 105 or 163), and makes his thesis study in the field of public school supervision; provided that the candidate has had three years' successful teaching experience.

DIPLOMA IN EDUCATIONAL ADMINISTRATION

Requirements: three years' successful experience in teaching or in educational supervision; an undergraduate major in education, or its equivalent; a teacher's high school diploma for Utah; one year of graduate work in education and closely related subjects. The graduate work must include the following courses or their equivalent unless they have been completed in the undergraduate major: Education 100, 105, 137 or 139, 150, 152.

TEACHER'S HIGH SCHOOL DIPLOMA

This legal license to teach is granted in connection with the master's degree or equivalent amount of approved work. This diploma

includes all requirements of the Utah State Board of Education and conforms to the best standards of other states. The requirements for this diploma are: 5 hours in Psychology 11*, 30 hours in Education** and Educational Psychology (including Psychology 129, Education 107, 104, 106‡, 118, 141, 143, and one other approved advanced course in Education or Educational Psychology; Health Education 1 and 108; 3 hours of Physical Education (see requirements for certificate); a teaching major of 36 to 45 hours (at least 15 hours of which must be in upper division work); and at least one teaching minor of 18 to 30 hours.

In all cases candidates for the teacher's high school diploma are required to obtain an average of "C" or above in their teaching majors, teaching minors, and Education 106. This course should, as a rule, be taken in the senior year.

TEACHER'S HIGH SCHOOL CERTIFICATE

This certificate conforms as nearly as may be to the minimum requirements of the State Board of Education: i.e., college graduation, including a teaching major (30 hours or more in one subject taught in Utah high schools, at least 15 hours of which must be in upper division work), a teaching minor (18 hours in a subject taught in Utah high schools), or, in lieu of the major and minor, a composite major (consisting of not less than 60 hours' credit distributed in three related subjects with not less than 18 hours in any one subject), and "at least 30 hours in education" including 12 hours in secondary school observation and directed teaching, not less than 3 hours of which are in principles and methods of teaching in junior and senior high schools (Education 106 and 107), 3 hours in organization and administration with special reference to Utah state school law (Education 141), 3 hours in educational psychology (Psychology 129), 3 hours in guidance and personnel (Education 118), and 3 hours in the interpretation and articulation of junior high schools with elementary and senior high schools (Education 104), and 2 hours in safety education (Education 143).** In addition, the applicant's credits must include 3 hours in health education (Health Education 108), and 3 hours in physical education. The applicant must also submit evidence that he has pursued a major interest, not directly related to his professional work, during his junior and senior years.

TEACHING MAJORS AND TEACHING MINORS.

A teaching major is a balanced course of study within a department or subject, designed to prepare students to teach the subject in high school and ranging from 36 to 45 credit hours. A teaching minor ranges from 18 to 30 credit hours. Teaching majors or minors are offered in the following fields: Anthropology, Art, Bacteriology, Biology, Botany, Chemistry, Classics (Latin), Commercial Education, Dance, Economics, English, Geology, Health Education, History, Political Science, Home Economics (Foods and Nutrition, Clothing and

* Home Economics majors may take Psychology 22, instead of Psychology 11.

** Departmental courses in methods approved by the Dean of the School of Education may be counted as education credits (5 hours).

‡ Eight credit hours required, but Elementary Training or two years of approved teaching experience may exempt the student from this requirement.

Textiles), Mathematics, Modern Languages (French, Spanish, German), Music, Philosophy (Ethics), Physical Education, Physics, Psychology, Public School Music, Speech, Sociology and Social Work, and Zoology.

To these have been added composite teaching majors in Biology, English and Speech, Home Economics, Physical Science, and the Social Studies. For requirements in each case see the corresponding departments in this catalogue, or the Dean of the School of Education.

SUGGESTED COURSES LEADING TO A DEGREE (B.A. OR B. S.) AND A TEACHER'S HIGH SCHOOL CERTIFICATE*

The electives in this course must meet the requirements named on pages 94-95.

Third Year

	Credit Hours
Psychology 129	5
Health Education 108	4
Education 143	2
Education 141	3
Electives especially in teaching major and minor	31
Total	45

Fourth Year

	Credit Hours
Education 107, 104†, and 118	10
Education 106‡	8
Elective	27
Total	45

VOCATIONAL HOME ECONOMICS CERTIFICATE**

The requirements for a vocational Home Economics certificate are: a bachelor of science or arts degree, a teacher's high school certificate, and the following distribution of courses in Home Economics:

Foods and Nutrition (minimum 22 hours), Clothing and Textiles (21 hours), courses relating to home and family (24 hours), to include family relationships, consumer education, economics of the

* The prerequisites for the prescribed courses of the third and fourth years are listed in the departmental description of courses beginning on page 270. During the junior and senior year an applicant must pursue a major interest, not directly related to professional work—photography, journalism, debate, music, etc.

† This course may be taken in the graduate year by candidates for the teacher's high school diploma. Students in the five year course should, however, complete all other professional requirements for high school teaching by the end of the fourth year.

‡Eight credit hours required, but Education 112 (Teaching in the Elementary School) or two years of approved teaching experience may exempt the student from this requirement.

**State Policies for Home Economics, State Department of Public Instruction, 1942.

family, housing, child development (must include directed observation and management of preschool child), home management (must include residence in a home-management house or a course in directed home projects).

SUGGESTED SEQUENCE OF COURSES

Freshman Year

Physical Education (3 quarters).
Orientation.
Education 51.
Library Science 2.
English 1, 2, 3.
Psychology 11.
Chemistry 1, 2, 3.
Art 8a.
Home Economics 1, 14, 51, 80.
Health Education 1.
Biology 1.

Sophomore Year

Home Economics 2, 15, 16, 20, 51, 81, 82.
Physiology 1.
Economics 1, 2.
Elective.

Junior Year

Home Economics 100, 103, 106, 112, 125, 135 (or 155).
Psychology 129.
Education 107, 118.
Bacteriology 1.
Elective.

Senior Year

Home Economics 101, 108, 120, 130, 180, 186.
Education 104, 106, 141, 143.
Health Education 108.
Elective.

TEACHER'S ELEMENTARY SCHOOL DIPLOMA.

The diploma is conferred with the B.A. or B.S. degree and in the State of Utah meets the highest prevailing standards for elementary school certification.

Juniors entering the Department of Elementary Education in the autumn of 1945 will begin on a new program. Seniors will continue with the program begun during their junior year and will not necessarily meet all of the new requirements. The new program follows:

LOWER DIVISION REQUIREMENTS

	Credit Hours
Library Science 2. Use of the Library	1
Psychology 22. Child Psychology	4
Education 51. Introduction to Education	2

Specific course and group requirements (see pages 84-86).

It is recommended that a pattern of courses from several departments be selected for each of the Lower Division groups, and in the arts. The following patterns are suggested:

Physical Science: Geology 1a, 3, 13; Physics 1, 2, 3, 40, 41; Chemistry 1; Mathematics 13 (Astronomy).

Biological Science: Biology 1, 2, 3, 7; Botany 5, 6; Zoology 20, 23, 50, 51; Health Education 20, 108.

Language: English 21, 22, 23, 31, 32, 33, 51, 52, 53, 87; Speech 1, 20, 21, 40; French 73; German 73; Latin 60; Greek 11, 16.

Social Science: History 5, 9, 10, 11, 15; Political Science 6, 50; Sociology 1, 7, 8; Anthropology 2, 3, 11, 50; Economics 4, 5, 6, 7; Philosophy 1, 2; Psychology 22, 128.

Arts: Art 1, 2, 3, 8, 12, 15, 16, 19; Music 54, 61, 62, 63, 64.

UPPER DIVISION (MAJOR) REQUIREMENTS

	Credit Hours
Education 101a. Foundations of Elementary Education (Prerequisite: Psychology 128; Health Education 108)	4
Education 101b. Foundations of Elementary Education (Prerequisite: History 9, 10, or 11; and Sociology 1 or 7, or Economics 1, 5, or 6.)	4
Education 102a, 102b. The Elementary School Curriculum	16
Education 115. Art in the Elementary School	2
Music 152. Music in the Elementary School	2
Education 112a, 112b. Student Teaching in the Elementary School	16
Education 141. Organization and Administration of Education	4

Academic Field Requirement: In addition to meeting the requirements for the major the student must present, with the approval of the Department, no less than 30 hours in one or 18 in each of two of the following academic fields: physical science, biological science, language, social science, psychology, music, art, physical education.

Electives: (1) In education and related work: Education 100, 113, 114, 117, 119, 120, 121, 136, 137, 138; Physical Education 130; Speech 183. (2) General electives, beyond those possible in electing the academic fields, to total (with the student's other work) no less than 183 hours.

NURSING EDUCATION

History. The Department of Nursing Education at the University of Utah is not an innovation but a stage in the evolution of nursing education at this institution. As early as 1913 anatomy and physiology were taught in a Salt Lake City school of nursing by the Dean of the Medical School, although no definite arrangement as to university credit seems to have been made. In 1927 a contract between the Extension Division and this same school of nursing provided for the teaching of six courses in the basic nursing curriculum carrying Extension Division credit. The plan was later expanded and extended to two other schools of nursing in the city. Beginning in 1934 nursing students came to the campus on a part-time basis, and resident

university credit was granted for courses completed. Extension courses were also offered for graduate nurses from time to time.

In January, 1942, stimulated by the national need for more nurses, and assisted by a grant from the United States Public Health Service, the Department of Nursing Education was organized in the School of Education. Nursing students entered the University as full-time regularly matriculated students in a special program leading to the bachelor's degree. In the most accelerated form of this program, students spent two quarters on the University campus before going to the hospital schools for clinical instruction and practice. In June, 1943, following the passage of the Bolton Act, direct aid from the United States Public Health Service to the department was discontinued and approval given for the establishment through the hospital schools of a unit of the United States Cadet Nurse Corps at the University of Utah. The postwar program in nursing will meet new peace time problems in the field of health.

Aims. It is the common aim of the hospital schools and of the Department of Nursing Education to recruit young women of good health, superior intelligence, pleasing personality, and earnestness of purpose and provide them with academic, clinical, and personal opportunities to develop into professional nurses and citizens of a high type. The basic nursing program leads to a diploma in nursing granted by the hospital school and a Bachelor of Science or Bachelor of Arts degree conferred by the University of Utah. Courses for graduate nurses are offered leading to special certificates and to the bachelor's and master's degrees. The object of the graduate program is to enable graduate registered nurses to prepare themselves for, and to do better work in, teaching, supervisory, and administrative positions. A program in public health nursing is projected for the future.

Co-operating Hospital Schools. In Salt Lake City three hospital schools co-operate in the United States Cadet Nurse Corps program given at the University of Utah. These are the William H. Groves Latter-Day Saints Hospital School of Nursing, the Salt Lake County General Hospital School of Nursing, and the Saint Mark's Hospital School of Nursing. In Ogden the Thomas D. Dee Memorial Hospital School of Nursing registers its students for one year at Weber Junior College, and from the beginning of the second year to the end of the course registers them with the University of Utah following the same curriculum as the schools in Salt Lake City.

Admission. Applicants for admission to the Department of Nursing Education and to the United States Cadet Nurse Corps address themselves first to the director of the school of nursing of the hospital in which they wish to receive their clinical experience. Both hospital school and University application forms are supplied by and returned to the director of the hospital nursing school. When possible, application should be made three or more months before the date planned for entrance. This allows time for making up any deficiencies that may be discovered in the high school record. Applicants who are already students at the University of Utah apply to the director of the hospital nursing school of their choice for approval of their transfer to the Department of Nursing Education.

All applicants must meet University entrance requirements as stated on pages 76-78 of this catalogue. In addition to these requirements a student must be at least 17½ years of age when she registers for the first preclinical or precadet quarter. Younger applicants will be accepted in the first year of the four-year program.

Entrance Dates. For the duration of the war new classes in nursing are expected to be admitted twice annually, at the beginning of the summer and winter quarters. In 1945 these dates will be June 9 and December 8. In the postwar period it is likely that one class will be admitted yearly, at the beginning of the autumn quarter.

Fees and Expenses. Students joining the United States Cadet Nurse Corps are furnished tuition, maintenance, books, outdoor and indoor uniforms, and a small cash stipend by the United States Public Health Service. Some small fees charged by the University (less than $5 per student per quarter) have not been included in the federal allowance. More detailed information about the cadet corps may be obtained from the hospital schools. Any student who has been a cadet for three full months before the war ends may finish her program under the cadet plan.

Students who do not join the United States Cadet Nurses Corps pay all their own expenses including out-of-state fee when applicable. (See pages 59-60 and 70-72.) In general a student who is a resident of Utah should expect to pay for each of the first two quarters in the nursing program about $125 for room and board if not living at home, $50 for tuition and fees, and $25 for books and supplies. From the beginning of the third quarter to the end of the course, maintenance is provided by the hospital school, but the student pays a fee of $7 to the University each quarter, and pays for her own uniforms, books, class dues, and other expenses.

Programs in Nursing. *The three-year diploma program* prepares young women in the shortest possible time to practice as graduate registered nurses in either civilian or military service. This is the regular cadet program. Its graduates are eligible for state board examinations in Utah, for registration by reciprocity in states having similar requirements, for enrollment in the American Red Cross Nursing Service, and for service in the Army and Navy. They may qualify for the Bachelor of Science degree in Nursing by returning to the University for one year of advanced study during which a prescribed program is completed.

The four-year program includes all the work of the three-year program, preceded by one full year of four quarters in residence at the University and the completion of certain subject requirements. The Bachelor of Science degree in Nursing and the diploma are granted together at the end of four years.

The five-year program. To qualify for a master's degree in Education a student who has already received the Bachelor of Science degree in Nursing may return to the University after one year of graduate clinical experience to complete an individually planned program fitted to her needs. This will usually require four quarters of class work.

THREE YEAR DIPLOMA PROGRAM IN NURSING

(United States Cadet Nurse Corps Program)

Pre-Cadet or Pre-Clinical Period — UNIVERSITY OR WEBER COLLEGE

Junior-Cadet or Junior-Clinical Period — HOSPITAL

HOSPITAL

1st YEAR

1st QUARTER		2nd QUARTER		3rd QUARTER		4th QUARTER	
Course No. Descrip.	Hrs.	Course No. Descrip.	Hrs.	Course No. Descrip.	Hrs.	Course No. Descrip.	Hrs.
English 1, Composition	3	Psychology 11N, Prin. Psy.	3	Nursing 48, Math. Dosage	2	Home Econ. 18a, Diet Therapy	3
Sociology 1N, Community	3	Anatomy 1N, Human	4	Nursing 49, Materia Medica and Therapeutics	3	Nursing 54a, Gen. Med. Nrs.	3
Bacteriology 1N, Bacteriology	5	Physiology 1N, Human	4	Nursing 51, Nursing Arts I, Units 1-6	4	Nursing 55a, Gen. Sur. Nurs.	2
Chemistry 10, applied to Nursing	5	Home Econ. 3N, Nutrition, Food Preparation	4	Nursing 52, Nursing Arts II, Units 7-12	4	Nursing 104, Tuber. Nurs.	1
Physical Education	1	Physical Education	1	Nursing 53, Pathology	1	Nursing 54b, Medical Nurs. Practice or Nursing 55b, Surgical Nursing Practice	3
Nursing 50a, Prof. Adj.	1	Health Education	1	Nursing 108, Hist. of Nurs.	3		
	18	Nursing 50b	1		17		12
			18				

(Vacation time allowed between quarters. Total vacation for year, about 3 weeks.)

Junior-Cadet or Junior-Clinical Period

HOSPITAL—Clinical Period

2nd YEAR

5th QUARTER		6th QUARTER		7th QUARTER		8th QUARTER	
Course No. Descrip.	Hrs.	Course No. Descrip.	Hrs.	Course No. Descrip.	Hrs.	Course No. Descrip.	Hrs.
Nursing 100a, Medical and Surgical Specialties	4	Soc. Work 150, Social Case Work	3	Nursing 107a, Nursing of Children (Pediatrics)	4	Complete class work where, because of size, classes may need to be divided and class work repeated.	
Nursing 103a, Operative Aseptic Technique	1	Nursing 105, Highly Communicable Disease	2	Home Economics 81N, Child Development	1	Vacation.	
Nursing 101a, Out-Patient Dept., Clinics Night Duty	½	Nursing 106a, Obstetric Nrs.	4	Nursing 100b, 103b, 106b, or 107b, Pediatric Nrs. Pract.	3	Clinical practice—100b, 101b, 18b, 103b, 106b, 107b, or 105b	3
Nursing 60, Oral Hygiene	½	Nursing 100b, Med. and Surg. Specialties Practice or Nursing 103b, Op. Room Practice or Nursing 106b, Obstet. Nurs. Practice	3		8		
Soc. Ed. 140, Mental Hyg.	3		12				
Nursing 54b or 55b	3						
	12						

Junior-Cadet or Junior-Clinical Period

HOSPITAL

Senior-Cadet or Senior-Clinical Period

HOSPITAL

	9th QUARTER			10th QUARTER			11th QUARTER 12th QUARTER
	Course No.	Descrip.	Hrs.	Course No.	Descrip.	Hrs.	
3rd YEAR	Nursing 110,	Psychiatry and Principles of Psychiatric Nursing	1	Nursing 109,	Nursing and Health Service in Family	4	The Senior Cadet Period "may be assigned to supervised experience in a hospital or hospitals connected with the home school, to other civilian hospitals, including psychiatric institutions, to selected community agencies, and to Federal hospitals under the Army, the Navy, the Public Health Service, the Veterans Administration, and the Indian Service. All of the experiences must meet the requirements of the home school for graduation and the State Board requirements for accreditation." (Directive of August 15, 1943, United States Public Health Service, Division of Nurse Education.) Clinical Practice, 3 credit hours each quarter. Classwork according to regulations of organization with which senior cadet period is passed.
	Nursing 111,	Spec. Therapies	2	Nursing 112,	First Aid and Nurs. in Emerg. Situations	1	
	Health Edu. 115,	Soc. Hyg.	2	Nursing 113,	Prof. Adj. II	3	
	Clinical Practice		3	Clinical Practice		3	
			8			11	

FOUR YEAR PROGRAM IN NURSING

Leading to a Diploma in Nursing and a Bachelor of Science Degree.

FIRST YEAR—PREPROFESSIONAL

FIRST QUARTER (AUTUMN)		SECOND QUARTER (WINTER)		THIRD QUARTER (SPRING)	
Course No. Description	Hrs.	Course No. Description	Hrs.	Course No. Description	Hrs.
English 1, Composition	3	English 2, Composition	3	English 3, Composition	3
Chemistry 1, General Chemistry	5	Chemistry 2, General Chemistry	5	Chemistry 3, or Physics	5
Biology 1, Principles Biology	5	Biology 2, Heredity	3	Speech 1, Fundamentals	5
Economics 1, Elementary Economics	3	Biology 7, Heredity Lab	2	Elective	3
Orientation	1	Economics 2, Elementary Economics	3	Physical Education	1
Physical Education	1	Physical Education	1	Health Education 1	1
	18	Library Science 2, Use of Library	1		18
			18		

It is suggested that a student wishing to obtain her degree at the same time as her diploma in nursing spend an additional quarter at the University. In this way she can register for fewer hours in each quarter, enjoy more extra-curricular activities, and earn ten additional credit hours. These ten credit hours originally scheduled for the last two quarters are omitted for the duration of the war but are necessary to meet the requirements for the Bachelor of Science degree.

SECOND YEAR—PROFESSIONAL PROGRAM

FOURTH QUARTER (Summer or Winter)		FIFTH QUARTER (Autumn or Spring)		SIXTH QUARTER (Winter or Summer)
Course No. Description	Hrs.	Course No. Description	Hrs.	
Bacteriology 1N, General Bacteriology	5	Anatomy 1N, Human	4	The sixth quarter of the four-year program carries exactly the same classwork as the third quarter of the three-year program. From this point on the two programs are the same. Because of the accelerated program adopted for the duration of the war, it will be necessary for four-year students, in order to meet degree requirements, to earn 10 credit hours in acceptable courses following the senior period, if they have not already completed this 10 additional hours in the preprofessional program.
Sociology 1N, Practical	3	Physiology 1N, Human	4	
Psychology 11N, Prin. of Psychology	3	Home Economics 3N, Nutrition and Food Preparation	4	
History, Elective	3	Sociology 8, The Family	4	
English, Elective	3	Nursing 50b, Prof. Adj.	1	
Nursing 50a, Prof. Adj.	1		17	
	18			

(A modified four-year program is offered to graduates of the University of Utah three-year program who take a year of general education after, rather than before, the three-year or cadet program.)

FIVE YEAR PROGRAM IN NURSING

Unless waived for adequate reasons, a year of clinical experience as a graduate nurse is prerequisite to the five-year program. After receiving a Bachelor of Science degree in Nursing under the regular four-year program or a modification of it, a student may pursue work leading to a Master of Science or Master of Arts degree in Education. In such a program the advanced nursing courses will be adjusted to the interests and needs of the individual student, but the entire program will usually require four quarters of resident study, one of which will be in supervised practice teaching in one of the co-operating hospital schools. Required courses include:

	Credit Hours
Psychology 129. Educational Psychology	5
Education 100. History of Education	4
Education 107. General High School Methods	4
Education 137. Philosophy and Theory of Education	4
Political Science 135. Public Administration, or Social Work 250. Public Welfare Administration	5
Sociology 124. Modern Social Problems	5

Promotion, Separation, Reinstatement. All students majoring in nursing must maintain a one-point average ("C") or better. While on the University campus any cadet failing to maintain a one-point average in one quarter or failing a major course will not be retained in the corps the succeeding quarter. A failed course must be repeated, and this cannot be done while the student is carrying the required 17 or 18 hours. However, such a student may register at the University at her own expense for the succeeding quarter, and if her grades at the end of that quarter are high enough to bring up to a one-point average both this and the preceding quarter's work, her petition for readmission to the cadet corps will be given serious consideration. Detailed regulations regarding separation from the corps and reinstatement will be furnished by the hospital schools.

THE SCHOOL OF BUSINESS

Member, American Association of Collegiate Schools of Business

Dean WALKER (IE313).

Admission. Students will be regularly admitted to the School of Business who have completed two years of college work (93 hours) with not less than a "C" average in the Lower Division of the University of Utah, or its equivalent in some other accredited institution.

LOWER DIVISION PREBUSINESS COURSE

The following course is suggested for students who intend to enter the School of Business:

Freshman Year

	Credit Hours
Economics 1, 2, 3	9
Business 1, 2, 3 (or 4, 5), and 9	12-13
Electives to satisfy the Lower Division group requirements	

Sophomore Year

Economics 4, 7	7
Business 10, 11, 12, 13 (or 10, 6)	9-8
Business (English) 18	3
Electives to satisfy the Lower Division group requirements	

For Lower Division requirements, see page 84.

For a two-year secretarial course, see page 87.

Graduation Requirements. Candidates for the B.A. or B.S. degree must complete at least 183 hours of work approved by the Dean and faculty of the School, including work done in the Lower Division.

At least 90 of these credit hours shall be for work in the departments of Business and Economics and allied subjects under the direction of the Dean and head of the department concerned.

At least 60 of the 183 hours must be upper division work. All courses numbered 100 or above are counted as upper division work, and may, with approval, be counted as graduate work. Courses above 100 are not open to freshmen and sophomores.

Candidates for the Bachelor of Arts degree must have the equivalent of 25 credit hours of foreign language during their high school or college course. Candidates for the degree of Bachelor of Science are not required to present credit in a foreign language.

Major Subjects. Business, Economics. In order that graduates of the School of Business may have specialized as well as broad training, the courses are grouped into six divisions: Accounting,

Management, Marketing, Finance and Statistics, General Economics, and Secretarial Training. Business majors are required to take four or more courses in their chosen field of concentration and one or more courses in each of the other fields. Economics majors are required to take 35 to 45 hours of upper division Economics approved by the chairman of their division.

REQUIRED COURSES FOR ECONOMICS AND BUSINESS MAJORS

Junior Year

	A.		W.		S.
Economics 105. Labor Problems (or other upper division Economics)	5	or	5	or	5
Economics 121. Corporation Finance or Economics 129. Money and Banking	5	or	5	or	5
Economics 170. Intermediate Economics	5	or	5	or	5
Economics 190. Statistical Methods	5	or	5	or	5
Business 101, 102, 103. Advanced Accounting (required of accounting majors only)	4		4		4
Business 141, 142, 143. Business Law	3		3		3
Business 150. Industrial Organization and Management	5	or	5	or	5
Business 170. Marketing	5	or	5	or	5

Senior Year

Students majoring in Economics or Business are required to choose one of the following fields of concentration not later than the beginning of the senior year:

Economics Majors:

1. Finance and Statistics (Dean Walker, Chairman).
2. General Economics (Professor Mahoney, Chairman).

Business Majors:

1. Accounting (Professor Johnston, Chairman).
2. Management (Professor Lorentzen, Chairman).
3. Marketing (Professor Lorentzen, Chairman).
4. Commercial Education and Secretarial Training (Mr. Sundwall, Chairman).

The student's program must be approved by the chairman of the division and also by the Dean at the beginning of each quarter.

GRADUATE WORK

Students of graduate standing who wish to continue their work for the master's degree will find suitable courses in the School of Business in the departments of Business and Economics.

Undergraduates contemplating a year of advanced work should plan their junior and senior programs in consultation with faculty members.

THE STATE SCHOOL OF MINES AND ENGINEERING

Member, Society for the Promotion of Engineering Education

The curricula in Civil, Electrical, Mechanical, Mining, and Metallurgical Engineering are accredited by the Engineering Council for Professional Development.

Dean A. LEROY TAYLOR (EH101).

The School of Mines and Engineering offers courses of instruction in applied physical sciences. The Utah Engineering Experiment Station, described in another part of this catalogue, is a department of the School.

BACCALAUREATE DEGREES

The Departments of Chemical, Civil, Electrical, Mechanical, Geological, Metallurgical, and Mining Engineering each offer a curriculum that leads, on completion, to a corresponding degree of Bachelor of Science in Engineering. Any deviation from the curricula must be approved by the Engineering faculty, and requests for change must be submitted in writing to the Dean when the student registers.

MILITARY AND PHYSICAL TRAINING

Military Science 1, 2, 3—military training—may be substituted for Physical Education in the freshman year (one credit hour per quarter). Other courses in M. S. & T. may be taken also, in general not as substitutes for other courses listed in the following engineering curricula, but in addition to them. Physical Education or M. S. & T. is also required of all sophomores. Only three hours of credit are allowed toward graduation in M. S. & T. and Physical Education. To earn a credit hour three hours of work per week per quarter are expected of the student. The required subjects with the number of credit hours toward graduation are shown below.

CURRICULA

In the following tables and in the description of courses, abbreviations are used to indicate the various branches of engineering, as follows: ChE (Chemical Engineering), CE (Civil Engineering), EE (Electrical Engineering), ME (Mechanical Engineering), MetE (Metallurgical Engineering), MgE (Mining Engineering).

Students who have had in high school or elsewhere, not in college, the equivalent of any of the prescribed subjects may be exempt from taking them here, but may be required to take other subjects that will be accepted as counting towards the required credit hours. Consult the registration committees. Satisfactory work done in other colleges is accredited.

Students who intend to study engineering but who are deficient in the mathematics entrance requirements for the School of Mines and Engineering must register in the Lower Division until such deficiency is made up, but are advised to discuss their registration with the Dean of the School of Engineering, so that a systematic schedule may be

suggested and an engineering adviser assigned to them in addition to their Lower Division adviser. Those who do not present solid geometry for entrance are required to complete a course in this subject before graduation.

Summer School. Courses required in the first quarter of the freshman year (see curriculum following) will be available during the summer session of 1945.

Freshman Year

(Common to all engineering courses.)

	A.	W.	S.
Mathematics 6, 4e, 9—Algebra, Trigonometry, Geometry	5	3	5
English 1, 2, 3—Freshman Composition	3	3	3
GE1—Engineering Problems	1	1	0
Health Education 1—Hygiene	0	0	1
Chemistry 12, 13—General Chemistry	5	5	0
Physical Education or M. S. & T.	1	1	1
CE1, 3—Engineering Drawing, Descriptive Geometry	3	0	3
*Speech 5—Panel and Group Discussion	0	2	0
*CE2—Advanced Engineering Drawing	0	3	0
*Political Science 50	0	0	5
	18	18	18

*Students majoring in Chemical, Geological, Metallurgical, or Mining Engineering, replace subjects starred with the following:

	A.	W.	S.
Political Science 50	0	5	0
Chemistry 6—Qualitative Analysis	0	0	5

CHEMICAL ENGINEERING

Freshman Year

(Common to all engineering courses)

Sophomore Year

	A.	W.	S.
Physics 21, 22, 23—College Physics	4	4	4
Physics 24, 25, 26—Laboratory	1	1	1
Mathematics 10a, 10b, 10c—Calculus	4	4	4
Chemistry 7, 8, 9—Quantitative Analysis	3	3	4
Mineralogy 1, 2—Rock and Ore Minerals	3	3	0
CE43—Surveying	0	0	3
MetE204, 205, 206—Metallurgical Calculations	2	2	2
Physical Education or M. S. & T. (see page 107)	....	....	....
	17	17	18

Junior Year

	A.	W.	S.
ME150, 151, 152—Engineering Mechanics	4	4	4
EE105, 107, 109—Elementary EE and Machines	2	2	2
EE104, 106—D.C. and A.C. Laboratory	1	1	0
ChE—151, 152, 153—Unit Operations	3	3	3
Chemistry 106, 107, 108—Physical Chemistry	4	4	4
Nontechnical Electives	3	3	4
	17	17	17

Senior Year

	A.	W.	S.
GE101—Contracts	0	2	0
CE166—Specifications	2	0	0
Chemistry 112, 113—Inorganic Chemistry, Instrumental Analysis	0	2	2
ME202,232—Heat Power Engineering and Plant Design	3	3	3
ChE157, 158, 159—Chemical Technology	3	3	2
ChE154, 155, 156—Unit Operations Laboratory	2	2	2
Chemistry 103, 104, 105—Organic Chemistry	3	3	4
Nontechnical Electives or Thesis	3	3	3
	16	18	17

Fifth or Graduate Year

	A.	W.	S.
Chemistry 109—Senior Organic Chemistry	4	0	0
Chemistry 120, 121, 122—Thermodynamics	2	2	2
Chemistry 125, 126, 127—Advanced Chemistry	3	3	3
Chemistry 130—Research	4	3	3
Physics 162, 163—Modern Physics	0	5	5
Nontechnical Elective—Bacteriology	3	3	3
	16	16	16

For courses in Chemical Engineering, see pages 107, 108, and 117.

CIVIL ENGINEERING

Freshman Year

(Common to all engineering courses, with additional ⅓ hour credit each quarter for CE Seminar.)

Sophomore Year

	A.	W.	S.
Physics 21, 22, 23—College Physics	4	4	4
Physics 24, 25, 26—Laboratory	1	1	1
Economics 1, 2—Elementary Economics	3	3	0
Business 1b—Accounting	0	3	0
CE 40, 41, 42—Surveying	2	2	3
Mathematics 10a, 10b, 10c—Calculus	4	4	4
EE1—Electrical Engineering	0	0	2
ME 150—Engineering Mechanics	0	0	4
Approved Elective	3	0	0
CE83, 84, 85—Seminar	⅓	⅓	⅓
Physical Education or M. S. & T. (see page 107)	.....	.....	.....
	17⅓	17⅓	18⅓

CE45 Surveying Camp (3 weeks in September), 5 credits.

Junior Year

	A.	W.	S.
EE107, 109—Electrical Machinery	2	2	0
EE104, 106—Electrical Laboratory	1	1	0
ME151, 152—Engineering Mechanics	4	4	0
ME202—Heat Power Engineering	3	0	0
ME212—Heat Power Laboratory	0	2	0
ME155—Materials Laboratory	0	2	0
CE143—Route Surveying	3	0	0
CE105—Hydrology	0	0	3
CE120—Highway Materials	3	0	0
CE111—Stress Analysis	0	4	0
CE100, 101—Hydraulics and Laboratory	0	3	2
CE112—Structural Details	0	0	3
CE102—Irrigation and Drainage	0	0	3
CE144—Mine Surveying	0	0	2
CE121—Highway Construction	0	0	3
CE186, 187, 188—Seminar	⅓	⅓	⅓
Approved Electives	2	0	2
	18⅓	18⅓	18⅓

Senior Year

	A.	W.	S.
GE101—Contracts	0	2	0
CE166—Specifications	2	0	0
CE115—Reinforced Concrete	3	0	0
CE113—Structural Bridge Design	3	0	0
CE167—Economics	2	0	0
CE161—Technical Reports	3	0	0
CE116—Reinforced Concrete	0	3	0
CE114—Indeterminate Structures	0	2	0
CE103—Water Supply and Sewerage	0	0	4
CE104—Hydraulic Machinery	0	3	0
CE124—Airport Design	0	2	0
CE118—Soil Mechanics	0	4	0
CE160—City Planning	0	0	3
Geology 21—Physical Geology	0	0	4
CE145—Elementary Cartography	0	0	2
CE117—Foundations	0	0	2
CE163—Thesis	1	1	1
CE189, 190, 191—Seminar	⅓	⅓	⅓
Approved Electives	3	0	2
	17⅓	17⅓	18⅓

ELECTRICAL ENGINEERING

Freshman Year

(Common to all engineering courses)

Sophomore Year

	A.	W.	S.
ME10, 13, 101—Shop	1	1	1
ME31—Mechanism	3	0	0
EE1—Introduction to Electrical Industry	0	2	0
EE21—Fundamentals of Electrical Engineering	0	0	5
CE40, 41—Surveying	2	2	0
Mathematics 10a, 10b, 10c—Calculus	4	4	4
Physics 21, 22, 23—College Physics	4	4	4
Physics 24, 25, 26—Laboratory	1	1	1
Economics 1, 2—Elementary Economics	3	3	0
Accounting 1	0	0	3
Physical Education or M. S. & T. (see page 107)	.....	.....	.....
	18	17	18

Junior Year

	A.	W.	S.
EE121, 131—A. C. Circuits and Machinery	3	3	0
EE169—Fundamentals of Electronics	0	0	3
EE101—D. C. Machinery	3	0	0
EE135—Illumination	0	0	2
EE122, 124, 126—Electrical Engineering Lab	2	2	2
ME150, 151, 152—Mechanics and Strength of Materials	4	4	4
ME155—Strength of Materials, Laboratory	0	0	2
ME200—Heat Power Engineering	5	0	0
ME210, 211—Heat Power Engineering, Laboratory	0	2	2
ME114, 115—Materials and Machine Design	0	3	3
Nontechnical Elective	0	3	0
	17	17	18

Senior Year

(Power Option)

	A.	W.	S.
GE101—Contracts	0	2	0
CE166—Specifications	2	0	0
GE103—Technical Reports	3	0	0
CE100, 101—Hydraulics, Laboratory	0	3	2
EE145—Electrical Circuit Analysis	3	0	0
EE141—Advanced A. C. Machines	0	3	0
EE146, 148—Advanced Electrical Laboratory	3	3	0
EE177—Electronic Devices	4	0	0
EE181—EE Economics	0	3	0
EE159—Transmission Lines	0	0	3
EE158—Electrical Design and Laboratory	0	0	3
EE191—Thesis	0	1	2
EE153—Special Topics in Electrical Engineering	0	0	2
EE160—High Voltage Laboratory	0	0	2
Approved Electives	3	3	4
	18	18	18

Senior Year
(Electronics and Communication Option)

	A.	W.	S.
GE101—Contracts	0	2	0
CE166—Specifications	2	0	0
GE103—Technical Reports	3	0	0
CE100—Hydraulics	0	3	0
EE145—Electrical Circuit Analysis	3	0	0
EE141—Advanced A. C. Machines	0	3	0
EE146, 148—Advanced A. C. Laboratory	3	3	0
EE177—Electronic Devices	4	0	0
EE181—EE Economics	0	3	0
EE157—Electrical Design and Laboratory	0	0	3
EE191—Thesis	0	1	2
EE153—Special Topics in Electrical Engineering	0	0	2
EE171, 173, 175—Communications, Telephony, and Radio	3	3	3
EE183—Ultra-High Frequency	0	0	3
Approved Electives	0	0	5
	18	18	18

GEOLOGICAL ENGINEERING

Freshman Year
(Common to all engineering courses)

Sophomore Year

	A.	W.	S.
CE40, 41—Surveying	2	2	0
Chemistry 7, 8, and MetE 111—Quantitative Analysis	3	3	3
Mathematics 10a, 10b, 10c—Calculus	4	4	4
Mineralogy 1, 2—Geology 21	3	3	4
Physics 21, 22, 23—College Physics	4	4	4
Physics 24, 25, 26—Laboratory	1	1	1
Physical Education or M. S. & T. (see page 107)			
	17	17	16

Junior Year

	A.	W.	S.
CE144—Mine Surveying	0	0	2
EE105, 107—Electrical Machines	2	2	0
EE104, 106—A.C. and D.C. Laboratory	1	1	0
ME150, 151, 152—Engineering Mechanics	4	4	4
ME155—Materials Laboratory	0	2	0
MetE112—Fire Assaying	3	0	0
MgE100, 101, 102—Mining	3	3	3
Geology 116, 109, 106	4	3	4
Geology 108, 105	0	3	4
	17	18	17

Senior Year

	A.	W.	S.
CE166, 165—Specifications, Contracts	2	2	0
CE100—Hydraulics	0	3	0
ME202—Heat Power Engineering	3	0	0
MgE202—Mining Finance	3	0	0
Geology 214, 220	0	4	3
Geology 203, 204—Economic Geology	0	3	4
Mineralogy 210, Geology 210	3	3	3
Geology 218—Thesis, Mineralogy 201	0	3	3
Approved Elective	4	0	3
	15	18	16

MECHANICAL ENGINEERING

Freshman Year

(Common to all engineering courses)

Sophomore Year

	A.	W.	S.
ME10, 13, 101—Shop	1	1	2
Physics 21, 22, 23—College Physics	4	4	4
Physics 24, 25, 26—Laboratory	1	1	1
Mathematics 10a, 10b, 10c—Calculus	4	4	4
Economics 1, 2; Business 1b—Economics, Accounting	3	3	3
CE40, 41—Surveying	2	2	0
ME150—Engineering Mechanics	0	0	4
GE103—Technical Reports; *Elective	3	3	0
Physical Education or M. S. & T. (see page 107)	.....	.....	.....
	18	18	18

Junior Year

	A.	W.	S.
ME151, 152, 156—Engineering Mechanics	4	4	3
ME153, 154—Materials Laboratory	2	2	0
ME200, 201—Heat Power Engineering	5	5	0
ME210, 211—Heat Power Laboratory	0	2	2
EE105, 107, 109—Electrical Engineering and Machinery	2	2	2
EE122, 124, 126—Electrical Laboratory	2	2	2
CE119—Design of Structures	0	0	5
ME31—Mechanism	0	0	3
*Elective	3	0	0
	18	17	17

Senior Year

	A.	W.	S.
ME111, 112, 113—Machine Design	4	4	4
GE101—Contracts	0	2	0
CE166—Specifications	2	0	0
CE100, 101—Hydraulics and Laboratory	0	3	2
ME250, 251—Aeronautics or			
ME225, 226—Power Plants	0	5	5
ME104—Industrial Management	3	0	0
ME119—Field Inspection	2	0	0
ME120—Mechanical Engineering Economics	0	0	3
ME300—Special Topics	0	0	2
*Elective	3	0	0
*Technical Electives	3	3	0
	17	17	16

*Consult the department head.

METALLURGICAL ENGINEERING

Freshman Year

(Common to all engineering courses)

Sophomore Year

	A.	W.	S.
CE40, 41—Surveying	2	2	0
Chemistry 7, 8—Quantitative Analysis	3	3	0
MetE111—Wet Assaying	0	0	3
Mathematics 10a, 10b, 10c—Calculus	4	4	4
Mineralogy 1, 2—Geology 21	3	3	4
Physics 21, 22, 23—College Physics	4	4	4
Physics 24, 25, 26—Laboratory	1	1	1
Physical Education or M. S. & T. (see page 107)	.....	.....	.....
	17	17	16

Junior Year

	A.	W.	S.
EE105, 107—Electrical Machinery	2	2	0
EE104, 106—EE Laboratory	0	1	1
ME150, 151, 152—Engineering Mechanics	4	4	4
ME155—Materials Laboratory	0	0	2
ME202—Heat Power Engineering	3	0	0
MgE100, 101, 102—Mining	3	3	3
MetE101, 102, 103—General Metallurgy	3	3	3
MetE123—Metallurgical Analysis	0	0	2
Chemistry 106, 107—Physical Chemistry	4	4	0
MetE207—Ore Dressing	0	0	3
	19	17	18

Senior Year

	A.	W.	S.
GE101—Contracts	0	2	0
GE103—Technical Reports	3	0	0
CE166—Specifications	2	0	0
MgE200—Mine Management	0	3	0
MgE201—Supervision and Safety	0	0	2
MetE112—Fire Assaying	3	0	0
MetE124—Physical Metallurgy	0	0	3
MetE201, 202—Advanced Non-Ferrous Metallurgy	4	4	0
MetE203—Advanced Ferrous Metallurgy	0	0	3
MetE204, 205, 206—Metallurgical Calculations	2	2	2
MetE208, 209—Ore Dressing	3	3	0
MetE222—Metallurgical Laboratory	0	2	0
MetE223—Metallography and Heat Treatment	0	0	2
MetE224, 225, 226—Thesis	1	1	1
Approved Nontechnical Elective	0	0	5
	18	17	18

MINING ENGINEERING

Freshman Year
(Common to all engineering courses)

Sophomore Year

	A.	W.	S.
CE40, 41—Surveying	2	2	0
Chemistry 7, 8, and MetE111—Quantitative Analysis	3	3	3
Mathematics 10a, 10b, 10c—Calculus	4	4	4
Mineralogy 1, 2; Geology 21	3	3	4
Physics 21, 22, 23—College Physics	4	4	4
Physics 24, 25, 26—Laboratory	1	1	1
Physical Education or M. S. & T. (see page 107)			
	17	17	16

Junior Year

	A.	W.	S.
EE105, 107—Electrical Machinery	2	2	0
EE104, 106—D.C. and A.C. Laboratory	0	1	1
ME150, 151, 152—Engineering Mechanics	4	4	4
Nontechnical Elective	0	3	0
ME202—Heat Power Engineering	3	0	0
Geology 105—Historical Geology	0	0	4
Geology 109—Petrology	0	3	0
Geology 106—Structural Geology	0	0	4
MgE100—Principles of Mining	3	0	0
MgE101—Mining Operations	0	3	0
MgE102—Mining Methods	0	0	3
MgE109—Inspection Trips and Reports	2	0	0
MetE112—Fire Assaying	3	0	0
CE144—Mine Surveying	0	0	2
	17	16	18

Senior Year

	A.	W.	S.
GE101—Contracts	0	2	0
CE166—Specifications	2	0	0
Geology 203, 204—Economic Geology	0	3	4
MgE103—Compressed Air	0	0	3
MgE104—Mine Plant Design	0	3	0
MgE105—Mine Ventilation	4	0	0
MgE200—Mine Management	0	3	0
MetE101—General Metallurgy	3	0	0
MetE102—General Metallurgy	0	3	0
MetE103—General Metallurgy	0	0	3
MetE207—Ore Dressing	0	0	3
MetE208—Ore Dressing	3	0	0
MetE123—Metallurgical Analysis	0	2	0
CE100—Hydraulics	3	0	0
Nontechnical Elective	0	0	5
MgE110—Thesis	3	0	0
	18	16	18

COURSES OF INSTRUCTION

CHEMICAL ENGINEERING

Professor BONNER (PS102); *Assistant Professor* MINARD*.

ChE151, 152, 153. *Elements of Chemical Engineering.* (3-3-3) A. W. S. The unit operations of heat transfer, evaporation, distillation, etc. Open to juniors but must be accompanied by Chemistry 106, 107, 108. Minard.

ChE154, 155, 156. *Unit Operations Laboratory.* (2-2-2) A. W. S. Prerequisite or parallel: ChE 151, 152, 153. Minard.

ChE157, 158, 159. *Chemical Technology.* (3-3-3) A. W. S. The more important chemical processes are discussed from the point of view of the chemical reactions involved, and of the plant needed. Emphasis is on fundamental principles. Bonner.

ChE160, 161, 162. *Chemical Processes Laboratory.* (2-2-2) A. W. S. A study of a few processes. (Omitted 1945-46.)

*On leave of absence.

CIVIL ENGINEERING

Professor DIEFENDORF (CE102); *Assistant Professors* LATIMER, D. K. JONES, SLOANE; *Instructor* KESLER.

DRAWING

CE1. *Engineering Drawing.* (3) A. W. S. The use and care of drawing instruments; simple geometric problems, drawing to scale, and other general practices relating to engineering drawing. Latimer, Kesler.

CE2. *Advanced Engineering Drawing.* (3) A. W. Practical drafting used in the various branches of engineering. Prerequisite: CE1 or equivalent. Latimer, Kesler.

CE3. *Descriptive Geometry.* (3) A. W. S. The principles and problems relating to the point, line, plane, cylinder, cone. Prerequisite: CE2 and trigonometry. Latimer, Kesler.

CE5. *Topographic Drawing.* (3) Conventional signs, contour maps, map lettering, plotting from field notes, drainage areas. Sloane.

SURVEYING

CE40. *Elementary Surveying.* (2) A. Field work; surveying instruments. Measurements of distances. Measurement of elevation, leveling methods. Measurements of angles. Stadia. Plane table. Adjustment of instruments. Prerequisite: Mathematics 4, CE1. Sloane.

CE41. *Elementary Surveying.* (2) W. Office work; computations of areas and volumes. Survey computations. Subdivision of land. Simple curves. Prerequisite: CE40. Sloane.

CE42. *Topographic Surveying.* (3) S. Topographic surveys, scale, relief. Contour methods. Triangulation. Celestial observations. Prerequisite: CE41. Sloane.

CE43. *Elementary Surveying.* (3) S. Use of instruments. Measurement of distances, angles, elevations. Stadia, plane table, adjustment of instruments. Survey calculations. Earthwork. Simple curves. Prerequisite: Mathematics 4, CE1. Sloane.

CE45. *Survey Camp.* (5) Su. Topographic surveys with transit and stadia. U. S. government land surveying. Topographic surveys with plane table. Prerequisite: CE42. Diefendorf.

CE143. *Route Surveying.* (3) A. Highway, railway, and pipe line location. Prerequisite CE45.

CE144. *Mine Surveying.* (2) S. The fundamentals of underground and surface surveys. Prerequisite: CE41. Sloane.

CE145. *Elementary Cartography.* (2) S. The fundamentals of map projections. Elements of aerial surveying and mapping. Prerequisite: CE42. Sloane.

HYDRAULICS

CE100. *Hydraulics (Fluid Mechanics).* (3) W. Pressure of fluids at rest, flow through pipes and channels, flow through orifices and over weirs, dynamic pressures and forces. Prerequisite: ME150. Jones.

CE101. *Hydraulics Laboratory.* (2) S. Calibration of weirs, orifices, meters, and nozzles. Water measurement with weirs, current meter, and venturi. Experiments on pipes and open channels. Tests of water motors, pumps, etc. Experiments on fluid flow and resistance. Prerequisite: CE100. Jones.

CE102. *Irrigation and Drainage.* (3) S. Conservation and use of water in irrigation, fundamentals of agronomy, operation of irrigation systems, duty of water, and irrigation practice. Systems for drainage of waterlogged and alkaline land. Prerequisite: CE100. Jones.

CE103. *Water Supply and Sewerage.* (4) S. Studies of sources of water supply, estimation of demand and quantity, purification and disinfecting plants, sanitary aspects of water supply and waste disposal systems of cities, towns, and industries. Prerequisite: CE100. Jones.

CE104. *Hydraulic Machinery.* (3) W. Theory and construction of turbines, pumps, and valves; hydraulic power plants and pumping plants; plant equipment and auxiliaries. Prerequisite: CE100. Jones.

CE105. *Hydrology.* (3) S. A study of atmosphere, precipitation, evaporation, transpiration, seepage, run-off, ground water, and water laws. Jones.

CE106. *Advanced Hydraulics.* (2) A study of flow in open channels, flow at intersections of channels, flow nets, and models. Prerequisite: CE100. Jones.

CE107. *Advanced Hydraulics Laboratory.* (2) Tests and reports on advanced problems in hydraulics and hydraulic machines. Prerequisite: CE101. Jones.

CE108. *Design of Hydraulic Structures.* (3) Design of dams, spillways, flumes, conduits, etc. Prerequisite: CE100, 116. Jones.

STRUCTURAL

CE110. *Graphic Statics.* (2) Force and equilibrium polygons. Centroids. First and second moments. Deflection curves. Analysis of structures. Prerequisite: ME150. Sloane.

CE111. *Stress Analysis.* (4) Analytical and graphical determination of stresses in beams, columns, roof and bridge trusses. Three recitations. One laboratory. Prerequisite: ME150. Diefendorf.

CE112. *Stress Analysis.* (3) Steel shapes; detailing. Specifications. Riveted and welded connections. Design of tension and compression members. Design of beams, trusses. Prerequisite: CE111. Diefendorf.

CE113. *Structural Bridge Design.* (3) Design of steel-framed structures, including mill buildings, highway bridges, and plate-girder railroad bridges. Prerequisite: CE112. Diefendorf.

CE114. *Indeterminate Structures.* (2) W. A study of the elastic theory as applied to rigid frame and fixed arch bridges. Prerequisite: CE115. Diefendorf.

CE115. *Reinforced Concrete.* (3) A. Properties of materials, theory and design of rectangular beams, tee beams, girders, and columns. Prerequisite: ME150. Diefendorf.

CE116. *Reinforced Concrete.* (3) W. Design of foundations. Retaining walls, beam and girder, and flat slab. Floor systems of reinforced concrete. Prerequisite: CE115. Diefendorf.

CE117. *Mechanics of Foundations.* (2) S. Design and construction of the principal types of foundations, including soil investigation and evacuation, footings and underpinning, piers and abutments. Prerequisite: CE118. Diefendorf.

CE118. *Soil Mechanics.* (4) W. Soil properties. Soil moisture. Limits of consistency. Permeability. Compressibility and consolidation. Settlement of structures. Prerequisite: ME150. Sloane.

CE119. *Design of Structures.* (5) S. Design of reinforced concrete, steel, and wood structures, for students not majoring in Civil Engineering. Prerequisite: ME151.

HIGHWAYS

CE120. *Highway Materials.* (3) A. Sampling and testing of highway materials. Diefendorf.

CE121. *Highway Construction.* (3) S. Construction and maintenance of rural highways and city pavement types. Roadbuilding machinery and equipment. Prerequisite: CE120. Diefendorf.

CE124. *Airport Design.* (2) W. Layout of airports; design of runways, drainage, hangars, and administration buildings; traffic considerations, economic factors in location. Prerequisite: CE 121. Sloane.

MISCELLANEOUS

CE160. *City Planning.* (3) S. Design of the city plan, streets and street systems. Laboratory period devoted to the development of a city plan. Diefendorf.

CE161. *Technical Reports.* (3) A. Form in engineering and scientific reports; principles of composition which are applicable. For advanced engineering students.

CE163. *Thesis.* (1-1-1) A. W. S. Each candidate for graduation in Civil Engineering is required to register for his thesis. Staff.

CE166. *Specifications.* (2) A. Engineering specifications of various elementary portions of engineering work. Relations of the engineer to his employer and to the public.

CE167. *Economics for Civil Engineers.* (2) Principles underlying economics in the design, construction, and operation of civil engineering projects. Prerequisite: Economics 2.

CE80, 83, 84, 85, 186, 187, 188, 189, 190, 191. *Seminar.* (½ each) A. W. S. Required of all students of Civil Engineering.

ELECTRICAL ENGINEERING

Professor A. L. TAYLOR (EH101); *Associate Professors* HAYCOCK, HULL; *Assistant Professor* HARRIS.

Junior students in Electrical Engineering must have earned an average grade of "C" in sophomore physics and in sophomore mathematics.

Senior students majoring in Electrical Engineering must have earned an average grade of "C" in junior electrical engineering subjects.

Courses marked with an asterisk (*) may be taken for graduate work upon approval by the department head.

EE1. *Introduction to the Electrical Industry.* (2) W. A survey course intended to give the student of Electrical Engineering a correlated picture of the electrical industry. Lectures, problems, laboratory, and field trips. Open to sophomores in Electrical Engineering. Staff.

EE21. *Fundamentals of Electrical Engineering.* (5) S. Four lectures or recitations and one laboratory period per week. Study of direct current circuits and electric and magnetic fields. Prerequisite: Physics 22, 25; prerequisite or parallel: Mathematics 10c. Harris.

EE71. *Elements of Radio.* (3) An elementary course for non-engineering students, primarily for those who expect to enter the armed services. Prerequisite: high school mathematics and high school physics. Haycock.

EE101. *Direct Current Machinery.* (3) A. Three lectures or recitations per week. Designed for majors in Electrical Engineering. Principles, characteristics, and operation of direct current machinery. Prerequisite: EE21. Taylor.

EE104. *Direct Current Laboratory.* (1) A. Measurements and tests of direct current circuits and generators. Prerequisite or parallel: EE105. Harris.

EE106. *Alternating Current Laboratory.* (1) W. Measurements and tests of alternating current circuits and machines. Prerequisite: EE104; prerequisite or parallel: EE107. Harris.

EE105, 107, 109. *Elements of Electrical Engineering and Machines.* (2-2-2) A. W. S. Two lectures or recitations per week. A study of direct and alternating current principles and machinery. Prerequisite: Physics 23. Staff.

EE121. *Alternating Current Circuits.* (3) A. Three lectures or recitations per week; designed for majors in Electrical Engineering. Prerequisite: EE21, Physics 23, Mathematics 10. Taylor.

EE122, 124, 126. *Electrical Engineering Laboratory.* (2-2-2) A. W. S. One laboratory period per week; designed for students majoring in Electrical or Mechanical Engineering. Tests in electrical measurements and of direct and alternating current machinery. Prerequisite: EE21; prerequisite or parallel: EE105 or 121, and EE109 or 131. Hull, Harris.

EE131. *Alternating Current Machinery.* (3) W. Three lectures or recitations per week. Prerequisite: EE121. Harris.

EE135. *Illumination.* (2) S. The principles underlying electrical illumination; calculation and design of artificial lighting for stores, shops, etc. Prerequisite: EE105 or 21. Taylor.

EE137. *Electrical Engineering Mathematics.* (3) W. A study of determinants, nomography and intersection charts, power series, applications of differential equations to electrical transients, and vector analysis. Harris.

EE141*, 143*. *Advanced Alternating Current Machinery.* (3-3) W. S. A study of the principles of operation, and methods of calculating performance of electrical machinery. Prerequisite: EE131; prerequisite or parallel: EE137. Hull.

EE145*. *Electrical Circuit Analysis.* (3) A. A study of electrical circuits and networks with an introduction to transients and symmetrical components. Prerequisite: EE131. Haycock.

EE146*, 148*. *Advanced Electrical Laboratory.* (3-3) A. W. The testing of electrical machinery and apparatus for characteristics, efficiency, and performance. Prerequisite: EE141. Haycock, Hull.

EE153. *Special Topics.* (2) S. A review and a comprehensive examination of electrical engineering. Open only to graduating seniors. Staff.

EE157*. *Electrical Design.* (3) S. Problems in the design and detail of electrical equipment: motors, generators, electro-magnets, condensers, transformers, etc. Prerequisite: EE143; parallel: EE157. Hull.

EE159*. *Electrical Power Transmission.* (3) S. Lectures and recitations. The underlying circuit theory of the transmission line, transmission network, and circle diagram. Prerequisite: EE141. Taylor.

EE160*. *Transmission Line Laboratory.* (2) Five laboratory periods and five computation periods per quarter. Tests will be made on the artificial line in the laboratory with setups which approximate actual power and telephone lines. Prerequisite: EE159. Hull.

EE162*. *High Voltage Laboratory.* (2) S. Laboratory observations, discussions, and report writing. Prerequisite: EE141. Hull.

EE163*. *Distribution Systems.* (3) Lectures covering the various systems of distribution. Inspection trips will occupy about half the time. Prerequisite: EE159. Taylor.

EE169. *Fundamentals of Electronics.* (3) S. Two lectures or recitations and one laboratory period per week. An introduction to electronics with applications to both power and communications. Prerequisite: EE106, 107; or EE131, 124. Haycock.

EE171. *Communication Engineering.* (3) A. Three lectures and recitations per week. Fundamentals of electrical engineering as applied to communication. Prerequisite: EE133, 137; parallel: EE177. Haycock.

EE172*. *Telephone Transmission Laboratory.* (3) W. Experimental work on the artificial line in the laboratory. Prerequisite: EE171. Haycock.

EE173. *Telephone Engineering.* (3) W. Three lectures per week. Transmission lines, attenuation, filters, equalizers, reflections, etc. Prerequisite: EE171. Haycock.

EE175. *Radio Engineering.* (3) S. Three lectures per week. A study of the engineering aspects of radio, to include amplification, amplitude and frequency modulation, coupling networks, crystal filters, radio frequency transmission lines, antennas, radiation, and television. Haycock.

EE177*. *Electronic Devices.* (3) A. Three recitations and one laboratory period per week. A study of electrical engineering apparatus dependent on electron emission for its operation. Prerequisite: EE131, 133, 137. Haycock.

EE178*. *Advanced Communication Laboratory.* For advanced students. Special tests and investigations; credit according to work done. Haycock.

EE179*. *Advanced Radio Engineering.* (3) Mathematical analysis of the radio circuit. Special study of amplifier circuits, radiation, etc. Prerequisite: EE177; parallel: EE171, 173, or 175. Haycock.

EE181. *Electrical Engineering Economics.* (2) W. A study of rate making, valuation of electrical properties, and the relative economy of generated and purchased service. Prerequisite: EE141. Taylor.

EE183. *Ultra-High Frequency.* (3) S. Three lectures or recitations per week. Theory and technique of klystrons, magnetrons, reflectors, wave guides, tuning studs, etc. Prerequisite: EE177, 173. Haycock.

EE191. *Thesis.* (1-2) Special problems and designs, etc., related to electrical apparatus and its uses. Staff.

EE192*. *Electrical Laboratory Research.* Special problems and investigations. Credit according to work done. Prerequisite: EE148. Taylor.

EE193*. *Electrical Seminar.* (1) Reading and discussing of current electrical literature. Special topics. Trips to power plants. Open to seniors and graduates. Taylor.

GENERAL ENGINEERING

GE1. *Engineering Problems.* (1-1) A. W. Three hours per week devoted to lectures on the various engineering fields and the solution of related elementary problems to assist the freshman in the choice of a major.

GE101. *Engineering Contracts.* (2) W. Synopsis of the law of contracts, bonds, uniform contract forms. Particular business problems.

GE103. *Technical Reports.* (3) A. Three lectures or recitations per week devoted to the study and the preparation of reports on engineering investigations.

MECHANICAL ENGINEERING

Professors COPE (EH308), M. B. HOGAN; *Associate Professors* BLAKE, R. D. BAKER; *Assistant Professors* HASSELL, CARTER; *Instructor* R. H. WOOLLEY.

MANUFACTURING PROCESSES

ME10. *Pattern Shop.* (1) A. One shop period per week supplemented by lectures. Construction of patterns and core boxes; shop processes. Blake, Woolley.

ME12. *Foundry.* (1) One shop period per week supplemented by lectures. Foundry processes, molding, core making, and metal melting practice. Blake, Woolley.

ME13. *Machine Shop.* (1) W. One shop period per week supplemented by lectures. The use of hand tools. Elementary machine tool practice. Blake, Woolley.

ME32. *Materials of Engineering.* (3) Three lectures per week. Manufacture, properties, and uses of the more common materials of engineering construction. Hogan, Carter.

ME101. *Forging and Welding.* (2) S. Two shop periods per week supplemented by lectures. Hand forging, hardening, and tempering; electric arc and oxy-acetylene welding.
Blake, Woolley, and staff.

ME102. *Advanced Machine Shop.* (2) Prerequisite: ME13.
Blake.

ME104. *Principles of Industrial Management.* (3) A. Three lectures per week. Organization, time and motion study, costs, pay plans, plant layout, materials handling, personnel administration, production control, and marketing. Blake, Woolley.

ME118. *Heat Treatment of Metals.* (Omitted 1945-46.) Carter.

ENGINEERING MECHANICS AND DESIGN

ME31. *Mechanism.* (3) A. S. Two lectures and one drafting period per week. Methods of transmitting motion in machines: belts, cams, chains, gearing, gear teeth, and linkwork. Prerequisite: CE1 or 2, and trigonometry. Carter, Woolley.

ME111, 112, 113. *Machine Design.* (4-4-4) A. W. S. Two lectures and two drafting periods per week. The analysis of stresses and proportioning of machine parts, with attention to function and economic factors. Prerequisite: ME31; prerequisite or parallel: ME150. Hassell.

ME114, 115. *Machine Design.* (3-3) A. W. Two lectures and one drafting period per week. A short course in the analysis of stresses and proportioning of machine parts, with attention to function and economic factors. Prerequisite: ME31, 32; prerequisite or parallel: ME150. Hassell.

ME116. *Advanced Machine Design.* (3) Two lectures and one drafting period per week. Advanced problems in the design of machines for particular functions. Prerequisite: ME113. Hassell.

ME150, 151, 152. *Engineering Mechanics.* (4-4-4) A. W. S. and S. W. A. Four lectures per week. The principles of statics, stress analysis of engineering structures and materials, introduction to kinetics. Prerequisite: calculus, physics. Hogan, Baker.

ME153, 154. *Materials Testing Laboratory.* (2-2) A. W. and W. S. One laboratory period per week. Written reports are required. Methods and instruments used in the determination of the strength and elastic properties of the ordinary materials of engineering construction. Prerequisite: ME150; parallel: ME151. Hogan.

ME155. *Materials Testing Laboratory.* (2) W. A short course in the methods and instruments used in the determination of the strength and elastic properties of the ordinary materials of engineering construction. One laboratory period per week. Written reports are required. Prerequisite: ME150; parallel: ME151. Hogan.

ME156. *Engineering Mechanics.* (3) Three lectures per week. Kinetics, work, power, energy, efficiency, impulse and momentum. Prerequisite: ME152. Hogan.

ME179. *Advanced Materials Testing.* (Omitted 1945-46.) Hogan.

ME180. *Theory of Elasticity.* (4) Four lectures per week. Advanced study of stress and strain in tension, compression, and torsion. Bending on elastic foundations, combined stress, curved bars, and plates. Prerequisite: ME150, 151, 152, Mathematics 112. Hogan.

ME182. *Vibrations in Structures and Machines.* Four lectures per week. Theory of vibrations in elastic materials. Prerequisite: ME156, Mathematics 112. Hogan.

ME184. *Plastic Flow of Solids.* (Omitted 1945-46.) Hogan.

HEAT POWER ENGINEERING

ME200, 201. *Heat Power Engineering.* (5-5) A. W. Five lectures per week. Elements of thermodynamics as applied to heat engines. Actual efficiency and performance. Properties of fuels, combustion. Properties of vapors, vapor cycles. Prerequisite: calculus, physics. Cope, Carter.

ME202. *Heat Power Engineering.* (3) A. Three lectures per week. A short course on the elements of thermodynamics as applied to heat engines with emphasis on applications. Prerequisite: calculus, physics. Carter.

ME203. *Industrial Fuels and Combustion.* (Omitted 1945-46.) Carter.

ME204. *Instrumentation and Control.* (3) Three lectures per week. Principles of measuring instruments for the metering and control of industrial processes. Prerequisite: ME200. Baker.

ME205. *Heating and Air Conditioning.* (3) Three lectures per week. Heating and cooling loads, insulation, heating and ventilating systems in air conditioning. Prerequisite: ME200, 201. Cope.

ME206. *Refrigeration.* (3) (Omitted 1945-46.) Cope.

ME207. *Advanced Refrigeration.* (Omitted 1945-46.) Cope.

ME209. *Diesel Engines.* (Omitted 1945-46.) Staff.

ME210, 211. *Heat Power Laboratory.* (2-2) W. S. One laboratory period per week. Written reports are required. Methods, instruments, and apparatus used in the testing of heat power equipment. Prerequisite: ME200, 201. Carter.

ME212. *Heat Power Laboratory.* (2) W. One laboratory period per week. Written reports are required. A short course in the methods, instruments, and apparatus used in the testing of heat power equipment. Prerequisite: ME202. Carter.

ME214. *Internal Combustion Engine Laboratory.* (Omitted 1945-46.) Carter.

ME220. *Advanced Heat Power Laboratory.* (1) One laboratory period per week. Written reports are required. Experimental study of heat power equipment, heat transfer, and fluid flow. Prerequisite: ME210, 211. Carter.

ME221. *Thermodynamics.* (4) Four lectures per week. Advanced study of the principles of thermodynamics. Prerequisite: ME200, 201. Cope.

ME222. *Heat Transfer.* (4) Four lectures per week. Study of the laws of heat transfer in radiation, conduction, and convection; industrial applications. Prerequisite: ME200, 201, Mathematics 112. Cope.

ME224. *Internal Combustion Engines.* (4) Four lectures per week. Theory of the internal combustion engine. Analysis of actual cycles. Power and efficiency, calculations for the design of essential parts and accessories. Prerequisite: ME221. Cope.

ME225, 226. *Power Plant Design.* (5-5) W, S. Lectures and drafting. Steam power plant cycles, selection and arrangement of equipment, plant efficiency, cost of power. Elements of Diesel and hydro power plants. Prerequisite: ME200, 201. Hassell.

ME227. *Advanced Power Plant Design.* (4) (Omitted 1945-46.) Hassell.

ME229. *Steam Turbines.* (3) (Omitted 1945-46.) Cope.

AERONAUTICAL ENGINEERING

ME15. *Airplanes and Airplane Engines; Introductory.* (3) Three lectures per week. Elementary principles of flight, airplane construction, and airplane engines. Prerequisite: physics, trigonometry. Baker.

ME250, 251. *Aerodynamics of the Airplane.* (5-5) W, S. Five lectures per week. Dynamics of fluid flow, airfoils, wings and tail surfaces, high lift devices, induced and parasite drag, airplane performance, static and dynamic stability, spinning. Prerequisite: physics, calculus. Baker.

ME252. *Aerodynamic Laboratory.* (2) One four-hour laboratory period per week. Written reports are required. Wind tunnel testing of various types of solid bodies. Prerequisite: ME250, 251. Baker.

ME255. *Airplane Stress Analysis.* (4) (Omitted 1945-46.) Baker.

ME256, 257. *Airplane Design.* (3-4) Lectures and drafting. Design loads, load factors, drafting room practice, preliminary and detail design of airplane structures. Prerequisite: ME255. Baker.

CIVILIAN PILOT TRAINING

CAA Certified Instructors: Associate Professors BAKER, SWIGART.

The University of Utah offers ground school courses for civilian pilots, leading to private and commercial pilot certificates.

ELEMENTARY GROUND SCHOOL COURSE

CPT41. *Meteorology.* (2) Baker.

CPT42. *Navigation.* (2) Baker.

CPT43. *Civil Air Regulations and General Service of Aircraft.* (2).

SECONDARY GROUND SCHOOL COURSE

CPT141. *Aircraft.* (2) Baker.

CPT142. *Aerial Navigation and Radio Code.* (2)

CPT143. *Power Plants (Engines, Propellers, and Accessories).* (2).

MISCELLANEOUS

ME119. *Field Inspection.* (2) A. Inspection of local industrial plants. A written report of each trip is required. Open only to graduating seniors. Cope.

ME120. *Mechanical Engineering Economics.* (3) S. Three lectures per week. Economic considerations governing the choice, application, and use of power in industry. Prerequisite: Economics 1, 2, 3. Hassell.

ME231. *Research in Mechanical Engineering.* Primarily for graduate students. Cope and staff.

ME232. *Plant Design for Chemical Engineers.* (3-3) W. S. Two lectures and one design period per week. Fundamentals of plant design as applied to the chemical industries. Flow diagrams and processes in terms of the selection and arrangement of equipment. Open only to chemical engineers. Hassell.

ME300. *Special Topics.* (2) S. Two recitations per week. A review and comprehensive examination of mechanical engineering. Open only to graduating seniors. Cope and staff.

ME301. *Thesis.* (3) Special problems, designs, or experiments relating to mechanical engineering apparatus and its use. A comprehensive written report is required. Open only to graduating seniors. (Omitted 1945-46.) Cope and staff.

METALLURGICAL ENGINEERING

Professor JOHN R. LEWIS (ES205); *Assistant Professor* JOHNS.

MetE101, 102, 103. *General Metallurgy.* (3-3-3) A. W. S. Fundamental principles and chief practices relating to the production and utilization of metals and alloys. Lewis.

MetE111. *Wet Assaying.* (3) S. Theory and practice of technical analysis of ores and metallurgical products by wet methods. Prerequisite: Chemistry 8. Lewis.

MetE112. *Fire Assaying.* (3) A. Theory and practice of assaying ores and metallurgical products for gold, silver, and other metals by fire methods. Prerequisite: MetE111. Johns.

MetE123. *Metallurgical Analysis and Measurements.* (2) S. Special metallurgical analyses and measurements, including pyrometry, coal and gas analysis, hydrogen-ion determination, etc. Prerequisite: MetE111, 102. Johns.

MetE124. *Principles of Physical Metallurgy.* (3) S. The structure and properties of metals and alloys. A study of equilibrium diagrams and a consideration of the principles of heat treatment, case hardening, cold working, age hardening, etc. Prerequisite: Chemistry 107, MetE103. Lewis.

MetE201, 202. *Advanced Non-Ferrous Metallurgy.* (4-4) A. W. Details and physical chemical principles of pyro-, hydro-, and electro-extractive non-ferrous metallurgical processes. Prerequisite: Chemistry 107, MetE103. Johns.

MetE203. *Advanced Ferrous Metallurgy.* (3) S. Details and physical chemical principles of extractive ferrous metallurgical processes. Prerequisite: MetE202 or Chemistry 107, and MetE103. Lewis.

MetE204, 205, 206. *Metallurgical Calculations.* (2-2-2) A. W. S. Weight and heat balances, electrometallurgical and other calculations relating to metallurgical processes. Lewis.

MetE207, 208. *Ore Dressing.* (3-3) S. A. Methods and principles of preparation and concentration of ores, including crushing, grinding, classification, gravity concentration, flotation, cyanidation, magnetic, and electro-static separation, etc. Two recitations and one laboratory period a week. Prerequisite or parallel: MetE101, 102, 103. Johns.

MetE209. *Advanced Ore Dressing and Mill Design.* (3) W. One recitation and two laboratory periods per week. Prerequisite: MetE208. Johns.

MetE211. *Powder Metallurgy.* (3) Details and principles of producing metals and alloys from powdered metal, alloy, oxides, or salts below the melting point of the product. Prerequisite: MetE103. Johns.

MetE212. *Metallurgical Refractories.* (3) Use, composition, and physical properties of metallurgical refractories. Laboratory: common and standard methods of clay testing. Prerequisite or parallel: MetE102. Johns.

MetE213. *Metallurgy of Secondary Metals.* (2) Treatment of scrap metal, skimmings, drosses, etc., to produce marketable metals and alloys. Prerequisite: Chemistry 107 and MetE103 or 203. Lewis.

MetE222. *Metallurgical Laboratory.* (2) W. Detailed weight and heat balance of a furnace, including the making of all necessary measurements and analyses. Prerequisite: MetE123, 204. Johns.

MetE223. *Metallography and Heat Treatment.* (2) S. A laboratory course in the applications of the microscope to the study of metals, alloys, and other metallurgical products. Prerequisite or parallel: MetE124. Johns.

MetE224, 225, 226. *Senior Thesis.* (1-1-1) A. W. S. Staff.

MetE311. *Microscopy of Non-Opaque Minerals.* (3) The use of binocular and petrographic microscope, to determine properties of non-opaque minerals. Prerequisite: Mineralogy 210. (Omitted 1945-46.)

MetE312, 313. *Ore Dressing Microscopy.* (3-3) Microscopic studies of the physical association of the metallic minerals in complex ores. Prerequisite: Mineralogy 201, 210; MetE208. (Omitted 1945-46.)

MetE430, 431, 432, 433. *Metallurgical Research.* Each graduate student in the department, upon registration, is assigned a problem with a senior investigator under whose direction he is to carry on research work. Credit according to work done.

MetE434, 435, 436. *Graduate Seminar.* (3-3-3) Reports on current literature, special topics, and research work.

MetE437. *Special Topics.* A course for graduate students who wish to pursue intensive work in a limited field. Credit according to work done.

MINING ENGINEERING

Professor R. S. LEWIS (ES318).

MgE71. *First Aid.* (2) Theoretical consideration. Detailed demonstration and practice.

MgE72. *Mine and Rescue Recovery Operations.* (2) Principles and practices. Extensive use is made of the complete modern equipment available through the Health and Safety Division, U. S. Bureau of Mines.

MgE73. *Industrial Hygiene.* (2) Problems of health and safety in industry. The hygiene of the worker in reference to occupational hazards.

MgE100. *Principles of Mining.* (3) A. Prospecting, mining law, shaft sinking, timbering, and explosives. Lewis.

MgE101. *Mining Operations.* (3) W. A study of underground operations. Prerequisite: MgE100. Lewis.

MgE102. *Mining Methods.* (3) S. Mine development, mining methods, and mine valuation. Prerequisite: MgE101. Lewis.

MgE103. *Compressed Air.* (3) S. The application of compressed air to mining operations. Lewis.

MgE104. *Mine Plant Design.* (3) W. Problems in the design of mine plant. Prerequisite: MgE100, 101, 102. Lewis.

MgE105. *Mine Ventilation.* (4) A. A study of mine ventilation including its physiological effects. Lewis.

MgE106. *Coal Mining.* (3) Classification of coals; methods of mining; mine equipment. Lewis.

MgE107. *Coal Mining.* (3) Preparation of coal for the market, mine organization and management. Lewis.

MgE108. *Coal Mining Laboratory.* (1) Sampling coal and rock dust. Coal and gas analysis. Lewis.

MgE109. *Inspection Trips and Reports.* (2) A. Trips to mines near Salt Lake City; a "hard boiled hat" and carbide lamp are required of each student. Lewis.

MgE110. *Thesis.* A. Lewis.

MgE200. *Mine Management.* (3) W. Problems involved in mine management. Prerequisite: MgE100, 101, 102. Lewis.

MgE201. *Supervision and Safety.* (2) W. A study of the principles involved in dealing with and directing workers in industry. Lewis.

MgE202. *Mining Finance.* (3) S. A study of the importance of a proper understanding of the financial condition of a mining company. Lewis.

MgE203. *Mine Valuation.* (3) A. Methods of sampling and valuing mines. Prerequisite: MgE100, 101, 102. Lewis.

MgE300, 301, 302. *Special Investigations or Research Problems.* Credit according to amount of work done.

MgE303, 304, 305. *Special Topics.* A course for those who wish to pursue intensive study in a limited field. Credit according to amount of work done.

Long Trips. Near the close of the senior year students take a required trip to some distant mining center.

MINING AND METALLURGICAL RESEARCH

Professor CENTER (ES211); *Assistant Professor* CRAWFORD.

MMRes 431, 432, 433. *Mining and Metallurgical Research.* A. W. S. Each student in the department, upon registration, is assigned a problem with a senior investigator under whose direction he is to carry on research work. Credit according to work done.

MMRes434, 435, 436. *Seminar.* (1-1-1) A. W. S. Reports on current literature, special topics, and research work.

MMRes437, 438, 439. *Special Topics.* A course for those who wish to pursue intensive study in a special field. Credit according to work done.

THE SCHOOL OF MEDICINE

Accredited by the American Medical Association and the Association of American Medical Colleges.

Administrative Committee: *Professors* C. E. McLENNAN (chairman, Md105), H. L. MARSHALL, C. A. SWINYARD.

ADMISSION

Application for Admission. Students considering the study of medicine at the University of Utah should secure from the Dean of the Medical School an application form. This form, with a complete official transcript of high school and college credits, should then be filed with the Dean not later than six months prior to the expected date of entrance.

Only such students are admitted to the study of medicine as have:

(a) Satisfied the requirements for admission to the University of Utah as stated on pages 76-78 of the University Catalogue.

(b) Completed not less than three years (138 quarter hours) of regular college work in an approved School of Arts and Sciences. The first two years (93 hours) at this institution are to be done in the Lower Division. This work must include Lower Division requirements, catalogue pages 84-86, or their equivalent.

(c) Attained an age of not less than 18 or more than 35 years. Exceptional circumstances must meet the approval of the Admissions Committee.

(d) Attained a scholarship average equal to or in excess of the minimum average required for graduation from the School of Arts and Sciences in which the premedical work is done.

(e) Satisfied the Admissions Committee of the medical faculty as to general qualifications for the study of medicine such as health, personality, industry, willingness to co-operate, and moral character.

Applicants are further required to take the Scholastic Aptitude Test given annually under the direction of the Association of American Medical Colleges.

The medical faculty reserves the right to make changes at any time in the curriculum, requirements for admission, or any rules and regulations, subject to the approval of the University faculty and general University regulations.

Courses Required for Admission. The following courses or their equivalent must be offered as part of the 138 quarter hours required for admission to the Medical School. (Numbers in parentheses indicate the minimum credit hours which must be earned by laboratory work. Elementary courses in physics and chemistry are not acceptable.)

English—12 quarter hours.
Biology—15 quarter hours including:
Invertebrate Zoology—5 quarter hours (2).
Vertebrate Zoology—5 quarter hours (2).
General Embryology—3 quarter hours (1).
General Inorganic Chemistry—10 quarter hours (4).
Qualitative Analytical Chemistry—2 quarter hours (2).
Quantitative Analytical Chemistry—6 quarter hours (3).
Organic Chemistry—10 quarter hours (3).
Physics—12 quarter hours (3).

SUGGESTED PREMEDICAL SCHEDULE

Freshman Year†

(Lower Division)

	A.	W.	S.
English 1, 2, 3	3	3	3
Chemistry 4, 5, 6, (or 1, 2, 11)	5	5	5
*French or German 1, 2, 3	5	5	5
Health Education 1	0	1	0
Orientation	1	0	0
Electives	3	2	3
Physical Education; M. S. & T.	....	....	....
	17	16	16

Sophomore Year†

(Lower Division)

	A.	W.	S.
Zoology 4, 5, 10	5	5	5
*French or German 4, 5	5	5	0
Chemistry 7, 8	3	3	0
*Latin 80, 81	3	3	0
*Mathematics 1	0	0	5
Electives	2	2	8
	18	18	18

Junior Year

	A.	W.	S.
English 21, 22, 23	3	3	3
Physics 11, 12, 13, 14, 15, 16	5	5	5
Chemistry 103, 104, 105	3	3	4
*Biology 106	3	0	0
Electives	4	7	6
	18	18	18

*Not required, but recommended.

†Physical Education (three quarters) or Military Science and Tactics (three quarters) is required of all freshman men. For the duration of the war both subjects are required, and sophomore men must take Physical Education. Corresponding additions must be made to the schedule shown. Physical Education (three quarters) is required of freshman women.

To satisfy requirements of the baccalaureate degrees the student should elect twelve hours in social science.

The student who finds it possible to spend a fourth year in preparation for medicine may considerably lighten this schedule and profit by securing a Bachelor of Arts or Bachelor of Science degree. Recognizing the widening public cultural and educational interest of medicine, the Advisory Council on Medical Education, the Association of American Medical Colleges, and other agencies interested in medical education recommend that "the college preparation for medical students above the necessary grasp of the fundamental principles of biology, physics and chemistry should be devoted to general education rather than additional forms of professional education."

WARTIME PROGRAM OF INSTRUCTION

To help meet the needs of the armed forces for physicians during the war emergency, the Medical School, in accordance with the recommendation of the American Association of Medical Colleges, has adopted an accelerated program of instruction.

This acceleration results in the graduation of the student at an earlier date without diminishing the time he spends in residence in the School. The acceleration is effected by eliminating summer vacations and makes possible graduation in three calendar years from the time of admission. The next class will enter September, 1945.

ADMISSION REQUIREMENTS FOR ARMY (ASTP) AND NAVY (V-12) STUDENTS

As of May, 1943, the Board of Regents of the University of Utah entered into a contract with the U. S. Army and with the U. S. Navy, whereby the University Medical School would contribute its faculty and facilities to the training of the medical students under the Army Specialized Training Program and the Navy V-12 Program.

Until the termination of this contract the University of Utah Medical School will accept those students in either Army or Navy training programs who have completed the following premedical curricula established under the Army Specialized Training Program (ASTP) and the Navy (V-12) Program.

Army Premedical Curriculum

First Term:

SUBJECT		Total Hours Per Week†	Required Distribution: Class	Laboratory
Mathematics	AST 406	6	6	0
Physics	AST 304	7	4	2(1*)
Chemistry	AST 205	3	3	0
English	AST 111	3	3	0
History	AST 133	3	3	0
Geography	AST 163	2	2	0
		24	21	3

*One hour for writing reports.
†Required by contract.

SUBJECT		Total Hours Per Week†	Required Distribution: Class	Laboratory
Second Term:				
Mathematics	AST 407	5	5	0
Physics	AST 305	7	4	2(1*)
Chemistry	AST 206	6	2	4
English	AST 111	2	2	0
History	AST 133	2	2	0
Geography	AST 163	2	2	0
		24	17	7
Third Term:				
Qualitative Analysis	AST 211	9	3	6
Physics	AST 306	7	4	2(1*)
Biology	AST 951	7	3	4
English	AST 111	2	2	0
History	AST 133	2	2	0
Geography	AST 163	2	2	0
		29	16	13
Fourth Term:				
Organic Chemistry	AST 261	9	3	6
Biology	AST 952	7	3	4
English	AST 112	2	2	0
Psychology	AST 904	4	4	0
Selected Courses[a]	AST	6	6	0
		28	18	10
Fifth Term:				
Organic Chemistry	AST 262	9	3	6
Comparative Anatomy or Embryology	AST 953 or AST 954	7	3	4
English	AST 113	2	2	0
Psychology	AST 905	4	4	0
Selected Courses[a]	AST	6	6	0
		28	18	10

† Required by contract.

a1. French, German, Spanish for students who have studied one of these in high school or college—must continue in 5th Term.
2. Economics—must continue in 5th Term.
3. Public administration.
4. Quantitative analysis.
5. Physical chemistry.
*One hour for writing reports.

Navy Premedical Curriculum

First College Year:

	Periods Per Week: 1st Term	2nd Term
Chemistry I, II (C1, 2)	4 (6)	4 (8)
Physics I, II (PH1, 2)	4 (6)	4 (6)
Mathematical Analysis I or III, II or IV (M1 or 3, 2 or 4)	5* (5)	5* (5)
Modern foreign language I, II (L1, 2)	3 (3)	3 (3)
Naval organization I, II (N1, 2)	1 (1)	1 (1)
	17 (21)	17 (23)
Physical training	18 (9½)	17 (8½)
	35 (30½)	34 (31½)

Second College Year:

	Periods Per Week: 1st Term	2nd Term
Chemistry III, quantitative analysis (C3)	4 (8)	
Organic chemistry I (C4)		4 (8)
Biology I, II (B1, 2)	4 (8)	4 (8)
Modern foreign language III, IV (L3, 4)	3 (3)	3 (3)
English I, II (E1, 2)	3 (3)	3 (3)
Historical background of present war I, II (H1, 2)	2 (2)	2 (2)
Psychology I, general (PS1)	2 (2)	2 (2)
	18 (26)	18 (26)
Physical training	17 (8½)	17 (8½)
	35 (34½)	35 (34½)

Third College Year:

	Periods Per Week: 1st Term
Biology III, embryology, or Biology IV, comparative anatomy (B3 or 4)	5 (9)
Organic chemistry II (C5)	4 (8)
Modern foreign language V or VI (L5 or 6)	3 (3)
Psychology II, abnormal (PS2)	3 (3)
Elective	3 (3)
	18 (26)
Physical training	17 (8½)
	35 (34½)

Figures in parentheses indicate contact hours per week in class and laboratory.

Figures outside parentheses indicate number of meetings per week in class and laboratory.

*Mathematical Analysis I and II: a combination course in mathematical analysis for students entering with two units or less in mathematics. Mathematical Analysis III and IV: algebra, trigonometry, and analytic geometry, or analytic geometry and calculus for students entering with 2½ or more units in mathematics.

GENERAL REGULATIONS

Admission to Advanced Standing. Students from other approved medical schools may be admitted to advanced standing on approval of the Admissions Committee, provided that their work preparatory to entrance upon the medical course meets the following requirements:

1. Only applicants of high scholarship will be admitted to advanced standing.

2. Applicants must have completed courses equivalent to those that have been completed by the class which they expect to enter.

3. Credit for advanced standing will be given only for work done in an approved medical school, except that, on the recommendation of the department concerned, a student who has completed the subject matter of a given course in other than an approved medical school may be permitted to satisfy the requirements of that course by registering and earning credit for an equivalent number of hours of advanced work in the same subject.

4. An applicant for admission to advanced standing may, on the recommendation of the department concerned, be required to pass an examination on the subject matter of any course for which advanced standing is requested.

Unclassified Students. Unclassified students and non-medical students may be admitted to any course upon complying with the regular requirements for admission to that course. Work taken in this way will not be counted as a part of the time allotted to the regular medical course.

Size of Classes. Classes in the Medical School are limited to approximately forty-five students each.

Scholarship. In the preclinical departments a student's work is graded on the basis of "A," "B," "C," and "D," as passing marks. "A" denotes distinctive work; "B" work above average; "C" average; and "D" below average. "Con," condition, indicates work not passing but of such nature that credit with a grade not higher than "C" may be obtained by re-examination or completion of designated work. The mark "I," incomplete, is given only when the student has been unable to complete the work because of circumstances beyond his control. "E," failed, indicates work of such nature that the student will be required to repeat it in regular courses.

In the clinical courses the following method of grading students is used:

In the sophomore year tentative grades of "Passing" or "Not Passing" are given at the end of the first and second quarters. A final grade (A, B, C, D, E, I, Con) which supersedes all previous tentative grades is given at the end of the third quarter.

In the junior and senior year tentative letter grades (A, B, C, D, E, I, Con) are given at the end of the quarter for each subject

for which the student is registered. At the end of the academic year a final grade is given which supersedes all tentative grades previously reported.

Promotion. A student must maintain a "C" average or its equivalent before he may be promoted to the next year.

A student whose conduct or scholarship record is of such nature as to make it inadvisable in the judgment of the medical faculty that he continue in the medical course may, on recommendation of the medical faculty, be dismissed from the Medical School.

Attendance. Medical students must be in attendance in 80 percent of the regularly scheduled exercises of any course in order to earn credit in that course.

GRADUATION

Requirements for the Bachelor's Degree. Candidates for the degree of Bachelor of Arts or Bachelor of Science in the School of Arts and Sciences with a major in Basic Biological Sciences, must complete a minimum of 183 hours of approved work, including the work done in the Lower Division. The total must include 12 hours in each of the four groups of classified subjects (Catalogue pages 84-86). Three years' approved work in the premedical curriculum plus the first year in the medical course meet the requirements of the major.

Requirements for the Degree of Doctor of Medicine. Candidates for the degree of Doctor of Medicine must complete 12 quarters in an officially approved medical school and must have passed successfully all of the courses required by this medical school. At least the last year must be spent in residence at the University of Utah Medical School.

EDUCATIONAL POLICIES AND PLAN OF INSTRUCTION

The School of Medicine is divided into eleven major departments, six of which are primarily concerned with the sciences underlying clinical medicine. They are Anatomy, Biochemistry, Physiology, Pharmacology, Bacteriology, and Pathology. Five departments have as their major functions, maternity care and the study, treatment, and prevention of human disease. These are Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, and Preventive Medicine and Public Health. The heads of these major departments, together with the President of the University and the Dean of the Medical School, constitute the Executive Faculty which acts in an advisory capacity on the educational policies of the Medical School.

The course of study is planned around the needs of the student rather than around the several departments. Every attempt has been made to correlate the teaching of subjects catalogued in different departments and to avoid rigid separation between preclinical and clinical subjects.

The first year is devoted to courses in Anatomy, Biochemistry, and Physiology. In Anatomy constant effort is made to correlate the several courses with each other and to emphasize the functional approach. Biochemistry and Physiology stress the fundamental principles of the subject and relate these to their clinical application.

In the second year, courses in Pharmacology, Pathology, and Bacteriology are given. These courses provide the students with an adequate background for the introductory courses in Physical Diagnosis, Medicine, Surgery, Pediatrics, and Obstetrics given in the latter part of the second year.

The clinical courses have been arranged with three principal objects in view. First, the student's attention is directed to the fundamental concepts of disease, and these are correlated with the fields of physiology, biochemistry, and pathology. Second, he is given training in accepted technical methods, including history taking, physical examination, laboratory examinations, and various special technical procedures. Third, his attention is directed to the patient as an individual problem, and the principles of diagnosis are brought out in relation to the patient himself. At the same time the particular needs of the individual human being and his peculiar reactions to the disease from which he suffers are considered. Treatment is developed in relation to problems as they arise. The work is essentially practical, and instruction is in small groups as far as possible.

The third year is essentially an in-patient clerkship in which the class is divided into small groups, and students are assigned patients for study. The student is responsible for the patient's history, physical examination, and the laboratory work necessary to make the diagnosis. He follows the patient carefully throughout his period of hospitalization. Each student's work is carefully checked by the clinical staff during ward rounds and in conferences. In addition to this clerkship, each clinical department gives additional didactic courses and clinics for the entire class.

The work of the fourth year is designed to bring the student into contact with medical problems as they are encountered in a clinical practice and to give further training in specialized phases of medicine. The courses given by the several clinical departments are closely correlated. The student is expected not only to read textbooks but to consult the original literature and monographs bearing on the problems he encounters.

The class is divided into three groups. The schedule is so arranged that each quarter one of these groups in rotation is on special assignment in full time residence at a number of special hospitals near Salt Lake City, while the other two groups work in the out-patient department. Qualified and selected students may elect to do one quarter of special work in any department of the school in lieu of the rotating assignment.

Each senior student is required to designate a field of special interest, clinical or preclinical, and must attend the seminars and clinics arranged by that department.

In the following pages the course of study is set forth in detail by departments.

SUMMARY OF HOURS OF WORK IN REQUIRED COURSES

FIRST YEAR

Subject	Clock Hours 1st Quar.	2nd Quar.	3rd Quar.	Total
Required Courses				
Gross Anatomy	176	154	0	330
Histology	88	66	0	154
Neurology	0	0	99	99
Biochemistry	176	88	0	264
Physiology	0	88	176	264
	440	396	275	1111
Elective Courses				
Electives	77	110	154	341

Embryology is required for admission; lectures on Embryology and developmental anomalies are included in Gross Anatomy.

SECOND YEAR

Subject	Clock Hours 1st Quar.	2nd Quar.	3rd Quar.	Total
Required Courses				
Bacteriology	99	99	0	198
Pharmacology	132	66	0	198
Pathology (a)	88	132	143	363
Medicine 200	0	33	66	99
Surgery 200	0	11	33	44
Obstetrics 200	0	0	22	22
Pediatrics 200	0	0	22	22
Public Health 200	0	0	33	33
	319	341	319	979
Elective Courses				
Electives (b)	165	143	165	473

(a) Including 11 hours C.P.C. required during the third quarter.
(b) Including 5 early morning clinics in the third quarter.

THIRD YEAR

Subject	Clock Hours						
	1st Quar.		2nd Quar		3rd Quar.		Total
Medicine 300	Lec.	Clin.	Lec.	Clin.	Lec.	Clin.	
Lectures and Demonstrations	33		22		22		77
Medical Clinics	11		11		11		33
In-patient Clerkship (One-third of class each quarter)						308	308
Surgery 300							
General Surgery	22		22		11		55
Orthopedics and Fractures	11		11				22
Genitourinary Surgery					11		11
Otolaryngology	6						6
Ophthalmology			11				11
Neurosurgery			5				5
Thoracic Surgery			5				5
Anesthesiology	6						6
In-patient Clerkship (One-third of class each quarter)				308			308
Pathology 300							
Clinical Pathological Conferences	11		11		11		33
Pediatrics 300							
Pediatrics and Contagious Diseases	11		11		11		33
Pediatric Clerkship (One-third of class for one-half quarter)		154					154
Obstetrics and Gynecology 300							
Obstetrics—Lectures	11		11		11		33
In-patient Clerkship (One-third of class for one-half quarter)		154					154
Total	430		428		396		1254

FOURTH YEAR

Subject		Clock Hours				
		1st Quar.	2nd Quar.	3rd Quar.	Totals Reg.	Alternative with Elective
Anat. Elective	402.....			(374) *		
Bact. Elective	402.....			(374)		
Biochem. Elective	402.....			(374)		
Med. O.P.D. & Rotation	400.....	154	154	154	462	
Med. O.P.D.	401.....	(154)	(154)			308
Med. Elective	402.....			(374)		
Obs.-Gyn. O.P.D. & Rotation	400.....	44	44	44	132	
Obs.-Gyn. O.P.D.	401.....	(44)	(44)			88
Obs.-Gyn. Elective	402.....			(374)		
Path. Elective	402.....			(374)		
Ped. O.P.D. & Rotation	400.....	44	44	44	132	
Ped. O.P.D.	401.....	(44)	(44)			88
Ped. Elective	402.....			(374)		
Pharmacology Elective	402.....			(374)		
Physiology Elective	402.....			(374)		
Pub. Health Lect., etc. & Rotation	400.....	36	48	48	132	
Lect., etc.	401.....		(48)	(48)		96
Elective	402.....	(374)				
Surgery-O.P.D. & Rotation	400.....	110	110	110	330	
Surgery-O.P.D.	401.....	(110)	(110)			220
Surgery Elective	402.....			(374)		374
					1188	1174

*The figures in parentheses represent the time spent in alternative courses taken with an elective.

FIRST YEAR DAILY SCHEDULE

FIRST QUARTER

Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-9	Anatomy 103 Lecture	Anatomy 103 Lecture	Anatomy 103 Lecture	Anatomy 103 Lecture	Histology 110 Lecture	Histology 110 Lecture
9-12	Anatomy 103 Laboratory	Anatomy 103 Laboratory	Anatomy 103 Laboratory	Anatomy 103 Laboratory	Histology 110 Laboratory	Histology 110 Laboratory
1-2	Biochemistry 108 Lecture	Biochemistry 108 Lecture	Biochemistry 108 Lecture	Elective	Biochemistry 108 Lecture	
2-5	Biochemistry 108 Laboratory	Biochemistry 108 Laboratory	Biochemistry 108 Laboratory	Elective	Biochemistry 108 Laboratory	

SECOND QUARTER

8-9	Anatomy 104 Lecture	Anatomy 104 Lecture	Anatomy 104 Lecture	Anatomy 104 Lecture	Biochemistry 109 Lecture	Histology 111 Lecture
9-12	Anatomy 104 Laboratory	Anatomy 104 Laboratory	Anatomy 104 Laboratory	Elective	Biochemistry 109 Laboratory	Histology 111 Laboratory
1-2	Physiology 100 Lecture	Biochemistry 109 Lecture	Histology 111 (1-3)	Physiology 100 Lecture	Elective	
2-5	Physiology 100 Laboratory	Biochemistry 109 Laboratory	Elective	Physiology 100 Laboratory	Elective	

THIRD QUARTER

8-9	Physiology 101 Lecture	Neuroanatomy 114 Lecture	Physiology 101 Lecture	Neuroanatomy 114 Lecture	Physiology 101 Lecture	Physiology 101 Lecture
9-12	Physiology 101 Laboratory	Neuroanatomy 114 Laboratory	Physiology 101 Laboratory	Neuroanatomy 114 Laboratory	Physiology 101 Laboratory	Physiology 101 Laboratory
1-2	Neuroanatomy Lecture	Elective	Elective	Elective	Elective	
2-5	Elective					

SECOND YEAR DAILY SCHEDULE

FIRST QUARTER

Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-9	Bacteriology 205	Pharmacology 200 Lecture	Bacteriology 205	Pharmacology 200 Lecture	Bacteriology 205	Pharmacology 200 Lecture
9-12	Lecture (9-10) Laboratory (10-12)	Pharmacology 200 Laboratory	Lecture (9-10) Laboratory (10-12)	Pharmacology 200 Laboratory	Lecture (9-10) Laboratory (10-12)	Pharmacology 200 Laboratory
1-2	Elective	Pathology 201 Lecture	Elective	Pathology 201 Lecture	Elective	
2-5	Elective	Pathology 201 Laboratory	Elective	Pathology 201 Laboratory	Elective	

SECOND QUARTER

8-9	Bacteriology 206	Pharmacology* 201 Lecture	Bacteriology 206	Pharmacology* 201 Lecture	Medicine 200 Lecture	Pharmacology 201 Lecture
9-12	Lecture (9-10) Laboratory (10-12)	Pharmacology 201 Laboratory	Lecture (9-10) Laboratory (10-12)	Pharmacology 201 Laboratory	Medicine 200 Laboratory	Pharmacology 201 Laboratory
1-2	Pathology 202 Lecture	Elective	Pathology 203 Lecture	Pathology 203 Lecture	Surgery 200 Lecture	
2-5	Pathology 202 Laboratory	Elective	Pathology 203 Laboratory	Pathology 203 Laboratory	Bacteriology 206 Lecture (2-3) Laboratory (3-5)	

*First half of quarter, Pharmacology; last half, elective.

THIRD QUARTER

Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-9	Clinic	Clinic	Clinic	Clinic	Clinic	
9-10	Surgery 200	Radiology	Surgery 200	Pediatrics 200	Medicine 200	Pediatrics 200
10-11	Medicine 200	Surgery 200	Medicine 200	Obstetrics 200	Medicine 200	Obstetrics 200
11-12		Public Health 200		Public Health 200	Medicine 200	Public Health 200
1-2	Pathology 204 Lecture	Pathology 205 Lecture	Elective	Pathology 205 Lecture	Clinical	
2-5	Pathology 204 Laboratory	Pathology 205 Laboratory	Elective	Pathology 205 Laboratory	Pathological Conference	

THIRD YEAR DAILY SCHEDULE

EVERY QUARTER

8:00-9:00	Surgery 300 Clinic	Medicine 300b Clinic	Obstetrics 300 Clinic	Pediatrics 300 Clinic	Advanced Clinical Medicine 400 Correlative Clinic	Medicine 300a* Lecture
9:00-10:00	Medicine 300a Lecture	Surgery 300 Lecture	Pediatrics 300 Lecture	Medicine 300a Lecture	Surgery 300 Lecture	Obs. Gyn. 300 Lecture
10:00-12:00	Clerkship	Clerkship	Clerkship	Clerkship	Clerkship	Clerkship
1-00:4:00	Clerkship	Clerkship	Clerkship	Clerkship	Clinical	
4:00-5:00					Pathological Conference	

*Replaced by Surgery 300, second and third quarters.

FOURTH YEAR DAILY SCHEDULE

EVERY QUARTER*

Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:00-9:00	Surgery 400 Clinic	Medicine 400 Clinic	Obstetrics 400 Clinic	Pediatrics 400 Clinic	Correlative Clinic	
9:00-12:00	Outpatient Department	Outpatient Department	Outpatient Department	Outpatient Department	Outpatient Department	Outpatient Department
1:00-4:00	Outpatient Department	Outpatient Department	Outpatient Department	Outpatient Department	Outpatient Department	
4:00-5:00	Public Health 403		Public Health 403	Public Health 403	Clinical Pathological Conference	

*The senior class is divided into three groups. The schedule is so arranged that each student spends two quarters in outpatient work and one quarter on rotating assignment.

EVERY QUARTER†

Rotating full time assignment. (28 hours weekly).

Tuberculosis Sanatorium, two weeks.

State Psychiatric Hospital, four weeks (to include weekly visits to American Fork State Training School).

State Health Department, one week.

Emergency Department Salt Lake General Hospital, Bingham or Bushnell (by arrangement), 2 weeks.

†Qualified and selected students may elect to register for special work in any department of the school in lieu of the rotating assignment. Such students register for elective course number 402 in any department selected.

COURSES OF INSTRUCTION

ANATOMY

Professors FREUDENBERGER (Md300), C. A. SWINYARD; *Associate Professor* HASHIMOTO; *Lecturer* LECOMPTE.

REQUIRED COURSES

(First Year)

Anatomy 103. *Gross Anatomy of the Thorax, Upper Extremities, Head, and Neck.* (8) First quarter. Four lecture-quiz-demonstration hours and 12 laboratory hours per week. Lectures on embryology with emphasis on developmental anomalies are included. Swinyard, Hashimoto, Freudenberger, LeCompte.

Anatomy 104. *Gross Anatomy of the Abdomen and the Lower Extremities.* (7) Second quarter. Four lecture-quiz-demonstration hours and 9 laboratory hours per week. Lectures on development anatomy are included. Swinyard, Hashimoto, Freudenberger.

Anatomy 110. *Histology.* (4) Second quarter. A continuation and introduction to organology. Two lectures and six laboratory hours per week. Freudenberger.

Anatomy 111. *Histology.* (4) Second quarter. A continuation of the study of microscopic anatomy begun in Anatomy 110. One lecture and three laboratory hours per week. Freudenberger.

Anatomy 114. *Neurology.* (5) Third quarter. A gross and microscopic study of the brain, spinal cord, and sense organs. Three lectures and six laboratory hours per week. Prerequisite: Anatomy 111. Swinyard, Freudenberger.

ELECTIVE COURSES

Anatomy 215. *Seminar in Neurology.* Any quarter. A study of the literature on selected phases of human neurology. Prerequisite: Anatomy 114. Hours and credit arranged. Swinyard, Freudenberger.

Anatomy 218. *Prosection.* Any quarter. Preparation of special dissections to be used for demonstrations in gross anatomy. Prerequisite: Anatomy 103, 104. Hours and credit arranged. Swinyard, Hashimoto.

Anatomy 220. *Seminar.* (1) Any quarter. A study of current problems in Anatomy and related subjects. Registration requires departmental approval. Staff.

Anatomy 225. *Research.* Any quarter. Hours and credit arranged. Staff.

Anatomy 402. *Senior Elective.* (17) Any quarter. Hours arranged. Staff.

BACTERIOLOGY

Professor GEBHARDT (Md107b); *Associate Professor* MATSON†; *Assistant Professor* CLAPPER.

REQUIRED COURSES

(Second Year)

Bacteriology 205. *Medical Bacteriology.* (5) First quarter. A survey of fundamental principles of bacteriology and immunology and beginning pathogenic bacteriology. Three lectures and three laboratory periods a week. Gebhardt, Clapper.

Bacteriology 206. *Medical Bacteriology.* (5) Second quarter. A continuation of Bacteriology 205. Pathogenic micro-organisms and filterable viruses; bacteriological laboratory diagnosis and practical immunological and serological diagnostic procedures. Gebhardt.

ELECTIVE COURSES

Bacteriology 207. *Medical Mycology.* (1) Any quarter. Discussions and demonstrations of pathogenic molds and yeasts. Staff.

Bacteriology 402. *Advanced Clinical Bacteriology and Research Problems.* (17) Any quarter. Limited to four students. Staff.

BIOLOGICAL CHEMISTRY

Professors SAMUELS (Md411), GOLDTHORPE; *Instructor* KOHNHORST; *Assistants* TIPPIT, YAMASHIRO.

REQUIRED COURSES

(First Year)

Biochemistry 108. *General Biochemistry.* (8) First quarter. The chemistry of the cell. Lectures and laboratory. Staff.

Biochemistry 109. *General Biochemistry.* (4) Second quarter. Chemistry of enzymes, digestion, metabolism, and excretion. Lectures and laboratory. Staff.

ELECTIVE COURSES

Biochemistry 110a, 110b, 110c. *Advanced Biochemistry.* (2-4) Any quarter. A seminar course in which the biochemistry of different important groups of compounds is considered. Staff.

Biochemistry 111a, 111b, 111c. *Analytical Biochemistry.* (3-5) Any quarter. A course in the newer techniques of importance to biochemistry. Staff.

Biochemistry 212. *Biochemistry Journal Club.* (1) Any quarter. Important articles in current journals are reviewed and discussed. Staff.

†On leave of absence with the armed forces.

Biochemistry 214. *Biochemical Preparations.* Any quarter. Credit arranged. Prerequisite: Biochemistry 109. Staff.

Biochemistry 216. *Research.* Any quarter. Credit arranged. Staff.

Biochemistry 218. *Seminar.* (1) Any quarter. Staff.

Biochemistry 402. *Senior Elective.* (17) One quarter. Research and seminars. Staff.

MEDICINE

Professor WINTROBE (Salt Lake County General Hospital); *Associate Clinical Professors* M. L. ALLEN, BAILEY, PEARSALL, R. T. RICHARDS, TYNDALE; *Assistant Professor* JAGER; *Assistant Clinical Professors* BAUERLEIN, J. Z. DAVIS, HIBBARD, C. RICH, D. YOUNG; *Lecturers* JELLISON, LLEWELLYN, VIKO; *Instructors* CLAUSEN, HECHT; *Clinical Instructors* HENINGER, MOENCH, RAMSEY; *Resident Instructor* CARTWRIGHT; *Resident Assistant* FIRESTONE; *Clinical Assistants* BARRET, CANNON, CORNWALL, M. MCLENNAN, MOFFITT.

REQUIRED COURSES

(Second Year)

Medicine 200. (9) *a. Introduction to History Taking and Physical Examination.* First quarter. General principles of medical technique with special reference to physical diagnosis. Lectures, demonstrations, and practical instruction in physical diagnosis; normal physical signs. One hour weekly. Viko and staff.

b. Introduction to Clinical Medicine. First quarter. A series of case demonstrations to illustrate some of the more common diseases. One hour weekly. Tyndale.

c. Practical Instruction in Physical Diagnosis. Second and third quarters. Practice in obtaining a history of the patient's illness and in the detection of abnormal physical signs. Small groups of students at the Salt Lake County General Hospital and other hospitals. Three hours weekly. Hecht, Clausen, and staff.

d. Pathological Physiology. Third quarter. A series of lectures correlating the fundamentals of physiology, biochemistry, and pathology with clinical medicine. Two hours weekly.
Wintrobe, Jager, Clausen, Hecht, and staff.

e. Radiology. Third quarter. An introductory course in radiology. One hour weekly. Allen and staff.

f. Orientation to Medicine. Third quarter. The history of medicine, use of a library and current literature, the approach to the patient, and related subjects. One hour weekly.
Wintrobe, Richards, Young, and staff.

(Third Year)

Medicine 300. (18) Every quarter. *a. Lectures and Demonstrations in Clinical Medicine, including Neuropsychiatry and Derma-*

tology. A systematic discussion of the more important diseases including certain tropical diseases. Three hours weekly first quarter, two hours weekly second and third quarters.
Wintrobe, Bailey, Pearsall, Tyndale, Jager, Davis, Young, Bauerlein, Rich, Clausen, Hecht, and staff.

b. Medical Clinics. First, second, and third quarters. One hour weekly. Wintrobe, Jager, Clausen, Hecht, and staff.

c. Clinical Clerkship. Work on the wards of the Salt Lake County General Hospital. Case work and ward rounds. One third of the class each quarter, full time except for clinics and lectures scheduled in other departments between 8 and 10 A. M.
Wintrobe, Bailey, Tyndale, Viko, Jager, Bauerlein, Davis, Clausen, Hecht, and staff.

Included in the Clinical Clerkship are the following special classes and seminars:

Clinical Hematology. Presentation of cases, together with examination of blood and bone marrow. Technique and interpretation. Every quarter, three hours weekly. Wintrobe and staff.

Electrocardiography. Study of electrocardiographic records. One hour weekly. Hecht and staff.

Therapeutic Rounds. A discussion of therapeutic problems relating to cases seen on the wards; in conjunction with the Department of Pharmacology. One hour weekly.
Goodman, Hecht, Clausen, and staff.

Parasitology. Lectures and practical work in tropical medicine and the recognition of parasites. Three hours weekly. Davis and staff.

Special Ward Rounds. Ward rounds with house staff. Ward procedures and techniques, management of patients, and related subjects. Two hours weekly. Assistant Residents.

Psychosomatic Rounds. A discussion of psychosomatic problems as they arise on the wards. Two hours every two out of three weeks. Young.

(Fourth Year)

Medicine 400. (21) Outpatient work, clinics, seminars, and other assigned exercises, two quarters; and during a third quarter, four weeks' full time work at the State Psychiatric Hospital (Provo) and two weeks' full time work at the Tuberculosis Sanatorium (Ogden).

Medicine 401. (14) Outpatient work, etc., two quarters.

ELECTIVE COURSES

Medicine 402. *Senior Elective.* (17) One quarter. Advanced work in medicine. Open to qualified and selected students only.

Medicine 403. *Advanced Electrocardiography.* (1) One quarter. One hour weekly. By arrangement. Hecht and staff.

Medicine 404. *Seminar on Heart Disease.* (1) One quarter. One hour weekly. By arrangement.
Wintrobe, Jager, Clausen, Hecht, and staff.

Medicine 405. *Journal Club* (1) Every quarter, fortnightly, two hours. A discussion of current literature. For the staff and a limited number of senior students. Wintrobe and staff.

OBSTETRICS AND GYNECOLOGY

Professor McLENNAN (Salt Lake County General Hospital); *Associate Professor* HOLMSTROM; *Assistant Clinical Professors* WARD, WHERRITT, SANDERS; *Lecturer* WOOLSEY; *Clinical Instructors* CHRISTENSEN, J. H. JONES, D. R. SKIDMORE, L. SMITH; *Resident Assistant* BINGHAM.

REQUIRED COURSES

(Second Year)

Obstetrics—Gynecology 200. *Lectures; Normal Obstetrics and Gynecology.* (2) Third quarter. Physiology of menstrual cycle and pregnancy, mechanism of labor, embryology, etc.; minor complications of pregnancy and gynecologic diseases. McLennan, Holmstrom.

(Third Year)

Obstetrics—Gynecology 300. (9) *a. Gynecology and Abnormal Obstetrics.* One lecture per week for three quarters. Assigned reading. Continuation of Obstetrics-Gynecology 200.
McLennan, Holmstrom.

b. In-patient Clerkship. One-sixth of class for one-half quarter. Ward and laboratory work, including supervised care in labor and delivery, rounds, departmental staff meetings, daily seminars and rotating 24-hour call for lying-in patients. Staff.

(Fourth Year)

Obstetrics-Gynecology 400. (6) Out-patient work, clinics, seminars and other assigned exercises, two quarters; during the third quarter, two weeks as substitute intern at Dee Hospital, Ogden.

Obstetrics-Gynecology 401. (4) Out-patient work, etc., two quarters.

ELECTIVE COURSE

Obstetrics-Gynecology 402. *Senior Elective.* (17) One quarter. Advanced work open to qualified students only (by special arrangement).

PATHOLOGY

Professor GUNN (Md112); *Assistant Professor* CARLQUIST; *Instructor*.....; *Lecturer* QUEEN.

REQUIRED COURSES

(Second Year)

Pathology 201. *General Pathology.* (4) First quarter. Two lectures and two laboratory periods per week. Staff.

Pathology 202. *Pathology of Neoplasms.* (2) Second quarter. One lecture and one laboratory period per week. Staff.

Pathology 203. *Special Pathology.* (4) Second quarter. Two lectures and two laboratory periods per week. Staff.

Pathology 204. *Special Pathology.* (2) Third quarter. Continuation of 203. One lecture and one laboratory period per week. Staff.

Pathology 205. *Clinical Pathology.* (4) Third quarter. Clinical diagnosis by laboratory methods. Two lectures and two laboratory periods per week. Staff.

Post-mortem examinations and demonstrations of surgical material are given throughout the year in connection with these courses.

(Third Year)

Pathology 300. *Clinical Pathological Conference.* (1) Every quarter. Weekly conferences correlating pathological physiology, pathological anatomy, diagnosis and treatment of selected cases. One hour weekly. Pathology and Clinical Staffs.

ELECTIVE COURSE

Pathology 402. *Senior Elective.* (17) Advanced pathology; open to qualified and selected students only.

PEDIATRICS

Professor J. A. ANDERSON (Salt Lake County General Hospital); *Associate Clinical Professors* MURPHY, E. H. SMITH; *Assistant Professor* R. H. ALWAY; *Assistant Clinical Professors* L. P. RASMUSSEN, ROSS, W. R. YOUNG; *Clinical Instructors* S. C. ALWAY, KRIETE, MASON, S. SNOW; *Resident Assistants* H. RICH, R. SLEETER.

REQUIRED COURSES

(Second Year)

Pediatrics 200. (2) *a. Introduction to Pediatrics.* Third quarter. One hour lecture per week. Anderson, Alway, and staff.

b. Physical Diagnosis in Pediatrics. Clinics on physical diagnostic procedures used on infants and children. One hour weekly. Anderson and staff.

(Third Year)

Pediatrics 300. (9) *a. Pediatrics and Contagious Disease.* Every quarter. One hour per week. Anderson, Alway, and staff.

b. Pediatric In-patient Clerkship. Every quarter. Demonstrations, case assignments, and laboratory work associated with hospitalized cases. One-sixth of the class for one-half quarter. Alway and staff.

(Fourth Year)

Pediatrics 400. (6) Out-patient work, clinics, seminars, and other assigned exercises, two quarters; and during a third quarter assigned work at the State Training School (American Fork) and the Dee Hospital (Ogden).

Pediatrics 401. (4) Out-patient work, etc., two quarters.

ELECTIVE COURSES

Pediatrics 402. *Senior Elective.* (17) One quarter. Advanced work in Pediatrics. Open to qualified and selected students only. (Not offered during 1945-46.)

Pediatrics 403. *Seminar in Pediatrics.* (1) Every quarter. One hour weekly.

PHARMACOLOGY

Professor GOODMAN (Md210); *Assistant Professor* SAYERS; *Instructor* NICKERSON; *Lecturer* E. A. SWINYARD; *Research Assistant* M. SAYERS.

REQUIRED COURSES

(Second Year)

Pharmacology 200. *Pharmacodynamics and Pharmacological Basis of Therapy.* (6) First quarter. Goodman, Sayers, Nickerson.

Pharmacology 201. *Pharmacodynamics and Pharmacological Basis of Therapy.* (2) Second quarter. Goodman, Sayers, Nickerson.

ELECTIVE COURSES

Pharmacology 202. *Advanced Studies in Pharmacology.* Credits and hours to be arranged. Staff.

Pharmacology 204. *Research in Pharmacology.* Credits and hours to be arranged. Staff.

Pharmacology 206. *Journal Club.* Credits and hours to be arranged. Staff.

Pharmacology 208. *Research Seminar.* Credits and hours to be arranged. Staff.

Pharmacology 402. *Senior Elective.* (17) One quarter advanced work and research in Pharmacology. Staff.

PHYSIOLOGY

Professors.....( ), FENNING; *Assistant Professor* TOMAN, *Instructor* MOTT.

REQUIRED COURSES

(First Year)

Physiology 100. *Fundamentals of Human Physiology.* (4) Second quarter. Two lectures and two laboratory periods weekly. Fenning, Toman.

Physiology 101. *Fundamentals of Human Physiology.* (8) Third quarter. Four lectures and four laboratory periods weekly. Fenning, Toman.

ELECTIVE COURSES

Physiology 202. *Advanced Studies in Physiology.* Credits and hours to be arranged. Staff.

Physiology 204. *Research in Physiology.* Credits and hours to be arranged. Staff.

Physiology 206. *Journal Club.* Credits and hours to be arranged. Staff.

Physiology 208. *Research Seminar.* Credits and hours to be arranged. Staff.

Physiology 402. *Senior Elective.* (17) One quarter advanced work and research in Physiology.

PUBLIC HEALTH AND PREVENTIVE MEDICINE

Professor H. L. MARSHALL (HS1); *Associate Clinical Professors* P. S. RICHARDS, W. M. MCKAY, BEELEY; *Clinical Lecturers* BIGELOW, DALGLEISH, NEMIR, TITUS; *Clinical Instructors* BRAMHALL, HURST.

REQUIRED COURSES

(Second Year)

Public Health and Preventive Medicine 200. *Introduction to Public Health.* (3) Third quarter. Health work which the organized public administers and for which it accepts responsibility. Lecture and discussion. Marshall and staff.

(Fourth Year)

Public Health and Preventive Medicine 403. (5) *a. Public Health and Preventive Medicine.* Second and third quarters. Lectures and seminars. Three hours weekly for half the class each quarter. Marshall and staff.

b. Industrial Medicine. First and second quarters. Lectures and demonstrations. Fourteen evening classes. Richards, Marshall, and staff.

ELECTIVE COURSE

Public Health and Preventive Medicine 402. (17) Advanced work in Public Health and Preventive Medicine. Open to qualified and selected students only.

SURGERY

Professor PRICE (Salt Lake County General Hospital); *Associate Clinical Professors* CALLISTER, CASTLETON, HARROW, HATCH, HICKEN, R. P. MIDDLETON, R. T. RICHARDS; *Assistant Professor* V. L. REES; *Assistant Clinical Professors* HOWARD, R. H. MERRILL, A. W. MIDDLETON, MUIRHEAD, OKELBERRY, OSSMAN, PALMER, REICHMAN, RUMEL, SAUNDERS, S. M. SMITH, STAUFFER; *Lecturers* LECOMPTE, SHIELDS, TYREE, WELSH, WHITE, WIGHT, S. WRIGHT; *Instructor* T. F. LEE; *Assistants* THOMASON, ERICKSON.

* Recommended status; these men formerly were Clinical Instructors.

REQUIRED COURSES

(Second Year)

Surgery 200. (4) a. *Introduction to Surgery.* Second and third quarter. Lectures and demonstrations; diagnostic methods. One hour weekly. Price, Rees, and staff.

b. *Elementary Surgery.* Third quarter. Lectures and clinics. Two hours weekly. Price, Rees, and Staff.

(Third Year)

Surgery 300. (18) a. *General Surgery.* Every quarter. Lectures and clinics. Two hours weekly. Price and staff.

b. *Orthopedics and Fractures.* First and second quarters. Lectures and demonstrations. One hour weekly. Okelberry, Ossman.

c. *Genitourinary Surgery.* Third quarter. Lectures and demonstrations. One hour weekly. R. P. Middleton, A. W. Middleton.

d. *Otolaryngological Surgery.* One-half first quarter. Lectures and demonstrations. One hour weekly.
LeCompte, Muirhead, Saunders, Stauffer, Welsh, White.

e. *Ophthalmology.* Third quarter. Lectures and demonstrations. One hour weekly. Merrill, Palmer.

f. *Neurosurgery.* One-half second quarter. Lectures and demonstrations. One hour weekly. Harrow.

g. *Thoracic Surgery.* One-half second quarter. Lectures and demonstrations. One hour weekly. Rumel.

h. *Anesthesiology.* One-half first quarter. Lectures and demonstrations. One hour weekly. Smith.

i. *Clerkship and Sectional Work.* One-third of class each quarter. Ward work, routine clinical laboratory work, ward rounds, clinics, seminars, and operative surgery. Twenty-eight hours weekly. Price, Rees, and staff.

(Fourth Year)

Surgery 400. (15) Out-patient work, clinics, seminars and other assigned exercises, two quarters; and during a third quarter assigned work including two weeks in the Emergency Department of the Salt Lake General Hospital, or (by arrangement) in Bingham Canyon Industrial Hospital, or Bushnell General (Army) Hospital.

Surgery 401. (10) Out-patient work, etc., two quarters. (This course may be taken instead of Surgery 400, in combination with an elective course in Surgery or in some other department.)

ELECTIVE COURSE

Surgery 402. *Senior Elective.* (17) One quarter. Advanced work and research in surgery. Open to qualified and selected students.

MEDICAL TECHNOLOGY

The University of Utah has made provision for the training of Medical Technologists. The curriculum consists of a four-year period of resident study at the University, upon the completion of which the student may receive from the School of Arts and Sciences either the Bachelor of Science or Bachelor of Arts degree according to the requirements met. Depending upon emphasis, the major field will be Bacteriology, Biology, Biological Chemistry, or Chemistry.

The fifth year of the curriculum is spent in internship at the Salt Lake County General Hospital under the direction of the faculty of the School of Medicine. Through rotation in various laboratory services of the Hospital the student receives practical experience in hospital laboratory procedures. Upon successfully completing the internship the student is granted a certificate in Medical Technology by the University School of Medicine.

A graduate in Medical Technology may become a candidate for the Master's degree by meeting the requirements of the Graduate Division. See pages 168-170.

An outline of the undergraduate curriculum follows:

CURRICULUM

Besides meeting the Lower Division group requirements, the student must take the following courses: Chemistry 4 (or 1), 5 (or 2), 6 (or 11), 7, 8, 103, 104, 105; Biology 1; Zoology 1, 2, 108, 109, 141, 142; Bacteriology 1, 103, 104, 105, 109; Biological Chemistry 108, 109, 111; Physiology 1; Anatomy 1; Pathology 106 (Clinical Pathology).

Freshman Year

	A.	W.	S.
Chemistry 4, 5, 6—Principles of Chemistry and Qualitative Inorganic Analysis, or Chemistry 1, 2, 11—General Chemistry	5	5	5
English 1, 2, 3—Freshman Composition	3	3	3
Physics 1, 2, 3—Elementary Physics	4	4	4
Health Education 1—Personal Hygiene	1	0	0
Biology 1—Principles of Biology	0	5	0
Anatomy 1	0	0	4
Orientation—Freshman Orientation	1	0	0
Physical Education, or M. S. & T. (see note (†), page 133)	....	....	....
	14	17	16

Sophomore Year

Psychology 11—Practical Psychology	5	0	0
English 22, 23—English Masterpieces	0	3	3
History 9—American History	3	0	0
Zoology 1, 2—General Zoology	0	5	5
Bacteriology 1—Elementary Bacteriology	0	0	5
Chemistry 7, 8—Quantitative Inorganic Analysis	3	3	0
Mathematics 1—Intermediate Algebra, or Mathematics 6—College Algebra	5	0	0
Physiology 1—Practical Physiology	0	5	0
Social Science Electives	0	0	4-5
	16	16	17-18

Junior Year

	A.	W.	S.
Bacteriology 103—General Bacteriology	5	0	0
Bacteriology 104—Pathogenic Bacteriology	0	6	0
Bacteriology 109—Immunology and Serology	0	0	6
Chemistry 103, 104, 105—Organic Chemistry	3	3	4
Zoology 108—Microscopical Technique	0	0	3
Zoology 109—Comparative Histology and Organology	0	4	0
Electives	8-10	3-5	3-5
	16-18	16-18	16-18

Senior Year

	A.	W.	S.
Biological Chemistry 108, 109, 111—General and Analytical Biochemistry	8	4	3-5
Pathology 106—Clinical Pathology	0	0	4
Bacteriology 105—Bacteriology of Food, Water, and Milk	0	5	0
Zoology 141, 142—Parasitology and Protozoology	0	3	3
Major Subjects and Electives	8-10	4-6	6
	16-18	16-18	16-18

THE SCHOOL OF LAW

Member, Association of American Law Schools, and approved by the Council of Legal Education of the American Bar Association.

Dean LEARY (Pk316).

Directions for Admission

Applicants for admission to the School of Law are required to present a written request for admission at least ten days before the date of registration. Students who wish to transfer from other law schools, and students who have done their preparatory study for law at institutions other than the University of Utah, must submit therewith a transcript of their credits. It is advisable for those who desire to begin the study of law to have their credits evaluated in June. They will then have an opportunity to make up during the summer session any slight deficiency which may be discovered.

Requirements for Admission

The requirements for entrance to the School of Law for candidates for a degree are: an attained age of at least 19 years; the completion of the high school work requisite for matriculation in the Lower Division of the University of Utah, two full years of residence in an approved college or university, the completion of 93 quarter credit hours of prelegal, resident, college or university work acceptable for a bachelor's degree at the University of Utah; and a minimum honor point ratio of one—that is, a "C" average—in all of the applicant's prelegal college work, even though the total hours presented exceed the minimum 93 required.

Students entering the School of Law from the Lower Division of the University of Utah must present in the 93 hours, the required courses in English and the distribution among the four groups of classified subjects prescribed for certification from the Lower Division.

Transfer students who have completed in residence, in an accredited college or university, one-half of the four-year course of study acceptable toward a bachelor's degree at the University of Utah and who have attained upper division or junior standing in the college or university in which their work was completed, are not required to complete the particular subject or group requirements for certification from the Lower Division of this University in order to register as regular students in the Law School.

Not more than 10 per cent of the credit presented by resident or transfer students for admission to the Law School may include credit earned in non-theory courses in military science, health education, domestic art, physical education, vocal or instrumental music, or other non-theory courses not satisfactorily prelegal in content. The Law Faculty shall specify what courses shall be so designated, and is empowered to change, at any time, the existing requirements for admission to conform to the standards of the American Bar Association, and of the Association of American Law Schools, but such

changes are not effective until at least one year after publication in the announcement of the School of Law.

Students registered in other schools of the University, taking one or more law courses, must meet the requirements for admission above set forth.

Students 23 years of age, who cannot meet the above requirements, may be admitted as unmatriculated students if the Law Faculty is convinced that there is good reason for thinking that their experience and training have especially equipped them to engage successfully in the study of law, despite the lack of the required college credits, and upon the approval of the President. Such students are not candidates for a degree. The number of such students admitted each year may not exceed five per cent of the average number of students admitted by the School as beginning law students during the years 1939-1940. Members of the bar who are enrolled in courses without expectation of credit will not be counted as special students.

The schedule of courses is so arranged that it is extremely inadvisable for a beginning student to enter upon his study of law during the winter or spring quarter. Consequently, permission to do so must first be obtained from the President's Office upon recommendation of the Dean of the School.

Recommendations for Prelegal Study

Although only two years of college work is required as a prerequisite to legal study for those students seeking a Bachelor of Laws degree, an increasingly larger number of students are now presenting for admission three and four years of college work. The Law Faculty strongly recommends a full four-year course leading to the degree of Bachelor of Arts as preparatory to the study of law. By taking law courses exclusively during the last year in college, a student can secure both Bachelor of Arts and Bachelor of Laws degrees in six years.

No specific subjects are prerequisite for entrance into the Law School. Students preparing for law in the Lower Division of the University of Utah should, nevertheless, register for such courses as may be required, or recommended, by the Dean of the Lower Division. Those preparing in other institutions should, in so far as possible, fulfill the same general requirements—that is, complete 93 hours of approved college work including freshman English, and physical education or military science and tactics, and a minimum of 40 credit hours distributed among the following four groups: Biological Science, Physical Science and Mathematics, Language and Literature, Social Science. In this minimum group requirement of 40 credit hours, no more than 12 credit hours may be counted in any group of classified subjects.

Transferred Credit and Advanced Standing

Students from other law schools of high grade belonging to the Association of American Law Schools and approved by the American Bar Association, who have completed the necessary prelegal work, may ordinarily receive credit not exceeding two years in amount for the satisfactory completion of legal work done there similar in character to that required in the University of Utah. The

right is reserved to refuse such credit in whole or in part, or conditionally, and credit given may be withdrawn for unsatisfactory work. No credit will be given for work not done in residence at a law school. No student will be admitted who has been in attendance at another law school, and is ineligible because of poor scholarship, or for any other reason, to return to that school.

Registration for Legal Work

Students desiring to carry a full year's course in law should register for 40 law-hours per school year. A law-hour is defined as one hour recitation a week per quarter. Expressed in terms of credit hours, a law-hour is equal to 1¼ credit hours. A full year's work in law, then, is represented by 13⅓ recitation periods per week throughout an academic year of not less than 30 weeks. The schedule is planned to occupy the full time of the student. If the student desires to utilize some of his time in outside employment, he should not attempt to carry full law work, and should spend a proportionately longer period in residence. Permission to take less than 10 credit hours per quarter must be secured from the President's Office on the Dean's recommendation.

Graduation

Candidates for the Bachelor of Laws degree must complete 93 credit hours of prelegal college work of the kind and quality specified for entrance requirements; and 150 credit hours (120 law-hours) of professional work in law, including the designated first year curriculum in law, approved by the Dean and Faculty of the School, during a residential period of not less than 90 weeks. The candidate must have an honor point ratio of at least one, or a "C" average, in all of his registered law work; and must complete the courses in English, health education, and physical education or military science and tactics, required of all candidates for a bachelor's degree.

PROGRAM OF INSTRUCTION

(Subject to change without prior notice)

Professors LEARY (Pk316), JENSEN, RITTER, POMEROY, SCHILLER; *Lecturer* JUDGE STRAUP; *Librarian* PERSCH.

FIRST YEAR

Law 101. *Agency.* (5) S. Rights and liabilities resulting from a person's acting on behalf of another. Mechem's "Cases on Agency" (3rd ed.), revised by Seavey. Professor Jensen.

Law 104. *Contracts.* (10) A. W. Rights and obligations arising from a promise. Williston's "Cases on Contracts" (4th ed.). Professor Pomeroy.

Law 106a. *Criminal Law and Procedure.* (7½) A. W. Offenses against the State and procedure in criminal cases. Mikell's "Cases on Criminal Law and Procedure" (3rd ed.). Professor Jensen.

Law 108. *Equity 1.* (5) S. Nature of equity jurisdiction; history; powers of courts; specific performance of contracts; damages; relief for and against third parties. Chafee and Simpson's "Cases on Equity," Vol. 1. Professor Pomeroy.

Law 118a. *Personal Property.* (2½) W. Distinction between real and personal property; gift, bailment; lien, pledge. Bigelow's "Cases on Personal Property" (2nd ed.). Professor Jensen.

Law 118b. *Rights in Land.* (5) S. Air, water, and land; profits; easements and licenses; covenants and other agreements affecting use of land. Bigelow's "Cases on Rights in Land" (2nd ed.). Dean Leary.

Law 121. *Torts.* (10) A. W. The liability which attaches to intentional and unintentional invasions of interests of personality, property, and other protected interests. Bohlen's "Cases on Torts" (3rd ed.). Dean Leary.

Law 140. *Judicial Administration.* (7½) A. W. S. Court systems; organization and operation of courts; judicial power; jurisdiction of subject matter; invoking jurisdiction; pleading. Sunderland's "Judicial Administration." Professor Schiller.

SECOND AND THIRD YEARS
(1945-46)

Law 102. *Bills and Notes.* (7½) W. S. Operative facts of negotiability; transfer; holder in due course; equities; liability of parties; discharge. Britton's "Cases on Bills and Notes" (2nd ed.). Professor Pomeroy.

Law 105. *Corporations.* (7½) W. S. Formation; entity or association; criminal and tort liability; directors, management, stockholders; intra and ultra vires acts; subscriptions; capital; transfer of shares; amendments. Ballantine and Lattin's "Cases on Corporations." Professor Jensen.

Law 109. *Equity 2.* (7½) A. W. Consequences of right to specific performance; partial performance; marketable title; Statute of Frauds; consideration; plaintiff's default; discretionary defenses; lack of mutuality. Chafee and Simpson's "Cases on Equity," Vol. 2. Professor Pomeroy.

Law 114. *Partnership.* (3¾) A. W. Indicia of partnership; formalities; risks of partnership relations; variations on partnership form of organization; application of assets to claim of creditors; Uniform Partnership Act. Mechem's "Cases on the Law of Partnership" (5th ed.), revised by Mathews. Professor Jensen.

Law 115. *Persons and Domestic Relations.* (3¾) A. The law which governs individuals not having normal powers of adults and the law which governs the relationships in a home. Madden's "Cases on Domestic Relations." Professor Jensen.

Law 117a. *Practice.* (3) A. W. S. Moot Court. Pleadings are filed, evidence submitted, and issues tried in accordance with Utah practice. Judge Straup.

Law 117b. *Trial Practice.* (7½) A. W. S. The purpose of this course is to instruct the student in those legal problems which arise in the trial of an ordinary civil action. Sunderland's "Cases on Trial Practice" (3rd ed.). Professor Schiller.

Law 122. *Trusts.* (7½) A. W. S. Creation; resulting, constructive; remedies of cestui, transfer of interests of cestui; persons bound; liabilities of trustee to third persons; investments of funds; termination. Scott's "Cases on Trusts" (2nd ed.). Professor Ritter.

Law 128. *Legal Research.* (7½) A. W. S. Students will select, with the consent of the Dean and the librarian, a problem of individual research in some specialized field of the law. The work must be carried on under the supervision of some member of the faculty.

SECOND AND THIRD YEARS
(1946-47)

Law 103. *Constitutional Law.* (5) A. A study of the federal and state constitutions in the light of interpretative decisions. Dowling's "Cases on Constitutional Law" (2nd ed.). Professor Schiller.

Law 107. *Damages.* (5) S. Standards, rules, and processes used in measuring the compensation which should be allowed for losses and injuries. Bauer's "Cases on Damages" (3rd ed.). Professor Jensen.

Law 110. *Evidence.* (7½) A. W. The rules of law which determine what tends to prove or disprove matters in dispute in a legal proceeding. Morgan and Maguire's "Cases on Evidence" (2nd ed.). Professor Pomeroy.

Law 117a. *Practice.* (3) A. W. S. Moot Court. Pleadings are filed, evidence submitted, and issues tried in accordance with Utah practice. Judge Straup.

Law 120. *Titles.* (5) A. Execution of deeds, the property conveyed; estates created; covenants for title; estoppel by deed; priorities. Aigler's "Cases on Titles" (2nd ed.). Professor Jensen.

Law 123. *Wills.* (5) W. Execution of wills; revocation; republication and revival; descent, probate, and administration; payment of debts of estates; payment of legacies and distributive shares. Mechem and Atkinson's "Cases on the Law of Wills and Administration." Professor Jensen.

Law 124. *Administrative Law.* (5) W. Rules and regulations which define the authority and fix the responsibility of government officials performing executive functions. Stason's "Cases and Materials on the Law of Administrative Tribunals." Professor Schiller.

Law 126. *Conflicts of Laws.* (5) S. A study of that part of the law of a state which determines whether, in dealing with a legal situation, the law of some other state will be recognized and given effect. Cheatham, Dowling, and Goodrich's "Cases on Conflicts of Laws" (2nd ed.). Professor Schiller.

Law 128. *Legal Research.* (7½) A. W. S. Students will select, with the consent of the Dean and the librarian, a problem of individual research in some specialized field of the law. The work must be carried on under the supervision of some member of the faculty.

Law 136. *Credit Transactions.* (7½) W. S. Transactions involving the borrowing and lending of money and the purchase and sale of property on credit. Subjects formerly covered in separate courses in Bankruptcy, Mortgages, and Suretyship. Sturges' "Cases on Credit Transactions" (2nd ed.). Professor Pomeroy.

SUMMER SESSIONS

Regular summer sessions of eight weeks will be conducted by the School of Law in 1945 and 1946 if a sufficient number of students apply for enrollment. Instruction will be offered in two courses carrying a total credit of 12 hours. The cost of each course will be $27.50.

Students in Law Library

THE SCHOOL OF SOCIAL WORK

Member, American Association of Schools of Social Work.

Dean BEELEY (LA201).

The Field of Social Work

Modern social work, broadly defined, comprises all of our arrangements, both public and private, for helping handicapped persons of every variety and from whatever cause. It is a nonpolitical, nonsectarian enterprise, managed by an ever-increasing body of professionally trained men and women who believe that the social ills of our time will yield to an unselfish, intelligent, and co-operative attack. The ultimate goal of social work is expressed in Professor John Dewey's famous phrase, "a sound human being in a sound human environment."

Social Work in War Time

The war has increased tremendously the demand for trained social workers. Openings now exist in the Red Cross, various federal agencies, the war industries, family and child welfare societies, institutions for the handicapped, character-building organizations, settlement or neighborhood houses, mental hygiene clinics, prisons, correctional agencies, juvenile courts, departments of public welfare, etc. The reconstruction period after the war will also require thousands of specialists to restore to greater usefulness the victims of the present world conflict.

Training for Professional Social Work

The American Association of Schools of Social Work is the national organization which sets the standards of education and training for professional social work. Member schools are of two kinds—one-year graduate schools, and two-year graduate schools.

The first year graduate curriculum in social work is considered basic training for all branches of social work—case work, group work, community organization, social research, welfare administration, etc., and is the same in both one-year and two-year schools.

Aim and Standing of the School

The School of Social Work at the University of Utah is a fully accredited one-year graduate school, member of the Association. It may grant the Provisional Certificate in Social Work. It was established in 1937, "for the purpose of preparing competent men and women for the major technical services in the growing field of social work." Its graduates are automatically eligible for membership in the American Association of Social Workers.

Opportunities for Study in Salt Lake City

Salt Lake City, cultural center of the intermountain west, offers exceptional opportunities for the study and practice of social work. Within a short radius, most of the private social agencies and all of the public welfare institutions of a typical American state can be visited and observed.

THE GRADUATE PROFESSIONAL CURRICULUM

Admission

Admission requirements are similar to those of the other accredited schools of social work in the United States and Canada. The School accepts for training a limited number of qualified men and women, under 35 years of age, who can meet the personal and academic qualifications. These include:

1. Evidence of superior intelligence, character, and personality.
2. Academic credentials attesting satisfactory completion of four full years of collegiate work beyond the high school.
3. A suitable undergraduate background in the social studies. These include sociology, psychology, political science, economics, social ethics, education.

The course of study leading to the Graduate Certificate in Social Work represents a minimum of 46 quarter hours and comprises three full quarters in residence, usually beginning in the fall. However, a full quarter of professional study can be completed during the summer.

All candidates for the Certificate in Social Work are required to spend a prescribed amount of time in the actual practice of social work in an accredited social agency under the supervision of a member of the faculty.

Summer Quarter, 1945

(See Summer Session bulletin.)

Autumn Quarter, 1945

*Principles of Social Case Work I SW 151a (3).	Peterson.
*Social Research. SW 228 (2).	Pierson.
*Community Organization. SW 210 (3).	Taylor.
Seminar: Dynamics of Human Behavior. SW 291a (2).	Beeley.
*Medical Information for Social Workers. SW 240 (3).	Marshall.
Guidance and Personnel. SE 118 (3).	Pierson.
*Supervised Field Work. SW 255 (3).	Staff.

Winter Quarter, 1945-46

*Principles of Social Case Work II. SW 151b (3).	Peterson.
*The Public Welfare Services. SW 250 (3).	Taylor.
*Psychiatric Information for Social Workers. SW 131 (3).	Young.
*Legal Aspects of Social Work. SW 260 (2).	Anderson.
Seminar: Philosophy of Social Work. SW 295 (2).	Beeley.
Case Work in the Schools. SW 153 (3).	Pierson.
*Supervised Field Work. SW 256 (3).	Staff.

Spring Quarter, 1946

*Problems in Child Welfare. SW 181 (3).	Peterson, et al.
*Social Security Administration. SW 282 (3).	Taylor.
*Social Disorganization. SOC 224 (3).	Beeley.
Counseling Techniques. SW 154 (3).	Pierson.
*Supervised Field Work. SW 257 (3).	Staff.
Group Work and Leadership. SW 211 (3).	Taylor, et al.

*Required for Graduate Certificate.

THE PREPROFESSIONAL (UNDERGRADUATE) CURRICULUM IN SOCIAL WORK

In order to cope with the unprecedented demand for trained social workers—a demand which the graduate schools cannot adequately meet—an undergraduate curriculum in social work has been established at the University of Utah.

The aim of preprofessional preparation for social work is cultural rather than vocational. It calls for a rich background in the liberal arts, and a systematic exposure to the principles of sociology, economics, political science, psychology, and social ethics. "The goal," says de Schweinitz, "is a basic knowledge taught in such a way as to stimulate those qualities and characteristics in men and women from which come intellectual vigor, broad human sympathy, and constructive imagination."

This new curriculum in social work comprises (a) certain newly organized courses, together with (b) a functional organization of existing courses already offered in the various social science departments. It is essentially an interdepartmental sequence administered by the head of the Department of Sociology and Anthropology, the Dean of the Lower Division, and the Dean of the School of Arts and Sciences.* It is intended to prepare capable men and women for the junior positions in private and public agencies—especially social security students who will later return to the graduate school to continue their training.

Group A (Total credit-hours: 30). These courses in several departments offer background knowledge for the social worker. They are lower division courses and should be completed as far as possible during the first two years.

Required:

Sociology 7. Principles of Social Psychology (5).
Sociology 8. The Family (4).
Psychology 11. Principles of Psychology (5).
Philosophy 1. Social Ethics (5).
Political Science 1. American National Government (5).
Economics 1. Elementary Economics (3).
Home Economics 80. Nutrition and Health (3).

Recommended:

Psychology 22. Elementary Child Psychology (4).
Philosophy 2. Philosophy of Democracy (5).
Political Science 3. State Government (5).
Political Science 4. Local Government (5).
Economics 115. Rural Economics (3).
History 15. Twentieth Century America (3).

Group B (Total credit-hours: 25). General "methods" and "problems" courses applicable to other disciplines and professions as well as to social work. These are upper division courses and may be taken during the junior or senior year:

*The preprofessional courses in Social Work may be regarded as allied subjects supporting Sociology as major.

Required:

Sociology 128. Social Statistics (4).
Sociology 134. Crime and Delinquency (3).
Social Education 140. Mental Hygiene (3).
Social Work 180. Principles of Child Welfare (3).
Economics 105. Labor Problems (3).
Political Science 135. Public Administration (5).
Health Education 160. Problems in Community Health (4).

Recommended:

Zoology 106. Genetics (3).
Sociology 124. Modern Social Problems (5).
Sociology 125. Social Institutions and Social Change (4).
Sociology 127. The American People (3).

Group C (Total credit-hours: 14). Courses pointed directly toward the practice of social work. May be taken during the senior year only:

Social Work 130. The Field of Social Work (3) A.
Social Work 150. Introduction to Social Case Work (3) W.
Social Work 155. Introduction to Field Work (5) S.
Social Work 182. American Social Security (3) W.

THE GRADUATE DIVISION

Professor TUGMAN, *Chairman* (PS214).

Graduate Council and Committees

The Graduate Council, the members of which are appointed by the President from the faculty, supervises graduate study at the University of Utah.

Each department or group of allied departments which has been authorized by the President and the Graduate Council to offer graduate work looking toward the master's degree appoints at least one standing committee of not less than three members, which, under the control of the Graduate Council, is responsible for the supervision of graduate work in its special field.

Graduate Degrees

The resident graduate degrees conferred by the University of Utah are the Master of Arts and Master of Science. Each of these degrees will be conferred upon the candidate who holds a corresponding bachelor's degree and meets the requirements designated by the appropriate committee, the Graduate Council, and the faculty of the University.

Admission to Graduate Study

Students who have received the bachelor's degree from the University of Utah or from any other accredited college or university may be admitted to graduate study.

A senior whose average in all work for which he has registered at the University is "B" or better, and who at the beginning of any quarter is within five hours of meeting the requirements for the bachelor's degree may be allowed to select certain courses for graduate credit upon approval in advance by his major professor and the chairman of the Graduate Council or the Dean of the Graduate School of Social Work. It should be clearly understood that admission to the Graduate Division does not imply admission to candidacy for a degree.

General Requirements

Candidates for the master's degree must spend a minimum of 30 weeks in resident study at the University of Utah and must complete, with a grade of "B" or better, a minimum of 45 credit hours of upper division and graduate courses given in person by resident members of the teaching staff, courses and teachers to be approved in advance for such credit by the appropriate graduate committee, the Graduate Council, and the President.

All work offered shall be completed within six consecutive calendar years, provided that the Graduate Council may modify or waive this time requirement in meritorious cases.

A candidate's work must embrace a major subject to which at least half of the required time must be devoted, and a minor in a sup-

porting field, consisting of not less than 12 nor more than 18 hours. In special cases the student may be permitted by the Graduate Council to complete his study entirely in one department, provided that the minor represents a definite division of the field in which he is working and is pursued under a professor other than the one in charge of the major subject.

The student's program of courses and his thesis subject must be approved by his graduate committee and thereafter by the Graduate Council or its chairman.

No candidate for a master's degree will be permitted to register for more than 16 credit hours in any one quarter. Teaching fellows and others employed approximately half-time are limited to a maximum registration of 12 credit hours.

Candidacy and Application Therefor

A graduate student who proposes to pursue further studies in the field of his undergraduate major, or one who has satisfied the department in which he elects to do the major portion of his graduate work, may be admitted to candidacy for the master's degree upon recommendation of the departmental or group committee to which he has been referred for supervision and upon approval of such recommendation by the Graduate Council.

No student, however, will be admitted to candidacy until he has completed at least one quarter's work in residence and has passed with a grade of "B" or better a qualifying examination given by his departmental graduate committee. A departmental graduate committee may waive the qualifying examination for graduates of the University of Utah who have passed with a grade of "B" or better undergraduate comprehensive examinations in their respective graduate majors.

If the preliminary work is found deficient, the graduate student will be required to take supplementary undergraduate courses for which graduate credit will not be allowed.

No application for candidacy will be received later than the second week of the spring quarter in which graduation is sought. Application for admission to candidacy must be made upon blank forms to be secured from the office of the chairman of the Graduate Council.

Summer Work

Approved upper division and graduate courses offered during the summer session are accredited in the same way as courses taken during the regular school year, the number of credit hours for which a student may register being apportioned on the basis of 16 hours a quarter.

Extension Courses

Graduate students may earn credit toward the master's degree through the Extension Division for upper division and graduate courses given in person by resident full-time members of the teaching staff, courses and teachers to be approved in advance for such credit by the appropriate graduate committee, the Graduate Council, and

the President. Not more than nine hours' credit in extension work may be applied toward the degree. Such work cannot be used to reduce the residence requirement to less than the minimum of 30 weeks.

Work Done in Other Institutions

A student who has done graduate work of high grade in another institution of recognized standing may receive not to exceed nine hours' credit for such work if it is approved by his major professor or committee; however, when a graduate of the University of Utah duly registered for the master's degree is advised by his graduate committee to pursue studies for a period of time at another institution or place because of special facilities available there, such period of study may be considered residence toward the degree, provided the arrangement is approved in advance by the Graduate Council and the President.

Thesis

Each candidate must present a thesis on a topic within the field of his major subject. The thesis must be a contribution of new knowledge or a treatment of familiar materials from a new point of view. It must represent from 9 to 15 hours of the work presented for the degree. After tentative approval, the thesis must be typewritten in standard form and two bound copies of it submitted to the candidate's graduate committee for final approval not later than two weeks before the date set for the student's final examination. The original must be deposited with the University Library. The head of the department in which the thesis was written may in his discretion require the other bound copy to be left with the department.

Examination

Every candidate for a master's degree is required to pass a general oral examination covering the subjects of his graduate study, his preliminary training therefor, and his thesis. This examination is conducted by a committee appointed by the head of the major department, including ordinarily all the instructors with whom the student has worked, and a representative of the Graduate Council named by its chairman. The head of the department is responsible for arranging the examination and for certifying its results to the Graduate Council. The oral examination may be supplemented by a written examination at the discretion of the supervising graduate committee.

RESEARCH AGENCIES

Research is conducted by many units and individuals within the university organization. Those departments—and only those—which are specifically set up for research purposes are described here. The University Research Committee has assigned to it for allocation certain funds for research. Inquiries should be addressed to Professor J. R. Mahoney, chairman. See also Fellowships, page 64.

UTAH ENGINEERING EXPERIMENT STATION

Director HAMILTON (ES207).

The Utah Engineering Experiment Station was established by the State Legislature in 1909, in connection with and as a part of the State School of Mines and Engineering.

The station is authorized to carry on scientific experiment and investigation in the interest of State industry or the public good, and to inform the public through bulletins and otherwise of its experiments and other work. An important function of the station is to train men in research and to encourage pursuit of graduate studies.

The station co-operates with all the engineering departments of the University, as well as with the departments of Physics, Chemistry, and Geology, the State Road Commission, the State Department of Publicity and Industrial Development, and any other agency carrying on engineering research or needing the assistance of research engineers or engineering advice in its investigations.

The director of the station, the heads of the departments of the School of Mines and Engineering, and the head of the Department of Mining and Metallurgical Research, constitute the executive staff and are responsible for the establishment of general policies governing the work of the station, including material for publication.

The research staff is composed of members of the regular staff of the station and of the School of Mines and Engineering, together with research fellows concerned with station projects and graduate study.

Scope of Work

1. **Research.** The aim of the research work of the station is the collection of fundamental data needed by industries in solving their technical problems.

2. **Service.** Under certain conditions the University permits industrial concerns and individuals, under the terms of a co-operative agreement, to send men to the station to work on problems, or the station itself will undertake the work. However, no work is undertaken which can be done satisfactorily by a local engineering firm, as the University does not wish to compete with such concerns. Moreover, the station prefers not to take up work of any kind unless fundamental data can be secured that would be of value for publication.

3. **Testing.** Service testing of a routine commercial nature may be undertaken for industries or private individuals when adequate facilities for doing the work are not available elsewhere in the State. Charges will be made for this service at standard commercial testing rates.

DEPARTMENT OF MINING AND METALLURGICAL RESEARCH

Professor CENTER (ES211).

In 1913, the Legislature established a Department of Mining and Metallurgical Research within the Utah Engineering Experiment Station, and provided a special appropriation for its maintenance.

Purpose. The purpose of this department is to conduct experiments and research, alone or in co-operation with other agencies, with the purpose of finding ways and methods of treating low-grade ores, securing a higher percentage of extraction of metals from ores, or obtaining other information beneficial to the mining industry and the utilization and conservation of the mineral resources of the State.

Advantageous Location. Three of the best mineralized and most permanent mining camps in the United States are located within a few miles of Salt Lake City. Near the city likewise are the greatest lead smelters and one of the greatest copper smelters in the United States, if not the world. Metalliferous ores are sent to these smelters for treatment from practically every part of the mineral-producing area of the western United States. In this respect, Salt Lake City is the center not merely of the mining industry of Utah but, in a very real sense, of the whole intermountain region. The city is also the geographical center of the immense oil-shale and other hydrocarbon deposits of the west.

Because the region is one of the chief metallurgical centers of the United States, and research undertaken is concerned with the solution of definite problems, the Department of Mining and Metallurgical Research offers to young men intending to enter the mining and metallurgical professions a splendid opportunity of familiarizing themselves thoroughly with present-day practice, especially in the treatment of non-ferrous ores, and of becoming proficient in the adaptation of those processes to investigations carried on by them in research.

Laboratories. The department has available for use its various laboratories listed on page 53.

Fellowships. Several research fellowships are awarded annually by the department. Each fellowship carries a stipend of $600. The fellowships are open to college graduates who have had the necessary training in mathematics, physics, and chemistry, as well as mining, metallurgy, or geology, depending on the investigation which is to be pursued.

These fellowships afford an excellent opportunity for qualified men to become proficient in the fields of mining and metallurgy and to prepare themselves for highly technical work in these fields.

Under the direction of members of the staff of the department,

visits are made by the fellows and others doing work in the department, to mines, mills, and smelters in the vicinity of Salt Lake City, in order that they may become familiar with the actual operation of these plants.

Holders of these fellowships will be subject to the rules governing employees of the Utah Engineering Experiment Station. They must register as students in the Graduate Division of the University of Utah and become candidates for the degree of Master of Science (unless this or an equivalent degree has previously been earned). Their time will be devoted to classroom, library, and laboratory work. Fellows are appointed for one year, but the appointment may be renewed if the work of the holder of the fellowship is satisfactory.

Application for fellowships should be made to the head of the Department of Mining and Metallurgical Research, University of Utah, Salt Lake City, Utah.

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

Professor MAHONEY (IE314).

The purposes of the bureau are: (1) to study the economic problems associated with the effective use of the natural resources of the State; (2) to make analytical studies of business problems looking toward development of the best business practices; (3) to increase the effectiveness of the Departments of Economics and Business by affording opportunity to apply principles of economics and business to the solution of important economic problems; (4) to facilitate the training of students in the methods of research and in application of theory. (See Economics 210 and Business 201, 202, 203.)

PSYCHOLOGICAL CLINIC

Professor BARLOW (Pk308).

The staff of the Department of Psychology and qualified advanced students constitute a clinic which offers certain definite services to the people of the State. By arrangement with a member of the staff, psychological tests are available for purposes of diagnosis, school, home, or institutional placement. Simple adjustment and behavior problems may be referred to the clinic. Limited psychological service will be furnished to any institution or service agency which wishes to avail itself of the opportunity. For purposes of educational guidance, tests will be given to a limited number of University students who wish to obtain information as to their intellectual interests and vocational aptitudes.

BUREAU OF EDUCATIONAL RESEARCH

Dean WAHLQUIST (Pk207).

The School of Education maintains a Bureau of Educational Research under the direction of a committee representing the departments of Education, Psychology, Philosophy, Sociology, and Health, Physical Education, and Recreation. All research activities in the School of Education are under the direction of this bureau, which also supervises the preparation of master's theses in Education and closely allied subjects.

An educational service bureau is maintained in the Extension Division. This bureau is designed as a medium of communication between administrative officers of the public schools and the Educational Research Bureau of the School of Education with special reference to practical helps that may be made available to the school districts of the state through the School of Education. (For further information see the Extension Division.)

BIOLOGICAL SURVEY OF UTAH

Professor CHAMBERLIN (B203).

An exhaustive survey of the biological resources of the State, projected by action of the Board of Regents in May, 1919, has been actively carried on by staff members of the Department of Biology, more especially since 1926. Qualified graduate students often participate as assistants in this work and in doing so receive important training in methods of research in field work. The Biological Series of the University of Utah, now in its ninth volume, furnishes a medium through which some of the results of the Survey are published.

LABORATORY OF HUMAN GENETICS

Associate Professor STEPHENS (B103).

This research and service laboratory was established by the Board of Regents August 11, 1944. Although it is organized under the Department of Biology, various phases of its work involve the co-operation of specialists in the Medical School. Its functions are: (1) to carry on research in human genetics, (2) to accumulate the resulting data and preserve it permanently in a central office where it will be available to doctors and members of the families concerned, (3) to provide a place where anyone having a particular problem in human heredity can come for private consultation, and receive such information and data as are available.

THE EXTENSION DIVISION

Member, National University Extension Association and American Association for Adult Education.

Director HORSFALL (LA 306).

The Extension Division is the agency by which the University extends its opportunities and influences as widely as possible to the public at large. The Division includes the following departments:

Class Instruction. Afternoon and evening classes held in convenient downtown centers in Salt Lake City, and in other cities and towns throughout the state. Afternoon and evening classes for residence credit are held on the University campus.

Home Study. Courses offered by correspondence to anyone who may be reached by mail.

Master Minds and Artists Series. A series of lectures, entertainments, and special attractions by distinguished personalities, men and women of national and international reputation.

University Lectures. Programs of lectures and entertainments, utilizing the University faculty, students, and others, including artists of distinction, are available to communities, schools, and other organizations.

Bureau of Educational Service. This bureau gives assistance in school testing programs, and acts as an agency through which tests and work books may be ordered.

Vocational Education. In co-operation with the State Board of Vocational Education, classes are conducted throughout the state in distributive trades, family life education for adults, prospecting, and training for municipal offices, peace officers, custodians, fire and safety.

Audio-Visual Instruction. The film library serves schools and other organizations throughout the state.

Other Extension activities include: Boy Scout Pow Wow, Highway Engineering Conference, Peace Officers Conference, Family Life Institute, and Safety Conference.

More detailed information concerning Extension services will be furnished upon request to the Extension Division, University of Utah, Salt Lake City.

COURSES OF INSTRUCTION

Courses of instruction are of two kinds: those meeting the requirements of the University faculty as to amount and quality of work and therefore carrying credit toward various University degrees, and those not meeting these requirements and therefore carrying no

credit. One-fourth of the work required for a bachelor's degree may be earned in Extension. Under certain specific conditions a limited part of the work required for a master's degree may thus be earned. Courses are conducted both by the class method and by home study.

Following is a list of the extension classes, including afternoon and evening residence courses, given in 1944-45. The home study courses listed were offered in 1944-45. For detailed description of courses available in 1945-46, see special announcements of the Extension Division.

Demands for class work will be met as fully as possible, but as a general rule no class will be organized for fewer than 18 students.

Students under 21 years of age may not register in extension credit courses of college grade unless they have satisfied the requirements for admission to the University. For students under 21 special high school work and non-credit courses are available. High school students may be admitted only upon recommendation of their principal or superintendent.

Credit courses in the Extension Division may not be taken by a student in residence at the University of Utah, unless he has previously obtained the permission of the Registrar. In such a case the course must be completed during the quarter in which the student is registered, and the excess registration fee paid in addition to the Extension Division fees. The University reserves the right to reject credit earned at another institution of learning by a student registered for credit courses at the University of Utah.

Fees. The minimum fee per course for Extension classwork carrying credit is $10.00; for home study, $5.00, or at the rate of $2.50 per credit hour.

The registration fee for one evening residence course counting five credit hours is $22.00; for two, $25.00. Laboratory and breakage fees, additional.

All fees for Extension courses are payable at the time of registration. No fee will be refunded because of the student's inability to pursue a course for which he has registered.

EXTENSION CLASS COURSES

These classes were offered in 1944-45. An asterisk (*) indicates afternoon and evening residence credit courses, a dagger (†) those which may be taken for graduate credit.

ACCOUNTING

Business 1, 2, 3. *Elementary Accounting.* Mr. W. L. Bracy.

ART

Art 10c, 10d. *Interior Decoration.* Miss Florence Ware.

Art 203. *Sketching.* Miss Florence Ware.

Art 107e. *Art Workshop.* Assistant Professor George Dibble.

ASTRONOMY

Atronomy 14. *General.* Instructor Junius J. Hayes.

Astronomy 113e. *Advanced General Astronomy.* Instructor Junius J. Hayes.

AVIATION

Elementary Ground School. Associate Professor Irvin Swigart, et al.

Air Transportation. Mr. Samuel Kellogg, et al.

BIOLOGY

†*Biology 135e. *Biogeography.* Professor Walter P. Cottam.

BOTANY

Botany 135. *Plant and Animal Geography.* Dr. George Stewart.

Conservation. Dr. Sterling Talmage, Mr. C. B. Copley, Professor Walter Cottam.

BUSINESS

Banking. *Fundamentals of Banking.* Mr. Joseph B. Christensen.

Business 1, 2, 3. See Accounting.

Business 18. *Modern Letter Writing and Vocabulary Building.* See English.

Business 109. *Income Tax Problems.* Professor J. A. Johnston.

Business 157e. *Home Mortgage Lending.* Mr. Ralph B. Wright.

Business 165. *Secretarial Training.* Instructor Mary D. Brown.

ECONOMICS

Economics 150. *Postwar Planning.* Dean Dilworth Walker, et al.

EDUCATION

Education 113. *Teaching of Science.* Instructor Ruth M. Lippenberger.

Education 114e. *Social Studies in the Elementary School.* Associate Professor Roald F. Campbell, et al.

Education 115. *Teaching of Social Studies.* Associate Professor Roald F. Campbell, et al.

Education 115e. *Art in the Elementary School.* Assistant Professor George Dibble.

Education 119e. *Language and Literature for the Grades.* Instructor Emma Sharp.

Education 130. *Art.* Assistant Professor George Dibble.

†***Education 137 and 139.** *Philosophy of Education.* Dean J. T. Wahlquist.

Education 138. *Manuscript Writing.* Assistant Professor George Dibble.

Education 143. *Safety Education.* Mr. E. H. Isenberg, Instructor Marion Merkley, Mr. Blaine Winters, Mr. Carl Anderson, Mr. Leslie W. Nelson.

†***Education 156.** *Introduction to Research in Education.* Professor Leo G. Provost.

Education 161e or 163e. *Articulation.* Instructor Marion Merkley.

***Education 163.** *Articulation.* Associate Professor Roald F. Campbell.

Education 176a, 176e. *Child Development.* Associate Professor Roald F. Campbell, et al.

†***Education 178.** *Diagnostic and Remedial Teaching.* Associate Professor Roald F. Campbell.

ENGLISH

English 1, 2, 3. *Freshman Composition.* Professor Sherman B. Neff, Assistant Professor Brewster Ghiselin.

English 18. *Modern Letter Writing and Vocabulary Building.* Mr. Louis W. Larsen.

English 101. *Imaginative Writing.* Professor Louis C. Zucker.

English 159. *Contemporary Literature.* Mrs. Christen Jensen, Mr. King Hendricks.

English 165e. *The Bible.* Mrs. Christen Jensen.

English 185. *Browning.* Mrs. Christen Jensen.

English. *Greek Mythology.* Mrs. Christen Jensen.

English. *Book Reviews.* Mrs. Christen Jensen.

GEOLOGY

***Geology 102e.** *Historical Geology.* Assistant Professor Bronson Stringham.

***Geology 203e.** *Economic Geology.* Professor Hyrum Schneider, Assistant Professor Bronson Stringham.

Geography of Asia. Mr. Aaron Jones.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

Physical Education 126a. *Physical Education Activities.* Miss Elsa Findlay.

Physical Education 126b. *Physical Education Activities.* Mr. Lloyd Shaw.

Physical Education 132. *Problems in Health, Physical Education, and Recreation.* Professor N. P. Neilson.

†***Physical Education 200.** *Problems in Physical Education.* Professor N. P. Neilson.

HISTORY AND POLITICAL SCIENCE

†***History 109e.** *Diplomatic History of Europe Since 1870.* Professor Leland H. Creer.

History 110. *Biographical History of the United States.* Professor Leland H. Creer, Assistant Professor O. Meredith Wilson.

History 173e. *American Domestic Problems and International Issues.* Professor Leland H. Creer, et al.

INSURANCE

General Insurance. *Part A.* Mr. Joel Richards.

LAW

Commercial Law. Mr. Junius Romney.

LIBRARY SCIENCE

Library Science 101b. *Classification and Cataloguing.* Mrs. Gwen Greaves, Instructor Ralph D. Thomson.

Library Science 110. *Book Repair.* Instructor Mary E. Moorhead.

Library Science 120. *Book Selection.* Mrs. Gwen Greaves, Instructor Ralph D. Thomson.

MODERN LANGUAGES

French 1, 2. *Elementary French.* Professor John L. Ballif.

German 1, 2. *Elementary German.* Associate Professor Llewellyn R. McKay.

Russian 1, 2, 3. *Elementary Russian.* Mrs. Brigg Perkins.

Spanish 1, 2. *Elementary Spanish.* Professor James L. Barker.

MUSIC

Music 36e, 37e. *Group Vocal Instruction.* Mrs. Edna Evans Johnson.

PSYCHOLOGY

Psychology 29. *Youth Leadership Training.* Instructor Helen Marshall, et al.

Psychology 122. *Child Psychology.* Instructor Helen Marshall.

Psychology 221. *Psychology of Personality.* Mrs. Alice S. McKay.

SOCIOLOGY AND SOCIAL WORK

***Sociology 107.** *Social Psychology.* Dean Arthur L. Beeley.

***Sociology 108e.** *Success and Failure in Modern Marriage.* Associate Professor Henry H. Frost.

Social Education 118. *Counseling Techniques.* Associate Professor George Pierson, Dr. Arden Frandsen, Dr. Wesley Lloyd.

Social Education 118e or Education 182. *Guidance and Personnel.* Associate Professor George Pierson, Mr. Boyd Nelson.

†***Social Work 118t or 154b.** *Counseling.* Dean Arthur L. Beeley, Associate Professor George Pierson.

Sociology 124a. *Modern Social Problems.* Mr. Walter C. Neville.

†***Social Work 240.** *Medical Information for Social Workers.* Professor H. L. Marshall.

†***Social Work 260.** *Legal Aspects of Social Work.* Judge Hugo B. Anderson.

Social Work 295e. *New Horizons in Social Work.* Dean Arthur L. Beeley, et al.

SPEECH

Speech 9 or 109. *Speech for Businessmen.* Assistant Professor Gail Plummer.

Speech 120. *Principles of Oral Reading for Teachers.* Assistant Professor Mary J. Webster.

Speech 183. *Speech Education for Grade School Teachers.* Assistant Professor Mary J. Webster.

SPECIAL SHORT COURSES

TRADE AND INDUSTRY

Class for Custodians. Mr. Howard Barker.

DISTRIBUTIVE EDUCATION

Business Management for Executives. Mr. W. L. Bracy.

Conferences on Techniques for Teaching Distributive Education Classes. Mr. L. S. Ralph.

Effective Selling of Fabrics. Mr. W. C. Winder.

Electrical Appliance Selling. Mr. W. C. Winder.

Employee Relation Training. Mr. L. S. Ralph.

How to Teach an Employee. Mr. L. S. Ralph.

Merchandise Problems for Service Station Operators. Mr. L. S. Ralph.

Personnel Problems. Mr. W. L. Bracy.

Selection and Organization of Subject Matter for Distributive Education Classes. Mr. L. S. Ralph.

WAR PRODUCTION TRAINING COURSES

In July, 1940, the University offered its facilities for the National Defense Training Program. The following courses were organized during 1944-1945:

Auto Mechanics. Mr. F. Kermit Fullmer, Mr. Lorin S. Roskelley.

Blueprint Reading. Mr. W. Kent Evans.

Electricity. Mr. Thomas Jordan.

Electrical Refrigeration. Professor W. J. Cope, Mr. G. L. Soderborg.

Industrial Electronics. Dr. Lowell Woodbury.

Machine Shop. Mr. C. J. Hooper.

Radio and Communication. Professor Thomas J. Parmley, Mr. Lester Donkin.

Supervisory Training. Mr. Carter S. Grant.

Traffic Rate Clerk. Instructor Mary D. Brown.

Welding. Mr. B. L. Wolfley.

FAMILY LIFE EDUCATION FOR ADULTS

Parent Education Discussion Groups. Miss Winifred Hazen.

Leadership Courses in Parent Education. Miss Winifred Hazen.

Family Life Institutes. Selected leaders.

Family Service Centers. Selected leaders.

Parents' Workshop. Assistant Professor Hulda Van Steeter, Miss Winifred Hazen.

Community Programs in Family Life Education. Mrs. D. C. Dix, Mr. C. E. Smith.

HOME STUDY COURSES

These courses were offered in 1944-45. A dagger (†) indicates approval for military personnel by the Armed Forces Institute.

ACCOUNTING

†**Accounting 1a or 1b.** *Brief Course in Accounting.* (3) Instructor C. W. Allison.

†**Accounting 2, 3.** *Elementary Accounting.* (3-3) Instructor C. W. Allison.

†**Accounting 6.** *Intermediate Accounting.* (5) Instructor C. W. Allison.

†**Accounting 101, 102, 103.** *Advanced Accounting.* (5-5-5) Instructor C. W. Allison.

†**Accounting 105.** *Auditing.* (5) Instructor C. W. Allison.

†**Accounting 106.** *C. P. A. Review.* (5) Professor J. A. Johnston.

Accounting 109. *Federal Tax Accounting.* (5) Professor J. A. Johnston.

ANTHROPOLOGY

†**Anthropology 150.** *Social Anthropology.* (4) Assistant Professor Charles E. Dibble.

ASTRONOMY

†**Astronomy 1.** (5) Instructor Junius J. Hayes.

BIOLOGY

Biology 170. *The Teaching of Biology.* (2) Professor A. M. Woodbury.

BOTANY

Botany 5. *Spring Flowers of the Wasatch.* (4) Associate Professor Seville Flowers.

Botany 165. *Undergraduate Research Work.* Credit to be arranged. Professor W. P. Cottam.

CIVIL ENGINEERING

†**Civil Engineering 115.** *Reinforced Concrete.* (3) Professor A. Diefendorf.

ECONOMICS

†**Economics 1, 2, 3.** *Elementary Economics.* (3-3-3) Dean Emeritus Thomas A. Beal.

†**Economics 4.** *Economic History of the United States.* (5) Professor J. R. Mahoney.

Economics 129. *Money and Banking.* (5) Dean Emeritus Thomas A. Beal.

Economics 140. *Recent Economic Changes and Problems.* (5) Professor J. R. Mahoney.

EDUCATION

Education 65. *Principles of Scoutmastership.* (3) Mr. W. H. Handley and Associate Professor R. F. Campbell.

†**Education 100b.** *The Development of Education in Modern Times.* (5) Assistant Professor Dora Snow.

Education 101. *Technique of Teaching.* (4) Assistant Professor Dora Snow.

Education 102. *The Elementary School Child and the Curriculum.* (3) Assistant Professor Hazel Brockbank.

†**Education 104e.** *Advanced Principles of Secondary Education.* (3) Professor Leo G. Provost.

Education 105. *Educational Administration.* (5) Dean John T. Wahlquist.

†**Education 107.** *General High School Methods.* (4) Professor Leo G. Provost.

†**Education 109.** *Educational Measurements.* (4) Instructor Helen Marshall.

Education 114. *The Teaching of the Social Studies in Elementary and Secondary Schools.* (3) Assistant Professor Dora Snow.

Education 115a. *Art for the Elementary School.* (4) Assistant Professor George S. Dibble.

Education 115b. *Music in the Elementary School.* (3 or 5) Assistant Professor Jessie Perry.

†**Social Education 118.** *Guidance and Personnel.* (3) Associate Professor George A. Pierson.

Education 119. *The Teaching of Literature and Language.* (5) Assistant Professor Dora Snow.

Education 119e. *World Literature for Children.* (5) Mrs. Christen Jensen.

Education 120. *Methods in Teaching Reading.* (3) Instructor Almira M. D. Martin.

Education 121. *Teaching Arithmetic in the Elementary School.* (3) Instructor Alice Stevens.

Education 123. *Principles of Vocational Education.* (3) Mr. Howard B. Gundersen.

Education 131. *Unified Program of Kindergarten and First Grade Teaching.* (5) Instructor Almira M. D. Martin.

†**Education 137.** *Philosophy of Education.* (5) Dean John T. Wahlquist.

Education 138. *Teaching of Handwriting (Manuscript Writing).* (2) Assistant Professor George S. Dibble.

†**Social Education 140.** *Theory and Practice of Mental Hygiene.* (4) Dean Arthur L. Beeley.

Education 141. *Organization and Administration of Education in Utah.* (3) Dean J. T. Wahlquist.

†**Education 143.** *Safety Education.* (2) Associate Professor R. F. Campbell.

Education 152. *Public School Finance and Business Administration.* (4) Associate Professor R. F. Campbell.

†**Education 163.** *Problems in Secondary Education.* (5) Dr. Burton K. Farnsworth.

Education 163e. *Interpretation and Articulation of Junior High Schools with Elementary and Senior High Schools.* (3) Dr. Burton K. Farnsworth.

ENGLISH

†**English 1, 2, 3.** *Freshman Composition.* (3-3-3) Instructor Gretchen Horst.

†**English 18.** *Business Correspondence.* (3) Instructor Norman Brittin.

†**English 21, 22, 23.** *A Survey of English Literature.* (3-3-3) Associate Professor H. G. Richards.

†**English 87.** *Modern English Grammar.* (3) Instructor Gretchen Horst.

†**English 103.** *Advanced English Composition.* (4) Associate Professor H. G. Richards.

†**English 147.** *Theory and Practice of Verse Writing.* (3) Assistant Professor Brewster Ghiselin.

English 150. *English Prose Writers of the Nineteenth Century.* (2) Associate Professor H. G. Richards.

†**English 151, 152.** *American Literature.* (5-5) Associate Professor H. G. Richards.

†**English 167.** *World Literature.* (5) Mrs. Christen Jensen.

English 170e. *World Literature for Children.* (5) Mrs. Christen Jensen.

†**English 185e.** *Significant Popular Books.* (3 or 5) Assistant Professor Edward F. Chapman.

FRENCH

Special courses are arranged according to the needs of the students.

French 75 or 175. *Masterpieces of French Literature in Translation.* (2-5).

GERMAN

†Special courses are arranged according to the needs of the students.

†**German 75 or 175.** *Masterpieces of German Literature in Translation.* (2-5) Associate Professor Llewellyn McKay.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

Health Education 1. *Personal Hygiene.* (2) Assistant Professor S. R. Couch.

Health Education 108. *The School Health Program.* (4) Associate Professor Alma Nemir.

Physical Education 130. *Physical Education in the Elementary School.* (3) Professor N. P. Neilson.

HISTORY AND POLITICAL SCIENCE

†**History 4.** *The History of Europe from 1500 to 1850.* (5) Professor W. Harold Dalgliesh.

†**History 9, 10, 11.** *American History.* (3-3-3) Professor L. H. Creer.

†**History 105.** *Europe since 1815.* (5) Mrs. Edith S. Elliott.

†**History 106.** *History of England.* (3) Professor W. Harold Dalgliesh.

†**History 150.** *History of California and the Pacific Coast during the Spanish Period, 1520 to 1776.* (5) Professor L. H. Creer.

†**Political Science 101.** *American Government and Politics.* (5) Assistant Professor O. Meredith Wilson.

HOME ECONOMICS

Home Economics 145. *Home Economics and the Community.* (2) Assistant Professor Lila Canavan.

MATHEMATICS

†**Mathematics 1.** *Algebra.* (5) Professor E. W. Pehrson.

†**Mathematics 3.** *Solid Geometry.* (5) Professor E. W. Pehrson.

†**Mathematics 4.** *Plane Trigonometry.* (5) Professor E. W. Pehrson.

†**Mathematics 6.** *College Algebra.* (5) Professor E. W. Pehrson.

†**Mathematics 9.** *Analytic Geometry.* (5) Instructor Junius J. Hayes.

†**Mathematics 10a, 10b, 10c.** *Differential and Integral Calculus.* (4-4-4) Instructor Junius J. Hayes.

MUSIC

Music 152. *Music Education in the Elementary School.* (3 or 5) Assistant Professor Jessie Perry.

PHILOSOPHY

†**Philosophy 1.** *Social Ethics.* (5) Dean E. E. Ericksen.

†**Philosophy 7.** *Ethics of Citizenship.* (5) Assistant Professor W. P. Read.

Philosophy 104. *The Evolution of Morality.* (5) Dean E. E. Ericksen.

PHYSICS

†**Physics 8.** *Household Physics.* (3) Professor T. J. Parmley.

PSYCHOLOGY

†**Psychology 11.** *Principles of Psychology.* (5) Instructor Helen Marshall.

Psychology 122. *Child Development for the Elementary School Teacher.* (3) Instructor Helen Marshall.

Psychology 128. *Psychology in Elementary Education.* (5) Instructor Helen Marshall.

†**Psychology 129.** *Advanced Educational Psychology.* (5) Instructor Helen Marshall.

SOCIOLOGY AND SOCIAL WORK

†**Sociology 1.** *General Sociology.* (5) Professor Owen F. Beal.

†**Sociology 5.** *Urban Sociology.* (3) Professor Owen F. Beal.

†**Sociology 7.** *Introduction to Social Psychology.* (5) Dean Arthur L. Beeley.

†**Sociology 8.** *The Family.* (4) Professor Owen F. Beal.

†**Sociology 10.** *Rural Sociology.* (3) Professor Owen F. Beal.

Sociology 123. *Social Legislation.* (3) Professor Owen F. Beal.

†**Sociology 124.** *Modern Social Problems.* (5) Professor Owen F. Beal.

Sociology (or Social Work) 130. *The Field of Social Work.* (3) Instructor Heber Taylor.

†**Sociology (or Social Work) 134.** *Criminology.* (4) Dean Arthur L. Beeley.

†**Social Work (or Social Education) 140.** *Theory and Practice of Mental Hygiene.* (4) Dean Arthur L. Beeley.

ZOOLOGY

†**Zoology 52.** *Organic Evolution.* (3) Professor R. V. Chamberlin.

Zoology 106. *Genetics.* (3) Dr. E. G. Titus.

HIGH SCHOOL COURSES

ENGLISH

†**Accurate English.** One-half unit high school credit. Instructor Gretchen Horst.

†**High School English.** One unit high school credit. Instructor Gretchen Horst.

HISTORY

†**United States History.** One unit high school credit. Instructor Marion G. Merkley.

MATHEMATICS

†**Algebra (a).** *Beginning Algebra.* One unit high school credit. Instructor Clyde A. Bridger.

†**Algebra (b).** *Advanced Algebra.* One-half unit high school credit. Professor E. W. Pehrson.

†**Geometry (a).** *Plane Geometry.* One or one-half unit high school credit. Instructor Clyde A. Bridger.

†**Geometry (b).** *Solid Geometry.* One-half unit high school credit. Professor E. W. Pehrson.

†**Trigonometry.** *Plane Trigonometry.* One-half unit high school credit. Professor E. W. Pehrson.

COURSES OF INSTRUCTION

Offered by Departments Serving

THE LOWER DIVISION

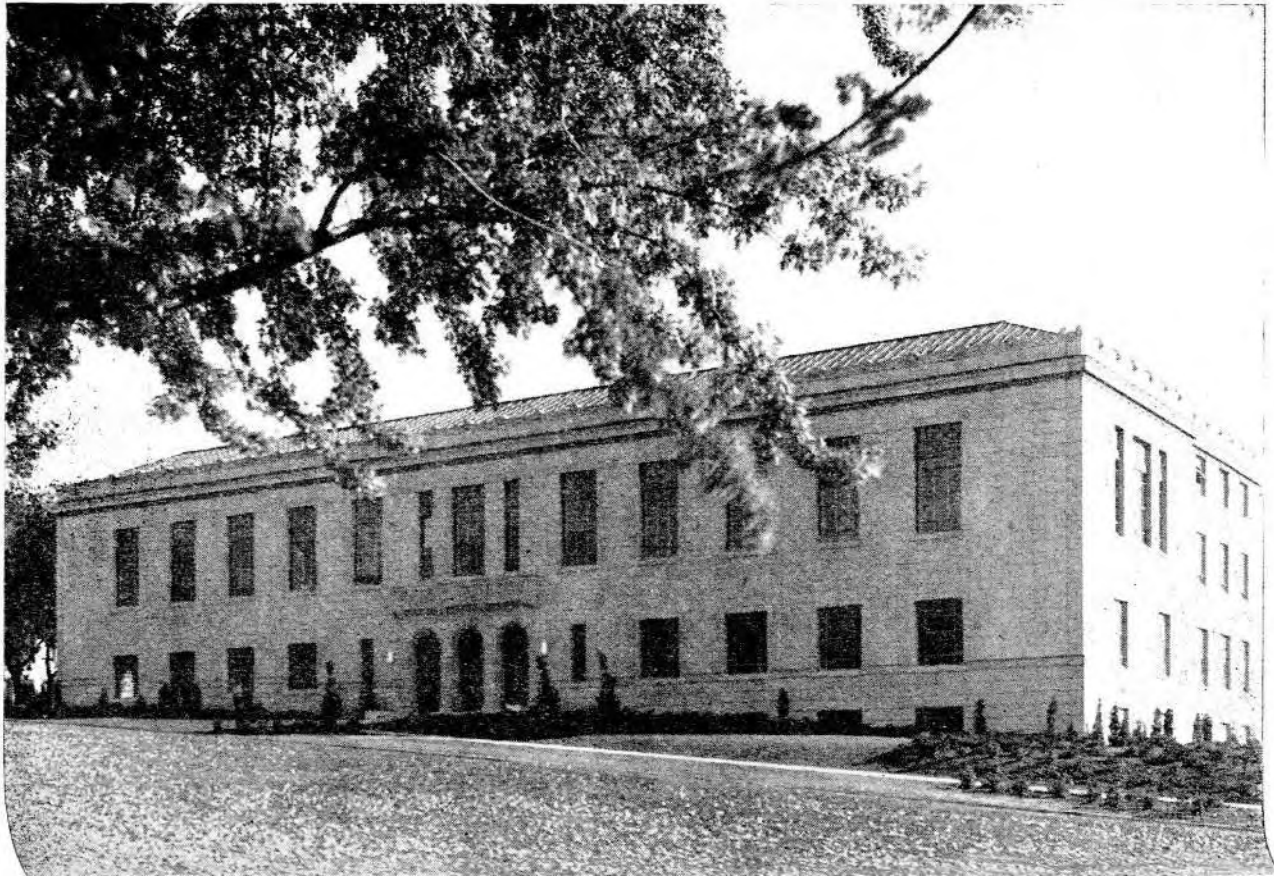
THE SCHOOL OF ARTS AND SCIENCES

THE STATE SCHOOL OF EDUCATION

THE SCHOOL OF BUSINESS

THE SCHOOL OF SOCIAL WORK

THE GRADUATE DIVISION



COURSES OF INSTRUCTION

The courses listed in the following section of the Catalogue are offered in the year 1945-46. In the event that an insufficient number of students apply for a course, the University reserves the right to withdraw it from the program of instruction.

Courses numbered below 100 are lower division courses. Courses numbered 100 and above are upper division courses, and may be taken for graduate credit also unless the contrary is indicated. Freshmen and sophomores may not take upper division courses except by permission of their Dean, the Registrar, and the head of the department concerned.

Courses in the School of Mines and Engineering, the School of Law, the School of Medicine (preprofessional academic courses excepted), and the Extension Division are listed in the preceding section of the Catalogue as a part of the announcement of the school or division.

The credit in quarter hours carried by each course is shown by the numeral in parentheses following the course title. The quarter in which the course is given is indicated by the following abbreviations: Su., Summer, 1945; A., Autumn; W., Winter; S., Spring. (Courses for the summer of 1946 are not listed in this bulletin.) The name of the head or acting head of each department, followed by his office number, is placed first among the names of the staff for each department of instruction.

In August a class program will be issued indicating the hours of the day, days of the week, and classrooms for all courses offered. Fifteen cents is charged for the program, seventeen cents by mail.

ANATOMY

Professors FREUDENBERGER (Md300), SWINYARD; *Associate Professor* HASHIMOTO; *Lecturer* LECOMPTE.

Departmental Major: At least 30 hours in the group of courses numbered Anatomy 101 to 120, or their equivalent. Courses in Zoology may be offered for the additional hours; recommended—Zoology 4, 5, 110, 119, 121, 141. (Zoology 109 is not accepted.)

Prerequisites, except for Anatomy 1, are Zoology 4, 5, 110.

Anatomy 1. *General Elementary Anatomy.* (4) S. The anatomy of the human body. Three lectures per week. Laboratory hours arranged. (Not for premedical students.) Hashimoto.

Anatomy 1n. *General Anatomy for Nurses.* (4) Su. A. W. S. An elementary study of anatomy and embryology.
Freudenberger, Swinyard, Hashimoto.

For medical courses in Anatomy see School of Medicine, page 147.)

ANTHROPOLOGY

(See Sociology and Anthropology, pages 275-278.)

ART

Associate Professor STEWART (Pk415); *Assistant Professors* FRAZER, DIBBLE; *Instructor* GARDNER.

Departmental Majors: 45 hours including the following required courses: In *Major A, Drawing and Painting,* Art 2, 3, 4, 5, 12, 14, 102, 103, 104, 105, 114; in *Major B, Applied Art,* Art 4, 5, 8a, 10, 16, 18, 108a, 116, 118; in *Major C, Landscape,* Art 3 (9 hours), 4 (or 5), 103 (9 hours), 104; in *Major D, Commercial Art,* Art 2, 3, 4, 5, 10, 12, 14, 15, 19, 102 (or 103 or 105), 115, 119.

Teaching Major: Art 2, 3, 4, 5, 8a, 10, 14, 16 (or 18), 19, 103, 105, 106a, 106b, 107, 108a, 108b. *Teaching Minor:* Art 2, 3, 4, 5, 8a, 10, 106a.

All courses numbered below 100 are open to lower division students. Subjects may be repeated only with the approval of the department head.

Art 1. *Still Life.* (2) A. W. S. Elementary drawing in pencil for beginners. Line, mass, values, and perspective.

Art 2. *Still Life.* (3) W. Painting in oil, water color, or pastel from still life. Composition of the group. Various techniques and possibilities in different media. Stewart.

Art 3. *Landscape.* (3) A. S. Sketching from nature, and studio work in oil, water color, pastel. Selection and composition of subject; treatment of line, mass, and color. Stewart, Frazer.

Art 4. *Pictorial Composition.* (2) A. W. S. The organization of the picture through line, mass, and color, abstractly and concretely. Stewart.

Art 5. *Life Class.* (3) A. W. S. Painting and drawing from life. Structure, proportion, action, in figure and portrait.

Art 8a. *Design.* (5) A. W. Principles of color, mass, line, as they apply to all creative pattern design. Frazer.

Art 9. *Silk Screen Printing.* (2) W. Cutting and mounting film stencil; printing in at least two colors. Frazer.

Art 10. *Graphic Arts.* (3) A. W. S. The making of prints in black-and-white and colors, through the mediums of etching, linocut, wood cut, aquatint, and lithography. Mounting prints. Stewart.

Art 12. *Clay Modeling and Pottery.* (3) A. W. S. Beginning sculpture in clay, relief, and round; terra cotta and plaster casting, or pottery. Frazer.

Art 14. *Anatomy for Artists (Elementary).* (5) A. W. Forms of bone and muscle structure of the human figure as the artist uses them. Frazer.

Art 15. *Commercial Art.* (3) A. W. S. Lettering, cartooning, illustrating, magazine and newspaper advertising. Technique of different mediums and creation of original ideas.

Art 16. *Arts and Crafts.* (3) A. W. S. The construction of trays, lamp shades, desk sets, jewelry, and other useful objects. Prerequisite: Art 4 or 8a. (Not credited toward a degree in Arts and Sciences.) Gardner.

Art 18. *Art Dye Process.* (3) S. Resist dyeing including batik and tie dyeing, block printing, and stenciling on fabric. Frazer.

Art 19. *Commercial Lettering (Elementary).* (2) A. Elementary strokes with brush and pen, letter formation, layout, spacing of letters; show cards and signs. Stewart.

Art 102. *Advanced Still Life Painting.* (3) W. Organization of the subject in line, mass; creation of form through color; color harmony in painting. Prerequisite: 10 approved hours in Art, including Art 2. Stewart.

Art 103. *Advanced Landscape Painting.* (3) A. S. Sketching from nature and development of the picture indoors. How to use the sketch. Prerequisite: 10 approved hours in Art, including Art 3. Stewart, Frazer.

Art 104. *Advanced Pictorial Composition.* (3) A. Stressing original creative effort in a number of mediums. A study of the masters through pictures, prints, and slides in color. Prerequisite: Art 4. Stewart.

Art 105. *Advanced Life Class.* (3) A. W. S. Portrait and figure painting in oils. Planes and structure of the head. Prerequisite: 10 approved hours in Art, including Art 5.

Art 106a. *Art History and Appreciation.* (3) A. Survey of the history of art to the High Renaissance, including the Greek, Roman, and Early Christian periods. Illustrated by screen and prints. No prerequisite. (Omitted 1945-46.) Frazer.

Art 106b. *Art History and Appreciation.* (3) W. The development of painting from the Italian Renaissance to contemporary art. Illustrated by screen and color prints. No prerequisite. Frazer.

Art 107. *Art Education in the Secondary Schools.* (3) S. Planning an art program in terms of student needs at the junior and senior high school levels. The course offers opportunity for the development of art skills and techniques. Dibble.

Art 108a. *Historic Ornament.* (2) W. Analysis of characteristic patterns of the great design periods. Prerequisite: Art 8a or equivalent. (Omitted 1945-46.) Frazer.

Art 110. *Graphic Arts.* (3) A. W. S. Advanced work in mediums described in Art 10 with the aim of developing greater facility in technique and originality in ideas. Occasional reviews of work by contemporary printmakers. Prerequisite: Art 10. Stewart.

Art 112. *Clay Modeling.* (3) A. W. S. Advanced work in either pottery or terra cotta; figure or portrait. Prerequisite: Art 12 or equivalent. Frazer.

Art 115. *Commercial Art.* (3) A. W. S. Advanced study in the field. Prerequisite: 10 approved hours in Art, including Art 15.

Art 116. *Arts and Crafts.* (3) A. W. S. Advanced projects. Prerequisite: Art 16. (Not credited toward a degree in Arts and Sciences.) Gardner.

Art 118. *Fabric Design.* (3) S. Batik and resist dyeing; stencil or block printing of fabrics. Prerequisite: 10 approved hours in Art, including Art 8a and 18. Frazer.

Art 119. *Advanced Lettering.* (2) A. Modern commercial uses of lettering with pen and brush adapted to advertising and display. A study of contemporary styles. Prerequisite: Art 19. Stewart.

Art 120. *Art Today.* (3) S. Art in the home, in dress, in the community. Planned for Home Economics majors but of interest to anyone culturally minded. Stewart.

ASTRONOMY

(See Mathematics, pages 245-247.)

BACTERIOLOGY

Professor GEBHARDT (Md107b); *Associate Professor* MATSON†; *Assistant Professor* CLAPPER; *Lecturers* BRAMHALL, GILCHRIST, CURTIS.

Departmental Major: Completion of the following courses leads to a bachelor's degree in Bacteriology: Chemistry 4, 5, 6 (or 1, 2, 11), 7, 8, 103, 104, 105; Biological Chemistry 108, 109; Zoology 108, 109, 140, 141; Pathology 106; and a minimum of 41 hours in Bacteriology

†On leave of absence with the armed forces.

—Bacteriology 1, 103, 104, 105, 109, 113 (3 hours), 114 (5 hours), 200 (at least 6 hours).

Adequate facilities are available for graduate work. Completion of the prescribed curriculum leads to a master's degree in Bacteriology. Candidates are required to take Physics 11, 12, 13, 14, 15, 16. Physical Chemistry is advised.

Bacteriology 1. *Elementary Bacteriology.* (5) Su. W. S. Three lectures and two laboratory periods per week covering general aspects of bacteriology, stressing especially the microorganisms related to our daily lives, in food, water, milk, etc. Prerequisite: Chemistry 4 (or 1), Biology 1. Clapper and Fellow.

Bacteriology 1n. *Bacteriology for Nurses.* (5) Su. A. W. S. Three lectures and one laboratory period per week, covering general and pathogenic bacteriology and immunology necessary for the nursing profession. For students in the nursing training program only. Curtis, Clapper, and Fellow.

Bacteriology 103. *General Bacteriology.* (5) A. Fundamental principles of bacteriology. Prerequisite: Bacteriology 1. Clapper.

Bacteriology 104. *Pathogenic Bacteriology.* (6) W. Morphology and cultural characteristics of the pathogenic bacteria are stressed. Laboratory diagnosis and control of diseases are completely treated. Prerequisite: Bacteriology 103. Gebhardt, Clapper.

Bacteriology 105. *Bacteriology of Food, Water, and Milk.* (5) W. Standard methods of bacteriological analyses of food, water, and milk. Several field trips are included. Prerequisite: Bacteriology 103. Clapper, Gebhardt.

Bacteriology 109. *Immunology and Serology.* (6) S. Three lectures and laboratory periods per week covering theoretical and practical immunology and serological diagnostic procedures. Prerequisite: Bacteriology 104. Gebhardt, Clapper.

Bacteriology 113. *Bacteriological Journals.* (1-1-1) Su. A. W. S. Review of current bacteriological literature with weekly reports by students. Prerequisite: Bacteriology 109. Gebhardt, Clapper.

Bacteriology 114. *Advanced Bacteriology.* (3-5) Su. A. W. S. Practical public health and clinical diagnostic bacteriology and serology and research principles. Prerequisite: Bacteriology 109 or equivalent. Gebhardt, Clapper, Bramhall, Gilchrist.

Bacteriology 200. *Research.* (Not less than 2 credit hours per quarter.) Su. A. W. S. Original investigations by qualified students in bacteriology, immunology, or filterable viruses. Conferences and discussions on research problems. Prerequisite: Bacteriology 114 or equivalent and departmental approval. Gebhardt, Clapper.

(For medical courses in Bacteriology see School of Medicine, page 148.)

BIOLOGICAL CHEMISTRY

Professors SAMUELS (Md411), GOLDTHORPE; *Instructor* KOHNHORST.

Of the courses offered in this department, 108 and 109 are the minimum requirements in Biological Chemistry for students of medicine. Medical students who wish more advanced work are advised to take courses 110, 111, 112, 201 (or 202).

Departmental Major: Chemistry 7, 8, 9, 103, 104, 105, 106, 107, 108; Biological Chemistry 108, 109, 110. Before graduate study is begun, the following courses in related departments must be completed: Bacteriology 1; Mathematics 10; Physics 11, 12, 13, 14, 15, 16; Physiology 1; Zoology 4, 5, 109, 110. A ready reading knowledge of German is desirable.

Biochemistry 101. *Collegiate Biochemistry.* (6) A. A brief course in Biochemistry. Class work, three hours per week; laboratory, nine hours per week. Prerequisite: Physiology 1; Chemistry 3 or 30. Goldthorpe, Kohnhorst.

Biochemistry 103. *Clinical Biochemistry.* (2) A. A laboratory course in chemical methods for students in Medical Technology. Prerequisite: Chemistry 8, 30; Biochemistry 101. Goldthorpe, Kohnhorst.

Biochemistry 108. *General Biochemistry.* (5) A. The chemistry of the cell. Samuels, Goldthorpe, Kohnhorst.

Biochemistry 109. *General Biochemistry.* (6) W. The chemistry of enzymes, digestion, metabolism, and excretion. Samuels, Goldthorpe, Kohnhorst.

Biochemistry 110a, 110b, 110c. *Advanced Biochemistry.* (2 or 4) A, W, S. A seminar course in which the biochemistry of different important groups of compounds is considered. Staff.

Biochemistry 111a, 111b, 111c. *Analytical Biochemistry.* (3-5) A. W. S. A course in the newer techniques of importance to biochemistry. Staff.

Biochemistry 112. *Biochemistry Journal Club.* (1) A. W. S. Important articles in current journals are reviewed and discussed. Staff.

Biochemistry 114. *Biochemical Preparations.* (Credit arranged) A. W. S. Prerequisite: Biochemistry 109. Staff.

Biochemistry 201. *Research* (Credit arranged). Staff.

Biochemistry 202. *Biochemistry-Physiology-Pharmacology Seminar.* (1) A. W. S. Presentations of current research. Staff.

(For medical courses in Biochemistry see School of Medicine, p. 148.)

BIOLOGY

Professors CHAMBERLIN (B203), COTTAM, REES, WOODBURY; *Associate Professors* JONES*, NEWBY†, STEPHENS, FLOWERS; *Assistant Professors* SCHELL, BEHLE, DURRANT, EVANS; *Instructors* MULAIK, RICHINS*; *Curator* IVIE; *Special Lecturers* G. STEWART, SUGDEN, A. O. GARRETT.

Courses are grouped under Botany, Zoology, and General Biology. The courses listed under the last heading deal with subject matter common to the other two fields and applicable, on approval, to a major in either.

Majors are urged to present a year's work in chemistry and, in most cases, organic chemistry. Premedical students follow their prescribed course. Others should select Chemistry 1, 2, 3 (or 4, 5, 6), 30.

Composite Teaching Major in Biology: About 75 hours of approved work in the major and allied subjects. Usually required are Botany 1, 5; Zoology 1, 2, 117, 170; Biology 2 (or Zoology 106), 197, 198, 199; a course in college physiology, and one in general bacteriology. Students expecting to teach in Utah should take such courses as Botany 6; Zoology 20, 23, 122, 143.

Departmental and Teaching Major in Botany: 45 approved hours in Botany with supporting work in Zoology. Required: Botany 1, 120; Zoology 1, 2; Biology 155, 160 (or 161), 197, 198, 199; and a course in genetics. Recommended: Zoology 200, some work in bacteriology, and (for those specializing in ecology) a course in physiography or geology. For prospective teachers the composite major above is advised.

Departmental and Teaching Major in Zoology: 45 approved hours in Zoology and supporting subjects. Required: at least 9 hours of Botany (including Botany 1), Zoology 1, 2 (or 4, 5), 10 (or 110), 150; Biology 155, 160, 197, 198, 199; and a course in genetics. For premedical students and those specializing in morphology, required: Zoology 109, 125; recommended: Biology 123, Zoology 108, 119, and 140 (or 141). Others should include Zoology 117, 135, 140 (or 141), and 200 (or a course in human physiology).

Teaching Minors: In Biology (including Botany and Zoology) 30 hours of approved work; in Botany or Zoology a minimum of 25 hours of approved work.

BIOLOGY

Biology 1. *Principles of Biology.* (5) Su. A. W. S. The fundamental characteristics of living things. This course or equivalent is prerequisite to all other biological subjects. Three lectures, one quiz section, and one laboratory period per week. Staff.

Biology 2. *Heredity.* (3) A. W. S. The general principles of heredity and development, with practical applications. Prerequisite: Biology 1, or other satisfactory course in Biology, Zoology, or Botany. Three lectures per week. Should be accompanied if possible by Biology 7. Staff.

†On leave of absence with the armed forces.
*On leave of absence.

Biology 3. *Natural History.* (4) S. The relationships of living organisms to their environment. Three lectures and one laboratory period per week. Woodbury.

Biology 7. *Laboratory Course in Heredity and Development.* (2) A. W. S. A laboratory study of the facts which form the basis of our knowledge of heredity. No credit allowed unless course is accompanied or preceded by Biology 2. Stephens.

Biology 135. *Biogeography.* (3) W. The floristic and faunistic provinces of the earth with emphasis on the factors and problems of distribution. Three lectures per week. Cottam.

Biology 155. *Theoretical Biology.* (3) S. The broader speculations and theories of biology. Chamberlin, Schell.

Biology 160, 161. *History of Biology.* (2-2) W. S. Winter quarter: from the beginnings to the end of the 18th century. Spring quarter: the 19th and 20th centuries. Two lectures or discussion periods per week. Schell.

Biology 170. *The Teaching of Biology.* (3) W. Acceptable for credit in either Biology or Education. Methods of organizing and presenting biological course work. Preparation of biological materials and manipulative practice in use of teaching aids. Woodbury.

Biology 197, 198, 199. *Seminar.* (1-1-1) A. W. S. A weekly meeting of the instructing staff and advanced students for the discussion of current problems and literature. Required of majors in Zoology and Botany, and of graduate students throughout their course. Chamberlin.

BOTANY

Botany 1. *General Botany.* (5) A. W. A study of plants from the algae to the flowering plants. Prerequisite: Biology 1 or equivalent. Three lectures and two laboratory periods per week. Cottam.

Botany 5. *The Spring Flowers of the Wasatch.* (4) S. Classification of the early seed plants. Two lectures and two laboratory or field periods per week. Cottam.

Botany 6. *Utah Trees.* (4) A. The identification, culture, and economic importance of native and cultivated trees of the State. Three lectures and one laboratory or field period per week. Cottam.

Botany 101. *Algae.* (4) A. Advanced course on the algae. Prerequisite: Botany 1 or equivalent. Two lectures and two laboratory periods per week. Flowers.

Botany 102. *Ferns.* (4) W. A continuation of Botany 101. Flowers.

Botany 103. *Seed Plants.* (4) S. A continuation of Botany 101 and 102. A study of the flowering plants. Prerequisite: Botany 1 or equivalent. Two lectures and two laboratory periods per week. Flowers.

Botany 104. *Mosses of Utah.* (4) S. An advanced course surveying the ecology and taxonomy of Utah mosses. Two lectures and two laboratory periods per week. Flowers.

Botany 110. *Methods in Plant Histology.* (3) W. The technique of preparing sections for microscopic examination. Prerequisite: Botany 1. One lecture or consultation period and two laboratory periods per week. Flowers.

Botany 112. *Plant Anatomy.* (4) S. Tissues and organs of seed plants, their disposition, and variations. A prerequisite to Botany 102, 103. Prerequisite: Botany 1. Two lectures and two laboratory periods per week. Flowers.

Botany 120. *Planting Physiology.* (4) A. The activities of the plant: how it lives, respires, grows, and reproduces. Prerequisite: Botany 1 and a course in chemistry. Two lectures and two laboratory periods per week. Flowers.

Botany 130. *Utah Plant Life.* (3) Su. S. The various communities of the State with reference to the environmental factors which support them. Two lectures per week and five major field trips to be arranged during the quarter. Cottam.

Botany 132. *Field Ecology.* S. Open to students prepared to do independent work. Times and credit to be arranged. Cottam, Flowers.

Botany 150. *Fungi.* (4) A. The structure, classification and economic importance of fungi. Two lectures and two laboratory periods per week. Flowers.

Botany 165. *Undergraduate Thesis Work.* Reading and laboratory work on individual problems. Open to students taking a major or minor in Botany. Cottam, Flowers.

Botany 219. *Research.* Individual work on botanical problems. Guidance in the form of literature and conferences between instructor and student. Cottam, Flowers.

ZOOLOGY

Zoology 1. *General Zoology: Invertebrates.* (5) A. W. S. An introduction to zoological principles with a study of types of invertebrates. Required of departmental majors and predental students not desiring Zoology 4. Prerequisite: Biology 1 or equivalent. Three lectures and two laboratory periods per week. Evans, Woodbury, Durrant.

Zoology 2. *General Zoology: Vertebrates.* (5) A. W. S. Continuation of Zoology 1. Required of departmental majors and of predental students not desiring Zoology 5; not open to premedical students. Three lectures and two laboratory periods per week. Woodbury.

Zoology 4. *Comparative Invertebrate Zoology.* (5) Su. A. W. S. The introductory course for premedical students. Biology 1 is not a prerequisite, but is recommended. Three lectures and two laboratory periods per week. Evans.

Zoology 5. *Comparative Vertebrate Anatomy.* (5) A. W. A general anatomical study of the vertebrates, required of premedical students. Prerequisite: Zoology 4 or equivalent. Two class and three laboratory periods per week. Durrant.

Zoology 10. *Vertebrate Embryology.* (5) Su. A. S. Vertebrate embryology studied in laboratory chiefly on chick and pig. Prerequisite: Zoology 5. Two class and three laboratory periods per week. Behle.

Zoology 17 or 117. *Insect Life.* (4) A. An introductory study of the insects of Utah and their near relatives, including identification, life, history, habits, interrelations, and importance. Three lectures and one laboratory period or field trip per week. Field trips will usually take the place of the laboratory period. Rees.

Zoology 20 or 120. *Utah Birds.* (4) S. The birds of the State: their identification, classification, behavior, and ecenomic importance. Three lectures and one laboratory period or field trip per week. Behle.

Zoology 23. *Utah Mammals.* (5) S. The classification and natural history of the local mammals. Three lectures and two laboratory or field periods per week. Durrant.

Zoology 50a. *Evolution.* (3) A. W. S. The ways of life. The more general principles and processes exhibited in the living world, with emphasis upon adaptation and evolution. Application to some human affairs. Chamberlin.

Zoology 50b. *Science and Progress.* (2) A. W. S. Organisms as historic beings. General aspects of change, with consideration of the nature and problem of progress. Currents of thought leading to the scientific method and the modern mentality. The conflict of science and religion. Chamberlin.

Zoology 51. *Social Life of Animals.* (2) A. W. S. The evolution of social life in the animal world, and its relationships to fundamental instincts, mutual aid, and communal organization. Two lectures per week. Rees.

Zoology 104. *Advanced Invertebrate Zoology.* (2 to 5). (Omitted 1945-46.)

Zoology 106. *Genetics.* (3 or 4) A. S. A course for upper division and premedical students. Three lectures per week, with or without one laboratory period. Stephens.

Zoology 107a, 107b. *Advanced Genetics* (2-2) W. S. Recent advances in genetics with special attention to the cytological basis. Prerequisite: a course in genetics and an advanced course in either Botany or Zoology. Stephens.

Zoology 108. *Microscopical Technique.* (3) S. A practical course in technical methods of preparing microscopic slides of animal tissues. Prerequisite: Zoology 109. One lecture and two laboratory periods per week. Evans.

Zoology 109. *Comparative Histology and Organology.* (4) A. or W. Required of Medical Technology students and of Zoology majors interested in morphology. Prerequisite: Zoology 5 or Anatomy 7. Evans.

Zoology 110. *Comparative Embryology.* (5) Su. A. S. An advanced course primarily for Zoology majors and graduate students. Prerequisite: Zoology 5 or permission of the instructor. Two lectures and three laboratory periods per week. Behle.

Zoology 112. *Eugenics.* (3) A. W. The principles of heredity as applied to man, involving a consideration of the principles of racial improvements. Prerequisite: Biology 2 or 106. Three lectures per week. Stephens.

Zoology 114. *Insect Morphology.* (4) W. Comparative insect anatomy with some attention to histology and embryology. One lecture and three laboratory periods. Rees.

Zoology 116. *Advanced Entomology.* Individual work in insect morphology, histology, larval stages, metamorphosis, embryology, or classification. Hours and credit to be arranged. Rees.

Zoology 118. *Insects and Man.* (4) W. The important economic relationships existing between man and insects. Three lectures and one laboratory period per week. Rees.

Zoology 119. *Medical Entomology.* (3 or 4) S. The identification, life histories, habits, and methods of control of insects and closely related groups directly injurious to man. Three lectures a week. Rees.

Zoology 121. *Mammalian Anatomy.* (4 or 5) A. A study based upon the complete dissection of the cat and other selected mammals. Primarily for premedical students. Two lectures and two laboratory periods per week. (One additional laboratory period can be arranged.) Durrant.

Zoology 122. *Utah Amphibians and Reptiles.* (3) S. The structure, physiology, and classification of the cold-blooded land vertebrates, with emphasis on the Utah forms. Two lectures and one laboratory period per week. Woodbury.

Zoology 123. *The Animal Cell.* (3) W. (Omitted 1945-46.)

Zoology 125. *Comparative Neurology.* (3) W. Designed for zoology and psychology majors. Two lectures and one laboratory period per week. Evans.

Zoology 126. *Advanced Comparative Histology and Organology.* (2 to 5) W. Prerequisite: Zoology 109. Two lectures per week including demonstrations. Laboratory work as arranged. Evans.

Zoology 130. *Faunistic Zoology.* A. W. S. Individual work upon vertebrates or invertebrates. Special attention to problems of the Great Basin region. Hours and credit arranged. Chamberlin and staff.

Zoology 133. *Problems in Morphology.* Individual or group work on special problems in anatomy, histology, or embryology of vertebrates or invertebrates. Hours and credit arranged. Staff.

Zoology 135. *Animal Ecology.* (5) S. The relationships of animals to their environment. Three lectures and two laboratory periods or field trips per week. Woodbury.

Zoology 136. *Vertebrate Ecology.* (5) S. The principles of organic relationships applied to the land vertebrates. Three lectures and two laboratory periods or field trips per week. (Omitted 1945-46.) Woodbury.

Zoology 140. *Protozoology.* (3 or 4) A. The morphology, life-histories, and general biological relations of the Protozoa. Two lectures and one or two laboratory periods per week. Prerequisite: Zoology 1 or 4. Schell.

Zoology 141. *Parasitology.* (3 or 4) W. The biological significance of parasites: the relation of animals to disease. Two lectures and one or two laboratory periods per week. Laboratory limited to Platyhelminthes and parasitic Nemathelminthes. Prerequisite: Zoology 1 or 4. Schell.

Zoology 142. *Parasitology for Laboratory Technicians.* (4) S. The more important protozoan and metazoan parasites of man. Two lectures and three two-hour laboratory periods per week. Prerequisite: Zoology 1. Offered only to majors in Medical Technology. Not recommended for premedical students. Schell.

Zoology 143. *Utah Mollusks.* (3) S. Utah snails and bivalves, their life habits and relations. Three lectures per week, including demonstrations. Evans.

Zoology 145. *Ichthyology.* (4) S. The activities, life histories, and classification of fishes. (Omitted 1945-46.) (See Zoology 130.)

Zoology 150. *Animal Phylogeny.* (3) A. The laws and processes exhibited in the genesis of individuals and groups. Special attention to the history of vertebrates, with detailed study of the phylogeny of mammalian types. Chamberlin, Durrant.

Zoology 157. *Man.* (3) W. Man in the light of his zoological relationships. His origin, development, general structure, and elementary behavior interpreted on the basis of present biological knowledge. Chamberlin, Durrant.

Zoology 200. *General Physiology.* (5) W. The general physiological and dynamic aspects of living organisms. Prerequisite: approved foundation courses in biology, a course in physics, and a year of chemistry. Primarily for seniors and graduates. The class is limited to 20 students. Two lectures and three laboratory periods per week. Flowers.

Zoology 210. *Problems in Ichthyology and Limnology.* Su. A. W. S. Individual work and investigations on problems connected with classification, behavior, or culture of fish, or relevant aspects of aquatic biology. Hours and credit arranged. (Omitted 1945-46.)

Zoology 219. *Research.* Individual work upon problems in taxonomy, morphology, or ecology. Students are particularly encouraged to work upon problems presented by the local fauna.
Chamberlin and staff.

BOTANY

(See Biology, pages 198-199.)

BUSINESS

Professors LORENTZEN (IE304), WALKER, JOHNSTON, GREENE*; *Associate Professor* BEARNSON; *Assistant Professor* STUCKI; *Lecturers* SUNDWALL, WRIGHT; *Instructors* ALLISON, RANDALL, CALDER*, RUSSON, BROWN.

Departmental Major: Business 1, 2, 3; Economics 1, 2, 3, 4; plus 5 hours each in busines law, finance, intermediate theory, labor economics (or other upper division Economics, except 170), management, marketing, and statistics, plus 15 to 20 hours (or four or more upper division courses) in a field of concentration, and one seminar.

Teaching Major in Commercial Education: Business 1, 2, 3, 9, 47, 65, 117, 160, 164, 165, plus electives, to total thirty hours or more in the School of Business, 15 hours of which must be upper division work. *Teaching Minor*: Business 1, 2, 42, 63, 160, and 164.

ACCOUNTING (Business 1-17, 100-119)

Business 1a, 1b. *Brief Courses in Accounting.* (3) A. or (2) W. Business 1b is primarily for students in Secretarial Training and for Economics majors not registered in the School of Business. Business 1a is primarily for engineers. These courses are open to other students who desire a brief course in accounting.

It is strongly recommended that a three-hour laboratory be taken with these courses for one additional hour of credit. Allison.

Business 1, 2, 3. *Elementary Accounting.* (3-3-3) Su. A. W. S. Open to freshmen and required of all students majoring in Business. A two-hour laboratory is required each week. (Business 4 and 5 may be taken in place of Business 1, 2, 3.) Business 1, 1b, or 4 required of those majoring in Economics. It is recommended that Mathematics 1 or Business 9 parallel elementary accounting. Staff.

Business 4, 5. *Elementary Accounting.* (5-5) A. W. Equivalent to Business 1, 2, 3. Staff.

Business 6. *Intermediate Accounting.* (5) S. Equivalent to Business 11, 12, 13, and intended to permit irregular students to meet requirements of their programs. By taking Business 4 and 5 in the autumn and winter, and Business 6 in the spring, a sophomore student may complete freshman accounting (Business 1, 2, 3) and sophomore accounting (Business 11, 12, 13) in one year and be prepared to go on with Business 101, 102, 103 in his junior year in regular order. Facer.

Business 9. *Fundamentals of Business Mathematics.* (3) A. An elementary course intended to provide a thorough review and basic instruction in the arithmetical and algebraic operations most fundamental in commercial arithmetic, business mathematics, statistics, and machine operation. Allison.

*On leave of absence.

Business 10. *Mathematics of Business.* (3) W. Largely a study of compound interest formulas, their derivation, and their use in solving business and accounting problems of intermediate difficulty. Prerequisite: Mathematics 1 or Business 9. Allison.

Business 11, 12, 13. *Intermediate Accounting.* (2-2-2) A. W. S. Regular sophomore course in accounting. Prerequisite: Business 1, 2, 3, and Mathematics 1 or Business 9. It is recommended that Business 10 or Mathematics 7 be taken concurrently with this course. Randall.

Business 100. *Mathematics of Accounting, Statistics, and Insurance.* (3) S. An advanced course to give majors in accounting, statistics, and insurance practice in extensive application of actuarial science and other specialized mathematics to problems in their fields of concentration. Prerequisite: Business 10 or Mathematics 7, and Business 1, 2, 3; or 4, 5. Allison.

Business 101, 102, 103. *Advanced Accounting.* (4-4-4) A. W. S. Open only to those who have had one year of accounting. It is recommended that Business 10 or Mathematics 7 precede, and Business 100 parallel 101. Johnston.

Business 104a. *Social Security and Payroll Tax Accounting.* (3) S. An analysis of the problems of payroll accounting, with special emphasis upon those problems arising from the social security laws. Prerequisite: Business 1, 2, 3; or 4, 5. Allison.

Business 104b, 104c. *Accounting Systems.* (2-2) A. W. A study of the accounting features peculiar to various businesses, together with the designing of accounting systems. Prerequisite: Business 6; or 11, 12, 13. Allison.

Business 105a, 105b, 105c. *Auditing.* (2-2-2) A. W. S. The legal responsibilities, the principles, and practical procedure in the conduct of an audit and making of an audit report. Prerequisite: two years of accounting. It is recommended that Business 104 precede, and 109 and 108 parallel, this course. Johnston.

Business 106a, 106b, 106c. *Advanced Accounting Problems.* (2-2-2) A. W. S. The American Institute of Accountants' examinations, together with other typical C. P. A. problems form the ground work of the course. Prerequisite: two years of accounting. Johnston.

Business 107. *Analysis of Financial Statements.* (5) S. Quantitative and qualitative interpretation and evaluation of accounts as shown by single and comparative statements, such as would be desired by the banker, credit man, prospective stock and bond buyer, and executive. Prerequisite: Economics 1, 2, 3, and Business 1, 2, 3, 121. May be counted toward a Finance or Accounting major. Johnston.

Business 108. *Cost Accounting.* (4) A. The elements, keeping, compiling, and interpretation of costs. Prerequisite: Economics 1, 2, 3, and two years of accounting. Johnston.

Business 109a, 109b. *Federal and State Tax Accounting.* (2-2) W. S. A study of Federal and State income tax laws in relation to accounting. Prerequisite: two years of accounting. Johnston.

Business 110. *Introduction to Governmental Accounting.* (4) S. Accounting for institutional and governmental units. Financial administration of funds, appropriations, and budgets. Prerequisite: Economics 1, 2, 3; Business 101, 102, 103. Johnston.

SECRETARIAL TRAINING (Business 18-65, 160-169)

Business 18. *Business English.* (3) A. (See English 18.)

Business 40*. *Elementary Typewriting.* (2) Su. A. W. S. Theory of machine operation and speed building practice. Sundwall, Brown.

Business 41. *Typewriting Speed Building.* (2) Su. A. W. S. Speed building practice and application of typewriting skill to personal problems. Sundwall, Russon, Brown.

Business 42. *Advanced Typewriting Speed Building.* (2) Su. A. W. S. Advanced speed building practice and application of typewriting skill to business problems. Brown.

Business 43. *Advanced Typewriting Speed Building.* (2) W. S. An intensive course in speed building. Prerequisite: Business 42 or equivalent. Brown.

Business 47. *Office Appliances.* (2) Su. A. W. S. Operation of adding, calculating, bookkeeping, and duplicating machines. Emphasis will be placed on operation of calculator. Brown.

Business 61. *Shorthand Theory.* (5) Su. A. W. Presentation of Gregg shorthand theory with elementary vocabulary drills in reading and writing. Sundwall, Russon, Brown.

Business 62. *Elementary Shorthand Dictation.* (5) Su. A. W. S. Application of complete theory in dictation practice. Prerequisite: Business 41, 61. Sundwall, Russon, Brown.

Business 63. *Shorthand Review and Intermediate Dictation.* (5) Su. A. W. S. Review of theory, with speed building practice to 100 words a minute. Prerequisite: Business 62. Sundwall, Russon, Brown.

Business 64. *Shorthand Speed Building and Transcription.* (5) Su. A. W. S. Speed building practice from 100 to 120 words a minute, with drills on vocabularies of various businesses. Introduction of transcription. Prerequisite: Business 42, 63; English 3 or 13. Sundwall, Russon.

Business 65. *Advanced Shorthand Transcription.* (5) Su. W. S. Intensive transcription practice on business correspondence, reports, and legal forms. Prerequisite: Business 64. Sundwall, Russon.

Business 117. *Secretarial English.* (3) W. (See English 117.)

Business 160. *Office Typewriting Problems.* (2) W. S. Physical features of typewritten charts, tables, reports, business and legal papers; practice in cutting stencils. Prerequisite: Business 42. Russon.

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*A maximum of six hours credit may be earned in lower-division typewriting.

Business 161. *Military Correspondence and Filing.* (2) W. S. A basic course in army and navy correspondence and filing. Covers various message forms; practice in writing letters; study of filing materials and procedures. Prerequisite: Business 41 or equivalent. Sundwall.

Business 164. *Methods of Teaching Commercial Subjects.* (4) A. Recent techniques, texts, and testing materials employed in teaching typewriting, shorthand, and bookkeeping. Required of teaching majors in Commercial Education. Should precede Education 106. Prerequisite: Business 1, 42, 62; Psychology 129. Sundwall.

Business 165. *Secretarial Procedure.* (3) S. Analysis of secretarial problems. Includes practice in transcription of business papers, mailing, telephoning, filing, banking, business etiquette, and use of information source materials. Prerequisite: Business 18, 42, 65, 160. Russon.

Business 167. *Shorthand Reporting.* (4) W. Intensive speed building on congressional vocabulary and convention reporting. Prerequisite: Business 65. Russon.

Business 168. *Advanced Shorthand Reporting.* (4) S. High speed dictation on congressional vocabulary, court testimony, and jury charge. Reporting shortcuts. Prerequisite: Business 167. Russon.

Business 169. *Office Management.* (3) S. Principles and practices in scientific office management, employment and training of typists, stenographers, and clerks. Prerequisite: Business 2, 42. Sundwall.

BANKING AND FINANCE (BUSINESS 120-122, 129-139)

Business 120. *Corporation Finance.* (3) S. For engineers. A brief course in the fundamental principles of corporation finance. Considers only the principal methods employed in the conduct of business. Johnston.

Business 121. *Corporation Finance.* (5) W. The principles and methods employed in promoting, constructing, and operating business enterprises; investment of capital funds; determination of incomes, dividends, and surplus; insolvency, receivership, and reorganization. (Same as Economics 121.) Johnston.

Business 122. *Cases in Business Finance.* (3) S. The various types of business organizations; the methods employed in financing business enterprises from practical cases; the management of income, dividends, and surplus; financing of receivership and reorganizations. Prerequisite: Economics 170, Business 121. Johnston.

Business 129. *Money and Banking.* (5) A. S. The theory of money and banking, the origin, principles, and functions of banking. Should be taken by all students majoring in Business and Economics. Prerequisite: Economics 1, 2, 3; Business 1, 2, 3. (Same as Economics 129.) Stucki.

Business 130. *Domestic and Foreign Exchange Banking.* (2) W. The business meaning of foreign exchange. Influences affecting rates of exchange, import and export credits, settlement of international trade balances, banking accommodation in foreign trade. Prerequisite: Economics 129.

Business 131. *Central and Federal Reserve Banking.* (2) S. An historical account of the banking systems of Europe and the United States; the Federal Reserve System—its introduction, present organization, laws, regulations, and methods of operation. Prerequisite: Economics 129. Stucki.

Business 135. *Credits and Collections.* (2) W. The principles and practice of commercial credit in relation to wholesaler, manufacturer, and bank.

Business 136. *Investments.* (5) S. Investments and their application; mortgage, security and analysis of municipal statements; corporation securities and stocks, their claims on earnings and assets; special investments and investors; when and how to make investments. Prerequisite: Economics 121 or 129, and 170.

BUSINESS LAW (BUSINESS 140-149)

Business 141, 142, 143. *Business Law.* (3-3-3) A. W. S. The nature and sources of law. The business man's relations to the law and the public. The making, interpretation, and operation of contracts, including the agency contract and relationship. Open to juniors.

Business 147, 148, 149. *Business Law.* (2-2-2) A. W. S. Specialized contracts, negotiable instruments, sales, bailments, real estate, and personal property. The law of business organization and dissolution, partnerships, corporations, and bankruptcy. Prerequisite: Business 141, 142, 143. Open to seniors.

MANAGEMENT (BUSINESS 150-158)

Business 150. *Industrial Organization and Management.* (5-5-5) A. W. S. An introduction to scientific management as applied in American business and industry. Several plant trips will be required. Prerequisite: Economics 1, 2, 3; Business 1, 2, 3. Lorentzen.

Business 152. *Personnel Administration.* (4) Su. A. The specific problems of personnel-policy formulation and administration. Prerequisite: Business 150. Wright.

Business 153. *Business and Government.* (4) S. The relations of business and government, economic and legal problems of pricing, monopolies, utility regulation, business and labor relations, government in business, government control of credit, social security. Prerequisite: Economics 170. Rasmussen.

Business 154. *Retail Store Management.* (3) W. The problems connected with the management of unit, department, chain, and specialty stores, retail co-operative groups, and voluntary chains. Prerequisite: Economics 170; Business 150, 170. (May also count as Marketing.) Wright.

Business 155. *Traffic Management.* (2) W. The problems connected with traffic management, including railway, motor, and air shipments. Prerequisite: Business 150, Economics 110.

Business 156. *Real Estate Principles.* (3) A. The fundamentals of the real estate business. Analysis of urban land problems, real estate merchandising, real estate selling, and the function of the appraiser. **Lorentzen.**

Business 157. *Cases in Management.* (5) S. Through the case method, the student is introduced to many actual management problems and their solution. Prerequisite: Business 150, 170. Lorentzen.

Business 158. *Business Policies.* (3-2) A. W. To help the student correlate his knowledge of economics, marketing, production, and business management. Careful analysis of the economic forces at work and of policy determination and maintenance in many leading American industries. Prerequisite: Business 150, 170. Required of all Management majors. Lorentzen.

MARKETING (BUSINESS 159, 170-189)

Business 159. *Sales Management.* (3) S. This course aims to acquaint the student of marketing with various types of sales problems which the sales manager must solve. Prerequisite: Business 170. (May be counted as Management.)

Business 170. *Marketing.* (5-5-5). Su. A. W. S. A study of the functions, organizations erected to perform these functions, and cost of marketing economic goods. Lorentzen.

Business 172. *Co-operative Marketing.* (3) Su. W. The growth and development of co-operative marketing. How new economic needs create new institutions and shape them to suit varied conditions. Bearnson.

Business 175a, 175b. *Marketing. Field Trips.* (2-2) W. S. Prerequisite: Business 170.

Business 180. *Principles of Salesmanship.* (3) W. A practical course in selling. Analysis of the product and market; planning and execution of the interview; psychological aspects of selling; the relationship between salesman and employer. Wright.

Business 183. *Business Psychology.* (3) S. Psychological problems of modern business. Theoretical and practical aspects of the relations of employer to employee, personal efficiency, salesmanship, advertising, and personnel guidance. Barlow.

Business 185. *Advertising.* (3) S. The part advertising plays in business; advertising campaigns, budgets, and media; development of principles applicable to the production of advertising. Wright.

Business 186. *Retail Store Advertising.* (3) S. Retail store advertising problems; preparation of different types of advertisements used by retailers. Prerequisite: Business 154. Wright.

Business 188. *Purchasing.* (3) S. The functions of the purchasing departments of representative business concerns.

INSURANCE AND STATISTICS (BUSINESS 125-129, 190-199)

Business 125. *Personal Insurance.* (3) A. Principles of life insurance, health and accident insurance, and workmen's compensation; business and personal uses of insurance; classification and analysis of policies; reserves and policy values; organization and administration of life insurance companies. Walker.

Business 126. *Property Insurance.* (3) A. Principles of fire and property insurance; organization, administration, and technique of property insurance companies, mutuals, and reciprocals; business and personal uses of property insurance. Prerequisite: Economics 1, 2, 3; Business 1, 2, 3. Walker.

Business 192. *Business Statistics.* (4) S. The production, sales, shipments, imports, exports, stocks on hand, and other supply and demand data that affect prices and profits in particular industries. The automobile, steel, metals, leather, lumber, wool, and sugar industries are among those studied. Prerequisite: Economics 190. Walker.

Business 199. *Business Report Writing.* (2) A. Instruction in writing various types of business reports. Special attention to business problem analysis, organization, and presentation. Walker.

RESEARCH (BUSINESS 200-210)

Business 201, 202, 203. *Seminar in Accounting.* (2-2-2) A. W. S. Primarily for specially qualified seniors and graduate students in accounting. Johnston.

Business 204. *Seminar in Retailing.* (2) S. New trends in retail distribution. Growth of the chains. Problems of the independents. Wright.

Business 205. *Seminar in Marketing.* (2). Lorentzen.

Business 206. *Seminar in Management.* (2). Lorentzen.

Business 207. *Seminar in Business and Government.* (2).

CHEMICAL ENGINEERING

(See School of Engineering, pages 108-109, 117.)

CHEMISTRY

Professors BONNER (PS102), QUINN; *Associate Professor* MALM; *Assistant Professors* BEARD, PHILLIPS, HAMM, MINARD*, *Instructor* SUGIHARA.

Registrants in Chemistry 1 are required to take an aptitude test in chemistry, and registrants in Chemistry 4 an achievement test. Recitation sections are arranged on the basis of these tests, and registrants making an exceptionally poor showing may be asked to withdraw from the classes. High school chemistry (or Chemistry 1) and algebra C (or Mathematics 1) are prerequisite to Chemistry 4.

*On leave of absence.

Departmental Major: 55 hours in chemistry to include Chemistry 4, 5, 6 (or 1, 2, 11); 7b, 8b, 9; 103, 104, 105; 106, 107, 108; 109, 112, 113, 124, plus mathematics through calculus and Physics 21-26, inclusive. A reading knowledge of German is expected before the senior year. *Biochemistry Option*: Biochemistry 108, 109, with prerequisites, may be substituted for Chemistry 112 and 124.

MODEL CURRICULUM

The following outline shows a possible registration, but not the only registration, by which a student may be released from the Lower Division in two years and complete all requirements for graduation with a major in Chemistry in four years.

Freshman Year

	A	W	S
Chemistry 4, 5, 6	5	5	5
English 1, 2, 3	3	3	3
Mathematics 6, 4, 9	5	5	5
Physical Education (3 quarters)	1	1	1
Orientation	1	0	0
Health Education 1	0	1	0
Elective (language group)	0	0	3
M. S. & T. 1, 2, 3	2	2	2
	17	17	19

Sophomore Year

	A	W	S
Chemistry 7, 8, 9	3	3	4
Physics 21, 22, 23	4	4	4
Physics 24, 25, 26	1	1	1
Mathematics 10a, 10b, 10c	4	4	4
Biology 1, 2, 3	5	5	5
Physical Education (3 quarters; men only)	1	1	1
	18	18	18

At the end of two years: 107 credit hours, and three group requirements met (physical and biological sciences and language).

Junior Year

	A	W	S
Chemistry 103, 104, 105	3	3	4
Chemistry 106, 107, 108	4	4	4
German 1, 2, 3	5	5	5
Sociology 1, 8, 125	5	4	4
	17	16	17

Senior Year

	A	W	S
Chemistry 109, 112, 113	4	2	2
Chemistry 124, 124, 124	2	2	2
English 181, 182, 183	3	3	3
Other electives (upper division)	7	8	8
	16	15	15

At the end of four years: 203 credit hours, including 72 hours in the upper division, and 36 hours in upper division Chemistry.

Composite Teaching Major in Physical Science: This includes Chemistry 4, 5, 6, 7, 8, 9, 103, 104, 105, 112; Physics 21, 22, 23, 24, 25, 26, 110, 115, 120, 125, 170, 175; Mathematics 6, 9, 10a, 10b, 10c; plus the requirements of the School of Education.

Chemistry 1, 2. *General Chemistry.* (5-5) Su. or A. W. Open to any matriculated student, but intended for those who have not taken chemistry in high school. Two lectures, two recitations, two laboratory periods per week. Quinn.

Chemistry 3, 30. *Elementary Organic Chemistry.* (5) S. For the general student. Prerequisite: Chemistry 1, 2. Two lectures, two quizzes, two laboratory periods. Students in Medical Technology will register for Chemistry 30. Quinn.

Chemistry 4, 5. *Principles of Chemistry.* (5-5) A. W. Prerequisite: high school chemistry or Chemistry 1; and algebra C or Mathematics 1. Required of Chemistry majors and premedical students, except those who are permitted to take Chemistry 1-2-11. Two lectures, two recitations, two laboratory periods per week. Malm.

Chemistry 6. *Qualitative Inorganic Analysis.* (5) S. Prerequisite: Chemistry 5 or 13. Two lectures, two recitations and two laboratory periods per week. Malm.

Chemistry 7, 8. *Quantitative Inorganic Analysis.* (3-3) A. W. Section A for premedical students, Section B for all others. Chemistry 7: two lectures, one quiz, one laboratory period per week. Chemistry 8: one lecture, one quiz, two laboratory periods per week. Hamm.

Chemistry 9. *Quantitative Analysis.* (4) S. A continuation of Chemistry 7b and 8b, required of all majors in Chemistry or Chemical Engineering. One lecture, one quiz, three laboratory periods per week. Hamm.

Chemistry 10. *General Chemistry for Nurses.* (5) Su. A. W. S. One lecture, two recitations, two laboratory periods per week. Beard.

Chemistry 11. *General Chemistry.* (5) S. Open only to students having a minimum grade of "B" in both Chemistry 1 and 2, who will be permitted to take Chemistry 1, 2, 11 in place of Chemistry 4, 5, 6. Five recitations and two laboratory periods per week. Malm.

Chemistry 12, 13. *Fundamentals of Chemistry.* (5-5) A. W. Open only to students registered in the School of Mines and Engineering, and required of all freshman engineers. Three lectures, one recitation, and two 2-hour laboratory periods per week.

NOTE: A maximum of 15 credit hours in elementary chemistry (Chemistry 1, 2, 3, 4, 5, 6, 11) will be credited toward a degree, except in the case of students in Medical Technology, who are required to complete Chemistry 30. These may have 20 credit hours.

Chemistry 101. *History of Chemistry.* (2) S. Prerequisite: Chemistry 103. (Given in alternate years.) Quinn.

Chemistry 103, 104, 105. *Organic Chemistry.* (3-3-4) A. W. S. An introduction to the study of the compounds of carbon. Prerequisite: Chemistry 8. Two lectures, one recitation, one laboratory period per week. Phillips.

Chemistry 106, 107, 108. *An Introduction to Modern Chemical Theory.* (4-4-4) A. W. S. Section A. Prerequisite: Physics 21-26, inclusive, Mathematics 10, and Chemistry 9. Section B, for premedical students only. Prerequisite: Physics 11-16, inclusive, Mathematics 6, and Chemistry 9. Three recitations and one laboratory period per week. Beard, Bonner.

Chemistry 109. *Senior Organic Chemistry: the Identification of Organic Compounds.* (4) A. Two lectures and two laboratory periods per week. Prerequisite: Chemistry 105, 108. Phillips.

Chemistry 111. *Organic Preparations.* (2) A. W. S. More difficult preparations than those included in courses 103-105. Prerequisite: Chemistry 105. Phillips.

Chemistry 112. *Senior Inorganic Chemistry.* (2) W. Two laboratory periods per week with conferences and assigned readings. Prerequisite: Chemistry 108. Bonner.

Chemistry 113. *Instrumental Analysis.* (2) A. W. S. The theory and application of such instruments as the colorimeter, spectrophotometer, nephelometer, potentiometer. Prerequisite: Chemistry 108. Two laboratory periods per week, with conferences and assigned readings. Bonner.

Chemistry 116. *Analytical Organic Chemistry.* (2) W. S. The quantitative analysis of organic compounds. Prerequisite: Chemistry 105. Two laboratory periods per week, with problems and assigned readings. Hamm.

Chemistry 120, 121, 122. *Chemical Thermodynamics.* (2) A. W. S. Prerequisite: Chemistry 108 and Mathematics 10. Beard.

Chemistry 123. *Inorganic Preparations.* (2) A. W. S. More difficult preparations and larger scale operations than given in Chemistry 112, which is prerequisite. Bonner.

Chemistry 124. *Thesis.* (2-2-2) A. W. S. Required of seniors in Chemical Engineering but open to any qualified undergraduate for one or more quarters.

Chemistry 125, 126, 127, 128. *Advanced Chemistry.* (3-3-3-3) Su. A. W. S. A series of advanced courses, open only to graduate students and properly qualified seniors. The topics will be selected from physical, inorganic, and organic chemistry.
Malm, Hamm, Beard, Phillips.

Chemistry 130. *Research in Chemistry.* Prerequisite: a full undergraduate major in Chemistry, with registration as a graduate student. Students interested in research must consult the head of the department before registering. A ready knowledge of German is essential.

Chemistry 135. *Seminar.* (2) A. W. S. Topic to be announced. Each quarter the department organizes a seminar discussion of some carefully selected topic. All graduate students in the department are expected to attend. Registration for credit is limited to graduate students.

CIVIL ENGINEERING

(See School of Engineering, pages 110-111, 118-121.)

CLASSICS

Professors GEERLINGS (K301), SPILMAN.

GREEK

Greek Major and Minor: Consult department.

Greek 11, 12, 16, 80, and 112 are not counted in the language requirements for the B.A. degree.

Greek 1, 2, 3. *Elementary Greek.* (5-5-5). The elements of Greek, readings in New Testament Greek and Xenophon's Anabasis or equivalent. Prerequisite: Latin 1, 2, 3, or equivalent. Geerlings.

Greek 11. *Classical Archaeology.* (5) W. See Anthropology 11. Geerlings.

Greek 12. *Greek Literature in English Translation.* (5) A. A study of the great masterpieces of Greek literature in English translations. Upper division students should register for Greek 112.
Geerlings.

Greek 16. *Classical Mythology in English.* (3) S. A knowledge of Greek and Latin is not required. Geerlings.

Greek 80. *Medical Greek.* (3) Su. A. W. S. A study of medical terms of Greek origin. No prerequisite. Recommended for premedical students. Spilman.

Greek 104, 105, 106. *Readings in Greek Prose.* (2-2-2) A. W. S. Prerequisite: consult instructor. Geerlings.

Greek 107, 108, 109. *Readings in Greek Poetry.* (2-2-2) A. W. S. Prerequisite: consult instructor. Geerlings.

Greek 113, 114, 115. *Greek Drama.* (3-3-3). Geerlings.

Greek History. See History 1 or 114.

LATIN

Group Major: 36 to 45 hours, including 18 hours in upper division Latin, History 117, and Latin 60; also 13 to 21 hours, which may include additional upper division courses in Latin, but must include at least nine hours in certain approved courses in Philosophy, Greek, English, History, or Modern Languages. The student's courses must be approved by the department.

Departmental or Teaching Major: 35 to 45 credit hours, including Latin 101, 102, 103, and a minimum of one course in each of the following groups: (a) Latin 105, 114, 119, 124; (b) Latin 109, 121, 122-23, making a total of at least 23 hours; History 117, Latin 60, and approved courses amounting to six hours given in the departments listed under "Group Major." Students who plan to teach Latin should take Latin 128. The student's selection of courses must be approved by the department. *Teaching Minor*: 15 approved upper division credit hours in Latin.

Latin 60, 70, 80, 90, and 190 may not be counted in the language requirement for the B.A. degree.

Latin 1. 2. *Elementary Course.* (10) A. W. Geerlings, Spilman.

Latin 3. *Intermediate Course.* (5) S. Prerequisite: Latin 1, 2, or one unit of high school Latin. Spilman.

NOTE: To receive credit in elementary Latin, a student must take, in addition to Latin 1, 2, either Latin 3 or 70 or the two courses in Medical Latin and Greek. Credit in Latin 3 does not preclude credit in the other courses mentioned.

Latin 50. *Cicero.* (5) A. Selections from Cicero's works. Prerequisite: two units of high school Latin or Latin 3. Upper division students should register for Latin 150. Spilman.

Latin 51, 52. *Vergil.* (5-5) W. S. A study of selections from Vergil's Aeneid; an introduction to Latin poetry. Prerequisite: Latin 50 or equivalent. Upper division students should register for Latin 151, 152. Spilman.

Latin 60. *The Latin Element in the English Language.* (3) S. A study of English words derived from Latin and of vocabulary building. May be taken by those who have not studied Latin. Spilman.

Latin 70. *Law Latin.* (5) S. Latin law maxims and readings from Roman law. Prerequisite: Latin 1, 2. Geerlings.

Latin 80. *Medical Latin.* (3) Su. A. S. A study of medical terms of Latin origin. No prerequisite. Recommended for premedical students. Spilman.

Latin 90. *Roman Literature in English Translation.* (5) W. A study of the greatest Latin classics, with emphasis upon content and literary significance. Upper division students should register for Latin 190. A knowledge of Latin is not required. Spilman.

Latin 101, 102, 103. *Survey of Latin Literature.* (5-5-5) A. W. S. Prerequisite: four units of high school Latin or Latin 52. Open to lower division students. Geerlings, Spilman.

Latin 105. *Roman Elegy.* (5) A study of Catullus, Propertius, Tibullus, and Ovid. Prerequisite: at least two upper division courses in Latin. Spilman.

Latin 109. *Horace and Roman Lyric.* (3) Prerequisite: see Latin 105. Geerlings.

Latin 114. *Historical Prose.* (5) Historical prose and biography. Prerequisite: see Latin 105. Spilman.

Latin 119. *Roman Comedy.* (5) Prerequisite: see Latin 105. Geerlings.

Latin 121. *Tacitus.* (3) Spilman.

Latin 122, 123. *Vergil, Advanced.* (3-3) Vergil's development as an author and his influence upon literature and thought. Winter quarter—the Eclogues and Georgics; Spring quarter—the Aeneid. Spilman.

Latin 124. *Roman Satire.* (3) Geerlings.

Latin 128. *The Teaching of Latin.* (3) Materials and methods. Prerequisite: approval of instructor. Spilman.

Roman History. See History 117.

ECONOMICS

Professors WALKER (IE313), GREENE*, MAHONEY; *Associate Professor* BEARNSON; *Assistant Professors* STUCKI, DUE*, RASMUSSEN; *Instructors* CALDER*, FACER.

Departmental Major: Business 1, 2, 3 or 1b; Economics 1, 2, 3, 4, 170, plus six or more other upper division courses in Economics and one Economics seminar.

Teaching Major: Economics 1, 2, 3, 4, plus five or more upper division courses in Economics. *Teaching Minor:* Economics 1, 2, 3, 4, plus two or more upper division courses in Economics.

Economics 1, 2, 3. *Elementary Economics.* (3-3-3) Su. A. W. S. The underlying principles of economics, designed especially for those students who intend to major in Economics and Business, but open to all freshmen and sophomore students. Section G for engineers. Staff.

*On leave of absence.

Economics 4. *Economic History of the United States.* (4) W. S. Special emphasis is given to the growth of industry, agriculture, commerce, transportation, population. Bearnson.

Economics 5. *Economic Behavior.* (5) A. W. S. A brief survey course in elementary economics for students not majoring in Economics or Business. Calder.

Economics 6. *Consumer Finance.* (3) W. A brief survey course in money management, including insurance, banking, taxation, financing a home, purchasing stocks and bonds. Calder.

Economics 7. *Economic Geography.* (3) A. The place and nature of important natural resources, primarily of the United States, and their influence upon agriculture, mining, manufacturing, and trade. Applications to local problems. Bearnson.

APPLIED ECONOMICS (ECONOMICS 100-139)

Economics 100. *Food Economics.* (4) A. Marketing, standardization, and grading of foods; food legislation. Prerequisite: Economics 1, 2.

Economics 105. *Labor Problems.* (5-5) Su. A. S. Unemployment, wages and hours, hazards of industry, and unionism from the viewpoint of both employer and employee. Root causes of industrial discontent and proposed remedies. Prerequisite: Economics 1, 2, 3. Bearnson.

Economics 108. *Combinations and Monopolies.* (3) S. The combination movement, beginning with "the trust problem" in the last quarter of the nineteenth century. Economic bases for the current organization of industrial control. Prerequisite: Economics 170. Bearnson.

Economics 109. *International Trade.* (4) A. Theories on which international trade is based. Special emphasis is placed on the policies and present foreign trade problems of the United States. Prerequisite: Economics 170. Mahoney.

Economics 110. *Transportation.* (4) S. The development of inland transportation in the United States; characteristic features of the present railway and highway transportation systems; the determination of rates; government regulation of transportation.

Economics 113. *Public Finance.* (3) A. The various kinds of public revenues and expenditures, and the fiscal principles which govern them. Prerequisite: Economics 170. Rasmussen.

Economics 114. *Taxation.* (5) W. The history, theories, general principles, and problems of taxation. The general property, inheritance, corporation, sales, and income taxes. Prerequisite: Economics 170. Open to seniors. Rasmussen.

Economics 115. *Rural Economics.* (3) W. Economic problems of rural life, agricultural adjustment program, farm rehabilitation, farm credit agencies, land policies, mechanization of agriculture, co-operative organization, and population movements. Prerequisite: Economics 1, 2, 3. Walker.

Economics 116. *Public Utilities.* (4) S. Public utilities and their function in a modern economic world. Prerequisite: Business 1, 2, 3; Economics 170.

Economics 117. *Economics of the Mineral Industries.* (3) A. The economic aspects of mining and the industries based on it. Economic problems in the development of mineral resources of the intermountain section. Prerequisite: Economics 1, 2, 3. Mahoney.

Economics 120. *Economics of Consumption.* (3) S. Economic principles of family consumption. Prerequisite: Economics 1, 2. Greaves.

Economics 121. *Corporation Finance.* (5) W. See Business 121.

Economics 129. *Money and Banking.* (5) Su. A. W. S. The theory of money and banking; origin, principles, and functions of banking. Should be taken by all students majoring in Business and Economics. Prerequisite: Economics 1, 2, 3; Business 1, 2, 3. (Same as Business 129.) Stucki.

ECONOMIC HISTORY (ECONOMICS 140-169)

Economics 140. *Recent Economic Changes and Problems.* (4) W. An intensive study of the most significant economic changes in the United States since World War I. Prerequisite: Economics 170. Mahoney.

Economics 142. *Finances of the United States, 1775-1865.* (2) W. Fiscal and industrial conditions of the colonies; conduct of the financial affairs of the Revolution; establishment of the two United States Banks and the independent Treasury; monetary problems of the period. Prerequisite: Economics 1, 2, 3.

Economics 143. *Finances of the United States, 1865 to the Present.* (2) S. Financial transactions of the United States since the Civil War. The issuing of bonds and notes, establishment of the gold standard, and creation of the Federal Reserve Banks. Prerequisite: Economics 1, 2, 3.

Economics 150, 151, 152. *Current Economic Problems.* (2-2-2) A. W. S. The economic forces underlying unemployment, social security, public works, public finance, price control, population movements, farm subsidies, economics of war, economic planning, and international relations. Walker.

ECONOMIC THEORY (ECONOMICS 170-189)

Economics 170. *Intermediate Economic Theory.* (5) Su. A. W. S. Designed to develop facility in the application of economic principles to practical problems. Prerequisite: Economics 1, 2, 3. Staff.

Economics 180. *Economic Thought Prior to 1850.* (3) A. Development and trend of economic thought before 1775; origin and development of the classical school in England, including such writers as Smith, Malthus, and Ricardo. Prerequisite: Economics 170. Rasmussen.

Economics 181. *Economic Thought.* (3) W. A continuation of Economics 180. The significant developments in economic science from the middle of the 19th century to the present. Prerequisite: Economics 170. Rasmussen.

Economics 185. *Advanced Economic Theory.* (5) S. This course includes a careful study of modern theories of value, distribution, and related subjects. Prerequisite: Economics 170. Mahoney.

STATISTICS (ECONOMICS 190-199)

Economics 190. *Statistical Methods.* (5) A. W. S. Collection of data; calculation of averages, deviations, correlation coefficients; construction of tables, charts, and maps. Prerequisite: Economics 1, 2, 3; Business 1, 2, 3; or 1b and 10. (May be counted as Business 190.) Walker, Rasmussen.

Economics 191. *Statistical Analysis.* (4) S. A continuation of Economics 190 with emphasis on analysis and interpretation of statistical studies. Construction of index numbers, secular trends, indexes of seasonal variations, cyclical analysis, partial and multiple correlations, and analysis of current statistical problems. Prerequisite: Economics 190. Walker.

Economics 193. *Applied Statistics.* (3) A. The interpretation of statistical reports, application of statistical methods in governmental activities, in organized research, and in the preparation of official reports. Prerequisite: Economics 190 or equivalent. Walker.

Economics 195. *Fluctuations in Economic Activity.* (3) W. Analysis of fluctuations in economic activity with reference to changes in production, prices, and financial conditions. Theories of the cycle, methods of control, forecasting. Prerequisite: Economics 1, 2, 3; Business 1, 2, 3, or 1b. (May be counted as Business 195.) Stucki.

RESEARCH (ECONOMICS 200-210)

Economics 200, 201, 202. *Economics Seminar.* (1-1-1) A. W. S. Advanced study of economic problems. Individual study, research technique, reports, and group conferences. Required of all Economics majors in senior year and graduate study. Staff.

Economics 210. *Economic Research.* Open to properly qualified seniors and graduates. Credit according to work done. Staff.

EDUCATIONAL ADMINISTRATION

Professors WAHLQUIST (Pk207), PROVOST; *Associate Professor* CAMPBELL; *Assistant Professor* .....; *Instructor* MERKLEY.

See School of Education, pages 92-94.

Courses numbered 100 and above may be taken for graduate credit.

Education 51. *Introduction to Education.* (2) A. W. Required of all lower division students planning to enter the School of Education. Not open to juniors and seniors. Wahlquist.

Education 100. *History of Education.* (4) Su. A. Educational doctrines and practices of the various periods of history. For juniors, but open to seniors and graduates.

Education 105. *Educational Administration.* (4) Su. W. Contemporary school organization and administration in the United States. Open to seniors and graduates; required of candidates for the diploma in administration. Wahlquist, Campbell.

Education 109. *Educational Measurements.* (4) W. For students who desire training in the meaning and use of measurements as applied to educational problems. Recommended especially for school administrators, supervisors, and research students. Merkley.

Education 116. *Educational Problems.* Su. A. W. S. For advanced students capable of research in educational problems. The schedule of the student electing this course should allow time for half-day or day trips in which to gather data. Open to seniors and graduates. Prerequisite: Psychology and approved Education credit. Entrance only upon consultation with instructors.
Wahlquist, Provost, Campbell.

Education 123. *Vocational Education.* (3) A. A brief history of vocational education in the United States and a study of outstanding current problems in the field. Provost.

Education 137. *Philosophy of Education.* (4) S. Conflicting philosophies of education. Wahlquist.

Education 141. *Organization and Administration of Schools in Utah.* (3) A. W. The administration of the Utah school law, and relationship of the Federal government to state and local units. Open to juniors. Wahlquist.

Education 143. *Safety Education.* (2) Su. A. Open to juniors. Campbell.

Education 150. *Educational Supervision.* (4) S. The relation of supervisors to teachers and administrative officers; the methods of stimulating, criticizing, helping, and rating teachers. Open to seniors and graduates. Campbell.

Education 151. *The School Principalship.* (2-2-1) A. W. S. A practical course designed for prospective and in-service principals: problems of organization, personnel management, office practice and procedure, student activities, instruction, professional duties, and professional development. (Given in evening—Residence and Extension.) Campbell.

Education 152. *Public School Finance and Business Administration.* (4) Su. Sources of school revenue, budgets, business routine, public school accounting systems, financial reports. Prerequisite: Education 105 or equivalent. (Given in evening—Residence and Extension.) Campbell.

Education 156. *Introduction to Research in Education.* (2½-2-2-1) Su. A. W. S. A survey of the most commonly used research

procedures in education. A study of selected pieces of research. Some exercise in blocking out and carrying through an original minor investigation. Open to graduates. Provost.

Education 157. *Experimental Education.* (2-2-1) A. W. S. Saturday mornings. For graduate students majoring in Education, especially teachers and others actively engaged in educational work. Provost.

Education 158. *Problems in School Administration.* (2-2-2-1) Su. A. W. S. Primarily for graduate students majoring in Education. Work determined by the character of the group. Entrance only upon consultation with professor in charge. Wahlquist and staff.

EDUCATIONAL PSYCHOLOGY AND MEASUREMENTS

In the University of Utah, courses in educational psychology are given in the Department of Psychology; some of these courses include educational as well as mental measurements.

See Psychology (page 267), for descriptions of the following courses:

Psychology 4 (Techniques of Good Study Habits), Psychology 17 (Elementary Statistics), Psychology 17a (Graphs and Statistical Computations), Psychology 22 (Child Psychology), Psychology 107 (Introduction to Intelligence Testing), Psychology 117 (Advanced Statistics), Psychology 118 (Psychological Measurements), Psychology 128 (Psychology in Elementary Education), Psychology 129 (Educational Psychology), Psychology 217 (Advanced Educational Psychology).

ELECTRICAL ENGINEERING

(See School of Engineering, pages 107-108, 111-113, 121-123.)

ELEMENTARY EDUCATION

Associate Professor CAMPBELL (St219); *Assistant Professors* BROCKBANK, EVA LUND*, RELYEA, PERRY, DIBBLE, ...; *Instructors* DOBSON, LIPPENBERGER, GARDNER; *and Directing Teachers.*

Every candidate for an elementary school teacher's certificate fulfills the requirements of a major in Elementary Education. In addition, the candidate takes 30 hours in one academic field or 18 hours in each of two academic fields. See School of Education, pages 92, 97-98.

Courses 119, 120, 136, 142, 178, 181 may be taken for graduate credit.

Education 13. *Story Telling in Elementary Education.* (3) A. S. Introduction to child study in kindergarten-elementary grades through practice in selecting and telling children's stories. Emphasis on the developmental play needs of children as they relate to story-telling activities. Dobson.

Education 101a. *Foundations of Elementary Education.* (4) A. W. Consideration of the factors in child development with stress

*On leave of absence.

upon application to the elementary school. Prerequisite: Psychology 128. Brockbank et al.

Education 101b. *Foundations of Elementary Education.* (4) A. W. Some of the problems in American life with emphasis on their implications for the elementary school. Prerequisite: History 9, 10, or 11; Sociology 1 or 7; or Economics 1, 5, or 6. Campbell et al.

Education 102a. *The Elementary School Curriculum.* (8) W. S. Consideration of the purposes of education, the organization of the elementary school curriculum, some curriculum areas, and appropriate instructional materials. Extensive observation of school practices, some participation in teaching under close supervision, and preparation for practice teaching. Class meets two hours daily. Staff.

Education 102b. *The Elementary School Curriculum.* **(8) S.** Completion of the study of curriculum areas, some attention to measurement and evaluation in the elementary school, and a continuation of observation and participation. Staff.

Education 111. *Introduction to Elementary Student Teaching.* (4) A. W. In this preparatory course, to be taken the quarter before Education 112, the student reads broadly, observes in Stewart School under supervision, analyzes his observation, makes plans, and participates in the responsibilities of a designated grade. (Discontinued after 1945-46.) Brockbank.

Education 112a. *Student Teaching in the Elementary School.* (8) A. W. S. Practice in the Stewart School in the duties of an elementary teacher. Regular conferences with directing teachers and supervisors. Semiweekly group conference sessions under the direction of a supervisor. Students should reserve one-half day for the practice, and additional time for individual and group conferences. Prerequisite: Education 101a, 101b, 102a, 102b, 115; Music 152; and a scholastic average of "C" or better. Open only to students in the School of Education. Campbell, Brockbank, and Directing Teachers.

Education 112b. *Student Teaching in the Elementary School.* (8) A. W. S. Continuation of Education 112a, with practice in a selected public school. Campbell, Brockbank, and Directing Teachers.

Education 113. *Science in the Elementary School.* (5) W. Practices and materials used in the teaching of science. Particular emphasis on the flora, fauna, and geology of Utah, with simple work in the physical sciences. Demonstrations and experiments adapted to work in the elementary school. Lippenberger.

Education 114. *The Social Studies in the Elementary School.* (3) A survey of the newer practices in the selection, organization, and preparation of social studies material, providing social experiences for children which will tend to develop an understanding and appreciation of democracy. (Omitted 1945-46.)

Education 115. *Art in the Elementary School.* (2) A. W. S. Designed to give strength in the art techniques needed in the elementary school. Dibble.

Education 117. *Industrial Arts in the Elementary School.* (3) S. A study of wood-working tools and materials to prepare teachers for the activities of their own school rooms. Gardner.

Education 119. *Literature and Language for Children.* (4) A. A survey of recent literature for children; criteria for its choice; teaching procedures for developing a permanent interest in reading; language teaching in relation to the creative activities of children.

Education 120. *Reading in the Elementary School.* (4) W. A study of materials for reading, the organization of a program, and the activities and techniques making reading functional in the lives of children. Brockbank.

Education 121. *Arithmetic in the Elementary School.* (3) Methods of introducing the child to number concepts and mathematical relations. (Omitted 1945-46.) Lund.

Education 136. *Kindergarten-First Grade Education.* (4) S. The development of a unified kindergarten-first grade program related to child growth and development. Brockbank.

Education 138. *The Teaching of Handwriting.* (2) A. An examination of current teaching practices. The relative merits of manuscript and cursive handwriting. The course offers a ready skill in manuscript writing. Dibble.

Education 142. *An Evaluation of the Elementary School.* (4) S. Emphasis is placed upon democratic living in the classroom, especially upon teacher planning, daily programs, children's needs, the use of the environment in developing major interests, types of records, and means of evaluation. Brockbank.

Education 178. *Diagnostic and Remedial Teaching.* (3) Diagnostic and remedial procedures applied to learning and behavior problems in the elementary school. Techniques applicable to reading, arithmetic, language, social studies, recreational activities, and social and emotional behavior, as well as special curricula for exceptional children. (Omitted 1945-46.) Campbell and staff.

Education 181. *Elementary School Theories and Practices.* A. W. S. Independent readings in areas not covered by courses and in fields of interest beyond those treated in courses. Training for applicants for the master's degree, principals with special problems, subject specialists, supervisors, etc. Time arranged to meet convenience of individual students. Credit varies. Entrance only upon consultation. Campbell and staff.

ENGLISH

Professors NEFF (LA204), LEWIS, CLAPP*, ANGLEMAN, ZUCKER, HUBBARD; *Associate Professors* RICHARDS, AUSTIN, FOLLAND†; *Assistant Professors* SNOW, GHISELIN, CHAPMAN, CRABTREE*; *Instructors* ROHRBROUGH, CARY*, HORST, BRITTIN*, LEE*, WINN.

Placement Test: Before actual registration in classes, all freshmen are required to take an English placement test. This test is to determine whether the student shall be put in English A, 1, or 11.

English 1, 2, 3 (or 11, 12, 13) is required of all freshmen.

†On leave of absence with the armed forces.
*On leave of absence.

Departmental Major: 45 hours beyond the freshman year, including English 54, 61, and 62 (sophomore year), 174, 175, and 176 (junior year), 158 (senior year), and 101 (or 102 or 111 or 112 or 122). Recommended: English 162 (or 141, 142, 143) and two of the following—English 171, 187, 189, 191, 198.

Teaching Major: Same as departmental major, plus English 180. Recommended: English 151, 152. *Teaching Minor*: 24 hours beyond the freshman year, including English 21, 22, 23, and 180. Recommended: English 151 and 152.

Composite Teaching Major in English and Speech: 75 hours beyond freshman composition, distributed more or less evenly between the two departments, including English 21, 22, 23, 151, 152, 180, three hours of advanced composition, and not less than 10 to 15 hours recommended under "Departmental Major." (For courses in Speech see page 279.) Intended for students who prefer a composite major in English and Speech to a major in one of these subjects and a minor in the other.

Planning the Major: Students who desire to make English their major should consult the head of the department as early in their course as possible, in order to arrange a proper sequence of study. Those who do not approximate a "B" average in English in their freshman and sophomore years are advised to choose for their major some other subject for which they may have a greater aptitude. No grade of "D" will be counted toward the minimum requirements for the English major or minor.

Not more than 60 hours in English beyond freshman composition may be counted within the 183 hours required for graduation.

Language Requirement: Majors in English must meet the language requirement for the B.A. degree, and are advised to do 15 hours' work in Latin if they have not presented two entrance units in this subject.

English A. Su. A. W. Drill in the essentials of preparatory English. No college or high school credit is allowed for this course. Required of all students not prepared for English 1.

English 1, 2, 3. *Freshman Composition.* (3-3-3) Su. A. W. S. Theme writing, conferences, readings. Staff.

English 11, 12, 13. *Freshman Composition.* (3-3-3) Su. A. W. S. Subject-matter similar to that of English 1, 2, 3, with less emphasis on mechanical details. Staff.

English 11j, 12j, 13j. *News Writing.* (3-3-3) A. W. S. Study of the newspaper and newspaper style, practice in writing the various types of news stories. The course is designed primarily for freshmen who intend to work concurrently on campus publications. May

be substituted, with instructor's approval, for English 1, 2, 3, or English 11, 12, 13.

English 18. *Business English.* (3) A. A study of business correspondence with practice in composition. Prerequisite: English 3 or 13.

English 21, 22, 23. *English Masterpieces.* (3-3-3) Su. A. W. S. Designed primarily for students who do not intend to make English their major. Prerequisite: English 3 or placement in English 11. Staff.

English 31, 32, 33. *Introduction to Literature.* (3-3-3) A. W. S. Autumn quarter: poetry; winter quarter: the drama; spring quarter: the novel and the short story. Open to all students. Rohrbough.

English 41. *Expository Writing.* (3) A. A practical course for students who want further work in composition, but do not intend to make English their major. Prerequisite: English 3 or 13. (Omitted 1945-46.) Snow.

English 45. *English for Teachers.* (3) W. Intended for students in the School of Education (other than English majors) who as a result of tests given at the beginning of the junior year demonstrate a need for further drill in the essentials of English grammar and composition. (Omitted 1945-46.) Horst.

English 51, 52, 53. *American Masterpieces.* (3-3-3) Su. A. W. S. Designed primarily for students who do not intend to make English their major. Prerequisite: English 3 or placement in English 11. Richards.

English 54. *Modern American Literature.* (5) A. Main currents in modern American literary thought, beginning with Whitman. Required of students who intend to make English their major. Snow.

English 61, 62. *English Literature to 1700.* (5-5) W. S. Required of students who intend to make English their major; should be completed, if possible, by the end of the sophomore year. Prerequisite: English 3 or 13. Snow, Hubbard.

English 87. *Modern English Grammar.* (3) S. Not accredited toward an English major. Prerequisite: English 3 or 13. Horst.

English 101. *Creative Writing.* (3) Su. A. Direction and criticism in the writing of verse and different forms of prose composition. Ghiselin.

English 102. *Advanced Composition.* (3) W. Analysis and style; collateral reading. Intended primarily for students who make English their major. Zucker.

English 111, 112. *Magazine Writing.* (3-3) A. W. Analysis of representative popular magazines; practice in writing the magazine article. English 111 is not prerequisite to English 112.

English 117. *Secretarial English.* (3) W. A review of the elements of grammar and composition. Drill in bibliography and the techniques of thesis or report writing. Designed for majors in the School of Business. Prerequisite: junior standing. Horst.

English 122. *The Short Story.* (5) W. A study of the technique of the short story; practice in writing the short story. Ghiselin.

English 131, 132, 133. *The Modern Drama.* (3-3-3) A. W. S. Extensive reading in the modern drama: Continental, English, and American. Angleman.

English 141, 142, 143. *Development of the English Novel.* (3-3-3) A. W. S. Autumn quarter: from the beginnings through Richardson, Fielding, Smollett, and Sterne; winter quarter: from Austen and Scott through the Brontes; spring quarter: the Victorians, through Meredith and Hardy. Chapman.

English 145. *The Creative Process.* (2) A. A study of the creative activities of the mind, and of the vital disciplines leading to creative work, especially in the arts. Ghiselin.

English 147. *English Versification.* (2) A. A study of the technique of English verse; reading representative poems; verse composition. (Omitted 1945-46.) Ghiselin.

English 148, 149, 150. *Studies in the Nineteenth Century.* (3-3-3) A. W. S. (Omitted 1945-46.) Neff.

English 151, 152. *American Literature.* (5-5) Su. A. W. From Colonial times to the latter part of the 19th century. Not open to students who have had English 51, 52, 53. Richards.

English 154, 155. *Shakespeare.* (3-3) A. W. A detailed study of individual plays, with background reading in and about Shakespeare and his time. (Omitted 1945-46.) Neff.

English 157. *Contemporary Poetry.* (5) Su. S. English and American poetry since 1890. Ghiselin.

English 158. *Seminar for Seniors with Major in English.* (2) W. Individual readings and reports, group discussions, integrating the courses of the English major in preparation for the comprehensive examination. Zucker, Austin.

English 162. *Elizabethan Drama.* (5) S. (Omitted 1945-46.) Lewis.

English 163. *Restoration and Eighteenth Century Comedy.* (Omitted 1945-46.) Lewis.

English 165. *The English Bible as Literature.* (5) A. Zucker.

English 167. *World Literature.* (5) S. Greek, Roman, French, German, Italian, and other Continental masterpieces in English translation. Zucker.

English 171, 172. *Shakespeare.* (3-3) A. W. or (5) S. A chronological survey of Shakespeare's plays, with some attention given to the Elizabethan theatre and to Shakespeare's life and time. Lewis, Neff.

English 173. *Shakespeare's Sonnets.* (3) Su. S. An intensive and critical study of Shakespeare's sonnets from a literary and biographical point of view. Lewis.

English 174, 175, 176. *English Literature: 1700-1900.* (5-5-5) A. W. S. Autumn quarter: the 18th century; winter quarter: first half of the 19th century; spring quarter: second half of the 19th century. Required of students who intend to make English their major; should be completed, if possible, by the end of the junior year.
be completed, if possible, by the end of the junior year. Hubbard.

English 180. *The Teaching of English in the High School.* (3) A. May be counted either as English or as Education. Prerequisite: a reasonable familiarity with the essentials of English grammar. Austin.

English 181, 182, 183. *The Modern Novel.* (3-3-3) Su. A. W. S. Extensive reading in the modern novel: Continental, English, and American. Chapman.

English 185. *Browning.* (3) Su. W. Neff.

English 186. *Tragedy.* (3) A study of the tragic spirit as it has found expression in great works of literature from Greek to modern times. (Omitted 1945-46.) Neff.

English 187. *Literary Criticism.* (5) S. The history and problems of literary criticism from Plato to the present. (Omitted 1945-46.) Clapp.

English 189. *Milton.* (5) S. Richards.

English 191, 192. *Chaucer.* (5-2) A. W. Autumn quarter: the language and literature of The Canterbury Tales; winter quarter: Troilus and Criseyde and other earlier poems. First quarter not a prerequisite to the second. Neff.

English 198. *History of the English Language.* (3) S. (Omitted 1945-46.)

English 199. *Reading for Honors.* A flexible program of reading for superior students who wish to develop their own initiative in investigating individual problems or exploring some special field in English or American literature. Credit depends on the amount of work done. For further information consult Professor Neff.

English 270. *Individual Study.* Su. A. W. S. Investigation in a special field under the direction of a member of the department. For graduate students only. Consult Professor Neff.

FRENCH

(See Modern Languages, pages 249-250.)

GEOLOGY

Professors SCHNEIDER (Ge206), HINTZE*; *Associate Professor* SELFRIDGE*; *Assistant Professors* MARSELL, STRINGHAM*.

Departmental Major in School of Arts and Sciences: Physics 11, 12, 13, 14, 15, 16; Chemistry 4, 5, 6 (or 1, 2, 11); Mathematics 1, 4, 6; Mineralogy 9 hours (including 201), and 35 approved upper division hours in Geology, including Geology 105, 106, 116, 117 (Summer), 120, 121a, 121b, 203, 204.

Professional Major in Applied Geology, School of Mines and Engineering: See Geological Engineering, School of Engineering.

Teaching Major: Geology 1, 3, 13, plus at least 25 upper division hours in Geology. *Teaching Minor*: At least 18 approved hours in Geology.

Master's Degree: See Graduate Division, and consult departmental regulations on graduate work.

Geology 1. *Physical Geology.* (5) A. W. S. A beginning course in elementary dynamic and structural geology. Four lectures and one laboratory period per week. Marsell.

Geology 1a. *Physical Geology and Geography of Mineral Resources.* (5) W. S. (a) Fundamentals of physical geology, satisfying the prerequisite for Geology 3 and 105. (b) Origin, geographic distribution, and production of important mineral resources. Four lectures and one laboratory period per week. Recommended for students who intend to enter the schools of Business or Education. Schneider.

Geology 3. *Historical Geology.* (4) W. S. A brief survey of the past history of the earth, with special reference to North America and Utah. Prerequisite: Geology 1 or 1a. Marsell.

Geology 4. *Regional Geology.* (4) S. A brief survey of the regional geology and physiography of the United States. Prerequisite: Geology 3. Marsell.

Geology 13. *Elements of Geography.* (5) A. W. S. A study of various aspects of human progress as influenced by geographic environment. Especially recommended for students in the School of Education. Schneider.

Geology 21. *Physical Geology for Engineers.* (4) S. Dynamic and structural geology. Lectures and laboratory. Field trips and written reports required. Prerequisite: high school or college chemistry. Hintze.

Geology 105. *Advanced Historical Geology.* (4) S. Principles of systematic geology, faunal development, stratigraphic classification and correlation. Several field trips to local areas are required. Prerequisite: Geology 1 and 3; or 1a; or 21; or 109. Schneider.

*On leave of absence.

Geology 106. *Structural Geology.* (4) S. Systematic consideration of primary and secondary rock structures. Four class periods and one field laboratory period per week. Prerequisite: Geology 1 (or 1a), 3; or 21, 105, 109. Selfridge.

Geology 108. *Paleontology and Guide Fossils.* (3) W. For geological engineers and students desiring a working knowledge of fossils, their biological and stratigraphical relations and practical applications. (Omitted 1945-46.) Hintze.

Geology 109. *Lithology.* (3) W. A consideration of the origin, mineralogical composition, and classification of igneous, sedimentary, and metamorphic rocks. Two lectures and one laboratory period per week. Prerequisite: Geology 1 (or 21), Mineralogy 1, 2. Selfridge.

Geology 116. *Geomorphology.* (4) A. Consideration of the nature, origin, and history of the earth's surface features and their interpretation from topographic maps. Four lectures and one laboratory period per week. Prerequisite: Geology 1 (or 1a), 3; or 21, 105. Marsell.

Geology 117. *Summer Field Work.* (6) Required of all students taking a departmental major in the School of Arts and Sciences or a professional major in Geological Engineering. Prerequisite: Geology 106, 109, 120, 121a, 121b. Usually given the last six weeks preceding the beginning of the autumn quarter. Schneider.

Geology 120. *Topographic and Geologic Mapping.* (3) S. Practical work in plane table mapping. One lecture and two field laboratory periods per week. Marsell.

Geology 121a, 121b. *Geological Drafting.* (1) A. and (2) W. Office practice in geological drafting and the preparation of maps and sections from field notes. Required of all Geology majors. Marsell.

Geology 203, 204. *Economic Geology.* (3-4) W. S. Comprises: (a) a consideration of the non-metallic mineral deposits and (b) a discussion of the general features and formation of ore bodies. Prerequisite: Geology 21 and 105, or their equivalents; Mineralogy 1, 2. Selfridge.

Geology 207. *Paleontology.* (5) W. Study of invertebrate forms, their classification, range, and distribution. Three lectures and two laboratory periods per week. Field trips also required. (Omitted 1945-46.) Hintze.

Geology 208. *Guide Fossils.* (5) S. Study of invertebrate fossils characteristic of the various geologic horizons; faunal characters and associations. Two lectures and three laboratory periods per week. Prerequisite: Geology 207. (Omitted 1945-46.) Hintze.

Geology 210. *Petrography.* (6) W. S. Study of rocks with the microscope. Prerequisite: Geology 21, 105, 109, or their equivalents; Geology 106, 116. Stringham.

Geology 212. *Map Interpretation.* (3) W. Essentially indoor field work in the interpretation of the geology of a region from its geological maps. Prerequisite: Geology 21 and 105, or their equivalents; Geology 106, 116. Marsell.

Geology 214. *Petroleum Geology.* (3-1) W. S. Study of the character, origin, occurrence, and distribution of petroleum and features of American oil fields. A trip to several of the more important Rocky Mountain fields is required. Prerequisite: Geology 105, 106. Hintze.

Geology 215. *Sedimentation.* (5) W. A course for students majoring in Geology. Study of the processes and products of sedimentation, embracing laboratory and field studies. Prerequisite: Geology 1 and 3, or their equivalents. (Omitted 1945-46.) Hintze.

Geology 216. *Stratigraphical Geology.* (5) A. A course designed for geology majors. Study, measurement, and correlation of sedimentary formations. Special attention to the stratigraphy of Utah and Rocky Mountain areas. Prerequisite: Geology 1 and 3, or their equivalents. (Omitted 1945-46.) Hintze.

Geology 218. *Research Problems.* (8) A. W. S. Individual research by either senior or graduate students. Staff.

Geology 220. *Engineering Geology.* (3) S. Applications of geology to ground work and engineering construction. Examples of developments in the fields of mechanical, hydraulic, and mining engineering. Prerequisite: Geology 1 or 21, 3 or 105, 106, 109. Hintze.

Geology 304a, 304b. *Advanced Economic Geology.* (3-3) W. S. A study of ore deposits. Prerequisite: Geology 204. Selfridge.

Geology 305a, 305b. *Underground Water.* (3-3) A. W. Consideration of the origin, quality, and occurrence of underground water. Marsell.

Geology 322. *Seminar.* (2) A. W. S. Advanced study of geological problems and literature. Independent study and individual reports. Staff.

MINERALOGY

Mineralogy 1. *Rock Minerals and Ore Minerals.* (3) A. (a) crystallography; (b) blow pipe analysis; (c) recognition of the more important rock minerals and ore minerals. Fulfills engineering requirements. One lecture and two laboratory periods per week. Prerequisite: Chemistry 1 and 2, or 4 and 5. Stringham.

Mineralogy 2. *Ore Minerals.* (3) W. A continuation of Mineralogy 1. Recognition and determination of ore minerals. One lecture and two laboratory periods per week. Fulfills engineering requirements. Prerequisite: Mineralogy 1. Stringham.

Mineralogy 201. *Advanced Mineralogy.* (3) S. (a) crystallography; (b) origin, alteration, association, occurrence, and determination of minerals. One lecture and two laboratory periods per week. Prerequisite: Mineralogy 1, 2; Geology 1 or 21, 3 or 105, 109. Stringham.

Mineralogy 210. *Optical Mineralogy.* (3) A. Principles of optical mineralogy. Two lectures and one laboratory period per week. Prerequisite: Mineralogy 2. Stringham.

Mineralogy 218. *Research Problems.* (8) A. W. S. Individual research by either seniors or graduates. Stringham.

GERMAN

(See Modern Languages, pages 251-253.)

GREEK

(See Classics, pages 213-214.)

HEALTH, PHYSICAL EDUCATION, AND RECREATION

Professor NEILSON (Gm100); *Associate Professor* NEMIR; *Assistant Professors* BRONSON, COUCH, HAYES; *Lecturers* ARMSTRONG, PETERSON, SKIDMORE, REICHMAN; *Instructors* COLEMAN*, ROBBINS, SCHLECKMAN†, WOODLAND.

ADMINISTRATIVE DIVISIONS

Health Education. *Associate Professor* NEMIR.

Intercollegiate Athletics. *Coach* ARMSTRONG.

Physical Education for Women. *Assistant Professor* BRONSON.

Physical Education for Men. *Assistant Professor* COUCH.

Professional Education. *Professor* NEILSON.

Recreation.

Departmental Major in Physical Education: 45 hours of approved work including 8 hours of approved physical education activities, Physical Education 50, 90, 135, 140, 144, 160, 165, and Recreation 145.

Teaching Major in Physical Education: From 40 to 45 hours of approved work including Physical Education 50, 60, 90, 110, 111, 135, 140, 144, 160, 165, 180, 190, and Recreation 145. Additional for men: Physical Education 100, 101, 102, 103, 104, 105. Additional for women: Physical Education 53, 54, 56, 112, 120, 121, 122, 124, 129, 152.

Teaching Minors. (a) *Physical Education:* A minimum of 25 hours of approved work including Physical Education 50, 90, 110, 111, 140, 144, 165, Recreation 145; additional for men and women, 7 units of approved work in physical education activities and methods. (b) *Dance:* A minimum of 20 hours of approved work including Physical Education 19, 53, 54, 55, 56, 112, 129, 152, 154, 156, 158; the remainder to be taken in a field of related art not in the major field. Recommended: Art 106b, Music 63, Speech 20 or 30. May not be taken as a teaching minor in connection with a physical education major. (c) *Health Education:* A minimum of 25 hours of work including Health Education 108, 114, 115, 140, 150, Home Economics 180, 183; Biology 2, and other courses approved by the Department.

*On leave of absence.
†On leave of absence with the armed forces.

HEALTH

Health Education 1. *Personal Hygiene.* (1) Su. A. W. S. Health knowledge and interpretations from the standpoint of the personal well-being of the individual. Required of all freshmen and for graduation from the University. Separate sections for men and women. Nemir, Skidmore, Reichman.

Health Education 20. *Matrology. (Women.)* (2) A. S. The personal hygiene of pregnancy and parturition, and the care of the new-born. Prerequisite: Health Education 1, and at least sophomore standing. Nemir.

Health Education 102. *Prevention and Emergency Care of Injuries.* (2) W. Procedures for prevention of injuries; first aid; a practical course which emphasizes the hazards of non-medical responsibility. Couch.

Health Education 108. *School Health Program.* (4) A. S. Content and organization of the educative and protective aspects of the health program in elementary and secondary schools. Prerequisite: Health Education 1. Nemir.

Health Education 114. *Health Teaching in Secondary Schools.* (2) W. Methods and materials in teaching health in junior and senior high schools. Prerequisite: Health Education 108. Neilson.

Health Education 115. *Social Hygiene Education.* (2) S. Introduction to the problems of sex education. Neilson.

Health Education 140. *Mental Hygiene.* (3) S. (See Education 140.) Pierson.

Health Education 150. *Interpretation of the Health Examination.* (2) W. The purposes, techniques, and meanings of the health examination; recognition and significance of health conditions in relation to physical education activities. Prerequisite: Health Education 108. Nemir.

Health Education 160. *Problems in Community Health.* (5) S. Couch.

PHYSICAL EDUCATION

Physical Education activity courses 1-14 inclusive, and 40-47 inclusive for men; courses 15-24 inclusive for men and women; and courses 25-39 inclusive for women, may be selected in satisfying University graduation requirements. Physical Education 1 is required of all freshman men, and Physical Education 25 of all freshman women. Conditioning exercises are included in the activity courses. A student may receive credit in any given course more than once, but may count a given course only once in satisfying the physical education requirement for graduation. Students will be required to pass a swimming test. For major students, activity courses or their equivalent must be satisfied before taking courses in methods. Physical Education methods courses 100-105 inclusive are for men, 110-111 for men and women, and 112-124 inclusive for women.

Physical Education 1. *Orientation in Activities.* (1) A. W. S. Required of all freshman men. Staff.

Physical Education 2. *Boxing and Wrestling.* (1) W. Staff.

Physical Education 3. *Track and Field.* (1) S. Couch.

Physical Education 4. *Stunts, Tumbling, and Apparatus.* (1) A. W. Robbins.

Physical Education 5. *Basketball and Volleyball.* (1) Su. A. W. Peterson.

Physical Education 6. *Softball and Handball.* (1) Su. A. S. Robbins.

Physical Education 7. *Touch Football, Soccer, and Speedball.* (1) A. Peterson.

Physical Education 9. *Elementary Swimming.* (1) Su. A. W. S. Staff.

Physical Education 10. *Intermediate Swimming.* (1) Su. A. W. S. Staff.

Physical Education 11. *Advanced Swimming.* (1) A. W. S. Staff.

Physical Education 12. *Lifesaving and Water Safety.* (1) A. W. S. Staff.

Physical Education 14. *Modified or Corrective Activities.* (1) Su. A. W. S. Couch.

Physical Education 15. *Archery and Golf.* (1) Su. A. S. Staff.

Physical Education 16. *Skiing.* (1) W. Armstrong, Bronson.

Physical Education 17. *Tennis and Badminton.* (1) Su. A. S.

Physical Education 18. *Hiking and Mountain Climbing.* (1) Su. A. S. Neilson.

Physical Education 19. *Folk and Square Dancing.* (1) Su. W. Hayes.

Physical Education 20. *Ballroom Dancing.* (1) W. S. Woodland.

Physical Education 21. *Fencing.* (1) W. S. Staff.

Physical Education 22. *Tap Dancing.* (1) W. Hayes.

Physical Education 24. *Individual Programs.* (1) Su. A. W. S. Supervised by Student Health Service. Staff.

Physical Education 25. *Orientation in Activities.* (1) Su. A. W. Required of all freshman women. Staff.

Physical Education 26. *Hockey, Soccer, and Speedball.* (1) A. S. Bronson.

Physical Education 27. *Basketball and Volleyball.* (1) W.

Physical Education 28. *Track and Softball.* (1) S. Woodland.

Physical Education 29. *Stunts, Tumbling, and Apparatus.* (1) W.

Physical Education 30. *Elementary Swimming.* (1) Su. A. W. S. Staff.

Physical Education 31. *Intermediate Swimming.* (1) Su. A. W. S. **Staff.**

Physical Education 32. *Advanced Swimming.* (1) A. W. S. **Staff.**

Physical Education 33. *Diving.* (1) A. W. S. Staff.

Physical Education 34. *Lifesaving and Water Safety.* (1) W. S. Bronson.

Physical Education 35. *Beginning Dance.* (1) W. S. Introduction to contemporary creative dance technique. Hayes.

Physical Education 36. *Intermediate and Advanced Dance.* (1) S. W. A continuation of Physical Education 35 with added emphasis on composition. Hayes.

Physical Education 38. *Gymnastics.* (1) W. Bronson.

Physical Education 39. *Modified or Corrective Activities.* (1) A. W. S. Woodland.

Physical Education 40. *Intercollegiate Football.* (1) A. Armstrong.

Physical Education 41. *Intercollegiate Basketball.* (1) W. Peterson.

Physical Education 42. *Intercollegiate Track and Field.* (1) S. Armstrong.

Physical Education 45. *Intercollegiate Swimming and Diving.* (1) W. Staff.

Physical Education 46. *Intercollegiate Wrestling.* (1) W. Staff.

Physical Education 47. *Intercollegiate Tennis.* (1) S. Staff.

Physical Education 50. *Gymnastics.* (2) W. Practice and methods in marching, Danish and Swedish gymnastics. A course primarily for major students.

Physical Education 53. *Beginning Dance.* (1) S. Primarily for major students. Introduction to contemporary creative dance technique. Hayes.

Physical Education 54. *Intermediate Dance.* (1) Su. A. A continuation of Physical Education 53 with added emphasis on composition. Hayes.

Physical Education 55. *Advanced Dance.* (1) W. A continuation of Physical Education 54. Hayes.

Physical Education 56. *Rhythmic Form and Analysis.* (2) S. Theory and practice in rhythmic analysis of movement and percussion accompaniment. Prerequisite: beginning dance or consent of the instructor. Hayes.

Physical Education 60. *Activities for Major Students.* (2) A. S. Students will be assigned to activities in which they are deficient in skill. Men and women. Staff.

Physical Education 80. *Speed Swimming (Women).* (1) W. Bronson.

Physical Education 90. *Introduction to Physical Education.* (2) W. An orientation course presenting in elementary form the classified problems of physical education. Primarily for prospective majors in Physical Education. Bronson.

Physical Education 100. *Methods in Basketball.* (2) A. Peterson.

Physical Education 101. *Methods in Track and Touch Football.* (1) W. Couch.

Physical Education 102. *Methods in Football.* (2) S. Armstrong.

Physical Education 103. *Methods in Soccer, Speedball, Softball, and Volleyball.* (1) A. Robbins.

Physical Education 104. *Methods in Boxing and Wrestling.* (1) W. Staff.

Physical Education 105. *Methods in Aquatic Activities.* (1) S. Staff.

Physical Education 110. *Methods in Stunts, Tumbling, and Apparatus.* (1) A. Robbins.

Physical Education 111. *Methods in Archery, Golf, Tennis, and Badminton.* (1) S. Staff.

Physical Education 112. *Methods in Ballroom Dancing.* (1) S. Woodland.

Physical Education 120. *Methods in Hockey, Soccer, and Speedball.* (1) A. Bronson.

Physical Education 121. *Methods in Basketball and Volleyball.* (1) W. Staff.

Physical Education 122. *Methods in Track and Softball.* (1) S. Woodland.

Physical Education 124. *Methods in Aquatic Activities.* (1) W. Bronson.

Physical Education 126. *Physical Education Activities.* Given only through the Extension Division.

Physical Education 128. *Rhythmic Activities for Children. (Women.)* (1) A. Materials and methods of teaching rhythmic activities for the elementary school age level with supervised practice in the teaching of children. Prerequisite: beginning dance or equivalent. Hayes.

Physical Education 129. *Dance in Secondary School. (Women.)* (1) W. Materials and methods of presenting dance for the secondary school age level, with opportunity for supervised teaching. Prerequisite: beginning dance or equivalent. Hayes.

Physical Education 130. *Physical Education for Elementary Schools.* (3) A. A course for teachers in materials and methods in the physical education program for elementary schools. Neilson.

Physical Education 132. *Problems in Health, Physical Education, and Recreation.* Given only through the Extension Division.

Physical Education 135. *Mechanical Analysis of Activities.* (2) A. An analysis of the mechanics of the movements made in physical education activities; teaching explanations of how to make skilled movements; analysis of skills; nomenclatures used for all the activities. Prerequisite: Physics 1. Couch.

Physical Education 140. *Nature and Function of Play.* (2) W. A study of the play activities of childhood and youth; a classification of the activities; general analysis of the mental processes in and functions of the activities; a critical study of the theories of play. Neilson.

Physical Education 144. *Leadership Organization.* (2) A. Principles and procedures in the organization of leadership, people, programs, facilities, and time schedules. Neilson.

Physical Education 152. *Theory and Philosophy of Dance.* (2) A. A consideration of the position of dance as a creative art medium and educational asset. Hayes.

Physical Education 154. *Dance Composition.* (1) W. A laboratory course for the construction of dance compositions. Prerequisite: beginning dance or consent of the instructor. Hayes.

Physical Education 156. *Historical Survey of Dance.* (3) S. A comparative survey of the historical development of art forms in relation to their environmental conditions from primitive to modern times, with emphasis upon dance. Hayes.

Physical Education 158. *Dance Production.* (1) A. W. S. Materials, methods, and practice in constructing and directing dance productions. Prerequisite: consent of the instructor. Hayes.

Physical Education 160. *Kinesiology.* (3) A. A mechanical anatomical analysis of the movements made in physical education activities, with special reference to posture and corrective exercises. Prerequisite: Anatomy 1 and Health Education 150. Couch.

Physical Education 165. *Physiology of Activity.* (3) W. A general course on the physiological effects of physical education activities. Prerequisite: Physiology 1. Couch.

Physical Education 170. *Tests and Measurements.* (3) S. A study and evaluation of tests of capacity, ability, and achievement in physical education; methods of constructing tests. Neilson.

Physical Education 180. *Corrective Procedures.* (3) S. A laboratory course designed to prepare the physical education instructor to deal with corrective cases. Prerequisite: Physical Education 160. Woodland.

Physical Education 190. *Seminar for Senior Major Students.* (1) W. Staff.

Physical Education 200. *Problems in Physical Education.* (4) S. A course for graduate students in the problem content of the physical education sciences as a basis for the selection and study of a master's thesis problem. Neilson.

Physical Education 210. *Interpretation and Objectives.* (3) A. An analysis of the results and values of physical education activities in terms of development, adjustment, and standards, and their relationships as objectives. Neilson.

Physical Education 220. *Administration of Physical Education.* (3) W. Problems in the administration of physical education in all types of institutions. Neilson.

Physical Education 230. *Adaptation and Evaluation of Activities.* (3) S. Procedures in adapting activities to different ages and individual differences; criteria for and evaluation of activities; organization of a scientific activity program. Neilson.

Physical Education 280. *Master's Degree Seminar.* (2) A. W. S. A critical evaluation of problems and procedures selected for masters' theses. Staff.

Physical Education 290. *Individual Study and Research.* (3-5) A. W. S. Open to students whose preparation for the special problem selected has been approved and accepted by the staff member under whom the work is to be carried on. Staff.

RECREATION

Recreation 145. *Social Recreation Leadership.* (3) S. Discussion of social recreational problems, followed by practice demonstrations and opportunity for leadership of programs. Emphasis on program planning and technique of execution. Staff.

Recreation 205. *Problems in Recreation.* (3) W. A course for graduate students in the problems of recreation. Neilson.

HISTORY AND POLITICAL SCIENCE

Professors CREER (LA104), DALGLIESH, GEERLINGS; *Associate Professor* SCHLEICHER*; *Assistant Professor* DURHAM; *Instructor,* ————.

HISTORY

Departmental Major: History 1 (or 4), 2, 3, 9, 10, 11; plus at least 21 approved additional hours in History.

*On leave of absence.

Teaching Major: History 1, 9, 10, 11, 108; Political Science 1; plus 21 additional approved hours in History. *Teaching Minor:* 25 approved hours in History.

History 1. *Ancient Civilization.* (5) A.S. The rise and development of Egypt, Mesopotamia, Greece, and Rome from earliest times to 500 A. D. Designed for freshmen but open to all students. Geerlings.

History 2. *Medieval and Early Modern European History.* (5) W. Barbarian invasions, feudalism, crusades, medieval church, rebirth of learning, geographical discovery, rise of national states, 400-1650 A. D. Dalgliesh.

History 3. *Modern and Contemporary European History.* (5) S. Background of the current European situation. A survey of the political, diplomatic, social, economic, and cultural features, 1650-1941 A. D. Dalgliesh.

History 4. *Roman Civilization.* (5) W. The political and institutional history of Rome, with the social, economic, and religious background. Geerlings.

History 5. *Twentieth Century Europe.* (3) A.S. The causes of the two world wars, rise of communism and fascism. This course is suggested as a social science elective. Dalgliesh.

History 6. *World War II.* (2) S. Causes of World War II; Nazism; Munich; military and naval campaigns; lend-lease; Atlantic Charter; United Nations' Declaration; Moscow and Teheran Conferences; wartime regulations and regimentation. Dalgliesh.

History 9. *American History.* (3) A. Discovery of the New World, its exploration and colonization. Colonial institutions and life. Expansion and international conflict. The revolt of the English Colonies. Creer.

History 10. *American History.* (3) W. The formation of the Constitution. Testing the new government. Results of the War of 1812. Sectional interests, expansion, and slavery. Creer.

History 11. *American History.* (3) S. The Civil War and Reconstruction. New issues. The West and the New South. Business and politics. Twentieth century achievements. Creer.

History 15. *Twentieth Century America.* (3) Su. A. S. The history of the United States from 1896 to the present, with emphasis upon foreign policy and the period since 1932. Creer.

History 21. *Latin America.* (5) A. The story of the Iberic-American peoples and their civilization. Social, economic, and political problems. The Monroe Doctrine and Pan-Americanism.

History 106. *History of England.* (5) Social, economic, and constitutional developments, with stress on the Tudor and modern periods. (Omitted 1945-46.) Dalgliesh.

History 107. *The French Revolution and the Napoleonic Era.* (5) (Omitted 1945-46.) Dalgliesh.

History 108. *Medieval and Modern Civilization.* (5) A. Certain cultural developments are studied more critically and in greater detail than is possible in the lower division courses. Dalgliesh.

History 109. *Europe since 1870.* (5) W. Historical foundations, fundamental causes, and progressive development of events and issues leading to the Great World War. Special emphasis upon the five great pre-war crises, 1905-14. Creer.

History 110. *The Russian Revolution.* (2) A. Causes of Communist revolution, 1917; Communist program; five-year plans; Soviet political experiments; art and literature of the Communists; Russia's part in World War II. Dalgliesh.

History 112. *History of the British Empire.* (5) S. A study of three hundred years of British overseas activities, with stress on recent crises in India, Palestine, Ireland; how the Dominions achieved self-government. Dalgliesh.

History 114. *Ancient Athens.* (3) Rise and decline of democracy at Athens, with especial emphasis on the Periclean Age. (Omitted 1945-46.) Geerlings.

History 117. *The Roman Republic.* (3) A study of the problems of the later Republic and Age of Augustus. (Omitted 1945-46.) Geerlings.

History 124. *Asiatic Nations.* (5) W. A survey of eastern history, with emphasis upon Japan and China.

History 132. *The Mexican Nation.* (5) S. Ancient, colonial, and independent Mexico, with emphasis upon 20th century social and economic reforms.

History 153. *Spain and France in America.* (3) A study of the expansion, colonization, and colonial institutions of Spain and France in North America. International rivalry in the Atlantic, Caribbean, and Pacific areas. (Omitted 1945-46.) Creer.

History 154. *History of the American West.* (5) A study of European expansion and colonization in North America. The significance of the frontier in the development of Americanism; the West in national issues. (Omitted 1945-46.) Creer.

History 155. *The Trans-Mississippi West.* (5) S. Exploration, colonization and development of Texas, the Great Basin, and the Pacific West, 1803-93. Creer.

History 156. *Seminar in Utah History.* (3-5) W. Selected problems of research in Utah history. Consult instructor before registering. In 1945-46 this course may be taken by graduate students in lieu of History and Political Science 160. Creer.

History and Political Science 160. *Introduction to Research.* (5) Technique in collection of material, criticism of data, and thesis writing. Selected problems of research. Open only to seniors and graduates. Required of graduate students majoring in History or Political Science. (Omitted 1945-46.) Creer.

History 170. *Europe Since 1914.* (3) W. Results of the Great World War. Political, social, and economic adjustments. Dalgliesh.

History 171, 172. *Constitutional History of the United States.* (3-3) W. S. The American Constitution, its background, formation, and evolution. (Omitted 1945-46.)

History 173. *Recent American History.* (5) Development of the American nation from the close of the reconstruction period to the present time. (Omitted 1945-46.) Creer.

History 174. *History of American Diplomacy.* (5) Su. A. American relations with foreign powers from colonial times to the present. Creer.

History 175. *Slavery, the Civil War, and Reconstruction.* (3) W. The slavery question, 1820 to 1877, with emphasis upon problems of reconstruction. Creer.

History 176. *The American Revolution.* (3) A study of eighteenth century America with particular emphasis on causes of separation from England and the ideas, events, and men of our revolutionary era.

POLITICAL SCIENCE

Departmental and Teaching Major: Political Science 1, 2, 3, plus at least 30 approved additional hours in Political Science. *Teaching Minor*: 25 approved hours in Political Science.

Political Science 1. *American National Government.* (5) A. W. Constitutional evolution, party organization, current problems of governmental functions and citizenship. Durham.

Political Science 2. *Comparative European Governments.* (5) W. A study of the constitutional and political practices of the chief European nations, and of their current political problems. Dalgliesh.

Political Science 3. *State and Local Government.* (5) S. The structural form and administrative functions of state and local government. Durham.

Political Science 4. *Local Government.* (5) Organization, machinery, and problems of city and county government. (Omitted 1945-46.) Durham.

Political Science 5. *Political Geography: European and Asiatic.* (5) A. Geographical background of World Wars I and II. Physical aspects of issues concerning political boundaries, population pressures, distribution of raw materials, and communications. Dalgliesh.

Political Science 6. *Political Geography: American.* (5) W. Physical aspects of issues concerning political boundaries, population pressures, distribution of raw materials, and communications.

Political Science 50. *Political Problems.* (5) A. W. S. Government and citizenship in the contemporary world; law, politics, and economic life viewed in relation to the rise of bureaucracy; resultant problems of liberty, security, political organization, and suggested solutions. Durham.

Political Science 101. *Principles of Politics.* (5) A. Fundamental concepts, theories, and problems in the entire field of political science. (Omitted 1945-46.) Schleicher.

Political Science 105. *International Law.* (5) S. The law of nations; fundamental principles illustrated by leading cases. Special emphasis upon current problems. (Omitted 1945-46.)

Political Science 106. *Recent United States Foreign Policy.* (5) W. Problems of the United States as a world power: regional policies; economic background; machinery and practice.

Political Science 109. *Current Political Problems.* (2) A. S.

Political Science 110. *Student Government.* (1) A. (Omitted 1945-46.) Schleicher.

Political Science 112. *International Co-operation.* (5) A. Peace theories, present and past, with emphasis upon plans for peace and world organization. Durham.

Political Science 113. *International Relations.* (5) S. Barriers to international co-operation; nationalism, imperialism; economic rivalries; armaments; recent foreign policy of the Great Powers.

Political Science 114. *The Constitution of the United States.* (5) W. Origins, the establishment of the Constitution, development by legal interpretation and political practice. Durham.

Political Science 115. *Political Parties and Practical Politics.* (3) History, characteristics, and importance of parties, their role in democratic government, and the status of parties today. (Omitted 1945-46.) Durham.

Political Science 120. *History of European Political Thought.* (5) A. Ancient and medieval political theories.

Political Science 121. *Recent Political Thought.* (5) W. Conflict of political ideas from John Locke to the present.

Political Science 122. *History of American Political Thought.* (5) S. The colonial and nineteenth century basis of the contemporary political and social American mind. Durham.

Political Science 123. *The Pacific Area.* (5) A. Political, economic, and social problems of the nations bordering the Pacific; clash of international interests; rise of Japanese imperialism. (Omitted 1945-46.)

Political Science 135. *Public Administration.* (5) A. Introduction to the science of public administration. Organization, personnel, control, and functions of the administrative branch of national, state, and local governments in the United States. Durham.

Political Science 140. *City Management.* (3) A. Public safety, public works, and public welfare departments. Municipal utilities and municipal finance. (Omitted 1945-46.) Schleicher.

HOME ECONOMICS

Professor..... (IE216); *Assistant Professors* SKIDMORE, CANAVAN, VAN STEETER, DRISCOLL, BOWERS; *Instructors* NOALL, THACKERAY*.

Departmental Major: 45 hours. Required of all majors: Chemistry 1, 2, 3; Physiology 1; Economics 1 and 2, or 5; Home Economics 120. *Major in Dietetics:* Required—Home Economics 1, 2, 80, 100, 110a, 110b, 111, 112, 185, 186, 187, 200; recommended—Home Economics 25, 51, 81, 180, 183. *Major in Clothing and Textiles*: Required—Home Economics 14, 15, 16, 20, 30, 103, 105, 106, 107, 108, 115, 215; recommended—Home Economics 25, 35, 80, 81, 140, 180. *Major in Child Development*: Required—Home Economics 1, 2, 51, 81, 82, 83, 101, 180, 183, 201, and approved allied subjects.

Teaching Majors. Foods and Nutrition: Required—Home Economics 1, 2, 51, 80, 81, 110a, 110b, 111, 112, 125, 130, 180, 186, 200; recommended—Home Economics 25, 82, 100, 183. *Clothing and Textiles:* Required—Home Economics 14, 15, 16, 20, 25, 103, 105, 106, 108, 115, 125, 130, 180, 215; recommended—Home Economics 30, 80, 81, 107, 140. *Composite*: Required—Home Economics 1, 2, 14, 15, 16, 20, 51, 81, 82, 101, 103, 108, 125, 130, 135, 180, 186; recommended—Home Economics 25, 80, 100, 106, 112.

Teaching Minors. Foods and Nutrition: Home Economics 1, 2, 51, 81, 101, 112, 186. *Clothing and Textiles*: Home Economics 14, 15, 16, 20, 25, 103, 108. *Child Development*: Home Economics 81, 82, 83, 101, 180, 183.

Home Economics 1. *Foods.* (4) A. W. S. Principles of food preparation. Canavan, Noall.

Home Economics 2. *Food Preparation and Service.* (4) A. W. Etiquette, meal service, practice in food selection and preparation. Prerequisite: Home Economics 1. Canavan.

Home Economics 3. *Foods and Nutrition (for Nurses).* Su. A. W. S. Principles of nutrition and food selection, preparation, and service. Noall.

Home Economics 10. *Clothing.* (3) A. W. S. Selection and construction of clothing. Skidmore.

Home Economics 14. *Textiles.* (3) A. S. A study of fabrics and textile fibers.

Home Economics 15. *Costume Design.* (3) S. Practice in costume design in relation to artistic principles and personal characteristics. Prerequisite: Art 8a. Skidmore.

Home Economics 16. *Clothing for the Family.* (4) A. W. S. Planning and making of clothes for members of the family, including modern aspects of children's clothing. Skidmore.

Home Economics 18a. *Diet Therapy in Disease (for Nurses).* (3) A. S. Modification of the normal diet to meet the needs of specific diseases. Hospital Dietitian.

*On leave of absence.

Home Economics 18b. *Diet Therapy Practice (for Nurses).* (1-2) Su. A. W. S. Laboratory: participation in preparation and service of special diets. (28 full days of supervised practice are given one hour of credit.) Hospital Dietitian.

Home Economics 20. *Interior House Design.* (3) A. S. The furnishing and decorating of a home. Skidmore.

Home Economics 25. *Clothing Selection.* (2) A. W. S. Lecture, demonstration, and discussion. Selection of ready-made clothing and accessories. Skidmore.

Home Economics 30. *Historic Costume.* (2) S. A study of costume as influenced by society from ancient civilization to the present time. Skidmore.

Home Economics 35. *Furniture.* (2) S. Furniture and its influence upon modern interiors.

Home Economics 51. *Home Management.* (3) A. S. The place of management in homemaking, and methods of analyzing the management problems in family living. Van Steeter.

Home Economics 80. *Nutrition and Health.* (3) A. W. S. For students desiring a general knowledge of foods in relation to health. Noall.

Home Economics 81. *Child Development and Principles of Child Guidance.* (4) A. S. The development and guidance of children at various stages of growth from infancy through adolescence. Prerequisite: Psychology 11. Van Steeter.

Home Economics 81n. *Child Development and Guidance (for Nurses).* (1) A. W. S. A survey of the development and guidance of children at various stages of growth. Attention is given to children's play materials and experiences with art and literature. Van Steeter.

Home Economics 82. *Child Guidance and Participation in the Nursery School.* (4) W. The application of psychology to the understanding of the behavior of young children and to the development of principles of guidance. Prerequisite: Home Economics 81. Van Steeter.

Home Economics 83. *Preschool Educational Objectives and Methods.* (4) S. The environment, equipment, and guidance essential for the promotion of wholesome growth during preschool years. Prerequisite: Home Economics 81 and 82. Van Steeter.

Home Economics 100. *Food Economics.* (2) A. Marketing, standardization, and grading of foods; food legislation. Prerequisite: Economics 1 and 2 (or 5) and Home Economics 120.

Home Economics 101. *Nutrition.* (5) W. A scientific study of nutrition as a basis for healthful living. Prerequisite: Chemistry 1, 2, 3, Physiology 1. Noall.

Home Economics 103. *Advanced Clothing Construction.* (4) W. S. Design and construction of clothing with emphasis on tailoring. Prerequisite: Home Economics 15, 16. Skidmore.

Home Economics 105. *Advanced Creative Dress Design.* (5) S. Application of artistic principles in draping and execution of original dresses, suits, and coats. Prerequisite: Home Economics 103, 115. Skidmore.

Home Economics 106. *Textile Economics.* (3) W. Manufacturing processes and economic factors; clothing budgets, intelligent shopping, and thrift. Prerequisite: Home Economics 14, 120; Economics 1 and 2, or 5. Skidmore.

Home Economics 107. *Textile Design.* (3) W. Historic textiles, with emphasis on weaving and application of design to fabrics. Prerequisite or parallel: Art 120.

Home Economics 108. *Advanced Textiles.* (5) A. Analysis of fibers and fabrics to determine characteristics and performance. Prerequisite: Home Economics 14, Chemistry 1, 2, 3.

Home Economics 110a, 110b. *Advanced Nutrition.* (5-5) A. W. The nutritive functions of food constituents. Laboratory: chemical and animal experimentation. Prerequisite: Bacteriology 1, Biochemistry 101.

Home Economics 111. *Dietetics.* (4) S. The application of the principles of human nutrition to normal diets and diet therapy in disease. Prerequisite: Home Economics 110a, 110b.

Home Economics 112. *Science of Cookery.* (4) W. S. The application of scientific principles to cookery. Prerequisite: Home Economics 2. Canavan.

Home Economics 115. *Advanced Costume Design.* (3) W. Special problems in costume studies. Prerequisite: Home Economics 15. Skidmore.

Home Economics 120. *Economics of Consumption.* (3) S. The economic principles of family consumption. Prerequisite: Economics 1 and 2, or 5.

Home Economics 125. *Methods of Teaching.* (3) S. A study of fundamental principles of teaching applied to Home Economics. Prerequisite or parallel: Education 107. Canavan.

Home Economics 130. *Problems in Teaching Home Economics.* (2) A. Precedes or parallels student teaching and involves the problems of teaching Home Economics in the secondary schools. Prerequisite: Home Economics 125. Canavan.

Home Economics 135. *Directed Home Projects.* (1-3) A. W. S. Each student plans, organizes, and carries out in her own home a project which will aid in the further development of skills, knowledge, or managerial abilities in homemaking. Canavan.

Home Economics 140. *Art Appreciation in the Home.* (3) A. Practical problems in applying principles of interior decoration. Prerequisite: Home Economics 20; Art 8a, 120. Skidmore.

Home Economics 151. *Household Equipment and Appliances.* (3) An intensive study in the selection, construction, operation, care, and testing of household equipment and appliances. (Omitted 1945-46.) Driscoll.

Home Economics 155. *Home Management House.* (3) Organization, financial management, records, housekeeping; food buying, preparation and service; hospitality. Six weeks' residence in Home Management House. (Omitted 1945-46.) Canavan.

Home Economics 180. *Marriage and Family Relationships.* (3) A. W. Preparation for marriage, and the factors associated with marital adjustment. Van Steeter.

Home Economics 183. *Children in the Family.* (3) W. Some basic concepts in parent-child relationships significant in the development of personality. Van Steeter.

Home Economics 185. *Institutional Administration.* (3) A. Organization and management of institutional food service departments; visits to institutions; lectures and discussions on quantity food service equipment. Prerequisite or parallel: Home Economics 110a. Driscoll.

Home Economics 186. *Quantity Cookery.* (3) S. Standard methods of food preparation in quantity; menu planning for institutions; experience in quantity food service. Driscoll, Canavan.

Home Economics 187. *Quantity Buying and Accounting.* (3) W. Current procedures in large quantity purchasing and applied accounting for large food service departments. Prerequisite: Home Economics 185. Driscoll.

Home Economics 190. *Special Problems.* (1-3) A. W. S. For students recommended by instructors and approved by the head of the department for independent, advanced work on problems not dealt with in other courses in the department. Staff.

Home Economics 200. *Seminar in Normal Nutrition.* (2) W.

Home Economics 201. *Seminar.* (2) S. Child Nutrition.

Home Economics 205. *Research.* (1-3) A. W. S. Special problems in Home Economics. Staff.

Home Economics 215. *Seminar in Textiles and Clothing.* (2) S. Skidmore.

ITALIAN

(See Modern Languages, page 254.)

LATIN

(See Classics, pages 214-215.)

LAW

(See School of Law, pages 158-163.)

LIBRARY SCIENCE*

Assistant Professor KIRKPATRICK (Li202) *and* STAFF.

Library Science 2. *Use of the Library.* (1) A. W. S. The library's resources and their use; a general survey recommended to freshmen and sophomores. Kirkpatrick, Thomson.

Library Science 101. *Classification and Cataloguing.* (5) S. The unit system, with practice in handling the simpler types of books, and training in the organization of a dictionary catalogue. (Omitted 1945-46.) Kirkpatrick, Thomson.

Library Science 103a. *Reference and Bibliography.* (5) A. A study of major types of reference tools such as catalogues, bibliographies, indexes, almanacs, handbooks. (Omitted 1945-46.) Kirkpatrick and staff.

Library Science 115. *School Library Administration.* (3) W. A study of organization, routine, and standards of building, equipment, and personnel. Seminar. (Omitted 1945-46.) Robison.

Library Science 120. *Book Selection.* (5) W. The choice of books for librarians, teachers, and persons interested in children's literature for elementary and secondary grades. (Omitted 1945-46.) Robison.

Library Science 199. *Problems in Library Science.* (2½) W. Experienced librarians may work on individual projects approved by the instructor. Hours arranged. (Omitted 1945-46.) Kirkpatrick.

MATHEMATICS

Professors PEHRSON (ES210), HORSFALL; *Assistant Professors* S. S. SMITH, HENRIQUES, BIESELE; *Instructors* HAYES, BRIDGER.

Departmental Major: 36 to 45 approved hours, including Mathematics 115 and at least ten more hours in courses numbered above 100, but not including Mathematics 13 and 113.

Teaching Major: Mathematics 6, 9; 10a, 10b, 10c; 114, 115, and ten more approved hours in courses numbered above 100. *Teaching Minor:* 18 to 30 approved hours, including Mathematics 9, and 10a, 10b, and 10c.

* State certification requirements for school librarian are: a regular teaching certificate, either elementary or secondary, and 18 hours in library science, plus 4 hours in children's literature.

Mathematics 1. *Intermediate Algebra.* (5) Su. A. W. S. Prerequisite: one year of high school algebra. Staff.

Mathematics 3. *Solid Geometry.* (5) A. W. S. Prerequisite: plane geometry. Staff.

Mathematics 4. *Plane Trigonometry.* (5) A. W. S. Prerequisite: plane geometry, Mathematics 1. Staff.

Mathematics 4e. *Plane Trigonometry.* (3) W. Prerequisite: plane geometry, Mathematics 1. Staff.

Mathematics 5. *Spherical Trigonometry.* (3) A. With practical applications. Prerequisite: Mathematics 4. Staff.

Mathematics 6. *College Algebra.* (5) Su. A. W. S. Prerequisite: Mathematics 1 or three semesters of high school algebra. Staff.

Mathematics 7. *Mathematics of Finance.* (5) A. Prerequisite: Mathematics 1. Staff.

Mathematics 9. *Analytic Geometry.* (5) Su. A. W. S. Prerequisite: Mathematics 3, 4, 6. Staff.

Mathematics 10a, 10b, 10c. *Differential and Integral Calculus.* (4-4-4) A. W. S. Staff.

Mathematics 13. *An Elementary Descriptive Course in Astronomy.* (5) A. S. Open to freshmen. Does not count toward a major in Mathematics. Hayes.

Mathematics 16. *A Survey Course in Mathematics.* (5) S. This course treats in an elementary way some of the most interesting parts of trigonometry, analytic geometry, and calculus. (Omitted 1945-46.)

Mathematics 17. *The Mathematics of Statistics.* (5) S. An elementary course which requires elementary algebra and the fundamentals of trigonometry. Prerequisite: Mathematics 4 or 16. (Omitted 1945-46.)

Mathematics 100. *College Geometry.* (5) A. Prerequisite: Mathematics 9 and 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 101. *Synthetic Geometry.* (5) S. Prerequisite: Mathematics 9. (Omitted 1945-46.)

Mathematics 102. *Partial Differential Equations.* (5) W. Prerequisite: Mathematics 10a, 10b, 10c, 112.

Mathematics 103. *Advanced Plane and Solid Analytic Geometry.* (5) S. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 104. *Advanced Differential and Integral Calculus.* (5) A. Prerequisite: Mathematics 10a, 10b, 10c.

Mathematics 105. *Vector Analysis.* (5) A. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 106. *Theory of Equations.* (5) W. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 107. *Theoretical Mechanics.* (5-5) W. S. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 108. *Theory of Numbers.* (5) W. Elementary properties of numbers, theory of congruences, residues of powers, primitive roots, quadratic forms. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 109. *Theory of Functions of a Complex Variable.* (5) S. Prerequisite: Mathematics 104.

Mathematics 110. *Mathematical Reading.* (5) S. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 111. *Analytic Projective Geometry.* (5) S. Prerequisite: Mathematics 9. (Omitted 1945-46.)

Mathematics 112. *Ordinary Differential Equations.* (5) A. S. With applications to Mechanics and Physics. Prerequisite: Mathematics 10a, 10b, 10c. Pehrson.

Mathematics 113. *General Astronomy.* (5-5) W. S. Prerequisite: Mathematics 13, elementary physics, elementary chemistry, and Mathematics 9. Does not count toward a major in Mathematics. (Omitted 1945-46.) Hayes.

Mathematics 114. *Teaching of Mathematics.* (2) A. Prerequisite: Mathematics 6, 9; Psychology 129; Education 107. Henriques.

Mathematics 115. *History of Mathematics.* (2-2) W. S. Prerequisite: Mathematics 10a, 10b, 10c. Henriques.

Mathematics 118. *Group Theory.* (5) A. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

Mathematics 119. *Advanced Algebra.* (5) S. Prerequisite: Mathematics 10a, 10b, 10c. (Omitted 1945-46.)

MECHANICAL ENGINEERING

(See School of Engineering, pages 107-108, 114-115, 124-128.)

MEDICINE

(See School of Medicine, pages 149-151.)

METALLURGICAL ENGINEERING

(See School of Engineering, pages 107-108, 115-116, 128-130.)

MILITARY SCIENCE AND TACTICS

Colonel R. CAMPBELL (MS100).

All male physically fit freshman students (except those in the School of Mines and Engineering) are required to take Military Science 1, 2, and 3, and Physical Education. Freshman engineers must take either Military Science 1, 2, and 3, or Physical Education. Other male students may elect Military Science 4, 5, and 6. This program does not include the schedule for ASTRP Trainees.

BASIC COURSE: First Year

Military Science 1. *Military Training.* (2) A. Organization of the Army, military courtesy and discipline, hygiene, interior guard, equipment and clothing, sanitation, dismounted drill. Two hours theory and two hours drill per week.

Military Science 2. *Military Training.* (2) W. Military map reading, study and use of U. S. Rifle Cal. .30, camouflage, cover and movement, scouts, observers and messengers, dismounted drill. Three hours theory and one hour practical exercise per week.

Military Science 3. *Military Training.* (2) S. Extended order drill, scouting and patrolling, protection, safeguarding military information, marches and bivouacs, administration, military law, training management, communications, dismounted drill. Two hours theory and two hours practical exercise per week.

BASIC COURSE: Second Year

Military Science 4. *Military Training.* (2) A. Tactical training and combat organization, training management, dismounted drill. Two hours theory and two hours practical exercise per week.

Military Science 5. *Military Training.* (2) W. Military supply, map reading, tactical training, associated arms, dismounted drill. Two hours theory and two hours practical exercise per week.

Military Science 6. *Military Training.* (2) S. Marches and bivouacs, communication, tactical training, dismounted drill. Two hours theory and two hours practical exercise per week.

Su (2). A basic course to suit the group registered will be arranged for the summer quarter. Two hours theory and two hours practical exercise per week.

MINERALOGY

(See Geology, page 229.)

MINING ENGINEERING

(See School of Engineering, pages 107-108, 116-117, 130-131.)

MINING AND METALLURGICAL RESEARCH

(See School of Engineering, page 131, and Research Agencies, page 172.)

MODERN LANGUAGES

Professors BARKER (LA301), KERR, RUNZLER, BALLIF; *Associate Professor* MCKAY; *Assistant Professor* WYLER; *Instructor* HOWE.

Departmental Majors. In French, German, or Spanish, a minimum of 36 credit hours of advanced work, as recommended in a written statement from the head of the department and otherwise indicated herein, is required.

Students majoring in this department must have their courses approved by the head of the department or the professor in charge of the major subject before registering for their last year's work.

Language Requirements for a Degree. The student who uses any of the courses outlined below to satisfy the language requirement for a B.A. degree (25 hours in one foreign language) will be expected to pass an examination showing at least ability to read with understanding ordinary prose of the language he submits to satisfy that requirement.

Elective Credit. To receive credit toward graduation for beginning work in a foreign language, a student must complete three quarters in the subject as taught in the University of Utah.

Active participation in a language club, *Le Cercle Francais, El Club Espanol,* or *German Club,* and attendance of one pronunciation laboratory period per week for eight weeks each quarter is required of students of the department.

FRENCH

A candidate for a master's degree in French must present at least 15 quarter hours or the equivalent in Spanish, Italian, German, or Latin.

Departmental Major: 36 to 45 hours of approved advanced work. Required supporting subjects: Phonetics 150 and 151, plus 15 approved hours in German, Spanish, History, Latin, and other approved subjects.

Teaching Major: French 73, 113, 114, 115, plus 18 hours in elective courses numbered above 101. Required supporting subjects: Phonetics 150, 151, and 15 approved hours in German, Spanish, History, English, Latin, Art, Music, Philosophy, and other approved subjects.

Teaching Minor: 18 to 30 hours in courses numbered above 101, including French 113, 114, 115, and five hours of Phonetics.

French 1, 2. *Elementary Course.* (5) Su. A. W. S. Staff.

French 3, 4. *Intermediate Course.* (5) Su. A. W. S. Prerequisite: for French 4, two units of French or French 1-3. Staff.

French 5. *Advanced Course.* (5-5-5) Su. W. S. Continuation of French 4. Staff.

French 6. *Advanced Course.* (5) S. Continuation of French 5. Staff.

French 10, 11. *Intermediate Course.* (5-5) A. W. A course for students with two high school units of French. (Omitted 1945-46.) Staff.

French 25, 26. *French Conversation.* (1-1) Su. W. S. Staff.

French 73. *France: Her Language and Her People.* (2) S. Illustrated talks on France. Given in English. (Not counted in language requirement for B.A. degree.) Open to freshmen. Kerr.

French 74, 75, 76. *Masterpieces of French Literature in Translation.* (2-2-2) A. W. S. A study of outstanding French dramas, novels, short stories, and poetic works of general interest. Lectures and reading assignments in English. No prerequisite and no knowledge of French required. (Not counted in language requirement for B.A. degree.) Kerr.

French 101, 102, 103. *Reading and Conversation.* (5-5-5) A. W. S. For students desiring fluency in the actual use of the language. Prerequisite: French 1-6, or three units of French. Staff.

French 113, 114, 115. *Survey of French Literature.* (4) Su. A. W. S. Reading of manual of history of French literature and of representative texts of the 17th, 18th, 19th, and 20th centuries. Staff.

French 130, 131. *French Classicism.* Corneille, Racine. (Omitted 1945-46.)

French 132. *LaFontaine and His Fables.* (Omitted 1945-46.)

French 138. *The French Novel.* A critical study of the novel from the beginnings to the present. (Omitted 1945-46.)

French 139. *The Contemporary Theatre.* A study of the plays of Rostand, Brieux, Hervieu, Bernstein, Bataille, Lavedan, Guitry, Vildrac, Romains, Pagnol, Giraudoux, etc. (Omitted 1945-46.)

French 140, 141. *French Short Story.* (Omitted 1945-46.)

French 165. *Moliere and the French Comedy.* (Omitted 1945-46.)

French 166. *French Grammar.* A course designed for advanced students. (Omitted 1945-46.)

French 174. *Lyrics.* French poetry from its beginnings to the present time. (Omitted 1945-46.)

French 176, 177, 178. *Victor Hugo.* A study of his novels, plays, and poetry. (Omitted 1945-46.)

French 180, 181, 182, 184. *Seminar.* A. W. S. Su. A course in directed reading. Hours and credit to be arranged. Kerr.

GERMAN

A candidate for a master's degree in German must present at least 15 quarter hours or the equivalent in French, Spanish, or Italian.

Departmental Major: 36 to 45 hours of approved work. Required supporting subjects, five hours in phonetics and 15 hours of approved work in French, History, English, or Philosophy.

Teaching Major: 27 hours of approved work, including German 110-111-112 (or nine hours in courses above 127), German 122-123-124, nine hours in courses German 150 to 155, and German 6, 73, or three credit hours in approved courses numbered above 100. Required supporting subject, Phonetics 156 or 157.

Teaching Minor: 20 approved hours of advanced work, including German 110, 111, 112, 122, 123, 124. Required supporting subject, Phonetics 156.

German 1. *Elementary Course.* (5) Su. A. W. S. Staff.

German 2. *Elementary Course, Continued.* (5) Su. A. W. S. Staff.

German 3. *Intermediate Course.* (5) Su. A. W. S. Staff.

German 4. *Intermediate Course, Continued.* (5) Su. A. W. S. Prerequisite: two units of German, or German 1-3. Staff.

German 5. *Advanced Course.* (5) Su. A. W. S. Prerequisite: German 1-4. Staff.

German 6. *Advanced Course, Continued.* (3) S. Prerequisite: three units of German, German 1-5. Staff.

German 7. *Scientific German for Medical Students.* (3) S. A reading course intended for students interested in acquiring a technical vocabulary in subjects closely related to the study of medicine. Prerequisite: German 1-5, or equivalent. Runzler.

German 25, 26. *German Conversation.* (1-1) Su. W. S. McKay.

German 73. *Germany: Her Language, Literature, and People.* (2) W. A series of talks, many of them illustrated, covering Germany. Given in English. No German required. (Not counted in language requirement for B.A. degree.) Runzler.

German 75, 76, 77. *Masterpieces of German Literature in Translation.* (2-2-2) A. W. S. A survey of outstanding dramas, novels, and short stories of general interest. Lectures and reading assignments in English. No prerequisite and no knowledge of German required. (Not counted in language requirement for B.A. degree.) McKay.

German 101. *An Introductory Course in German Poetry.* (3) W. The shorter poems of Goethe, Schiller, Heine, Uhland, etc. (Omitted 1945-46.) McKay.

German 107, 108. *Scientific German.* (2-2) A. W. For students interested in chemistry, physics, and other scientific subjects. Prerequisite: for German 107, German 1-5; for German 108, German 107. (Omitted 1945-46.) Runzler.

German 110, 111, 112. *Third Year German.* (3-3-3) A. W. S. Conducted in German. The easier works of such authors as Schiller, Lessing, Goethe, Heine, etc., are read. Prerequisite: German 1-6, or equivalent. Wyler.

German 113, 114, 115. *Third Year German.* (3-3-3) A. W. S. Prerequisite: German 110, 111, 112. Wyler.

German 122, 123, 124. *German Composition.* (2-2-2) A. W. S. Prerequisite: German 1-6, or equivalent. Wyler.

German 125, 126, 127. *German Conversation.* (2-2-2) A. W. S. Prerequisite: German 1-6, or equivalent. McKay.

German 128. *Deutsche Kulturgeschichte und Volkskunde.* (3) A. Rapid reading course in German history, art, civilization, etc., for students with three years of German, or equivalent. (Omitted 1945-46.) Runzler.

German 131. *German Comedy.* (3) W. Representative authors such as Schiller, Lessing, Freytag, Fulda, Moser, Mueller, etc., are studied. Prerequisite: German 110-112, or equivalent. (Omitted 1945-46.) Runzler.

German 132. *Grillparzer.* (3) S. Representative dramas such as "Des Meeres und der Liebe Wellen," "Die Ahnfrau," "Sappho," etc., are read. Prerequisite: same as for German 131. Runzler.

German 133. *Schiller.* (3) W. A critical study of the life and works of the author. Prerequisite: same as for German 131. Runzler.

German 134. *The Short Story in German Literature.* (Omitted 1945-46.) Runzler, McKay.

German 135. *The German Novel Since 1848.* (3) S. (Omitted 1945-46.) Runzler.

German 136. *Lessing.* (3) W. Prerequisite: same as for German 131. (Omitted 1945-46.) Runzler.

German 137. *Heine.* (3) S. Prerequisite: same as for German 131. (Omitted 1945-46.) Runzler.

German 138. *Hauptmann.* (3) A. Prerequisite: same as for German 131. Runzler.

German 139. *Schnitzler.* (3) A. A study of the short stories and plays of Schnitzler. Prerequisite: German 110, 111, 112, or equivalent. (Omitted 1945-46.) Runzler.

German 140. *Goethe's Faust, Part I.* (4) W. Prerequisite: same as for German 139. Runzler.

German 141. *Goethe.* (2). (Omitted 1945-46.) McKay.

German 142. *Goethe's Faust. Part II.* (3). Prerequisite: German 140. (Omitted 1945-46.) Runzler.

German 143. *Kleist.* (3) W. Prerequisite: same as for German 131. (Omitted 1945-46.) Runzler.

German 144. *Hebbel.* (3) S. Prerequisite: same as for German 131. (Omitted 1945-46.) Runzler.

German 150. *Survey of German Literature from the Earliest Period to the Close of the Twelfth Century.* (3) A. Runzler.

German 151. *Survey of German Literature from the Twelfth Century to the Period of the Reformation.* (3) A. Runzler.

German 152. *Survey of German Literature from the Reformation to 1750.* (3) S. Runzler.

German 153. *Survey of German Literature from 1750 to 1832.* (3) A. (Omitted 1945-46.) Wyler.

German 154. *Survey of German Literature in the Nineteenth Century.* (3) W. McKay.

German 155. *Survey of Recent German Literature from 1880 to 1930.* (3) S. Runzler.

German 160. *Introduction to Germanic Philology.* (Omitted 1945-46.) McKay.

German 161, 162. *Germanic Philology.* Gothic and Old High German. (Omitted 1945-46.) Runzler.

German 163, 164. *Middle High German.* (2-2) W, S. (Omitted 1945-46.) Runzler.

German 165. *Andreas Gryphius.* (2) S. Runzler.

German 180. *Seminar.* Su. A. W. S. A course in directed reading. Hours and credit to be arranged. Runzler, McKay, Wyler.

SPANISH

A candidate for a master's degree in Spanish must present at least 15 quarter hours or the equivalent in French, German, Italian, or Latin.

Departmental Major: 36 to 45 approved hours in advanced work. Required supporting subjects: Phonetics 153 and 154, plus 15 approved hours in English, French, German, History, Latin, and other approved subjects.

Teaching Major: Same as departmental major. Approved hours must include Spanish 113, 114, and 115, plus 18 hours in courses numbered above 100. No one desiring to teach Spanish who cannot speak Spanish fluently will be recommended. *Teaching Minor:* 18 to 30 hours in courses numbered above 100, including Spanish 113, 114, 115, and five hours in phonetics.

Spanish 1, 2, 3. *First Year Spanish.* (5-5-5) Su. A. W. S. Staff.

Spanish 10, 11, 12. *Building a Passive Vocabulary.* (5-5-5) A. W. S. Prerequisite: one year in another university or two years in high school. Drill on pronunciation; otherwise equivalent to Spanish 4, 5, 6. Staff.

Spanish 4, 5, 6. *Second Year Spanish.* (5-5-5) Su. A. W. S. Staff.

Spanish 18. *Commercial Spanish.* (5) S. Letter-writing and commercial vocabulary. (Omitted 1945-46.) Staff.

Spanish 101, 102, 103. *Third Year Spanish.* (5-5-5) A. W. S. Advanced, conversational Spanish.

Spanish 113, 114, 115. *Fourth Year Spanish.* (2-4-4-4) Su. A. W. S. Survey of Spanish literature.

Spanish 116, 117, 118. *Spanish-American Literature.* (3-2-2-2) Su, A. W. S.

Spanish 120. *Romanticism in Spain.* (3) A. Covers all Spanish authors of the first half of the 19th century. (Omitted 1945-46.)

Spanish 121, 122. *The Novel.* (3-3) W. S. The 19th and 20th century novel. (Omitted 1945-46.)

Spanish 135, 136, 137. *Spanish Civilization.* (2-2-2) A. W. S. Study of Spanish civilization from the beginning of Spain to the present day. (Omitted 1945-46.)

Spanish 166, 167, 168. *Spanish Grammar and Composition.* (2-2-2) A. W. S. A course designed for advanced students. (Omitted 1945-46.) Staff.

Spanish 170, 171, 172. *Spanish Drama of the Golden Age.* (2-2-2) A. W. S. (Omitted 1945-46.)

Spanish 175, 176, 177. *The Picaresque Novel.* (3-3-3) A. W. S. A complete study of the more important picaresque novels, including "Guzman de Alfarache" and "Lazarillo de Tormes." (Omitted 1945-46.)

Spanish 180, 181, 182. *Study of Cervantes' don Quijote and the Novelas Ejemplares.* (3-3-3) A. W. S. Conducted in Spanish.

ITALIAN

Italian 1, 2, 3. *Elementary Italian.* (5-5-5) A. W. S. Constant use of drills based on phonetic principles to overcome the English peculiarities of speech and to cultivate Italian habits of articulation. Students are taught to associate directly the foreign words with the ideas for which they stand. Fundamentals of grammar.

PHONETICS

Phonetics 150, 151. *French Pronunciation.* (5-5) W. S. A technical study and analysis of the differences between French and English pronunciation, with a view to teaching Americans to speak French; diction; practical exercises; laboratory experiments to demonstrate differences. Barker.

Phonetics 152. *An Introduction to Elementary French Phonetics.* (5) A. Intensive study of language teaching methodology, with assigned observation in French classes in Salt Lake City. Prerequisite: a good knowledge of French. Barker.

Phonetics 153, 154. *Spanish Pronunciation.* (5-5) W. S. A technical study and analysis of the differences between Spanish and English pronunciation, with a view to teaching Americans to speak Spanish; diction; practical exercises; laboratory experiments to demonstrate differences. Barker.

Phonetics 155. *An Introduction to Elementary Spanish Phonetics.* (5) A. Intensive study of language teaching methodology with assigned observation in Spanish classes in Salt Lake City. Prerequisite: a good knowledge of Spanish. Barker.

Phonetics 156, 157. *German Pronunciation.* (5-5) W. S. A technical study and analysis of the differences between German and English pronunciation, with a view to teaching Americans to speak German; diction; practical exercises; laboratory experiments to demonstrate differences. Barker.

MUSIC

Professors GILES (Mus), PETERSON, FREBER; *Assistant Professor* PERRY; *Instructors* HAWKINS, CONDIE, CLIVE.

Work in the Music Department is divided into three groups: theory, applied, and extracurricular music.

Departmental Major: Music 61, 62, 63, 111, 112, 113, 181, 191, 211, plus a total of 12 hours in applied music.

Major in Public School Music: Music 61, 62, 63, 111, 112, 113, 152, 181, 182, 183, 191, 192, 211, 273. Recommended, in addition: 10 to 15 hours in applied music.

Teaching Major: Music 61, 62, 63, 111, 112, 113, 151, 181, 211, plus 10 hours in applied music. *Teaching Minor:* Music 61, 62, 63, 111, 112, 151, 181, 182, plus 5 hours in applied music.

THEORY

Music 61. *Appreciation of Music: Classical Period.* (3) A. A non-technical general course open to all students. Profusely illustrated with selections on modern reproducing instruments. Giles.

Music 62. *Appreciation of Music: Romantic Period.* (3) W. Giles.

Music 63. *Appreciation of Music: Modern Period.* (3) S. Giles.

Music 101, 102, 103. *Sight Singing and Ear Training.* (3-3-3) A. W. S. A general course in reading music at sight and distinguishing musical intervals. Peterson.

Music 111. *Harmony.* (5) A. Open to graduates and other students of ability and training. This course includes notation, sight-singing, intervals, and chords, covering the elementary points necessary for entrance into the more advanced music courses. Giles, Peterson.

Music 112, 113. *Harmony.* (5-5) W. S. Prerequisite for Music 112, Music 111; for Music 113, Music 112. Giles, Peterson.

Music 121, 122, 123. *Music Literature. (Advanced Music Appreciation).* (2-2-2) A. W. S. Giles.

Music 151. *Music Education in the Secondary School.* (4) A. Principles and techniques of teaching music on the secondary level. Prerequisite: Psychology 129, Education 107, and the ability to play the piano and sing. Perry.

Music 152. *Music Education in the Elementary School.* (2) A. W. S. A comprehensive treatment of problems in rhythm and melody, and of methods of presentation in practical lesson plans. Prerequisite: knowledge of the elements of music notation, and some ability to read at sight a simple hymn tune. Perry.

Music 164, 165, 166. *Instrumentation and Arranging for Band.* (3-3-3) A. W. S. Prerequisite: Music 111, 112. Designed to give a knowledge of all band instruments and of practical arranging for band. Clive.

Music 171, 172, 173. *The History of Music.* (2-2-2) A. W. S. A survey of music beginning with early Greek music and extending to the present time, copiously illustrated. Giles.

Music 174. *Band Instruments: Theory, Teaching, Materials.* (3) A. Designed to give a knowledge of all band instruments, their range, character, and transpositions. Latest methods of teaching, materials, and practical playing experience on most instruments. Prerequisite: Music 111. Clive.

Music 175. *Band Instrumentation and Arranging for Band.* (3) W. Prerequisite: Music 157. Clive.

Music 176. *Band Teaching and Conducting.* (3) S. Characteristics of band and smaller wind-instrument-group performance. Technique of baton, score reading, interpretation, practical experience. Prerequisite: Music 158. Clive.

Music 181, 182. *Choral and Instrumental Materials and Conducting.* (2-2) A. W. Freber.

Music 183. *Form and Analysis.* (2) S. Instrumental and choral. Freber.

Music 191, 192, 193. *Keyboard Harmony.* (3-3-3) A. W. S. Giles.

Music 203. *Methods and Materials for Teaching Music in Public Schools on the Basis of Appreciation.* (2) S. The development of the capacity for enjoyment and understanding of music through listening. Perry.

Music 211. *Advanced Harmony and Elementary Counterpoint.* (3) A. Prerequisite: Music 113. Freber.

Music 212. *Counterpoint and Original Composition.* (3) W. Prerequisite: Music 211. Freber.

Music 261, 262, 263. *Musicology.* (2-2-2) A. W. S. A course for students who have completed other courses listed in music here or elsewhere, or those who have practiced music over a period of years. Giles.

Music 273. *Orchestration and Arranging for Orchestra.* (3) S. Prerequisite: Music 212. Freber.

APPLIED GROUP MUSIC

Music 4, 5, 6. *Band.* (2-2-2) A. W. S. Appearance in public if required by director. Clive.

Music 14, 15, 16. *Orchestra.* (2-2-2) A. W. S. Appearance in public if required by director. Freber.

Music 24a, 24b, 24c. *Women's Glee Club.* (1½-1½-1½) A. W. S. Appearance in public if required by director. Peterson.

Music 25a, 25b, 25c. *Men's Glee Club.* (2-2-2) A. W. S. Appearance in public if required by director. Giles.

Music 44a, 44b, 44c. *A Cappella Mixed Chorus.* (1½-1½-1½) A. W. S. Limited to 60 voices. (Approximately 36 women's voices and 24 men's voices.) Appearance in public if required by director. Condie.

Music 54, 55, 54. *Group Voice Instruction.* (2) A. W. S. Designed to improve individual singing voice through instruction in tone production, breathing, posture, phrasing, and interpretation of songs; and to build a repertory of well-known classical and semi-classical songs. Perry.

Music 64. *Group Piano Instruction.* (2) A. W. S. Introduction to piano playing through ear-training, eye-training, and necessary techniques for playing accompaniments or simple tunes.

Music 104a, 104b, 104c. *Brass Ensemble.* (1-1-1) A. W. S. Double quartet of trumpets, trombones, etc. Appearance in public if required by director. Clive.

Music 114, 115, 116. *String Ensemble.* (1-1-1) A. W. S. Open to all players of string instruments. Freber.

Music 124a, 124b, 124c. *Women's Double Quartet.* (1-1-1) A. W. S. Peterson.

Music 125a, 125b, 125c. *Men's Double Quartet.* (1-1-1) A. W. S. Appearance in public if required by director. Giles.

Music 134. *String Quartet.* (2-2-2) A. W. S. Entrance by permission of director. Open only to experienced players of string instruments. Freber.

Music 144a, 144b, 144c. *Mixed Double Quartet.* (1-1-1) A. W. S. Appearance in public if required by director. Condie.

APPLIED PRIVATE MUSIC

Music 7, 8, 9, 57, 58, 59, 107, 108, 109, 157, 158, 159. *Private Cello Lessons.* Credit arranged according to work done. Special fee of $30.00 per quarter. Clive.

Music 17, 18, 19, 117, 118, 119. *Private Lessons: Wind and Woodwind Instruments.* Special fee of $20.00 per quarter. Credit arranged according to work done. Clive.

Music 27, 28, 29, 77, 78, 79, 127, 128, 129, 177, 178, 179. *Private Violin Lessons.* Credit arranged according to work done. Special fee of $35.00 per quarter. Freber.

Music 37, 38, 39, 87, 88, 89, 137, 138, 139, 187, 188, 189. *Private Vocal Lessons.* Credit arranged according to work done. Special fee of $30.00 per quarter. Condie, Perry.

Music 47, 48, 49, 97, 98, 99, 147, 148, 149, 197, 198, 199. *Private Piano Lessons.* Credit arranged according to work done. Special fee of $35.00 per quarter. Giles, Peterson.

University pianos may be rented for practice at the rate of $3.00 per quarter, per daily hour of practice.

A total of 12 hours only of private instruction in applied music may be credited toward a degree. A total of 20 hours only of group work in applied music (glee clubs, orchestra, band, etc.) plus private work may be credited toward a degree.

NOTE: All private lessons listed in the preceding paragraphs are understood to include a thirty-minute individual lesson, and one class meeting per week. Students registered for credit must appear at least once during each quarter on departmental programs before registration for a succeeding course will be permitted.

Students are invited to participate in the following as extracurricular activities: band, orchestra, glee clubs, opera chorus. These activities are regulated as are athletic activities and require the same scholastic standing for eligibility.

All rules and regulations of the University pertaining to fees, withdrawals, etc., will be strictly enforced with regard to the applied music courses for which special fees are required. (See page 75.)

NURSING EDUCATION

Associate Professor MACQUIN (Gm318); *Assistant Professor* KOHLER; *Assistant* RORDAME; *Lecturers and Nursing Instructors at the Hospital Schools of Nursing.*

Nursing 48. *Mathematics Involved in the Preparation of Solutions for Treatments and in the Administration of Drugs.* (2) Su. W. Pre-tests in arithmetic will be given. At hospitals.

Nursing 49. *Materia Medica and Therapeutics.* (3) Su. W. A study of the physiological, toxicological, and therapeutic action of drugs, with emphasis upon the nurse's responsibilities regarding drug therapy. At hospitals. Medical Lecturer and Nursing Instructor.

Nursing 50a, 50b. *Professional Adjustments I.* (1) Su. A. W. S. Orientation to the nursing profession. Principles of personal and professional conduct. One meeting of entire class weekly, Saturday. Section meetings for discussion once weekly. Macquin, Rordame.

Nursing 51. *Nursing Arts I (Units I-VI).* (4) Su. W. The fundamental principles, techniques, and skills of nursing applied to the care of the patient. At hospitals. Nursing Arts Instructors.

Nursing 52. *Nursing Arts II (Units VII-X).* (4) Su. W. A continuation of Nursing Arts I; principles of advanced nursing techniques, and practice of the more complicated procedures. Nursing Arts Instructor.

Nursing 54a, 55a. *An Introduction to General Medical and Surgical Nursing, Conditions of the Skin, Respiratory, Circulatory, Gastro-intestinal, and Genito-urinary Systems (Units I-VI).* (3) A. S. Lectures by hospital medical staff; principles of nursing, demonstrations, conferences, and clinics by supervisors of nursing of the respective clinical services.

Nursing 54b. *Medical Nursing Practice.* (3) A. S. Clinical practice paralleling or following Nursing 54a. This and all following courses ending in "b" represent supervised bedside nursing with accompanying ward teaching. One hour of credit is granted for each 28 days or approximately 160 clock hours of supervised clinical practice. Medical Nursing Supervisor.

Nursing 55b. *Surgical Nursing Practice.* (3) A. S. At hospitals. Surgical Nursing Supervisor.

Nursing 60. *Oral Hygiene.* (½) A. W. Mouth conditions with special reference to dental structures, their care and treatment in health and disease.

Nursing 100a. *Medical and Surgical Specialties.* (4) A. W. Allergic conditions; endocrine glands and metabolism; nervous system; eye, ear, nose, and throat nursing; musculo-skeletal system; gynecological conditions.

Nursing 100b. *Clinical Practice in Medical and Surgical Specialties.* Medical and Surgical Supervisors.

Nursing 101a. *Out-Patient Department, Clinics, Night Duty.* (1) A. W. Field trips for observation and classes.

Nursing 101b. *Out-Patient Nursing Practice.*

Nursing 103a. *Operative Aseptic Technique.* (1) A. W. The principles underlying operative procedures, surgical asepsis, and techniques used in the operating room.

Nursing 103b. *Operating Room Practice.*

Nursing 104a. *Tuberculosis Nursing.* (1) A. S. Prevention and treatment of tuberculosis; rehabilitation measures.

Nursing 105a. *Highly Communicable Diseases, including Gonorrhea and Syphilis.* (3) A. W. Modes of transmission, general symptomatology, and complications of communicable diseases; the importance of early recognition of symptoms; public health measures.

Nursing 105b. *Communicable Disease Nursing Practice.* Clinical practice in care of patients with highly communicable diseases.

Nursing 106a. *Obstetrical Nursing.* Physiological and pathological aspects of pregnancy, labor, and puerperium; principles of obstetrical nursing, pre-natal and neo-natal care.

Nursing 106b. *Obstetrical Nursing Practice.*

Nursing 107a. *Nursing of Children.* (4) A. W. S. The child from the standpoint of his total well-being: physical, mental, social, and emotional; care of the sick child. A course in child development is to be carried concurrently.

Nursing 107b. *Clinical Practice in Nursing of Children.*

Nursing 108. *History of Nursing.* (3) Su. A. W. S. The development of nursing as a humanitarian ideal; recent nursing history with emphasis on education, organization, and the international aspects of nursing. Kohler, Macquin, Rordame.

Nursing 109. *Nursing and Health Service in the Family.* (4) A. W. S. To give broader concepts of nursing in hospital and home through knowledge of ways of approach to the family and use of teaching opportunities; to develop a familiarity with community resources and their place in the health promotion program. Individually planned field observation for each student included. Rordame.

Nursing 110a. *Psychiatry and Principles of Psychiatric Nursing.* (1) A. W. S. The underlying principles of the behavior and nursing care of mental and nervous patients; the place of the nurse in mental hygiene work.

Nursing 110b. *Clinical Practice in Psychiatric Nursing.*

Nursing 111a. *Special Therapies.* (2) A. W. S. X-Ray, diathermy, fever therapy, Kenny treatment, special new drugs, occupational therapy, care of the chronically ill and the aged.

Nursing 111b. *Clinical Practice in Special Therapies.*

Nursing 112. *First Aid in Nursing and Emergency Situations.* (1) A. W. S. Meets requirements for the granting of a Red Cross First Aid Certificate.

Nursing 113. *Professional Adjustments II.* (3) A. Fields of work open to the prospective graduate; the social, economic, and professional aspects of nursing; professional organizations; continued education; legal problems and value of professional codes.
Directors of Hospital Schools of Nursing.

Nursing 114. *Principles of Teaching Applied to Nursing Education.* (4) A. Recommended prerequisite: Psychology 129. Kohler.

Nursing 115. *Ward Management and Ward Teaching.* (4) A. S. For graduate nurses and senior cadets interested in management of the hospital nursing unit and the teaching of patients, student nurses, and ward personnel. Mature students are encouraged to work on individual problems. Classes meet at hospitals. Kohler.

Nursing 116. *Trends in Nursing Education.* (4) A survey of the influences that make for changes in nursing service and nursing education. Kohler.

Nursing 119. *Tests and Measurements Applied to Nursing* (4) S. Macquin.

Nursing 120. *Student Teaching.* (8) Su. A. W. S. Carried in a school of nursing. Registered nurses who have had three or more years' teaching experience in an acceptable school program may substitute other subjects upon recommendation of the faculty counselor.

(a) *Teaching of the Nursing Arts.* Attention is given to the experience and activities appropriate to different levels of learning, with emphasis on the integration of the basic sciences in the art of nursing.

(b) *Supervised Practice in Ward Management and Ward Teaching.*

(c) *Student Teaching in Advanced Courses.*

Nursing 121a. *Orientation to Senior Cadet Experience.* (3) Su. W.

Nursing 121b. *Beginning Senior Cadet Practice.* (3) Su. W.

Nursing 122b. *Advanced Senior Cadet Practice.* (3) A. S.

Nursing 129. *Conference Techniques in Nursing Education.* (1) A. S. Macquin, Kohler.

Nursing 130. *Guidance in Nursing Education.* (4) Su. A. W. S. Macquin.

Nursing 131. *Supervision of Clinical Instruction.* (4) Principles underlying effective supervision; formulation of a supervisory plan, methods for using the plan, evaluation of results.
Macquin, Kohler.

OBSTETRICS AND GYNECOLOGY

(See School of Medicine, page 151.)

ORIENTATION

Dean ANGLEMAN (Pk212).

Freshman Orientation 1. (1) Su. A. W. S. A course of introductory lectures on various aspects of university life, given under the direction of the Lower Division Council. Required of all lower division freshmen in their first quarter and recommended for students in the division who are transferring from other institutions.

Angleman.

PATHOLOGY

Professor GUNN (Md112); *Assistant Professor* CARLQUIST; *Lecturer* QUEEN; *Instructor*.....

Departmental Major: At least 44 hours, including Pathology 201, 202, 203, 204, 205, 107, 108, 109, 110, 111, 112.

Major in Medical Technology (given in conjunction with the Department of Bacteriology): Prerequisite—Chemistry 4, 5, 6 (or 1, 2, 11); 7, 8, 30; Biological Chemistry 101, 103; Anatomy 1; Physiology 1; Zoology 1, 108, 109, 142. Major requirements—Bacteriology 1, 103, 104, 109; Pathology 106 (or 202), 107, 108, 109. In the last three courses, which are given as practical clinical laboratory work in an approved hospital or public health laboratory, 45 credit hours are allowed.

Pathology 106. *Clinical Pathology.* (4) W. Laboratory work embraces the standard diagnostic methods used in hospitals and public health laboratories. Prerequisite: Bacteriology 103. Carlquist.

Pathology 107, 108, 109. *Advanced Clinical Pathology.* (15-15-15). Any quarter. This course comprises the work of the fourth year in Medical Technology. Subjects covered: Urinalysis, Gastric Analysis, Blood Chemistry, Hematology, etc. Prerequisite: Pathology 106 or 202. Carlquist.

Pathology 110, 111, 112. *Advanced Pathology—Gross, Special, and Research.* (5-5-5). Time to be arranged. Prerequisite: Pathology 205. Staff.

(For medical courses in Pathology numbered 200 and above see School of Medicine, page 151.)

PEDIATRICS

(See School of Medicine, pages 152-153.)

PHARMACOLOGY

(See School of Medicine, page 153.)

PHILOSOPHY

Professor ERICKSEN (Pk205); *Assistant Professor* READ; *Instructor* JARRETT†.

Departmental Major: 45 hours of approved work.
Teaching Major in Ethics: 45 hours of approved work, including Philosophy 1, 2, 5, 102, 103, 104, 110, and 118 or 111.

Teaching Minor in Ethics: 18 hours of approved work.

Philosophy 1. *Social Ethics.* (5) Su. A. W. S. A brief genetic approach to the problem of social ethics, followed by an examination of the manifestations of the social consciousness in family, economic, and religious life. Ericksen, Read.

Philosophy 2. *Philosophy of Democracy.* (5) W. S. A brief survey of the development of the democratic ideal, together with an examination of its practical implications for contemporary times. Read.

Philosophy 3. *Business Ethics.* (5) (Omitted 1945-46.)

Philosophy 5. *Logic.* (5) A. W. S. Meaning, deduction, and scientific method. Read.

Philosophy 5a. *Logic.* (3) A. W. S. Pitfalls of meaning, definition, and deduction. Read.

Philosophy 5b. *Logic.* (2) A. W. S. The attainment of truth —scientific method. Read.

Philosophy 11. *Adventures in Ideas: Beauty and the Other Values of Life.* (5).

Philosophy 12. *Adventures in Ideas: Our Scientific Heritage.* (5) W. A brief historical survey stressing the development of scientific method together with the mutual interdependence of science and philosophy.

Philosophy 13. *Adventures in Ideas: Five Great Philosophers.* (5) S. Selected readings from Nietzsche, James, Russell, Santayana, and Bergson.

Philosophy 101. *Introduction to Philosophy.* (5) S. The main problems of philosophy as presented in the writings of representative philosophers. Read.

Philosophy 102. *Ethical Theories.* (5) S. A survey, chiefly historical, of the main types of ethical theory. (Omitted 1945-46.)

Philosophy 103. *Political Ethics.* (5) W. A study of the relation between the moral community and the political order.

Philosophy 104. *Evolution of Morality.* (5) S. Ericksen.

Philosophy 106a. *Plato.* (5) A. Read.

†On leave of absence with the armed forces.

Philosophy 108b. *Aristotle.* (5) (Omitted 1945-46.)

Philosophy 107a. *Descartes, Spinoza, Leibnitz.* (5) W. Read.

Philosophy 107b. *Locke, Berkeley, and Hume.* (5) (Omitted 1945-46.)

Philosophy 108a. *Comte, Mill, Spencer, and Darwin.* (5) S. Read.

Philosophy 108b. *Kant, Hegel, and Schopenhauer.* (5) (Omitted 1945-46.)

Philosophy 110. *Philosophy of Religion.* (5) Su. W. A survey of the great religious movements in history, followed by a more detailed analysis of contemporary thinking in the field. Emphasis will be placed upon the question of the meaning and value of religion. Ericksen.

Philosophy 111. *Current Problems in American Social Morality.* (5) Su. A. The basal standards of America's social morality will be examined, with special emphasis upon family life, political rights, property rights, and the standard of living. Ericksen.

Philosophy 112. *Aesthetics.* (5) W.

Philosophy 117. *Philosophy and Literature.* (5) (Omitted 1945-46.)

Philosophy 118. *Philosophy of Value.* (5) A.

Philosophy 125. *Philosophy of Science.* (5) S.

Philosophy 126. *Advanced Logic.* (5) (Omitted 1945-46.)

Philosophy 130. *History of American Philosophy.* (5) A.

Philosophy 150. *Honors: Directed Readings in Philosophy.* A. W. S. Credit to be arranged. Staff.

Philosophy 200. *Research.* A. W. S. Credit to be arranged. Staff.

PHYSICAL EDUCATION

(See Health, Physical Education, and Recreation, pages 230-236.)

PHYSICS

Professors TUGMAN (PS214), PARMLEY; *Associate Professor* SWIGART; *Assistant Professor* HARRIS.

Departmental Major: 45 hours. Physics 1, 2, 3 are not counted toward a departmental major. Ten approved hours in upper division engineering courses may be counted.

Teaching Major: 30 hours. *Teaching Minor:* 25 hours.

Composite Teaching Major in Physical Science: Chemistry 4, 5, 6, 7, 8, 9, 103, 104, 105, 112; Physics 21, 22, 23, 24, 25, 26, 110, 115, 120, 125, 170, 175; Mathematics 6, 9, 10a, 10b, 10c; plus the requirements of the School of Education.

Summer, 1945, offerings: Physics 11, 14, 21, 24.

Physics 1, 2, 3. *Elementary Physics.* (4-4-4) A. W. S. Demonstrated lectures and recitations for students who do not present credit in high school physics. Not counted toward a major in physics. Students may enter at the beginning of any quarter. Swigart.

Physics 11, 12, 13. *General College Physics.* (4-4-4) A. W. S. For students preparing to enter the School of Medicine. Admission by examination in elementary algebra (Mathematics 1), given at the beginning of the autumn or spring quarter. Two lectures and two recitation periods per week. Tugman, Parmley, Swigart.

Physics 14, 15, 16. (1-1-1) A. W. S. Laboratory exercises to parallel Physics 11, 12, 13. Harris.

Physics 21, 22, 23. (4-4-4) A. W. S. General college physics required of all engineering students. May be taken by others who have had college algebra. Two lectures and two recitations per week. Prerequisite: college algebra. Tugman, Parmley, Swigart.

Physics 24, 25, 26. (1-1-1) A. W. S. Laboratory exercises to parallel Physics 21, 22, 23. Harris.

Physics 40. *Photography.* (3) A. W. S. An elementary course in the principles and practice of photography. Open to all students. One class and two laboratory periods per week. Tugman and staff.

Physics 45. *Photography.* (2) S. A more advanced course, presenting the physical principles involved in the testing of photosensitive materials and the use of precise instruments for special photographic work. This is a laboratory course in which students generally work independently with occasional consultation with the instructor. Tugman and staff.

Prerequisite for all upper division courses: Mathematics 10; Physics 21, 22, 23, 24, 25, 26 (or 11, 12, 13, 14, 15, 16).

Physics 102, 103. (5-5) W. S. A course in general college physics which introduces the use of elementary calculus in the discussion of physical theories and problems. Swigart.

Physics 105. (3) A. W. S. A review course for students who intend to take the senior comprehensive examination in Physics. Staff.

Physics 110a, 110b, 110c. *Analytical Mechanics.* (2-2-2) A. W. S. An intermediate course presenting the fundamental principles of mechanics as a foundation for other branches of advanced physics. Tugman.

Physics 115. *Laboratory Exercises in Mechanics.* (1-3) A. Precision measurements in laboratory methods. Elastic properties, moments of inertia, acceleration due to gravity, etc. Tugman, Parmley.

Physics 120. *Heat.* (2-5) W. A course in the theory of conduction, convection, and radiation of heat and in elementary thermodynamics. Tugman.

Physics 125. (1-2) W. An advanced laboratory course in heat to parallel Physics 120. Tugman, Parmley.

Physics 128. *Meteorology.* (3-5) W. The physics of the air and the instruments used in meteorological observations. Swigart.

Physics 129. *Synoptic Meteorology.* (3-5) S. An introduction to the air-mass analysis system of weather forecasting. Swigart.

Physics 130. *Sound.* (3-5) A. An analytical discussion of vibration and sound. For advanced students of acoustics and communication. Swigart.

Physics 135. (1-2) A. A laboratory course to parallel Physics 130. Sound intensity measurements, acoustic properties of buildings and materials of construction. Swigart.

Physics 140. *Light.* (5) A. An intermediate course presenting the fundamental principles of physical and geometrical optics. Parmley.

Physics 145. (1-2) A. A laboratory course to parallel Physics 140. Photometry, interference, diffraction, aberration of lenses, etc. Parmley.

Physics 150. *Electricity and Magnetism.* (3-5) A. W. S. An intermediate course in the theories of electricity and magnetism. Tugman.

Physics 155. (1-2) A. W. S. A laboratory course in precise measurements of current, potential differences, impedance, and the electrical and magnetic properties of materials. Tugman.

Physics 162, 163. *Modern Physics.* (5-5) W. S. A survey of recent developments in physics. Parmley.

Physics 170. *Electron Physics.* (5) A. A study of conduction of electricity through gases, electron emission from hot wires, X-rays, vacuum tubes, photo-electricity, and radio activity. Parmley.

Physics 175. (1-4) A. A laboratory course to accompany Physics 170. Parmley.

Physics 180. *Advanced Theoretical Physics.* (2-5) A. Parmley.

Physics 185. *Research.* (2-5) A. W. S. A laboratory course for those students making original investigations. Staff.

Physics 190. *Journal Reading.* (1) A. W. S. A course for advanced students and majors in the department of Physics. Reports will be made by the members of the class on papers published in current periodicals. Staff.

PHYSIOLOGY

Professors GOODMAN (Md210), FENNING; *Assistant Professors* TOMAN, SAYERS; *Lecturer* E. A. SWINYARD; *Instructors* MOTT, NICKERSON; *Assistant* M. SAYERS.

Physiology 1. *General College Physiology.* (5) A. W. S. The physiology of the human body. Lectures and demonstrations designed especially to meet the requirements of majors in Home Economics, Health Education, and Physical Education, but open to all students with proper prerequisites, except premedical students. Prerequisite: Biology 1 and Chemistry 1, or their equivalents. Mott.

Physiology 1n. *Physiology for Nurses.* (4) Any quarter. A special course given in the Nursing Training Program in conjunction with Anatomy 1n. Lectures and demonstrations. Mott.

(For upper division and medical courses see School of Medicine, page 154. Prerequisite for these courses are Zoology 5, Chemistry 6, Anatomy 1, and Biochemistry 108. Also recommended: Biology 1, 2, 7, or their equivalents.)

PSYCHOLOGY

Professor BARLOW (Pk308); *Assistant Professors* M. W. LUND†, F. G. BARKER; *Instructor* HELEN MARSHALL.

Departmental Major: 36 to 45 approved hours in Psychology.

Teaching Major: 36 to 45 approved hours. *Teaching Minor*: 18 to 30 approved hours.

Psychology 1. *Practical Psychology.* (3) A. W. S. An introduction to psychology, approached from the standpoint of the student's practical interests in how to study, memorize, get along well with people, and meet effectively many perplexing problems of student and everyday life. Barker.

Psychology 3. *Experimental Foundations of General Psychology.* (3) W. Readings in recent experiments critical in the establishment of psychological principles for individual and group control. No prerequisite. (Omitted 1945-46.) Lund.

Psychology 4. *Techniques of Good Study Habits.* (2) A. W. S. A diagnosis will be made of the student's basic study difficulties, and remedial reading and other corrective learning will be provided. The student will be directed into more efficient study habits.

Psychology 11. *Principles of Psychology.* (5) Su. A. W. S. Types of everyday behavior examined in the light of psychological principles with a view to understanding and modifying behavior. Barlow, Marshall.

Psychology 11n. *Psychology for Nurses.* (3) A. S. The normal development and course of behavior; behavior under abnormal conditions and illness. Role of the nurse in modifying habits and personality of patients.

†On leave of absence with the armed forces.

Psychology 17. *Elementary Statistics.* (3) A. Prerequisite for certain upper-division courses in psychology and education. Basic statistical concepts with problems and exercises. (Omitted 1945-46.) Barker.

Psychology 17a. *Graphs and Statistical Computations.* (1 or 2) W. A laboratory course devoted to the development of visual portrayal and study of psychological and educational problems. Formulas used in testing and in thesis problems. Prerequisite: some previous study of statistics. Barker.

Psychology 21. *Applied Psychology.* (2 or 3) A. W. S. Types of sensory experience; perception; efficiency; the role of association and suggestion in industry, the arts, music, and literature. (With laboratory—3 credit hours.) Barker.

Psychology 22. *Child Psychology.* (4) W. S. Child development from the preschool level to adolescence, with special reference to children of elementary school age. Observation in the elementary school. Marshall.

Psychology 105. *Comparative Psychology.* (5) W. A study of the intelligent behavior of animals, with an attempt to trace the comparative development of human behavior. Includes laboratory. Prerequisite: Psychology 11. (Omitted 1945-46.) Lund.

Psychology 106. *Survey of Clinical Psychology.* (3) A. Terminal course without training in testing: the history and principles of psychometric procedure; the results of their application to special groups. Prerequisite: Psychology 11 or equivalent. Marshall.

Psychology 107. *Clinical Psychology I. Introduction to Intelligence Testing.* (5) A. Training in the use of the Stanford-Binet test; the history and principles of psychometric procedure; the results of their application to special groups. Prerequisite: Psychology 11 or equivalent. Limited to 15 students. Marshall.

Psychology 108. *Clinical Psychology II. Study of Clinical Techniques Continued.* (4 or 5) W. A survey of individual and group tests of intelligence, including non-verbal and performance tests; results of special studies. Clinical practice. Prerequisite: Psychology 107. Marshall.

Psychology 109. *Clinical Psychology III. Continuation of Clinical Practice.* (4 or 5) S. The various diagnostic tests and techniques other than tests of intelligence which are applicable to diagnosis. Field work and practice in individual guidance. Prerequisite: Psychology 107 and 108. Marshall.

Psychology 111. *Physiological Psychology.* (4) W. A study of behavior from the organic standpoint. Sensory processes, the nervous impulse, reflexes, cerebration, emotion. Includes laboratory. Prerequisite: Psychology 11. (Alternates with Psychology 116; omitted 1945-46.) Barker.

Psychology 112. *Advanced Social Psychology.* (5) W. Social conduct from the standpoint of the individual. The development of principles of social conduct from fundamentals of individual action. Prerequisite: Psychology 11 and preferably Sociology 7. (Alternates with Psychology 119; omitted 1945-46.) Barlow.

Psychology 112s. *Advanced Social Psychology.* (3) Su. Social conduct from the standpoint of the individual. A genetic approach to the dynamics of social relationships. Prerequisite: Psychology 11 and preferably Sociology 7. Marshall.

Psychology 113. *Advanced General Psychology.* (5) A. Intensive study of the general principles of psychology underlying behavior. An integration of conflicting theories, beliefs, and the results of experiment. Prerequisite: Psychology 11 and 17 or equivalent. Barlow.

Psychology 115. *Experimental Psychology.* (3) S. The techniques, equipment, and contemporary findings of experimental psychology. Psychophysical measurements, treatment of data. Guidance in individual experimentation. Laboratory. Prerequisite: Psychology 11 and 17 or equivalent. (Omitted 1945-46.) Lund.

Psychology 116. *Psychology of Learning.* (5) W. A study of sensory-motor, perceptual-motor, and ideational learning, intelligence, motivation, and theories of learning. Applications to vocational guidance and selection. Laboratory. Prerequisite: two courses in psychology or equivalent. Barlow.

Psychology 117. *Advanced Statistics.* (5) A. A brief review of elementary statistics. Linear and non-linear relationships, regression, reliability, partial and multiple correlation. Barlow.

Psychology 118. *Psychological Measurements.* (5) W. Fundamental principles of test construction and treatment of test results. Recent contributions in the field of measurements. Prerequisite: Psychology 128 or 129; 17 or 117; and preferably 107. Marshall.

Psychology 119. *History and Contemporary Schools of Psychology.* (5) S. History and present-day views of contemporary schools of psychological thought. Their contributions to practice in everyday life, education, and other phases of social activities. Barlow.

Psychology 123. *Psychology of Adolescence.* (2) S. The physical, intellectual, social, and emotional development characteristic of adolescence; a survey of the forces and activities which affect that development. Marshall.

Psychology 125. *Psychological Approaches to Aesthetics.* (4) S. Measurements of talent, tuning systems, consonance and dissonance, chromaesthesia, rhythm perception, hearing, psychology of visual arts. Contemporary contributions to the field of aesthetics. (Omitted 1945-46.) Lund.

Psychology 128. *Psychology in Elementary Education.* (5) A. S. The psychological foundations of education; individual differences, measurements, learning, and remedial procedures. Elementary statistical applications. Prerequisite: Psychology 22. Marshall.

Psychology 129s. *Educational Psychology.* (5) W. S. Psychology as applied to adolescent education, with major emphasis on the psychological foundations of education, individual differences, measurements, learning, the psychology of high school subjects. Prerequisite: Psychology 11. Barlow.

Psychology 129s *Educational Psychology.* (3) Su. The psychological foundations of education at the adolescent level, individual differences, measurement, learning. (To be taken in association with Psychology 123s; see summer session bulletin.) Marshall.

Psychology 139. *Psychology of Abnormal People.* (5) S. A study of the abnormalities of the various psychological processes; the causes of behavior difficulties and the techniques of developing desirable personality traits. Prerequisite: two courses in psychology. Marshall.

Psychology 183. *Business Psychology.* (5) W. (See Business 183; omitted 1945-46.)

Psychology 200. *Research in Psychology.* A. W. S. For advanced students working on thesis projects or special work on theory, psychological problems in education, statistics, or experimental psychology. Barlow, Lund, Barker, Marshall.

Psychology 217. *Advanced Educational Psychology.* (2-2-2) A. W. S. Recent psychological contributions in theory and method to school subjects. Especially for those preparing for administrators' or supervisors' credentials in education. Prerequisite: Psychology 128 or 129, and 17 or 117. Barlow, Lund, Barker, Marshall.

Psychology 250. *Seminar in Psychology.* (2-2-2) A. W. S. Student reports and discussions on current psychological literature. Only Psychology majors and minors may register for credit. Required of all majors, and recommended for those taking Psychology as a minor. Barlow, Lund, Barker, Marshall.

PUBLIC HEALTH AND PREVENTIVE MEDICINE

(See School of Medicine, page 154.)

SECONDARY EDUCATION

Professor PROVOST (St120); *Associate Professor* CAMPBELL; *Assistant Professors* ....., EVA LUND*, *and Teachers of Departmental Methods.*

Every candidate for a secondary school teacher's certificate fulfills the requirements of a major in Education. The candidate fulfills the

*On leave of absence.

requirements for a teaching major and a teaching minor. See School of Education, pages 92, 95-96.

Courses 104, 107, and 182 may be taken for graduate credit.

Education 103. *Methods of Teaching Social Studies in High School.* (2) W. Required of candidates for the teacher's high school diploma or certificate with teaching majors in History and Political Science, Economics, Sociology, and/or Ethics. Prerequisite or parallel: Education 107 or equivalent.

Education 104. *Interpretation of Secondary Education.* (3) Su. W. S. Prerequisite: Psychology 129, Education 107, and Education 141 or equivalent. Education 106 should precede or parallel. Provost.

Education 106. *Secondary Training.* (4 to 8) Two quarters recommended. Requirements: (1) an average of "C" or better in all college work including the teaching major; (2) approval of the Bureau of Student Counsel; (3) approval of the department giving the teaching subject (academic major preferred); (4) completion of Psychology 129 and Education 107 or equivalent, and a methods course in the teaching subject if available in the University; (5) registration in the School of Education; (6) approval of the professor in charge of training. Eight credit hours required of seniors and graduates who are candidates for the teacher's high school certificate or diploma. Provost, Campbell, Lund.

Education 107. *General High School Methods.* (4) Su. A. W. S. Principles and techniques of high school teaching. Prerequisite: Psychology 129, or equivalent. Provost.

Education 182. *Secondary School Theories and Practices.* Su. A. W. S. Independent readings and individual conferences on educational topics of special interest to senior and graduate students. Conference time, amount of credit, and entrance depend on approval of professor in charge. Provost, Campbell.

Note: For departmental courses in methods, and other courses that may be counted as education credit, see the following:

Art 107; Biology 170; English 180; Health Education 114, plus three hours selected from Physical Education 100-124 inclusive; Home Economics 125 and 130; Latin 128; Mathematics 114; Music 151; Phonetics 152, 155, or 156; Psychology 129, 17, 17a, 117, or 107; Speech 182.

(Not more than 5 hours credit in education is allowed for methods courses in any one department.)

See also Education 150 under *Educational Administration.*

SOCIAL EDUCATION

Associate Professor PIERSON (LA101); *Professor* BEELEY.

Courses numbered 118 and above may be taken for graduate credit.

Education 5. *Guidance for College Students.* (3) W. S. The vocational and personality adjustment problems of college students.

Each class member is given an opportunity to evaluate his own vocational plans, in conference with the instructor, in the light of his performance on a battery of aptitude and achievement tests. Limited to freshmen and sophomores. Pierson.

Education 118. *Guidance and Personnel in Secondary Schools.* (3) A. W. Principles and techniques for counseling adolescents with respect to their educational, vocational, social, and recreational needs. Intended for teachers, principals, and counselors. Prerequisite: Psychology 129. Pierson.

Education 125. *Case Work in the Schools.* (3) W. Procedures and techniques for gathering, interpreting, and using information in the appraisal of the individual student and his adjustment situation. Pierson.

Education 126. *Counseling Techniques.* (3) S. An examination of the counseling techniques developed in education, social work, clinical psychology, and industry, and a study of their practical application to the major adjustment problems of the student. Pierson.

Education 140. *Mental Hygiene (Advanced).* (3) S. An attempt to formulate the established principles of mental health. An advanced course for teachers, hygienists, counselors, etc. (See Health Education 140, and Social Work 140.) Pierson, Beeley.

Education 183. *Organization and Administration of Counseling and Guidance Services.* (2) A. A brief history of the counseling and guidance movement and a critical analysis of contemporary programs. Pierson.

Education 185. *Internship in Counseling and Guidance.* (2) W. S. Supervised practice in counseling in a specialized counseling agency. Designed exclusively for graduate students in the Department of Social Education. Pierson.

See also *Courses Leading to the Master's Degree with a Major in Social Education (Counseling and Guidance)* Page 94.

SOCIAL WORK

Professor BEELEY (LA201); *Associate Professor* PIERSON; *Assistant Professor* HAZEL M. PETERSON; *Instructor* H. R. TAYLOR; DR. H. L. MARSHALL, DR. DAVID A. YOUNG, JUDGE H. B. ANDERSON, *and Special Lecturers.*

For the requirements for the graduate certificate in Social Work see page 165.

For the requirements for the preprofessional curriculum in Social Work see pages 166-167.

Social Work 130. *The Field of Social Work.* (3) A. A general review of the field of social work as illustrated by its present scope and methods. Taylor.

Social Work 131. *Psychiatric Information for Social Workers.* (3) W. Lectures and clinical demonstrations in psychiatry and neurology. Exclusively for graduate students in social work. Young.

Social Work 134. *Crime and Delinquency.* (3) S. A study of the nature and extent of crime, followed by a survey of existing and proposed methods of dealing with offenders. Beeley.

Social Work 140. *Theory and Practice of Mental Hygiene.* (3) S. An attempt to formulate the established principles of mental health. An advanced course for social workers, hygienists, counselors, etc. (See also Education 140 and Health Education 140.) Pierson.

Social Work 150. *Introduction to Social Case Work.* (3) W. Introduction to the art of adjusting human relations. Interviewing as a means of securing information, and as a form of giving help. The case worker in an agency setting. The various kinds of service to be rendered. Special emphasis on the public services. For seniors. Peterson.

Social Work 151a, 151b. *Principles of Social Case Work.* (3-3) A. W. A study of the principles common to social case work in all fields. Techniques of social inquiry, the nature of social data with their application to social diagnosis and treatment. Peterson.

Social Work 152. *Psychiatric Aspects of Case Work.* (3) S. An advanced course considering the psycho-pathological aspects of social case work in its various forms. Prerequisite: Social Work 151a, 151b, or equivalent. (Omitted 1945-46.) Peterson.

Social Work 153. *Case Work in the Schools.* (3) W. Use of the case method in dealing with children's problems in connection with truancy, delinquency, etc. Social aspects of public education with reference to guidance and counseling. Pierson.

Social Work 154. *Counseling Techniques.* (3) S. Application of various guidance and counseling techniques to the fields of social work, education, clinical psychology and industry. For counselors, social workers, teachers, etc. Pierson.

Social Work 154a. *Personnel Administration.* (3) S. Problems of personnel administration in health and welfare agencies. Special consideration given to the function of merit-system councils and methods of recruitment, classification, examination, and certification. (Omitted 1945-46.) Pierson.

Social Work 154b. *Training of Vocational Counselors.* (5) An advanced course in the theory and practice of occupational counseling, offered at the suggestion of the U. S. Veterans' Administration of the War Manpower Commission. (Given only in Extension.) Beeley, Pierson.

Social Work 155. *Introduction to Field Work.* (5) S. Field work in a public agency: the services offered, the relationship of agencies to each other, the community aspect of agency service, etc. Lecture and field work. For seniors. Staff.

Social Work 180. *Principles of Child Welfare.* (3) A. A survey of the social problems and methods of child welfare with special reference to handicapped children. Peterson.

Social Work 181. *Problems in Child Welfare.* (3) S. Special problems of children arising out of war conditions. The philosophy of foster-home placement and supplemental services available to children in their own homes. Peterson, et al.

Social Work 182. *American Social Security.* (3) W. An introduction to the federal security act and its administration; unemployment compensation, old age assistance and old age benefits, security for children, aid to the blind, etc. Taylor.

Social Work 210. *Community Organization.* (3) A. The social needs of a community and its social resources. How to help a community meet its needs. Community planning; interpretation and public relations as factors in the development of services. The roles of the trained worker, the volunteer, etc. Taylor.

Social Work 211. *Group Work and Group Leadership.* (3) S. The theory and practice of group work in the field of leisure-time and character building. Relationship to formal education. The function and adequacy of leadership. Class work and field studies of group-work agencies. Taylor, et al.

Social Work 228. *Social Research.* (2-3) A. The problems and methods of social investigation and research adapted to graduate students in social work. Individual instruction with the consent of the instructor. Pierson.

Social Work 240. *Medical Information for Social Workers.* (3) A. A general introduction to the field of medicine. Exclusively for graduate students in social work. Marshall.

Social Work 250. *Welfare Services.* (3) W. The development of social work as illustrated by the activities of public and private agencies. The various movements and programs as related to the needs and changing philosophy of social life. Taylor.

Social Work 255. *Supervised Field Instruction.* (3) A. Fifteen hours a week of supervised field work in a family case-working agency. Prerequisite: Social Work 151 and consent of the instructor. For graduates only. Peterson, Taylor.

Social Work 256. *Supervised Field Instruction.* (3) W. Fifteen hours a week of supervised field work in a specialized social agency. Prerequisite: Social Work 255. Peterson, Taylor.

Social Work 257. *Supervised Field Instruction.* (3) S. Fifteen hours a week of supervised field work in a specialized social agency. Prerequisite: Social Work 255, 256. Peterson, Taylor.

Social Work 260. *Legal Aspects of Social Work* (2) W. The rudiments of law and legal procedure most frequently met with in social work: domestic relations, contracts, small loans, wage assignments, personal injuries, the Utah court system, etc. Anderson.

Social Work 270. *Community Organization: Rural Aspects.* (3) S. Special problems of social work arising in rural communities: problems of rural resettlement and social reorganization. (Omitted 1945-46.) Taylor.

Social Work 282. *Social Security Administration.* (3) S. The principles and processes of Social Security Administration. An analysis of the procedures and results in the administration of the main forms of Social Security. Taylor.

Social Work 291a. *Seminar: Dynamics of Human Behavior.* (2) A. An attempt to formulate the basic principles of human behavior in terms of their applicability to the field of social work. A reorientation for graduate students. Beeley.

Social Work 295. *Seminar: The Philosophy of Social Work.* (2) W. The philosophical and ethical assumptions underlying modern social work: implications and applications. Beeley.

SOCIOLOGY AND ANTHROPOLOGY

Professors BEELEY (LA201), BEAL; *Associate Professors* PIERSON, FROST; *Assistant Professors* E. R. SMITH*, C. E. DIBBLE; *Assistant in Sociology,* BERT W. SMITH; *Assistant in Anthropology,* .....

Departmental Major: 36 to 45 hours of approved departmental courses, including Sociology 1, 7 (or 126e), 8, 122 (or 125), 123 (or 127), 124 (or 124a), 128, 130 (or 134), 139 (or Social Work 228); and Anthropology 1 or 2 or 3 or one upper division course in Anthropology. *Interdepartmental Curriculum in Social Work:* see page 166-167.

Teaching Major: Same as departmental major, plus Education 103. *Teaching Minor:* Sociology 1, 7 (or 126), 124 (or 124a), and 130 (or 134); Anthropology 1 or 2 or 3 or one upper division course in Anthropology.

SOCIOLOGY

Sociology 1. *An Introduction to Sociology.* (5) A. W. S. Designed to give a broad perspective of the nature and scope of sociology. A systematic treatment of group life, social institutions, social processes, and the means of social control. Beal, Frost.

Sociology 1n. *Sociology Applied to Nursing.* (3) Su. A. W. S. A concrete treatment of the sociological aspects of nursing. Specific attention is given to social problems in nursing service. Frost, Smith.

Sociology 5. *Urban Sociology.* (3) S. The rise and growth of cities, types of cities, social characteristics of urban life, present importance and probable future development of cities. Beal.

*On leave of absence.

Sociology 7. *Social Psychology.* (5) A. W. S. An eclectic approach to the study of mind and personality, with applications. Human behavior from the standpoint of the social factors affecting it. The development of personality in terms of human interaction, culture patterns, social organization, etc. Prerequisite: one course in Sociology or one in Psychology. Beeley, Frost.

Sociology 8. *The Family; Courtship and Marriage.* (4) A. W. The family as a social institution. Contemporary patterns of family organization in a changing world. Personality adjustments before and during marriage. Trends, problems, and proposed solutions. Beal, Frost.

Sociology 10. *Rural Sociology.* (3) W. Conditions of rural life and features of rural progress. (Omitted 1945-46.) Beal.

Sociology 27m. *Social Psychology for Medical Students.* (3) Su. A. W. An adaptation of the scope and content of Sociology 7 for medical students. Open also to non-medical professional students. Frost, Pierson.

Sociology 28. *Field Studies in Sociology.* (5). An introductory course for juniors, designed to give first hand contact with and information about the major social institutions and processes. Direct observation of the courts, prisons, recreational centers, areas of mobility and disintegration. Beeley.

Sociology 107. *Advanced Social Psychology.* (5). An upper division and graduate equivalent of Sociology 7. (Given only in Extension.) Beeley.

Sociology 122. *History of Social Thought.* (4) W. A systematic survey of the development of social thought with special reference to contemporary sociological theories. A fundamental background for understanding the central theme of human progress. Beal.

Sociology 123. *Social Legislation and Social Policy.* (3) S. Social aspects of industry as dealt with in state and federal legislation. Attention is given to social and cultural results of the machine age, to women in industry, occupational hazards, social insurance programs, etc. Beal.

Sociology 124. *Modern Social Problems.* (5) A. A basic course in applied sociology. Emphasis on specific social problems vital at the present time, including housing, public health, recreation, and race relations in the United States. Beal.

Sociology 124a. *Seminar: The Impact of War Upon American Society.* (4) W. An overall survey of the effects of war upon American society and its institutions, with special reference to population, occupations, urban-rural life, crime and delinquency, recreation, religion, and the agencies of communication. Beeley.

Sociology 125. *Seminar: Social Institutions and Social Change.* (4) S. An analysis of the problems and theories bearing on the historical and contemporary differences in social institutions, with special attention to stability and change as characteristics of social life. Frost.

Sociology 126. *Public Opinion and the American Mind.* (4) A. A socio-psychological analysis of American public opinion. The nature, origin, and momentum of social attitudes. The media of opinion control and the technique of propaganda. Prerequisite: Sociology 7 or 107. Beeley.

Sociology 127. *The American People.* (3) W. Quantitative and qualitative analysis of population, especially in the United States, with special attention to problems of growth, and replacement, migration, and composition in terms of sex, age, race, nativity, etc. Frost.

Sociology 128. *Social Statistics.* (4) A. A systematic consideration of the main bodies of sociological data in tabular and graphic form with special emphasis on population. Exercises in elementary statistical methods. Pierson.

Sociology 129. *Individual Research.* (1-5) Su. A. W. S. Individual instruction for advanced students engaged in sociological research. Hours and credit to be arranged.
Beeley, Beal, Frost, Pierson.

Sociology 130. *The Field of Social Work.* (See Social Work 130.) Taylor.

Sociology 134. *Crime and Delinquency.* (3) S. A study of the nature and extent of crime, followed by a survey of existing and proposed methods of dealing with offenders. (See also Social Work 134.) Beeley.

Sociology 139. *Seminar: Methods of Social Research.* (2) A. A systematic survey of the leading methods of sociological research—historical, comparative, statistical; the social survey, etc. Readings and exercises in research. Beal.

Sociology 224. *Social Disorganization.* (3) S. A socio-psychological approach to the study of social disorganization and its counterpart, individual (personality) disorganization; delinquency, vice, alcoholism, mental breakdown, suicide, etc. Beeley.

Sociology 228. *Field Research in Sociology.* (1-5) A. W. S. Participation in a field investigation. Supervised research training for advanced students. Staff.

Sociology 229. *Thesis.* (1-5) A. W. S. Open only to graduate students in Sociology and Anthropology. Staff.

Sociology 240. *Symposium in Sociology and Anthropology.* (1-1-1) A. W. S. A weekly conference of departmental majors with the instructional staff in Sociology and Anthropology. Discussions of current problems, literature, etc. Recommended for seniors and required of all graduate students. Staff.

ANTHROPOLOGY

Suggested Sequences: (a) for students interested in a general orientation to the field: 1, 2, 3, 11, or 1, 2, 3, 30 (or 50); (b) for those intending to take Anthropology as a minor: 2, 3, 100, 101, 102 or 103; or 1, 3, 30 (or 50), 150, 100.

Anthropology 1. *Prehistoric Anthropology.* (5) A. Introduction to the study of the prehistoric cultures of the world, and of man's antiquity. Dibble, Geerlings.

Anthropology 2. *Introduction to Cultural Anthropology.* (5) W. The development of human culture and its institutions. Dibble, Geerlings.

Anthropology 3. *Racial Anthropology.* (4) S. Definition and classification of races; theories of race; race and culture. Dibble.

Anthropology 11. *Introduction to Classical Archaeology.* (5) W. A survey of the early cultures of the Near East and Mediterranean Basin. Geerlings.

Anthropology 30. *Primitive Peoples of Australia and Oceania.* (3) A. Survey of racial, cultural development of the South Pacific. Dibble.

Anthropology 50. *Ethnology of the Great Basin.* (3) S. A resume of the known facts about the modern Indians of the Great Basin region. (Omitted 1945-46.) Dibble.

Anthropology 100. *General Linguistics.* (4) S. Languages and their distribution; methods of studying languages. Dibble.

Anthropology 101. *North American Indians.* (4) W. A detailed study of the culture of Indians north of Mexico. Dibble.

Anthropology 102. *South American Indians.* (4) S. A survey of the peoples and cultures south of the Rio Grande, with special emphasis on Mexico and Central America. Dibble.

Anthropology 103. *Southwestern Archaeology.* (4) A. The origins and distribution of cultures in the southwestern United States, with emphasis on the archaeology of Utah.

Anthropology 104. *Primitive Religion.* (3) W. Preliterate concepts of the supernatural; magic, witchcraft, mythology. (Omitted 1945-46.)

Anthropology 150. *Social Anthropology.* (4) W. Detailed study of the organization and function of basic groups found in preliterate societies. Dibble.

Anthropology 151. *Russian Language and Culture.* (5) A. A survey of the languages and aboriginal cultures of Asiatic Russia and northern European Russia. Dibble.

Anthropology 205. *Individual Research.* (1-5) Su. A. W. S. Special work for advanced students, arranged with consent of the instructor. Dibble.

Anthropology 206. *Field Studies in Anthropology.* (1-5) Su. A. W. S. Directed field studies and explorations. Staff.

SPANISH

(See Modern Languages, pages 249, 253-254.)

SPEECH

Professor LEES (KH201); *Associate Professor* GOATES†; *Assistant Professors* BANE, GARFF, PLUMMER, WEBSTER; *Instructors* REDD, BRIMHALL, HOWE, ADIX.

Departmental Major: 45 approved hours in Speech plus 25 hours of allied work. Major to be made up of basic requirements and a field of emphasis. *Basic Courses Required of Speech Majors*: Speech 1a, 1b, 1c, 2a, 2b, 2c (or 2d), 107 (two credits), 180, 200.

Fields of Emphasis and Their Requirements:

(a) *Public Speaking*: Two courses from the sequence Speech 9, 10, 11, and one course from the sequence Speech 103, 112, 147, plus electives.

(b) *Interpretation*: Speech 40, 41, and one course from the sequence Speech 142, 143, 145, 148, plus electives.

(c) *Theatre*: Speech 62, 65, 164, 167, plus electives.

(d) *Radio*: Speech 62, 70, 75, 170 (or 171), plus electives.

(e) *Pathology*: Speech 190, 191, and three to five hours in 195 and 196, plus electives.

Teaching Major: 45 approved hours in Speech including the basic requirements and Speech 10 (or 11), 40, 65, 163, 182, 190. *Teaching Minor*: At least 25 approved hours in Speech including basic requirements and Speech 182.

Composite Teaching Major in Speech and English: 75 hours, distributed more or less evenly between the two departments, including the basic courses in Speech, plus Speech 182 and not less than 10 to 15 hours selected from Speech 9, 40, 65, 142, 165, 190. (See page 223 for requirements in English.) This sequence is intended for students who prefer a composite major in Speech and English to a major in one of these subjects and a minor in the other. Those who elect this major must satisfy the foreign language requirements for the Bachelor of Arts degree.

"D" grades will not be counted toward a major or minor in Speech.

The following are beginning courses, do not have prerequisites, and are open to freshmen: Speech 1, 1a, 1b, 1c, 3a, 3b, 3c, 11a, 11b, 11c, 11d, 11e, 11f.

Speech 1. *Fundamentals of Speech.* (5) A. W. S. Recommended for students who wish to secure more work than that afforded in Speech 1a. Designed to develop direct and forceful speaking and thinking and to give the student a basis for criticism of speech skills. Plummer and staff.

†On leave of absence with the armed forces.

Speech 1a, 1b, 1c. *Fundamentals of Speech.* (3-3-3) Su. A. W. S. Recommended for all students. Designed to develop skills in speaking, reading, and pantomime, and to help the student think and speak effectively. Staff.

Speech 2a, 2b, 2c, 2d. *Voice and Diction.* (3-3-3) Su. A. W. S. A study of the speech mechanism. A clinic for analysis and practice of vocal control. A study of what constitutes correctness in pronunciation and an analysis of English speech sounds. In the third quarter of the course students with speech defects should register for Speech 2d. Prerequisite: Speech 1a, 1b, 1c. Staff.

Speech 3a, 3b, 3c. *Film, Radio, and Drama.* (2-2-2) A. W. S. A study in the evaluation of speech skills with visits to the theatre and cinema, listening to radio speeches, readings, and attendance at lectures to gain an appreciation and a criterion for the study of speech. A course in appreciation. Lees and staff.

Speech 4. *Parliamentary Procedure.* (2) A. S. Conducting and controlling meetings; the principles of speaking. Bane.

Speech 5. *Panel and Group Discussion.* (2) W. A course designed to meet the fundamental problems of the student in professional schools. Report making and round-table discussion. Staff.

Speech 9. *Speech Composition.* (3) A. Preparation of speeches, based on analysis of the audience and other factors of the speaking situation. Various kinds of material are collected, organized, and presented in an effective speaking form. Prerequisite or parallel: Speech 2a, 2b, 2c. Garff and staff.

Speech 10. *Argumentation.* (3) W. Discussion of those principles of evidence, logic, and argumentation which are necessary elements of effective speaking. Prerequisite or parallel: Speech 2a, 2b, 2c. Bane.

Speech 11. *Debate.* (3) S. Application of the principles of argumentation to all kinds of debate. The class prepares and delivers debates on timely questions. Prerequisite or parallel: Speech 2a, 2b, 2c. Garff.

Speech 11a, 11b, 11c, 11d, 11e, 11f. *Contest Debate.* (⅓) per quarter) A. W. S. Study of the National Debate question for freshmen and sophomores interested in competition debate. Weekly meetings. Garff.

Speech 40, 41, 42. *Interpretation: Beginning, Intermediate, Advanced.* (3-3-3) A. W. S. An oral approach to literature. Designed to develop the student's poise and enjoyment of literature through reading aloud to others. Studies in reading techniques and dialects. Prerequisite or parallel: Speech 2a, 2b, 2c. Redd and staff.

Speech 62, 63. *Acting: Beginning and Advanced.* (3-3) A. W. The creative approach to acting through observation, rhythm, and emotion. Stage technique, stage presence, stimulus and response, dramatic values. Characterizations, studies in types, scripts, make-up. Prerequisite or parallel: Speech 2a, 2b, 2c. Lees and Brimhall.

Speech 65, 66. *Stagecraft.* (3-3) A. W. S. Speech 65: the fundamentals of stagecraft including construction, painting, and lighting of simple scenery for the non-professional stage. Speech 66: advanced techniques of constructing, rigging, shifting, and lighting the stage setting. Lecture and practical laboratory. **Adix.**

Speech 70, 71. *Radio Speech: Beginning and Advanced.* (3-3) A. W. S. Analysis and practice of principles of radio speaking. Microphone techniques, announcing, interviewing, and news casting. Prerequisite or parallel: Speech 2a, 2b, 2c. **Howe.**

Speech 73, 74, 75. *Playwriting.* (2-2-2) A. W. S. A study in the structure and composition of a play. Students during the third quarter may elect to write radio scripts. **Lees.**

Speech 100. *Individual Problems.* (Credit to be arranged) A. W. S. Projects especially selected and individually directed in conference. **Lees and staff.**

Speech 103. *Forms of Public Address.* (3) W. Practice in preparation and delivery of public addresses commonly needed in business and community life: announcements, introductions, presentations, eulogies, after-dinner speeches, etc. Prerequisite: Speech 9, 10, or 11. **Garff.**

Speech 107. *Speech Arts.* (⅓ per quarter) A. W. S. Required of all juniors and seniors majoring in the department. Presentation and platform problems of various types of speech materials. **Plummer and staff.**

Speech 111a, 111b, 111c, 111d, 111e, 111f. *Contest Debate.* (⅓ per quarter) A. W. S. Intensive study of the National Debate question and practice in debating. Designed for juniors and seniors interested in competition debate. Weekly meetings. **Garff.**

Speech 112. *Persuasion.* (3) S. A study of the methods and techniques of influencing human behavior. Prerequisite: Speech 9 or 10. **Garff.**

Speech 130. *Research Problems.* (3) A. Laboratory techniques and experimental studies related to speech and voice. (Omitted 1945-46.) **Staff.**

Speech 142, 143. *Interpretation of Shakespeare.* (3) S. Intensive study of a Shakespearean tragedy (142) or comedy (143). Time will be devoted to actual rehearsal of selected scenes. A student may receive credit for two quarters. Prerequisite: Speech 40. (Speech 142 omitted 1945-46.) **Lees.**

Speech 145. *Advanced Interpretation.* (3) W. Analytical study of literary forms, emphasizing their differentiation for oral presentation, especially designed to meet the needs of majors and platform readers. Prerequisite: Speech 40. **Redd.**

Speech 146, 147, 148. *Lecture and Recital.* (3-3-3) A. W. S. Preparation and presentation of public recital in acting, public address, and reading. **Staff.**

Speech 160. *Costume Design.* (2) S. The designing and relating of costumes to the play and stage setting, historically and aesthetically. Adix.

Speech 163, 164. *Stage Direction: Beginning and Advanced.* (3-3) A. W. Choosing and blocking the play, working with the actors, rehearsals, and polishing and integrating the play. Lees.

Speech 165, 166. *Stage Design: Beginning and Advanced.* (2-2) A. W. Speech 165: fundamentals of scene design, simple designing, model making, pencil sketching, and use of color. Prerequisite: Speech 65. Speech 166: advanced stage design; designing, painting, and dressing the stage. Prerequisite: Speech 165. Adix.

Speech 167, 168, 169. *Theatre Organization and Management.* (2-2-2) A. W. S. Relations and responsibilities in the theatre. The planning and operation of the production; community contact and business management. Emphasis is placed on the school and community theatre. Plummer.

Speech 170. *Radio Drama.* (3) W. Radio acting, dramatic values in radio. Prerequisite: Speech 70. Howe.

Speech 171. *Radio Production.* (3) S. Directing radio drama, selecting programs and materials, adapting and cutting. Prerequisite: Speech 70. Howe.

Speech 180. *Psychology of Speech.* (3) A. Speech as a factor in personal development and social integration. The problem of semantics in personal relations. Prerequisite: junior standing. Lees.

Speech 182. *Methods of Teaching Speech and Directing Extra-curricular Speech Activities.* (5) W. May be counted either as Speech or Education. Speech pedagogy including organization of courses and activities, lesson plans, etc. Required for teacher training in the field. Staff.

Speech 183. *Speech Education for Elementary Grade School Teachers.* (3) W. S. Designed to meet the state requirement in Speech Education. It aims to give (1) information concerning the normal development of speech and the speech mechanism, (2) the appreciation of speech adequacies, (3) the ability to recognize deviates and to apply simple therapeutic procedures. Prerequisite: Psychology 22. Webster.

Speech 185, 186, 187. *Materials and Backgrounds.* (3-3-3) A. W. S. A historical survey of the development of speech and theatre. Designed for the speaker, reader, and actor to acquaint them with the materials and backgrounds of their field. Emphasis is placed upon literary values and analysis. Additional credit may be earned. Lees.

Speech 190. *Articulatory and Kindred Speech Defects.* (3) A. This course, particularly for juniors, is designed to give the student clinical knowledge and experience needed for the diagnosis and management of articulatory cases in clinic and secondary schools. Prerequisite: Psychology 11 or 22. Webster.

Speech 191. *Stuttering and Allied Speech Disorders.* (3) W. This course is designed particularly for juniors, to introduce the student to a comprehensive view of the known facts and theories regarding the etiology and therapy of stuttering. Prerequisite: Psychology 11 or 22. Webster.

Speech 195. *Articulatory Clinic.* (1-3) A. W. S. This course offers the student the opportunity of studying and managing articulatory speech defectives under supervision. May be taken for more than one quarter. Prerequisite: Speech 183 or 191. Consult instructor. Webster.

Speech 196. *Stuttering Clinic.* (1-2) A. W. S. This course offers the student the opportunity of studying and managing stutterers and allied speech defectives under supervision. May be taken for more than one quarter. Prerequisite: Speech 183 or 190. Consult instructor. Webster.

Speech 200. *Seminar in Speech.* (2) A. W. Emphasis on the various fields of speech. Research problems. Lees.

Speech 201. *Thesis.* (2-5) A. W. S. Prerequisite: graduate standing. Lees and staff.

Speech 202. *Theatre Seminar.* (2) Prerequisite: graduate standing. Lees and staff.

Speech 203. *Public Speaking Seminar.* (2) Prerequisite: graduate standing. Garff and staff.

Speech 204. *Interpretation Seminar.* (2) Prerequisite: graduate standing. Staff.

Speech 205. *Pathology Seminar.* (2) Prerequisite: graduate standing. Webster.

SURGERY

(See School of Medicine, pages 155-156.)

ZOOLOGY

(See Biology, pages 199-202.)

STATISTICAL SUMMARIES
1943 - 1944

SUMMARY OF GRADUATES

	Dec. 1943	June 1944	Sept. 1944
STATE SCHOOL OF EDUCATION:			
Bachelor of Science Degrees			
In Education			2
With Teaching Major		3	
With Diploma in Elementary Education	3	26	10
With High School Certificate	1	19	2
Bachelor of Arts Degrees			
With Teaching Major		2	
With Diploma in Elementary Education	1	1	2
With High School Certificate		19	
*Diplomas in Educational Administration	2	5	1
*Diploma in Educational Supervision		1	
SCHOOL OF ARTS AND SCIENCES:			
Bachelor of Science Degrees	5	48	17
Bachelor of Arts Degrees	6	58	34
SCHOOL OF BUSINESS:			
Bachelor of Science Degrees	3	8	3
Bachelor of Arts Degrees		3	1
SCHOOL OF MEDICINE:			
Bachelor of Science Degrees	3	3	
Bachelor of Arts Degrees	18	6	
Doctor of Medicine Degrees			35
SCHOOL OF LAW:			
Bachelor of Laws Degrees		3	1
STATE SCHOOL OF MINES AND ENGINEERING:			
Bachelor of Science Degrees			
In Chemical Engineering	2	10	
In Civil Engineering	4	9	2
In Electrical Engineering	9	8	1
In Engineering		8	1
In Mechanical Engineering	8	16	
In Metallurgical Engineering		3	
In Mining Engineering	1	2	
SCHOOL OF SOCIAL WORK:			
Graduate Certificates in Social Work	9	11	6
GRADUATE DIVISION:			
Master of Science Degrees	5	15	2
Master of Arts Degrees	1	4	1
Honorary Degrees		2	2
Commissions			
First Lieutenant, Medical Corps, U. S. Army			10
Licutenant (j.g.), Medical Corps, U. S. Naval Reserve			7
Phi Beta Kappa	4	6	6
Phi Kappa Phi	9	20	10
Sigma Xi		4	
Tau Beta Pi	4	8	
High Honors	10	26	10
Honors	11	61	7

*To students previously granted bachelors' degrees.

SUMMARY OF ENROLLMENT — 1943-44

RESIDENT STUDENTS

	Graduates	Seniors	Juniors	Sophomores	Freshmen	Unmatriculated	Totals
Graduate Division							
Men	37						37
Women	27						27
Total	64						64
School of Arts and Sciences							
Men	5	50	106				161
Women	5	92	103				200
Totals	10	142	209				361
School of Education							
Men	10	10	6				26
Women	10	86	78				174
Totals	20	96	84				200
State School of Mines and Engineering							
Men	1	74	105	94	138	2	414
Women	0	1	0	2	3	0	6
Totals	1	75	105	96	141	2	420
School of Medicine							
Men	89	51	17			1	158
Women	5	0	0			0	5
Totals	94	51	17			1	163

SUMMARY OF ENROLLMENT — 1943-44

RESIDENT STUDENTS — (Continued)

	Graduates	Seniors	Juniors	Sophomores	Freshmen	Unmatriculated	Totals
School of Law							
Men	4	5	7			1	17
Women	0	0	3			0	3
Totals	4	5	10			1	20
School of Business							
Men	3	10	33				46
Women	3	5	16				24
Totals	6	15	49				70
School of Social Work							
Men	6					0	6
Women	24					2	26
Totals	30					2	32
Lower Division							
Men				158	397	47	602
Women				553	846	87	1486
Totals				711	1243	134	2088

EXTENSION DIVISION

From June 1, 1943, to June 1, 1944

	Totals	Seniors	Juniors	Sophomores	Freshmen	Unmatriculated	Totals
Men	876						876
Women	1513						1513
Totals	2389						*2389

SUMMER 1944

Summer Quarter

	Graduates	Seniors	Juniors	Sophomores	Freshmen	Unmatriculated	Totals
Men	128	87	40	47	84	12	398
Women	19	36	23	323	250	10	661
Totals	147	123	63	370	334	22	1059

Summer Terms

Men	49	12	5	5	3	76	150
Women	135	40	32	37	8	177	429
Totals	184	52	37	42	11	253	579

*Total includes 32 students registered in both Extension and Correspondence Courses and 132 resident students.

*Total does not include 2324 enrolled in Vocational Education, 2620 enrolled in Parent Education Work under the George-Deen Act, 560 enrolled in Defense Training Vocational Education and in War Training Clerical courses.

RECAPITULATION—1943-44

Resident Division

	Men	Women	Graduates	Seniors	Juniors	Sophomores	Freshmen	Unmatriculated	Totals
Graduate Division	37	27	64						64
Arts and Sciences	161	200	10	142	209				361
Education	26	174	20	96	84				200
Mines and Engineering	414	6	1	75	105	96	141	2	420
Medicine	158	5	94	51	17			1	163
Law	17	3	4	5	10			1	20
Business	46	24	6	15	49				70
Social Work	6	26	30					2	32
Lower Division	602	1486				711	1243	134	2088
Total Resident Division	1467	1951	229	384	474	807	1384	140	3418
Extension Division	876	1513							2389
Summer Quarter, 1944	398	661	147	123	68	370	334	22	1059
Summer Terms, 1944	150	429	184	52	37	42	11	253	579
Totals	2891	4554	560	559	574	1219	1729	415	7445
Less Duplicates—									
Extension and Correspondence	9	23							32
Resident and Extension Division	53	79							132
1944 Summer Quarter and 1943-4 Resident Division	323	491	134	118	60	52	144	6	814
1944 Summer Terms and 1943-4 Resident Division	16	64	23	32	6	12	4	3	80
Net Totals	2490	3897	403	409	508	855	1581	406	6357
Junior High School	66	73							139
Elementary Training School	122	125							247
Net Totals	2678	4095	403	409	508	855	1581	406	6773

ABSTRACT OF HOME RESIDENCE — 1943-44

COUNTY	Resident Division	Extension Division	SUMMER, 1944 Quarter	SUMMER, 1944 Terms
Beaver	3	....	1	3
Box Elder	37	9	14	6
Cache	36	2	26	7
Carbon	46	69	16	11
Daggett	....	2	....	....
Davis	78	70	25	16
Duchesne	7	2	5	4
Emery	8	27	5	3
Garfield	11	53	9	3
Grand	6	2	2	....
Iron	13	5	11	3
Juab	10	7	5	3
Kane	3	5	3	2
Millard	15	26	12	6
Morgan	7	....	....	3
Piute	2	2	4	3
Rich	....	....	....	1
Salt Lake City	1975	1074	489	375
Salt Lake County	393	165	80	40
San Juan	19	1	5	3
Sanpete	29	36	24	8
Sevier	26	43	16	13
Summit	8	28	5	11
Tooele	43	37	11	1
Uintah	7	36	3	6
Utah	95	12	57	5
Wasatch	17	6	4	....
Washington	8	29	5	5
Wayne	....	21	2	....
Weber	162	204	40	18
Totals	3062	1973	879	559

ABSTRACT OF RESIDENCE: OTHER STATES AND FOREIGN COUNTRIES — 1943-44

	Resident Division	Extension Division	Summer, 1944 Quarter	Terms
Alaska	....	1	....	....
Arizona	5	3	5	....
Arkansas	....	....	....	....
California	82	53	26	4
Canada	1	....	....	1
Colorado	12	9	4	....
Connecticut	....	....	....	1
Costa Rica	1	....	1	....
Denmark	1	....	....	....
England	1	....	2	....
Florida	....	3	....	....
Georgia	....	3	....	....
Germany	....	1	....	....
Hawaii	6	1	3	....
Idaho	101	21	72	2
Illinois	2	3	2	....
Indiana	....	4	....	....
Iowa	3	....	....	....
Japan	3	....	....	....
Kansas	1	....	....	....
Kentucky	....	3	....	....
Louisiana	....	1	....	....
Maine	....	1	....	....
Maryland	....	1	....	....
Mexico	1	....	....	....
Michigan	....	1	....	....
Minnesota	1	....	....	1
Mississippi	2	3	2	....
Missouri	3	4	2	1
Montana	17	4	6	....
Nebraska	4	2	2	....
Nevada	20	71	16	4
New Jersey	5	....	1	....
New Mexico	3	4	2	....
New York	6	5	1	....
North Carolina	1	45	....	....
Ohio	2	1	1	....
Oklahoma	5	....	....	1
Oregon	7	3	3	....
Pennsylvania	4	1	3	....
Rhode Island	....	1	....	....
South Carolina	1	5	....	....
South Dakota	3	3	2	....
Tennessee	....	1	....	....
Texas	2	9	2	1
Turkey	2	....	....	....
Venezuela	1	....	....	....
Virginia	....	7	....	....
Washington	13	13	5	....
Washington, D. C.	....	3	....	....
West Virginia	....	1	....	....
Wisconsin	....	4	....	....
Wyoming	28	9	17	4
U. S. Mil. Reservations	6	....	....	....
A.P.O. Los Angeles	....	3	....	....
A.P.O. New York City	....	22	....	....
A.P.O. San Francisco	....	17	....	....
A.P.O. Seattle	....	4	....	....
F.P.O. New York City	....	3	....	....
F.P.O. San Francisco	....	26	....	....
F.P.O. Seattle	....	1	....	....
Totals	356	384	180	20

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