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Utah State  
Agricultural College  
*BULLETIN*



*Catalogue Issue*  
1931-32 1932-33

**PLEASE BRING THIS BULLETIN WITH YOU  
WHEN YOU COME TO REGISTER**

COLLEGE BULLETINS. Published by the Utah State Agricultural College, at Logan, Utah. Issued Bi-Monthly, Vol. 31, No. 2, June, 1931. Entered as second class matter September 10, 1918, at the post office at Logan, Utah, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized August 22, 1918.

Utah State  
Agricultural College  
Bulletin



*Catalogue Issue*  
1931-32 1932-33



FORTY-SECOND YEAR  
With List of Students for 1930-1931



Published by the College  
JUNE, 1931  
LOGAN, UTAH

1931

**JULY**  
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# Table of Contents

	Page
College Calendar, 1931-32 .....	5
College Calendar, 1932-33 .....	6
Board of Trustees .....	7
Standing Committees of the Board .....	7
Officers of Administration and Instruction .....	8
College Faculty .....	8
Standing Committees of the Faculty .....	13
Normal Training School Staff .....	14
Experiment Station Staff .....	15
Extension Service Staff .....	18
Utah State Agricultural College	
Location .....	23
Policy .....	23
History .....	24
Government .....	25
Divisions of the College .....	27
The College Proper	
School of Agriculture and Forestry .....	28
School of Arts and Science .....	35
School of Commerce .....	40
School of Education .....	43
School of Engineering .....	48
School of Home Economics .....	53
The Summer Session .....	57
Research	
The Experiment Station .....	58
Extension	
The Extension Service .....	61
Correspondence Study .....	62
Admission .....	63
Registration .....	64

	Page
The Junior College .....	65
The Senior College .....	65
Graduation .....	67
Requirements for the Bachelor's Degree .....	67
Military Science Regulations .....	68
Graduation with Honors .....	70
Requirements for the Master's Degree .....	71
Student Expenses .....	72
Scholarships and Awards .....	74
Buildings .....	77
Equipment .....	78
The Student Body Organization .....	80
Student Clubs .....	81
Departments of Instruction .....	84
Recitation Table .....	84
Courses of Instruction .....	85
Thirty-eighth Annual Commencement .....	210
Honors, 1930-31 .....	216
Summary of Attendance .....	219
List of Students, 1930-31 .....	220
Index .....	235

## COLLEGE CALENDAR FOR 1931-32

### FALL QUARTER

September 21, Monday.....	Registration of Freshmen.
September 22, Tuesday.....	Registration of Soph's, Jun's & Seniors.
September 23, Wednesday.....	Instruction begins.
September 24, Thursday.....	President's Assembly.
October 12, Monday.....	Honor Societies' Assembly
October 14, Wednesday.....	Prospective graduates submit applica- tions for candidacy.
October 19, Monday.....	Last day for changing registration.
October 21, Wed. (1 o'clock).....	Women's Assembly.
October 30, Friday.....	Fathers and Mothers' Day Assembly.
November 11, Wednesday.....	Armistice Day (half holiday).
November 24, Tuesday.....	Thanksgiving Assembly.
November 25, Wednesday (noon).....	Thanksgiving Recess begins.
November 30, Monday.....	Instruction resumes.
December 11, Friday.....	College Opera.
December 17, Thursday.....	Christmas Assembly.
December 18, Friday.....	Fall Quarter closes.
December 19, Saturday.....	Christmas Recess begins.

### WINTER QUARTER

January 4, Monday.....	Registration.
January 5, Tuesday.....	Instruction begins.
January 14, Thursday.....	Utah Extension Service Assembly.
January 14, Thursday.....	Candidates submit applications for grad- uation.
January 20, Wed. (1 o'clock).....	Women's Assembly.
February 1, Monday.....	Last day for changing registration.
February 12, Friday.....	Lincoln-Washington Assembly.
February 22, Monday.....	Washington's Birthday (holiday).
March 8, Tuesday.....	Founders' Day Assembly.
March 11, Friday.....	Winter Quarter ends.

### SPRING QUARTER

March 14, Monday.....	Registration.
March 15, Tuesday.....	Instruction begins.
April 6, Wednesday.....	Easter Assembly.
April 13, Wed. (1 o'clock).....	Women's Assembly.
April 18, Monday.....	Last day for changing registration.
May 5, Thursday.....	Mothers Day Assembly.
May 13, Friday.....	Scholarship Awards. Scholars' Banquet.
May 18, Wednesday.....	Senior Assembly.
May 20, Friday.....	Little Theatre, Shakespearean Perform- -
May 27, Friday.....	Spring Quarter ends.
May 27, Friday.....	Sunset Festival.
May 28, Saturday.....	Commencement, Alumni Banquet and Ball.
May 29, Sunday.....	Baccalaureate Sermon.

### SUMMER SESSION

June 6, Monday.....	Summer Session begins.
July 15, Friday.....	Summer Session ends.

# COLLEGE CALENDAR FOR THE YEAR 1932-33

## FALL QUARTER

September 26, Monday.....	Registration of Freshmen.
September 27, Tuesday.....	Registration of Soph's, Jun's & Seniors.
September 28, Wednesday.....	Instruction begins.
September 29, Thursday.....	President's Assembly.
October 10, Monday.....	Honor Societies' Assembly.
October 12, Wednesday.....	Prospective graduates submit applications for candidacy.
October 17, Monday.....	Last day for changing registration.
October 19, Wed. (1 o'clock).....	Women's Assembly.
October 28, Friday.....	Fathers and Mothers' Day Assembly.
November 11, Friday.....	Armistice Day (half holiday).
November 22, Tuesday.....	Thanksgiving Assembly.
November 23, Wednesday (noon).....	Thanksgiving recess begins.
November 28, Monday.....	Instruction resumes.
December 16, Friday.....	College Opera.
December 22, Thursday.....	Christmas Assembly.
December 23, Friday (noon).....	Fall Quarter closes.

## WINTER QUARTER

January 2, Monday.....	Registration.
January 3, Tuesday.....	Instruction begins.
January 12, Thursday.....	Utah Extension Service Assembly.
January 12, Thursday.....	Candidates submit applications for graduation.
January 18, Wed. (1 o'clock).....	Women's Assembly.
January 30, Monday.....	Last day for changing registration.
February 21, Tuesday.....	Washington-Lincoln Assembly.
February 22, Wednesday.....	Washington's Birthday (holiday).
March 8, Wednesday.....	Founders' Day Assembly.
March 10, Friday.....	Winter Quarter ends.

## SPRING QUARTER

March 13, Monday.....	Registration.
March 14, Tuesday.....	Instruction begins.
April 7, Friday.....	Easter Assembly.
April 12, Wed. (1 o'clock).....	Women's Assembly.
April 17, Monday.....	Last day for changing registration.
May 5, Friday.....	Mothers Day Assembly.
May 12, Friday.....	Scholarship Awards, Scholars' Banquet.
May 16, Tuesday.....	Senior Assembly.
May 19, Friday.....	Little Theatre Shakespearean Performance.
May 26, Friday.....	Spring Quarter ends.
May 26, Friday.....	Sunset Festival.
May 27, Saturday.....	Commencement, Alumni Banquet and Ball.
May 28, Sunday.....	Baccalaureate Sermon.

## SUMMER SESSION

June 5, Monday.....	Summer Session begins.
July 14, Friday.....	Summer Session ends.



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C. G. ADNEY .....	Corinne
MRS LEE CHAS. MILLER .....	Salt Lake City
WESTON VERNON .....	Logan
FREDERICK P. CHAMP .....	Logan
JOHN E. GRIFFIN .....	Newton
FRANK B. STEPHENS .....	Salt Lake City
MRS. BURTON W. MUSSER.....	Salt Lake City
WALTER K. GRANGER .....	Cedar City
DAVID WANGSGAARD .....	Ogden
C. E. WRIGHT.....	Salt Lake City
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C. G. ADNEY .....	Vice-President
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- Committee on Mechanical Arts—John E. Griffin, C. G. Adney, David Wangsgaard.
- Committee on Engineering—Fred M. Nye, Weston Vernon, David Wangsgaard.
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- Committee on Commerce—Frederick P. Champ, C. E. Wright.
- Committee on Experiment Station—C. E. Wright, Mrs. Burton W. Musser, Walter K. Granger.
- Committee on Extension Division—Frank B. Stephens, Mrs. Lee Chas. Miller, C. G. Adney.
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*Director, Extension Division.*
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*Director, Experiment Station.*
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*Acting Dean, School of Agriculture.*
- CHRISTINE B. CLAYTON, B. S., M. S.  
*Chairman, Administrative Committee, School of Home Economics.*
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*Women's Adviser.*
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*Auditor.*
- WILLIAM H. BELL, B. S., M. S.  
*Registrar.*
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*In Charge Information Service.*
- HATTIE SMITH  
*Assistant Librarian.*

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(Arranged alphabetically. The numerals in parentheses following the title indicate the year in which the present rank was conferred.)

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- FRANK RUSSELL ARNOLD, A. B., A. M.  
*Professor of Modern Languages (06).*
- REED BAILEY, B. S., M. S.  
*Associate Professor of Geology (31).*
- ELSA BROWN BATE, B. S., M. S.  
*Assistant Professor of Child Development (31).*

- RAYMOND J. BECRAFT, B. S., M. S.  
*Associate Professor of Range Management in the Department of Forestry (28).*
- AARON F. BRACKEN, B. S., M. A.  
*Assistant Professor of Agronomy (24).*
- ASA BULLEN, B. S., LL. B.  
*Lecturer in Commercial Law (17).*
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*Professor of Dairy Husbandry (20).*
- KATHERINE COOPER CARLISLE, B. S.  
*Associate Professor Physical Education for Women (28).*
- EZRA G. CARTER, M. S., D. P. H.  
*Associate Professor of Public Health and Physiology (27).*
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*Assistant Professor of Instrumental Music (30).*
- CHRISTINE BOCKHOLT CLAYTON, B. S., M. S.  
*Professor of Foods and Dietetics (28).*
- GEORGE DEWEY CLYDE, B. S., M. S.  
*Associate Professor of Engineering (28).*
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*Assistant Professor of Horticulture (27).*
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*Extension Forester, and Assistant Professor in Forestry (31).*
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- ALMA ESPLIN, B. S.  
*Assistant Professor of Wool Management in the Department of Animal Husbandry (25).*
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*Professor of Agronomy (31).*
- CALVIN FLETCHER, B. Pd.  
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*Assistant Professor of Military Science and Tactics* (31).
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*Professor of Bacteriology and Bio-Chemistry* (13).
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*Professor of Zoology and Entomology* (26).
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*Assistant Professor of Sociology* (30).
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*Associate Professor of Chemistry* (24).
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*State Supervisor of Vocational Agriculture* (26).
- ORSON WINSO ISRAELSEN, M. S., Ph. D.  
*Professor of Irrigation and Drainage* (19).
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*Associate Professor of Education* (29).
- \*JOSEPH R. JENSON, A. B.  
*Associate Professor of Physical Education* (25).
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*Assistant Professor of Modern Languages* (30).
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*Assistant Professor of Engineering* (30).
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*Assistant Professor of English* (16).
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*Associate Professor of Chemistry* (24).
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*Professor of Animal Husbandry* (31).
- MILTON R. MERRILL, B. S.  
*Assistant Professor of History* (30).
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*Assistant Professor of Education* (26).
- JOHANNA MOEN, B. S.  
*Professor of Textiles and Clothing* (20).
- ARTHUR J. MORRIS, B. S., M. S.  
*Assistant Professor of Dairy Manufacturing* (31).
- CHESTER J. MYERS, A. B., A. M.  
*Assistant Professor of Speech* (29).

---

\*On leave.

- AARON NEWEY, B. S.  
*Associate Professor of Machine Work* (17).
- NEILS ALVIN PEDERSEN, A. M., Ph. D.  
*Professor of English and Speech* (13).
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*Professor of Geology* (06).
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*Professor of Soils in the Department of Agronomy* (24).
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*Assistant Professor of Military Science and Tactics* (30).
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*Associate Professor of Farm and Auto Mechanics* (20).
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*Professor of Mathematics* (13).
- HARRY H. SMITH, B. S., M. S.  
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- ALMA NICHOLAS SORENSEN, A. B., A. M.  
*Associate Professor of English* (28).
- J. SEDLEY STANFORD, B. S. Ph. D.  
*Assistant Professor of Zoology and Entomology* (30).
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*Assistant Professor of Farm and Auto Mechanics* (26).
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- DELMAR C. TINGEY, B. S., M. A.  
*Assistant Professor of Agronomy* (27).
- W. PRESTON THOMAS, M. S.  
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- FANNIE MAUGHAN VERNON  
*Assistant Professor of English Extension (26).*
- WALLACE J. VICKERS, A. M., Ph. D.  
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- CARR W. WALLER, Colonel C. A. C.  
*Professor of Military Science and Tactics (30).*
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- WALTER WELTI, B. A.  
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*Professor of Physics (08).*
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*Professor of Engineering (13).*
- ALMA L. WILSON, B. S., M. S., Ph. D.  
*Assistant Professor of Horticulture and Gardening (31).*

### INSTRUCTORS

- GEORGE S. BATES, B. S., M. A.  
*Instructor in Education (29).*
- JOHN CROFT, B. S.  
*Assistant Coach.*
- ALTA ORSER CROCKETT, B. S.  
*Instructor in Textiles and Clothing (30).*
- LUELLA HAWLEY EPPLEY, B. S.  
*Instructor in Stenography and Typewriting (30).*
- \*THELMA FOGELBERG, B. S.  
*Instructor in Stenography and Business Practice (30).*
- WALLACE A. GOATES, B. A., M. S.  
*Instructor in Speech (31).*
- ALVIN HESS, B. S., M. S.  
*Instructor in Education (20).*
- H. B. HUNSAKER, B. S., M. S.  
*Instructor in Physical Education (31).*
- IRVIN HULL, B. S.  
*Instructor in Economics (29).*
- FRANCES KELLY, B. S., M. S.  
*Instructor in Foods and Superintendent of Practice Cottage (31).*
- HATTIE SMITH  
*Assistant Librarian.*

---

\*On leave.

KENNETH R. STEVENS, B. S., Ph. D.  
*Instructor in Bacteriology (31).*

VANCE H. TINGEY  
*Instructor in Mathematics (30).*

### ASSISTANTS

ALBERTINE APPY, B. S.  
*Fellow in Child Development, Instructor in Nursery School.*

ALLIE BURGOYNE, B. S.  
*Assistant Registrar.*

VERA CARLSON  
*Secretary to the President.*

AUGUST J. HANSEN, B. S.  
*Assistant in Library.*

DAVID HOMER, B. S.  
*Assistant in Physics.*

ERIC A. JOHNSON, B. S.  
*Assistant Secretary.*

GEORGE NELSON  
*Trainer and Wrestling Coach.*

GENEVA SCHAUB, B. S.  
*Assistant in Physical Education for Women.*

MARY SORENSON  
*Assistant Librarian.*

CHARLES BATT  
*Superintendent of Water and Heating.*

RASMUS OLUF LARSON  
*Superintendent of Buildings and Grounds.*

O. W. COOLEY, *Chef.*

### STANDING COMMITTEES

1931-32

The President of the College is ex-officio a member of each standing committee.

**Advanced Standing**—Mr. Bell.

**Attendance and Scholarship**—Professors W. W. Henderson, Vickers, Dancy, Becraft, Hill, Professor of Military Science, Mr. Bell.

**Athletic Council**—Professors A. N. Sorensen, George B. Caine, E. L. Romney, Mr. R. E. Berntson.

**Awards and Honors**—Professors Wanlass, Linford, Moen, R. B. West.

**Boy Scout Activity**—Professors Fletcher, Richards.

**Campus Improvement**—Professors Cardon, Clyde, Fletcher, Mr. R. O. Larson.

**Certification of Teachers**—Professors Saxer, Jacobsen, Mr. Bell.  
**College Assemblies**—Professors N. A. Pedersen, W. W. Henderson, Mrs. Hendricks.

**Credits from Sectarian Institutions**—Professors Saxer, Kepner, Mr. Bell.

**Curriculum**—Professors Maeser, Alder.

**Entrance**—Professors Hirst, Egbert.

**Exhibits**—Professors R. B. West, Alder, Moen, A. J. Hansen, Merrill.

**Graduate Work**—Professors F. L. West, William Peterson, Greaves, Evans, P. E. Peterson.

**Graduation**—Professors Maeser, P. E. Peterson, Mr. Bell.

**High School Relations Committee**—Professors M. R. Merrill, chairman, Bailey, V. D. Gardner, L. R. Humpherys, Mr. D. P. Murray.

**Incomplete Grades**—Professor Ricks.

**Library**—Professors R. B. West, A. N. Sorensen, Arnold, Miss Smith.

**Loan Fund**—Mr. Berntson, Professors Maynard, Dancy.

**Radio Programs**—Messrs. Merrill, Burgoyne, Porter.

**Rhodes Scholarship**—Professors Arnold, Sorensen, Maeser.

**Recommendation for Employment**—Professors R. B. West, Maynard.

**Sectioning Committee**—Professors Daines, Carter, Kyle.

**Schedule and Catalogue**—Mr. W. H. Bell, Professors Saxer, A. N. Sorensen.

**Social Affairs**—Professors Gardner, Maynard, Dancy, Mrs. Hendricks, Miss Carlson, President of Student Body, President of A. W. S.

**Student Body Organization**—Professors N. A. Pedersen, Jacobsen, V. D. Gardner.

**Student Employment**—Mr. Burgoyne.

## NORMAL TRAINING SCHOOL STAFF

1931-32

A. H. SAXER, Ph. D.  
 Dean, School of Education

\*C. E. McCLELLAN, M. A.  
 Director of Teacher Training

LENORE LEWIS  
 In Charge of Sixth Grade

THELMA GARFF  
 In Charge of Fifth Grade

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\*On leave.



WANDA ROBERTSON  
In Charge of Fourth Grade

LORENE K. FOX  
In Charge of Third Grade

ADDIE SWAPP  
In Charge of Second Grade

HELEN ROBERTS  
In Charge of First Grade

EMMA ECCLES JONES, M. A.  
In Charge of Kindergarten

**EXPERIMENT STATION STAFF**  
1931-32

PHILIP VINCENT CARDON, B. S.  
Director

WILLIAM PETERSON, B. S.  
Geologist

HYRUM JOHN FREDERICK, D. V. M.  
Veterinarian

JOSEPH EAMES GREAVES, Ph. D.  
Chemist and Bacteriologist

GEORGE BALLIF CAINE, A. M.  
Dairy Husbandman

REUBEN LORENZO HILL, Ph. D.  
Human Nutritionist

ORSON WINSO ISRAELSEN, Ph. D.  
Irrigation and Drainage Engineer

BYRON ALDER, B. S.  
Poultry Husbandman

DAVID STOUT JENNINGS, Ph. D.  
In Charge, Soils Investigations

WILLARD GARDNER, Ph. D.  
Physicist

BERT LORIN RICHARDS, Ph. D.  
Botanist and Plant Pathologist

## UTAH STATE AGRICULTURAL COLLEGE

WILLIAM WILLIAMS HENDERSON, Ph. D.  
Entomologist

W. PRESTON THOMAS, M. S.  
Agricultural Economist

ROBERT JAMES EVANS, Ph. D.  
Agronomist

EDWARD JACKSON MAYNARD, M. S.  
Animal Husbandman

DAVID EDWARD MADSEN, D. V. M.  
Animal Pathologist

CHARLES TERRY HIRST, M. S.  
Associate Chemist

DON WARREN PITTMAN, M. S.  
Associate Agronomist

FRANK B. WANN, Ph. D.  
Associate Plant Physiologist

JOSEPH ARCH GEDDES, Ph. D.  
Associate Rural Sociologist

RAYMOND J. BECRAFT, M. S.  
Associate in Range Management

GEORGE D. CLYDE, M. S.  
Associate Irrigation and Drainage Engineer

A. C. ESPLIN, B. S.  
Associate Animal Husbandman

CHARLES J. SORENSON, M. S.  
Associate Entomologist

GEORGE F. KNOWLTON, M. S.  
Associate Entomologist

\*H. LORAN BLOOD, Ph. D.  
Associate Plant Pathologist

A. L. WILSON, Ph. D.  
Associate Horticulturist

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\*In Cooperation with U. S. Bureau of Plant Industry.

EXPERIMENT STATION STAFF

17

AARON F. BRACKEN, M. S.  
Assistant Agronomist and  
Supt., Nephi Dry-farm Substation

DELMAR CLIVE TINGEY, M. S.  
Assistant Agronomist

ALMEDA PERRY BROWN, M. A.  
Assistant Home Economist

FRANCIS M. COE, M. S.  
Assistant Horticulturist

HARRY H. SMITH, M. S.  
Assistant Animal Husbandman

\*GEORGE QUAYLE BATEMAN, B. S.  
Assistant Dairy Husbandman and  
Supt., Dairy Experimental Farm

JOHN W. CARLSON, M. A.  
Assistant Agronomist and  
Supt., Uintah Basin Substation

BENJAMIN F. HULME, B. S.  
Assistant Animal Husbandman and  
Supt., Panguitch Livestock Substation

I. DELOS ZOBELL, B. S.  
Assistant Agronomist and  
Supt., Carbon County Substation

LEMOYNE WILSON, B. S.  
Assistant Agronomist and  
Supt., Sanpete County Substation

JAMES H. EAGAR, B. S.  
Assistant Agronomist and  
Supt., San Juan County Substation

KENNETH R. STEVENS, Ph. D.  
Assistant Bacteriologist

BLANCHE CONDIT PITTMAN, A. B.  
Librarian and in Charge, Editorial and  
Publications Division

DAVID A. BURGOPYNE, B. S.  
Secretary to the Director

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\*In Cooperation with U. S. Bureau of Dairying.

## UTAH STATE AGRICULTURAL COLLEGE

RUSSEL E. BERNTSON  
Secretary-Treasurer

EDITH HAYBALL, B. S.  
Assistant Statistician

MAIDA MUIR, B. S.  
Stenographer

VILATE JONES, B. S.  
Stenographer

GEORGE WHORNHAM, B. S.  
Assistant Field Agronomist

**In Cooperation With U. S. D. A.**

H. LORAN BLOOD, Ph. D.  
Plant Pathologist, Bureau of Plant Industry

GEORGE QUAYLE BATEMAN, B. S.  
Agent, Bureau of Dairying

ROLLO M. WOODWARD, M. S.  
Junior Agronomist, Cereal Investigations  
Bureau of Plant Industry

WESLEY KELLER, B. S.  
Agent, Sugar-beet Investigations  
Bureau of Plant Industry

**EXTENSION SERVICE STAFF**

WILLIAM PETERSON, B. S.  
Director

WILLIAM WHITE OWENS, B. S., M. A.  
Assistant Director for Agriculture

RENA BAKER MAYCOCK  
Assistant Director for Home Economics

JAMES CHRISTIAN HOGENSON M. S. A.  
Extension Agronomist

BYRON ALDER, B. S.  
Extension Poultryman

\*ELEN AGREN, B. S.  
Extension Specialist in Clothing

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\*On leave.

EXTENSION SERVICE

19

DAVID P. MURRAY, B. S.  
State Boys' and Girls' Club Specialist

ALMA C. ESPLIN, B. S.  
Extension Animal Husbandman, Sheep and Wool

EFFIE SMITH BARROWS, B. S.  
Extension Economist, Home Management

ELNA MILLER, B. S., M. S.  
Extension Nutritionist

E. J. MAYNARD, B. S., M. S.  
Extension Animal Husbandman

GEORGE B. CAINE, B. S., A. M.  
Extension Dairyman

W. P. THOMAS, B. S., M. S.  
Extension Economist

MYRTLE DAVIDSON, B. S.  
Asst. State Boys' and Girls' Club Specialist

C. O. STOTT, B. S.  
Extension Economist, Farm Management

CARL FRISCHKNECHT, B. S., M. S.  
Assistant Extension Poultryman

MRS. LOTTIE K. ESPLIN, B. S., M. A.  
Home Reading Specialist

ROBERT H. STEWART, B. S.  
Asst. Professor, County Extension Agent, Box Elder County

ROBERT L. WRIGLEY, B. S.  
Asst. Professor, County Extension Agent, Cache County

LYMAN H. RICH, B. S., M. S.  
Asst. Professor, County Extension Agent, Utah County

ORSON P. MADSEN, B. S.  
Asst. Professor, County Ext. Agent, Carbon and Emery Counties

ALBERT E. SMITH, B. S.  
Asst. Professor, County Extension Agent, Juab County

DELORE NICHOLS, B. S.  
Asst. Professor, County Extension Agent, Davis County

## UTAH STATE AGRICULTURAL COLLEGE

ARCHIE L. CHRISTIANSEN, B. S.  
Asst. Professor, Extension Agent, Weber County

STEPHEN R. BOSWELL, B. S.  
Assistant Professor, Extension Agent, Sevier County

HAZEL BINGHAM, B. S.  
Asst. Prof., District Extension Agent, Weber and Morgan Counties

VERE L. MARTINEAU, B. S.  
Assistant Professor, County Extension Agent, Salt Lake County

CLYDE R. RICHARDS, B. S.  
Assistant Professor, County Extension Agent, Morgan County

MORGAN P. MCKAY, B. S.  
Assistant Professor, County Extension Agent, Millard County

IVY LOWRY HALL, B. S.  
Asst. Prof. Home Demonstration Agent, Salt Lake and Summit Counties

ERASTUS PETERSON, B. S.  
Assistant Professor, County Extension Agent, Uintah County

DAVID SHARP, JR., B. S.  
Assistant Professor, County Extension Agent, Summit County

LEW MAR PRICE, B. S.  
Assistant Professor, County Extension Agent, Beaver County

RUSSELL R. KEETCH, B. S.  
Assistant Professor, County Extension Agent, Wasatch County

A. G. KILBURN, B. S.  
Assistant Professor, County Extension Agent, Tooele County

IZOLA D. JENSEN, B. S.  
Assistant Professor, District Agent, Cache and Box Elder Counties

WALTER F. SMITH, B. S.  
Assistant Professor, County Extension Agent, Washington County

ANSON B. CALL, JR., B. S., M. S.  
Assistant County Extension Agent, Utah County

ALICE E. PEDERSEN, B. S.  
Assistant Prof., District Extension Agent, Uintah and Duchesne Counties

LEROY C. FUNK, B. S., M. S.  
Assistant Professor, County Extension Agent, Duchesne County

C. A. HYMAS, B. S.

Assistant Professor, County Extension Agent, Piute and Garfield Counties

RUBY STRINGHAM, B. S.

Assistant Professor, Home Demonstration Extension Agent, Davis County

E. L. GUYMON, B. S., M. S.

Assistant Professor, County Extension Agent, Rich County

L. E. TUELLER, B. S.

Assistant Professor, County Extension Agent, Iron County

AMY J. LEIGH, B. S.

Asst. Prof., Home Demonstration Agent, Utah County

THELMA HUBER, B. S., M. S.

Asst. Prof., District Home Demonstration Agent, Morgan and Summit Counties

WILFORD D. PORTER, B. S.

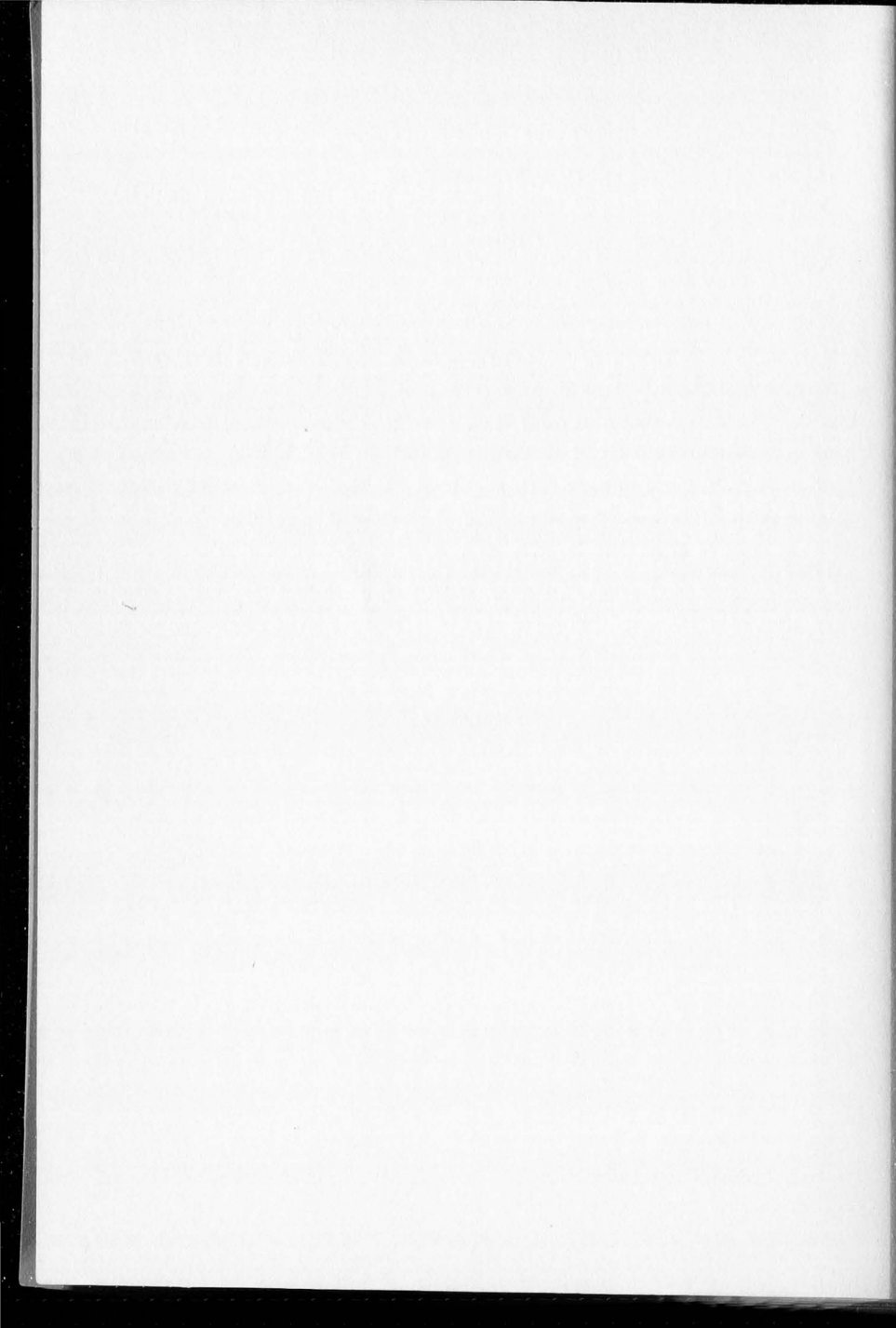
Secretary to Director, and Extension Editor

IDA R. MITCHELL

Clerk

MARY HANSEN

Stenographer





# Utah State Agricultural College

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The Utah State Agricultural College is in Logan, the county seat of Cache county, one of the most prosperous agricultural sections in the State. The city has a population, thrifty and progressive, of about 12,000; it is quiet, orderly, clean and generally attractive. An excellent bus line serves the city. Logan is on the Yellowstone Highway, the Utah Idaho Central Electric line and the Oregon Short Line Railroad.

The College, uniquely situated on a broad hill overlooking the city, one mile east of Main Street, commands a view of the entire valley and surrounding mountain ranges. The site of the College was formed by the receding waters of prehistoric Lake Bonneville, which built an enormous delta at the mouth of Logan canyon upon which the College buildings and farms are located. The beauty and geological significance of the location are perhaps unsurpassed. A half mile to the south is Logan river. A mile to the east is a magnificent mountain range with a picturesque canyon. In other directions are town and farms of Cache County distinctly visible through the clear atmosphere. The valley is a fertile, slightly uneven plain, 4,600 feet above sea level, about twelve by sixty miles in dimensions, almost entirely under cultivation and surrounded by the Wasatch mountains. It is one of the most attractive and healthful valleys in the West.

## POLICY

The Utah State Agricultural College provided, in accordance with the spirit of the law under which it was organized, a liberal, thorough, and practical education. The two extremes in education, empiricism and the purely theoretical, are avoided; for the practical is based upon and united with the thoroughly scientific. In addition to the practical work of the different courses, students are given thorough training in the sciences, mathematics, history, English, art, music, speech, modern language, and other related subjects. The object is to foster all that makes for right living, good citizenship, and high efficiency.

Under this general policy, the special purpose of the Utah State Agricultural College is to be of service in the upbuilding of the State and the great West to which it belongs. The instruction in agriculture and engineering, in addition to the purely professional aspects of these fields of study, deals with the special problems relating to the conquest of the great areas of unoccupied lands, the development of engineering structures, the proper use of the water supply, and the kinds of crops or live stock which in Utah may be most profitable; instruction in mechanic arts points out the most promising trades and teaches them so as to meet the needs of the State; instruction in commerce relates to the undeveloped resources and the present commercial conditions of the State, and investigates the principles and methods to be applied in the

commercial growth of Utah; instruction in home economics teaches the women right living and economic independence.

The Constitution of Utah establishes the Utah State Agricultural College and the University of Utah as the two public institutions of higher learning in Utah. Each of these institutions is independent in government, although each is a part of the public school system. Each, under the Constitution and the statutes of Utah and in harmony with the rulings of their respective governing boards, offers undergraduate and graduate work leading to the Bachelor's and Master's degrees. The College, in addition to this high status given it in Utah under the Constitution, is one of the forty-eight institutions in the United States definitely recognized by the Federal government as the institution of higher learning in the respective states for the development of the Federal program of education included in the Morrill and Nelson Acts of the Federal Congress.

### HISTORY

The Utah State Agricultural College was founded March 8th, 1888, when the Legislative Assembly accepted the terms of the national law passed by Congress on July 2nd, 1862. Under this Act of Congress, and the Enabling Act providing for the admission of Utah to the Union, 200,000 acres of land were granted to the State from the sale of which there should be established a perpetual fund, the interest to be used in maintaining the College.

Under the Hatch Act, approved in 1887, the State receives \$15,000 annually for the Experiment Station. Under the Adams Act of 1906, the State receives an additional \$15,000 annually for research work by the Experiment Station. Under the Morrill Act of 1890, amended by the Nelson Act of 1907, the State receives \$50,000 annually for instruction at the Agricultural College. Under the Smith-Lever Act, the State receives annually about \$34,000 for agricultural extension work to be done by the Agricultural College. Under the Purnell Act., the State received in 1928-29 an appropriation of \$50,000, which will increase by \$10,000 each year until an annual income of \$60,000 has been reached, for special work in agricultural and home economics.

These Federal appropriations, together with the annual income from the land-grant fund, represent the income received from the general government. Since most of these funds must be used, in accordance with the law, for specific purposes, the institution is dependent on State appropriations for funds with which to provide additional instruction and for general maintenance. These needs have been generously met in the past by the Legislative Assemblies of the State. In 1888 the sum of \$15,000 was appropriated for buildings, and the county of Cache and the city of Logan gave one hundred acres of land on which to build the College. Since that time the State has, from time to time, appropriated sufficient funds to erect and maintain most of the buildings described in a later section, besides providing for instruction, experimentation, and extension work.

By legislative action, the College receives annually 28.34 per cent of 28 per cent of the total tax revenue of the State, after deducting the revenue from 2.4 mills on the total State valuation (which is not to be

exceeded), set aside for the support of the elementary and the high schools. Special maintenance appropriations are made by the legislature for general support, and for buildings. The State, moreover, provides adequately for extension purposes and experimental work.

In September, 1890, the Institution was opened for the admission of students. Degree courses were offered in agriculture, domestic art, engineering, mechanic arts, and commerce; a preparatory course and short courses in agriculture and engineering were also given. Since that time many improvements have been made in the courses. Various special, practical, year and winter courses in agriculture, commerce, mechanic arts and home economics have been added; the standard of the college work has been raised. In 1927 the divisions of instruction were established as follows: The School of Agriculture, the School of Engineering, the School of Home Economics, the School of Commerce, the School of Arts and Science, and the School of Education.

In 1913, the Branch Normal School at Cedar City was made a branch of the Utah State Agricultural College, and is so maintained.

In 1926, the College was admitted to the accepted list of the Association of American Universities.

In 1929, the State Legislature codified the laws of the State relating to the College, and changed the name to Utah State Agricultural College.

In 1931 the department of Child Development was added to the School of Home Economics.

## GOVERNMENT

The government of the College is vested in the Board of Trustees and, under its control, in the four other administrative bodies—the Deans and Directors' Council, the College Council, the College Faculty, and the Staff of the Experiment Station. These, in their several capacities, determine the policy and maintain the efficiency of the Institution.

THE BOARD OF TRUSTEES consists of thirteen members. Twelve are appointed by the Governor with the approval of the State Senate; the thirteenth is the Secretary of State who is ex-officio a member. This Board assumes the legal responsibility of the institution, cares for its general interests, and directs its course by the enactment of all necessary by-laws and regulations. Vested in it is the power to establish professorships, to employ the instructing force and other offices of the College, and to formulate the general policy of the Institution.

Between sessions, the power of the trustees rests with an executive committee, whose actions are referred to the Board for approval. In addition there are committees, largely advisory, that deal with the general interests of the College.

THE DEANS AND DIRECTORS' COUNCIL consists of the President, the Deans of the various schools—Agriculture, Home Economics, Engineering, Commerce, and Arts and Science, the Dean of the Faculty, the Directory of the Summer Session, the Directors of the Experiment Station and the Extension Service. This body has immediate supervision of instruction and discipline in all the various schools. It

constitutes a permanent executive and administrative committee of the College Council and Faculty.

THE BUDGET COMMITTEE which is advisory to the President, consists of the Deans of the five Schools and the Executive Secretary of the Institution, the Dean of the faculty being chairman of the Committee. In all budget matters involving the Experiment Station or Extension Service, the respective Directors become members of the Budget Committee.

THE COLLEGE COUNCIL consists of the President of the College and all members of the faculty holding the rank of professor, associate professor, or assistant professor. Questions of discipline and policy are decided by this body.

THE COLLEGE FACULTY includes the President, professors, associate professors, assistant professors, ranking professors, instructors, and assistants. It is concerned with ordinary questions of methods and discipline and with other matters pertaining to the general welfare of the College.

THE STANDING COMMITTEES have delegated to them the immediate direction of all the phases of college life. The conduct of the student in his college home, and his regularity in performing college duties; the publications of the College and of the students; the interests of the students on the athletic field, in the amusement halls, and their various organizations—all are within the province of appropriate committees.

THE EXPERIMENT STATION STAFF consists of the President of the College, the Director of the Station, and the heads of departments and their associates and assistants. The staff is engaged in the investigation of problems peculiar to agriculture and rural welfare in this part of the country. It is further responsible for the circulation, through its various publications and correspondence, of such information as is of practical value to the farming communities.

THE EXTENSION SERVICE consists of the President of the College, the Director of the Extension Service, and the various Specialists, County Agents, and Home Demonstrators.

THE STUDENTS. The College is maintained at public expense for public good. The students, therefore, are under a peculiar obligation to perform faithfully all their duties to the State, the Institution, and the community. Most important of these is an active interest in all that concerns the moral and intellectual welfare of the College. Regularity of attendance, faithful attention to studies, and exemplary personal conduct are insisted upon at all times by the administrative bodies of the College.

## DIVISIONS OF THE COLLEGE

The work of the College falls into three distinct divisions: first, the College Proper, giving instruction on the home campus of the College; second, the Research Division, having for its object the discovery of new truth or the new application of established truth, for the advancement of life; third, the Extension Division, which carries instruction to the people who can not come to the College Campus.

To accomplish this work the following administrative divisions exist:

### I. The College Proper.

The School of Agriculture and Forestry.

The School of Arts and Science.

The School of Commerce.

The School of Education.

The School of Engineering.

The School of Home Economics.

The Summer Session.

### II. Research.

Experiment Station.

### III. Extension.

The Extension Service.

The instructional and investigational forces with the equipment necessary to carry out the work of the above divisions are organized into departments of co-ordinate authority, each of which represents a somewhat definite field of knowledge. All officers of instruction or experimentation belong to one or another of these departments. One professor, designated head, carries the administrative responsibility of the department.

## THE SCHOOL OF AGRICULTURE AND FORESTRY

Agriculture is the largest and most fundamental single industry, and is one of the most promising of modern professions. The new agriculture is not a profession of unceasing toil. The business of scientific farming challenges the training and ability of the best young blood of our nation. The freedom, health, intellect and profit derived from the new and scientific agriculture are attracting large numbers of thinking people. Utah and the entire Intermountain West will continue to offer excellent opportunities to those who prepare themselves for scientific agricultural pursuits.

Most of the students who graduate in Agriculture come from the farm, but not all of them. The Utah State Agricultural College is equipped to teach practical as well as scientific agriculture. Our aim is "Science with Practice." We teach the sciences underlying practical agriculture, and supplement these with studies of sufficient breadth to place the students upon the high intellectual level of those trained in other professions. A great deal of the college instructional work requires demonstration material. This is amply supplied by the college farm, the experimental plant breeding plots, and the numerous breeds of livestock and poultry.

The student about to enter training in the Science of Agriculture, may wish to know something of the opportunities offered in his chosen profession. Young men thoroughly trained in agriculture will find a large field for the exercise of their talents. It is not to be expected that all graduates trained in Scientific Agriculture will return to the farm. The demand is too great for agriculturally trained students in other allied lines of industry. Agriculture needs clear thinkers, and skillful doers, not only on crop and livestock farms and in orchards and gardens, but also in our banks, legislative halls, and educational institutions.

### ADMISSION

See statements of entrance requirements of the College on page 63.

Students who expect to become candidates for the Bachelor's degree are reminded that they should complete the requirements of the Junior College before they will be allowed to enter the Senior College. Read carefully the statements regarding "Junior College," and "Senior College" found on pages 65, 66.

### GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science degree must meet in full all entrance requirements and present 180 quarter hours of College work as outlined below (exclusive of the required courses in Physical Education).

## THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

**Language Group:** 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11 unless excused by the English Department.

**Social Science Group:** 12 hours (History, Economics, Political Science, Sociology, Agricultural Economics).

**Biological Science Group.** 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology).

**Exact Science Group:** 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

## MAJOR SUBJECT

Every student, at the time he enters the Senior College, must select a major subject in which at the time of graduation he must have completed at least thirty quarter hours of work. The Student should consult with the professor in charge of his major work, and must secure the approval of the proposed combination of courses. (Read page 66).

In the School of Agriculture, students may major in the following departments: Agricultural Economics, Agronomy, Animal Husbandry, Bacteriology, Botany and Plant Pathology, Chemistry, Dairy Husbandry, Dairy Manufacturing, Entomology, Forestry and Range Management, Horticulture, Poultry Husbandry, Veterinary Science.

## MINOR SUBJECTS

From eighteen to thirty hours in some field of work closely related to the major subject will be chosen by the candidate with the advice and consent of the major department and the Dean of the School. (See page 66).

## SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. (See page 65 for a definition of Senior College work).

## RESIDENCE, SCHOLARSHIP, ETC.

See page 67 for requirements for graduation.

## OUTLINE OF FOUR-YEAR COURSE LEADING TO THE B. S. DEGREE IN AGRICULTURE

During the first two years in college the student in agriculture should get his basic science work, obtain a general view of the field

of agriculture, and do some basic work in agriculture. The work of the first two years is very similar for all departments in the school. The second two years should be devoted largely to the students' major and minor fields, and special group or closely related subjects. The following, outline for the Freshman and Sophomore years permits some latitude of choice; yet, at the same time, it provides the basic work for a major in any department in the school. The student will consult his major professor in arranging his course of study in his Junior and Senior years.

### BIOLOGICAL SCIENCE

(Complete at least 12 hours during Freshman and Sophomore Years)

	F.	W.	S.
Bacteriology 1.....General Bacteriology .....	3	3	3
Bacteriology 2.....General Bacteriology Lab.....	2	3	2
Botany 21-22.....Gen. Botany & Comp. Morphology	4	4	
Botany 30.....Systematic Botany.....			3
Zoology 1.....Prin. of Zoology.....	5	5	5
Zoology 14.....Agricultural Entomology.....	4		

### EXACT SCIENCE GROUP

(Complete at least 12 hours during Freshman and Sophomore Years)

	F.	W.	S.
Chemistry 3, 4.....Inorganic Chemistry.....	5	5	
Chemistry 26.....Organic Chemistry.....		5	5
Mathematics 35.....College Algebra.....	5	5	5
†Mathematics 75.....Elem. Statistical Methods.....			5
Physics 1.....General Physics .....	5	5	
Physics 2.....General Physics .....		5	5

### LANGUAGE GROUP

(Complete at least 14 hours during Freshman and Sophomore Years)

	F.	W.	S.
English 10.....Freshman Composition.....	5	5	5
*English 11.....Sophomore Composition.....	4	4	4

Other courses in this group to be elected by the student. A modern language is recommended especially for students who intend to do graduate work.

†Recommended for Sophomore year.

\*May not be taken prior to Sophomore Year.



## SOCIAL SCIENCE GROUP

(Complete at least 8 hours by end of Sophomore Year)

	F.	W.	S.
*Agr. Econ. 53.....Prin. of Agr. Economics.....	3	or	3
*Agrl. Econ 70.....Farm Management.....			3
*Economics 51.....Gen. Economics.....	5	or	5
Sociology 70.....Prin. of Sociology.....	3	or	3 or 3

During the first two years the student should also complete at least 36 hours from the list below. Selection should be made with the view of obtaining a general introduction into the various fields of agricultural science, rather than a more thorough knowledge of one field.

	F.	W.	S.
Agronomy 1.....Cereal Crops.....		4	
Agronomy 2.....Root Crops.....	4		
Agronomy 3.....Forage and Miscellaneous Crops....			4
An. Hus. 1.....Market Types of Livestock.....	5		
An. Hus. 5.....General An. Husbandry.....			3
An. Hus. 9.....Sheep Husbandry.....		3	
Dairy & Dairy Mfg. 1.....Elements of the Dairy Industry....	5		
Dairy & Dairy Mfg. 2.....Dairy Farming.....		5	
Poultry 1.....General Poultry.....		4	or 4
Vet. Science 10.....Veterinary Elements .....		5	or 5
Forestry and Range.....Elementary Forestry and Range....		3	
Horticulture 11.....	5		
Agr. Engineering 3.....Agricultural Drawing.....	2	or 2	or 2
Agr. Engineering 14.....Farm Shop Repair Work.....	2	or 2	
Agr. Engineering 15.....Farm Machinery .....			3
*Agr. Engineering 12.....Irrigation and Drainage Practice....			3
Mechanic Arts 1.....Principles of Auto Construction and Operation.....			3
Agricultural Economics.....			3
Foods 5.....Principles of Nutrition.....			2
Textiles and Clothing.....Clothing Application and Selection 2			2

## Third Year

Major Subject.....	9
Minor Subject.....	6
Special Group.....	21
Electives .....	9 to 15
Total.....	45 to 51

## Fourth Year

Major Subject.....	12
Minor Subject.....	6
Special Group.....	21
Electives.....	10 to 15
Total.....	45 to 51

\*May not be taken prior to Sophomore year.

## THE B. S. DEGREE IN AGRICULTURE WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School Teacher's Certificate to hold the standard Bachelor's degree in Agriculture if their major work is in this field. Arrangements have been made with the School of Education to provide candidates for the Bachelor of Science degree in Agriculture with the necessary professional educational courses to qualify them for the teacher's Professional High School Certificate. The High School Teacher's recommendation is given by the College; and the Professional High School Certificate is awarded by the State Board of Education, to those who include the following courses along with those presented for the B. S. degree:

The candidate must present 27 hours of Professional Educational subjects, which shall include Psychology 101 and either 102 or 103, and Education 111, 115, and 121 or their equivalents. The candidate's Biological Science group must include Bacteriology 1 and Health Education 108, and the Social Science group shall include 5 credits of applied Sociology or Ethics, and 5 credits in Economics or Political Science.

Graduates of Standard Normal Courses, or those who have had one or more years of successful teaching experience, may have some of these requirements waived. Consult the Dean in regard to this matter.

Candidates for the Bachelor's degree with the High School Teacher's recommendation will be allowed to use the 27 hours of professional education credits as desirable related work mentioned in their requirements for the major subject. (See page 65).

### OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE IN AGRICULTURE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

The first two years of this course will be the same as for the B. S. degree previously outlined, except that the candidate should elect in the Social Science and the Biological Science groups the particular courses mentioned in the preceding paragraph.

#### Junior and Senior Years

During the third and fourth years the student should contemplate his major and minor work as outlined for the B. S. Degree and for his related work, including the following:

Junior Year	Senior Year
Psychology 101 and 102 or 103.....6 hours	Training Educ. 115.....8 hours
Education 111 and 121.....6 hours	Psychology or Educa- tion .....7 hours

The following courses are suggestive for students in Vocational Agriculture with majors in Agronomy, Animal Industry, and Horticulture. All students in Vocational Agriculture should follow the same course in the Freshman and Sophomore years.

**JUNIOR YEAR**

(Agronomy and Soils)

	F.	W.	S.
Geology 105, 106	Gen. Geology.....	5	5
Zool. 111	Genetics .....	..	..
Agron. 106, 108	Soils .....	4	..
Dairy Husbandry 110	Dairy Production .....	..	5
Education 111, 121	Science of Ed., Org. & Admin.....	3	..
Psychology 101, 103	Psychology .....	3	..
An. Hus. 103	Feeding .....	..	5
Bact. 109	Health Education .....	..	..
Eng. 125	Journalism .....	2	..
		<hr/>	<hr/>
		17	17
			19

**SENIOR YEAR**

(Agronomy and Soils)

Agron. 111, 112, 113	Seminar .....	1	1	1
Agron. 117	Geography of Agronomy.....	..	3	..
Agron. 116 or 119	Dry Farming; Crop Products .....	..	3	..
Agric. Economics 102	Farm Administration.....	5	..	..
Hort. 3	Landscape Gardening .....	..	..	3
Ag. Economics 62	Principles of Marketing.....	..	5	..
Bot. 130	Plant Pathology .....	3	..	..
Agr. 104	Weeds, Seeds and Grading.....	3	..	..
Ed. 126	Methods of Agricultural Teaching..	..	5	..
Ed. 127	Practice Teaching .....	..	..	8
Minor group and elective courses	.....	5	..	5
		<hr/>	<hr/>	<hr/>
		17	17	17

**JUNIOR YEAR**

(Animal Industry)

	F.	W.	S.
An. Hus. 11	Meats .....	3	..
An. Hus. 111	Management .....	..	3
An. Hus. 103	Feeding .....	5	..
An. Hus. 105	Breeding .....	..	5
An. Hus. 109	Sheep and Wool.....	3	..
Poultry Husb. 105	Poultry Management .....	3	..
Zool. 111	Genetics .....	5	..
Agron. 106	Soils .....	4	..
Bact. 109	Health Education .....	..	3
Psychology 101, 102 or 105	.....	3	..
Ed. 111, 121	Science of Ed.; Org. and Admin...	3	..
Elective .....	.....	2	..
		<hr/>	<hr/>
		17	16
			17

**SENIOR YEAR**

(Animal Industry)

An. Hus. 120, 121, 122	Seminar .....	1	1	1
An. Hus. 107	Adv. Judging .....	4	..	..
Agron. 117	Geography of Agri.....	..	4	..
Hort. 3	Landscape Gardening.....	..	..	3
English 1	Extemporaneous Speaking.....	5	..	..
Ed. 126	Methods of Agr. Teaching.....	..	5	..
Ed. 127	Practice Teaching.....	..	..	8
Dairy Husb. 109	Dairy Production.....	..	3	..
Vet. Science 107, 118	Elective .....	..	3	..
Minor, group and elective courses.....		7	1	5
		<hr/>	<hr/>	<hr/>
		17	17	17

**JUNIOR YEAR**

(Horticulture)

		F.	W.	S.
Hort. 108	Small fruits.....	..	4	..
Hort. 4	Vegetable Gardening.....	..	4	..
Hort. 7, 8, 9	Greenhouse & Nursery Practice.....	1	1	1
Agron. 106	Soils .....	4	..	..
Agron. 117	Geography of Agriculture.....	..	..	3
Botany 130, 131	Plant Pathology.....	3	3	..
English 125, 126, 127	Journalism .....	2	2	2
Psychology 101, 103	Psychology .....	3	..	3
Ed. 111, 121	Science of Ed.; Org. & Admin.....	3	..	3
Minor, group and elective courses .....		1	3	5
		<hr/>	<hr/>	<hr/>
		17	17	17

**SENIOR YEAR**

(Horticulture)

Hort. 151, 152	Systematic and Com. Pomology....	5	4	..
Hort. 107	Spraying .....	..	..	3
Hort. 110, 111	Orchard Practice .....	1	..	1
Hort. 153, 154	Seminar .....	1	1	..
Ed. 126	Methods of Agr. Teaching.....	..	5	..
Ed. 127	Practice Teaching .....	..	..	8
Minor group and elective courses .....		10	7	5
		<hr/>	<hr/>	<hr/>
		17	17	17

# THE SCHOOL OF ARTS AND SCIENCE

A. H. SAXER, Dean

Since its foundation the Utah State Agricultural College has offered strong courses in the Sciences and, to a less extent, courses in the Arts, to carry out the technical work of the Schools of Agriculture, Home Economics, Commerce, and Engineering, and to assure to these students a liberal education and training for efficient citizenship.

An efficient instructing force and complete modern equipment have been provided in the natural and physical sciences, as well as in English, Mathematics, History, and Languages. This makes it possible to satisfy the growing demand for strong baccalaureate courses affording a broad general education in the earlier years, and admitting of specialization later. Such courses constitute the School of Arts and Science which, paralleling the other degree courses of the College, lead to the degree of Bachelor of Science.

## ADMISSION

See statement of entrance requirements of the College on page 63.

Students who expect to become candidates for the Bachelor's degree are reminded that they should complete the requirements of the Junior College before they will be allowed to enter the Senior College. Read carefully the statements regarding "Junior College" and "Senior College" found on pages 65, 66.

## GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science Degree must meet in full all entrance requirements and present 180 quarter hours of College work as outlined below (exclusive of the required courses in Physical Education or Military Science).

### THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

**Language Group:** 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11, unless excused by the English Department.

**Social Science Group:** 12 hours (History, Economics, Political Science, Sociology).

**Biological Science Group:** 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology).

**Exact Science Group:** 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

### MAJOR SUBJECT

Every student, at the time he enters the Senior College, must select a major subject in which at the time of graduation he must have completed at least 30 quarter hours of work. The student should consult with the professor in charge of his major work, and must secure his approval of the proposed combination of courses. (Read page 62).

In the School of Arts and Science, students may major in the following departments: Art, Bacteriology and Bio-Chemistry, Botany, Chemistry, English and Public Speaking, Geology, History, Mathematics, Modern Languages, Music, Physics, Physiology and Public Health, Political Science, Zoology and Entomology.

### MINOR SUBJECTS

From eighteen to thirty hours in some field of work closely related to the major subject will be chosen by the candidate with the advice and consent of the major department and the Dean of the School. (See page 66).

### SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. See page 65 for a definition of Senior College Work.

### RESIDENCE, SCHOLARSHIP, ETC.

See page 67 for requirements for graduation.

### OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE

First Year	Second Year
Language Group, including	Language Group, including
English 10..... 9	English 11..... 9
Social Science..... 6	Social Science ..... 6
*Biol. or Exact Sc.....12	*Biol. or Exact Sc.....12
Electives .....18 to 24	Electives .....18 to 24

The electives should include at least fifteen hours in the proposed major.

\*Biological or Exact Science should be chosen so that the candidate has at least 12 hours in each of the two groups.

### Junior and Senior Years

During the third and fourth year the student should complete his major and minor subjects and any related work prescribed by the Dean or Major Department. See page 66 for these requirements.

## THE B. S. DEGREE IN ARTS AND SCIENCE WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School Teacher's Certificate to hold the standard Bachelor's degree in Arts and Science if their major work is in this field. Arrangements have been made with the School of Education to provide candidates for the Bachelor of Science degree in Arts and Science with the necessary professional courses to qualify them for the Teacher's Professional High School Certificate. The High School Teacher's recommendation is given by the College, and the Professional High School Certificate is awarded by the State Board of Education, to those who include the following courses along with those presented for the B. S. degree:

The candidate must present 27 hours of Professional Educational subjects, which shall include Psychology 102 or 103, and Education 111, 115, and 121, or their equivalents. The candidate's Biological Science group must include Bacteriology 1, and Health Education 108; and the Social Science group shall include 5 credits of applied Sociology and 5 credits in Economics or Political Science.

Graduates of Standard Normal Courses, or those who have had one or more years of successful teaching experience, may have some of these requirements waived. Consult the Dean in regard to this matter.

Candidates for the Bachelor's degree with the High School Teacher's recommendation will be allowed to use the 27 hours of professional education credits as desirable related work mentioned in the requirement for the major subject. (See page 66).

### OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

The first two years of this course will be the same as for the B. S. degree previously outlined, except that the candidate should elect in the Social Science and the Biological Science groups the particular course mentioned in the preceding paragraph.

#### Junior and Senior Years

During the third and fourth years the student should complete his major and minor work as outlined for the B. S. Degree, and for his related work include the following:

##### Junior Year

Psychology 101, and 102 or 103.....	6 hours
Education 111 and 121.....	6 hours

##### Senior Year

Training and Methods (Educ. 114-115) .....	11 hours
Psychology or Education .....	4 hours

## PRE-MEDICAL CURRICULUM AND THE BACHELOR OF SCIENCE DEGREE

The Utah State Agricultural College is on the accredited list of the Association of American Universities, and also on the approved list of the Council on Medical Education. The College offers the following three-year preparatory course, which meets the requirements for entrance to practically all Class A medical schools in the United States.

Candidates desiring admission to the pre-medical course should offer the usual entrance subjects. Such candidates are strongly advised to present two or three units of some one foreign language, preferably French or German. This will materially reduce the amount of college work necessary in Language, and thereby increase the student's electives.

Candidates are reminded that the mere completion of a prescribed course of study does not guarantee admission to any Class A medical school. The better medical schools find it necessary to limit the number of students who are admitted to their classes, and they select only those applicants who show the most promise and who have the better preparation and scholarship.

### PRE-MEDICAL COURSE BASED ON THE REQUIREMENTS OF THE UNIVERSITY OF UTAH SCHOOL OF MEDICINE

#### \*FRESHMAN YEAR

Name of Course	Dept. No.	Quarter Credits		
		I	II	III
English, Including Freshman Composition .....		..	3	5
Inorganic Chemistry.....Chemistry 3, 4, 5.....		5	5	5
General Zoology.....Zoology 3, 4.....		5	5	..
General Botany.....Botany 1.....		..	..	5
Social Science .....		5	3	..
<b>Total .....</b>		<b>15</b>	<b>16</b>	<b>15</b>

\*Physical Education or Military Science is required of all students during the Freshman and Sophomore years.

#### SOPHOMORE YEAR

Name of Course	Dept. No.	Quarter Credits		
		I	II	III
Organic Chemistry.....Chemistry 21, 22.....		5	5	..
Quantitative Analysis.....Chemistry 102, 103.....		..	3	3
First Year French or .....	French 1, 2, 3, or.....	..	..	..
First Year German .....	German 1, 2, 3,.....	5	5	5
Mathematics .....	Math. 35 .....	5	..	6
English, including Sophomore Composition .....		..	4	6
<b>Total .....</b>		<b>15</b>	<b>17</b>	<b>14</b>



## JUNIOR YEAR

Name of Course	Dept. No.	Quarter Credits		
		I	II	III
General Physics.....	Physics 20, 21, 22.....	5	5	5
2nd Year French or German.....	French or German.....	3	3	3
General Psychology.....	Psychology 101, 105-106..	3	1	1
Zoology .....	Zoology 117-118-119.....	3	3	3
*Elective including 2 hours in French or German.....		3	5	5
Total .....		17	17	17

\*Should be taken to prepare for major work if student intends to remain and finish for his B. S. Degree.

## BACHELOR OF SCIENCE DEGREE

Students who complete the foregoing three-year medical course, and register in a Class A medical school and successfully complete the first year of work prescribed in such school, will be awarded the Bachelor of Science degree in the School of Arts and Science at the Utah State Agricultural College, upon presenting satisfactory evidence that the work has been completed with a reasonably high standard of achievement. The foregoing schedule meets in full the requirements for admission to the medical school of the University of Utah. Students are urged to complete the first two years of their medical work at the State University School of Medicine.

## FOUR YEAR COURSE

Students who expect to enter medical schools that require an academic degree for entrance, or who, for other reasons, desire the Bachelor of Science degree before entering upon their medical course, may complete the requirements for the degree of Bachelor of Science in the School of Arts and Science with a major in Chemistry or Zoology. Such students should consult with the professor in charge of their proposed major subject, and arrange for the additional work necessary to complete the requirements for the Bachelor of Science degree.

# THE SCHOOL OF COMMERCE

W. L. WANLASS, Dean

The purpose of the School of Commerce is to give opportunity for liberal education with special emphasis upon the commercial and industrial phases of life. Persons who complete the commercial courses are prepared to assume leadership and responsibility in business and in various industries and professions. In order to meet the growing demands and to keep pace with recent tendencies in business education, students may major in accounting, business administration, merchandising, advertising and selling, secretarial work, economics, political science, sociology, agricultural economics and marketing.

For the professions of law and medicine the commercial courses afford excellent preparation. Graduates are prepared for positions as teachers in commercial schools. The demand for qualified teachers is greater than the supply while many desirable positions as industrial managers are open to those who are qualified by training and experience. In the field of retail and wholesale merchandising are unlimited opportunities.

## ADMISSION

See statement of entrance requirements of the College on page 63. Students who expect to become candidates for the Bachelor's degree are reminded that they should complete the requirements of the Junior College before they will be allowed to enter the Senior College. Read carefully the statements regarding "Junior College" and "Senior Collee" found on pages 65, 66.

## GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science degree must meet in full all entrance requirements, and present 180 quarter hours of College work as outlined below (exclusive of the required courses in Physical Education).

## THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

**Language Group:** 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11 unless excused by the English Department.

**Social Science Group:** 12 hours (History, Economics, Political Science, Sociology).

**Biological Science Group:** 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology).

**Exact Science Group:** 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

### MAJOR SUBJECT

Every student, at the time he enters the Senior College, must select a major subject in which at the time of graduation he must have completed at least 30 quarter hours of work. The student should consult with the professor in charge of his major work, and must secure the approval of the proposed combination of courses. (Read page 66).

In the School of Commerce, students may major in the following subjects: Accounting, Business Administration, Merchandising, Advertising and Selling, Secretarial work, Economics, Political Science, Sociology, Agricultural Economics and Marketing.

### MINOR SUBJECTS

From eighteen to thirty hours in some field of work closely related to the major subject will be chosen by the candidate with the advice and consent of the major department and the Dean of the School. (See page 66).

### SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. See page 65 for a definition of Senior College work.

### RESIDENCE, SCHOLARSHIP, ETC.

See page 67 for requirements for graduation.

### THE B. S. DEGREE

See table under Commerce, Courses of Instruction, for outline of course leading to the B. S. Degree.

### JUNIOR AND SENIOR YEARS

During the third and fourth years the student should complete his major and minor subjects and any related work prescribed by the Dean or Major Department. See list of courses at the beginning of each department announcement.

### THE B. S. DEGREE IN COMMERCE WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School Teacher's Certificate to hold the standard Bachelor's degree in Com-

merce, if their major work is in this field. Arrangements have been made with the School of Education to provide the candidates for the Bachelor of Science degree in Commerce with the necessary professional educational courses to qualify them for the teacher's Professional High School Certificate. The High School Teacher's recommendation is given by the College, and the Professional High School Certificate awarded by the State Board of Education, to those who include the following courses along with those presented for the B. S. degree:

The candidate must present twenty-seven hours of Professional Educational subjects which shall include Psychology 101 and either 102 or 103, and Education 111, 115, and 121, or their equivalents. The candidate's Biological Science group must include Bacteriology 1 and Health Education 108, and the Social Science group must include five credits of applied Sociology or Ethics and five credits in Economics or Political Science.

Graduates of standard Normal Courses, or those who have had one year or more of successful teaching experience, may have some of these requirements waived. Consult the Dean in regard to this matter.

Candidates for the Bachelor's Degree with the High School Teacher's recommendation will be allowed to use the twenty-seven hours of professional education credits as desirable related work.

#### THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

The first two years of this course will be the same as for the B. S. degree, except that the candidate should elect in the Social Science and Biological Science Groups the particular courses mentioned in the preceding paragraphs.

#### JUNIOR AND SENIOR YEARS

During the third and fourth years the student should complete his major and minor work as outlined for the B. S. Degree and for his related work include the following:

##### Junior Year

Psychology 101, and 102 or 103.....	6 hours
Education 111 and 121.....	6 hours

##### Senior Year

Training (Educ. 115).....	8 hours
Psychology or Education.....	7 hours

Note: All students in the School of Commerce are urged to take Textiles and Clothing 15 and Principles of Nutrition 5.

# THE SCHOOL OF EDUCATION

A. H. SAXER, Dean

The School of Education at the Utah State Agricultural College was authorized by enactment of the State Legislature in 1927, and has for its specific function the training of teachers for the various certificates and diplomas authorized by the State Board of Education.

## TEACHER TRAINING

The entire public school system of the city of Logan from the lowest grades up through the Senior High School has been placed at the disposal of the College for teacher training purposes. This assures prospective teachers that they will receive their training in one of the best public school systems in the State.

## WHITTIER TRAINING SCHOOL

The Whittier School, one of the regular school buildings of the Logan City School System, located a short distance from the College, has been placed entirely at the disposal of the School of Education for teacher training purposes. This school comprises the first six grades and the kindergarten. Each grade has been placed in charge of an experienced and skillful teacher, whose duties include supervision of practice teaching. In addition, an experienced supervisor in Elementary Education has been placed in charge of this work. Two-year Normal students will do their training in this building. The courses in Principles of Teaching Elementary subjects, and Elementary School Curriculum are taken by second-year students in connection with their teacher training work.

## THE TWO-YEAR NORMAL CERTIFICATE

The two-year Normal Certificate will be awarded to all students who satisfactorily complete the course of study for this certificate outlined on page 46, provided that the last forty-five hours required for the certificate have been earned at this institution and that thirty of the last forty-five have been earned during at least two quarters residence. Graduates of the two-year normal course are awarded the grammar grade certificate, by the State Board of Education.

## SENIOR COLLEGE

Experience has shown that a large percentage of two-year normal graduates finally return to College to complete the work for the standard four-year College degree. Such students will find it distinctly

to their advantage to have met the requirements for Senior College standing. This can be done by a proper choice of the electives which are permitted in the normal course. (See requirements for Senior College on page 65.) This will assure the student that he is prepared to complete the remaining two years of his college course, without handicap or delay, at any standard college or university, and in the particular field that he has chosen to do his major work.

### THE FOUR YEAR COLLEGE COURSE

The four-year course in the School of Education leads to the degree Bachelor of Science in Education, and the Certificate in School Administration, the Certificate in Supervision, or the High School Teacher's Certificate. Teachers with experience who do not hold the Bachelor's degree and who wish to advance in their chosen field or prepare for administrative positions will find it to their advantage to qualify for the Bachelor's degree in the School of Education.

### THE B. S. DEGREE WITH TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School certificate to hold the Standard Bachelor's Degree in the particular School, (Agriculture, Home Economics, Commerce, Engineering or Arts and Sciences) in which their major work is chosen. Arrangements have been made with all the different Schools within the Utah State Agricultural College to provide the candidates for their respective degrees with the necessary professional educational courses to qualify them to teach in these fields. Outlines of courses leading to the B. S. degree with the High School teacher's recommendation will be found under the respective schools.

### ADMISSION

See statement of entrance requirements of the College on page 63).

Candidates for the two-year normal certificates are reminded that they must present fifteen units of approved high school work, but they need not present all of the ten specified units unless they desire to qualify for Senior College standing at the same time. (See pages 65, 66).

### GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science degree must meet in full all entrance requirements and present 180 quarter hours of college work as outlined below (exclusive of the required courses in Physical Education or Military Science).

## THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

**Language Group:** 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11 unless excused by the English Department.

**Social Science Group:** 12 hours (History, Economics, Political Science, Sociology). Must include five hours of applied Sociology, and five hours of Political Science or Economics.

**Biological Science Group:** 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology). Must include Bacteriology 1 and Health Education 108.

**Exact Science Group:** 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

## PROFESSIONAL EDUCATION SUBJECTS

The candidate must present 27 hours of Professional Educational subjects which shall include Psychology (102 or 103) and Education (111, 115 and 121), or their equivalents. Graduates of Standard Normal Courses or those who have had successful teaching experience may have some of these requirements waived. Consult the Dean in regard to this matter.

## TEACHING MAJORS

A teaching major of at least 30 hours shall be completed in one subject that is taught in High School, (Physical Education, Art, Music, etc.).

## TEACHING MINOR

A second teaching major (or teaching minor) of at least 18 hours shall be chosen in some group of subjects closely related to the teaching major.

## SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. (See page 65 for a definition of Senior College Work.)

## RESIDENCE, SCHOLARSHIP, ETC.

See page 67 for detailed requirements for graduation.

## CERTIFICATES IN SCHOOL ADMINISTRATION AND IN SUPERVISION

The four-year course as outlined below leads to the degree of Bachelor of Science in Education, and the Professional High School

certificate. Teachers with experience who desire to qualify for the Certificate in School Administration or Supervision must include History of Education, Educational Supervision, Educational Administration, Tests and Measurements, and special work in the Educational Seminar, depending upon the certificate desired.

### OUTLINE OF COURSE FOR THE TWO YEAR NORMAL CERTIFICATE

First Year	Second Year
Phys. Ed., 13, 14, 15, or Phys. Ed., 1, 2, 3..... 3	Sophomore Phys. Ed. .... 2
Psychology 3..... 5	English 11..... 4
Health Education 14..... 4	Education 4, 5, 6, 41.....12
English 10..... 5	Training, Ed. 42.....10
Soc. Science Group..... 9	*Exact or Biological Science..10
*Exact or Biological Science Group ..... 5	†Electives 10 to 16 hours.....
†Electives 13 to 19 hours.....	Total hours must be at least 95.

\*At least five hours of exact science must be chosen during the two years.

†Suggested Electives: Physical Education, Community Recreation, Music, Art, English, Modern Languages, History, Home Economics, Agriculture.

### OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

First Year	Second Year
Language Group, including English 10..... 9	Language Group, including English 11..... 9
Social Science Group..... 6	Social Science Group..... 6
*Biol. or Exact Science.....12	*Biol. or Exact Science.....12
Electives.....18 to 24	Electives.....18 to 24

Note:—The Social Science Group should include at least five hours in Economics or Political Science, and five hours in applied Sociology.

\*Biological and Exact Science should be so chosen that the candidate has at least 12 hours in each group.

The Biological Science Group should include Bacteriology 1 and Health Education 108.

The Electives should include at least nine hours in the proposed teaching major and six hours in the minor. (See requirements for major and minor on page 66).



**Third Year**

Educational Psychology 101, and 102 or 103.....	6
*Education 111 and 121.....	6
Teaching Major.....	9
Teaching Minor.....	6
Electives.....	18 to 24

**Fourth Year**

*Training and Methods (114-115) .....	11
*Education or Psychology.....	4
Teaching Major.....	12
Teaching Minor.....	6
Electives.....	12 to 18

\*Graduates of Standard Normal Courses and those who have taught successfully for one or more years may have some of these requirements waived.

**Smith-Hughes Courses for teachers in Vocational High Schools.**  
See page 55 for Home Economics. See page 32 for Agriculture.

# SCHOOL OF ENGINEERING

RAY B. WEST, Dean

It is the aim of this school to give the students a broad foundation in the fundamental principles of Engineering, together with sufficient knowledge of professional practice to enable them to apply these principles.

The School consists of three major divisions: Civil Engineering, Agricultural Engineering, and Mechanic Arts, each of which offers courses leading to a degree of Bachelor of Science in its special field. Civil Engineering students may choose their major in Irrigation and Drainage, Highways, Structural Design, or Sanitation, by arranging certain optional courses with the Dean. Agricultural Engineering students may specialize in Irrigation and Drainage, Farm Machinery and Farm Power, or Farm Structures, by choosing the electives in these fields.

## ADMISSION

See statement of entrance requirements of the College on page 63.

Prospective engineering students are advised that they will be somewhat handicapped if they do not present for entrance one and one-half units of algebra and one unit of geometry.

## REQUIREMENTS FOR GRADUATION IN ENGINEERING

Candidates for the Bachelor of Science Degree in Civil Engineering or in Agricultural Engineering must complete any one of the prescribed courses listed on the following pages, together with two years of Military Science and two years of Physical Education unless officially excused from either or both. Each candidate for a degree in Engineering must prepare a satisfactory thesis on a problem to be assigned by the department in which he elects his major. See C. E. 198.

The degree of Master of Science will be awarded upon completion of any one of the optional courses listed below, and additional work as outlined on page 71 under the general requirements for the Master's Degree.

## PRESCRIBED COURSES IN CIVIL ENGINEERING .

The Freshman, Sophomore and Junior years are common to all C. E. Courses, and the Freshman C. E. Course constitutes also the Freshman A. E. Course.

FRESHMAN		F.	W.	S.	T.
Subjects	Catalogue				
Freshman Composition .....	Eng. 10 .....		5		5
Algebra .....	Math. 35 .....	5			5
Trigonometry .....	Math. 46 .....		5		5
Inorganic Chemistry .....	Chem. 3, 4 .....	5	5		10
Analytic Geometry .....	Math. 48 .....			5	5
Mechanical Drawing .....	C. E. 61 .....	3			3
Mechanical Drawing .....	C. E. 62 .....		2		2
Descriptive Geometry .....	C. E. 63 .....			3	3
Materials of Engineering.....	C. E. 1, 2 .....	3		3	6
Engineering Geology .....	Geol. 10 .....			5	5
<b>Totals</b> .....		<b>16</b>	<b>17</b>	<b>16</b>	<b>49</b>

## SOPHOMORE

Calculus .....	Math. 117, 118, 119.....	5	5	5	15
Physics .....	Phyx. 20, 21, 22.....	5	5	5	15
Plane Surveying .....	C. E. 81, 82.....	4		4	8
Sophomore Composition .....	Eng. 11 .....	4			4
Office Practice .....	C. E. 83.....		2		2
General Economics .....	Econ. 51 .....		5		5
Irrigation Practice and Soils.....	A. E. 12.....			4	4
<b>Totals</b> .....		<b>18</b>	<b>17</b>	<b>18</b>	<b>53</b>

## JUNIOR

Highway Constr. & Design.....	C. E. 120 .....	5			5
Hydraulics .....	C. E. 141.....		5		5
Water Supply & Hydrology.....	C. E. 143.....			5	5
Strength of Materials.....	C. E. 103.....	5			5
Applied Mechanics .....	C. E. 101, 102.....		5	5	10
Contracts & Specifications.....	C. E. 190.....			3	3
Reinforced Concrete .....	C. E. 106.....		5		5
Bus. Org. & Acc't for Eng's.....	Bus. Adm. 108.....		3		3
Heat Power Machinery.....	C. E. 196.....	3			3
Irrigation Institu's & Mgmt.....	C. E. 149.....	5			5
Elementary Struc. Theory.....	C. E. 110.....			5	5
<b>Totals</b> .....		<b>18</b>	<b>18</b>	<b>18</b>	<b>54</b>

## SENIOR—IRRIGATION MAJOR

Subjects	Catalogue			
	F.	W.	S.	T.
Design of Irrigation Systems... C. E. 146, 147.....	5	5		10
Hydroelectric Design ..... C. E. 148.....			5	5
Electric Machinery ..... C. E. 197.....		3		3
Masonry Construction and Foundations ..... C. E. 107.....	5			5
Engineering Economics ..... C. E. 192.....		5		5
Structural Design ..... C. E. 113.....	4			4
Sewerage & Sewage Disposal... C. E. 194.....			5	5
Railroad and Highway Curves & Earthwork..... C. E. 181.....			5	5
Highway Administration ..... C. E. 121.....		3		3
Design of Drainage Systems... C. E. 145.....			3	3
Highway Transportation ..... C. E. 125.....	3			3
Thesis ..... C. E. 198.....		1		1
Totals .....	17	17	18	52

## SENIOR—HIGHWAY MAJOR

Design of Irrigation Systems... C. E. 146, 147.....	5	5		10
Hydroelectric Design ..... C. E. 148.....			5	5
Electric Machinery ..... C. E. 197.....		3		3
Masonry Construction and Foundations ..... C. E. 107.....	5			5
Engineering Economics ..... C. E. 192.....		5		5
Structural Design ..... C. E. 113.....	4			4
Sewerage & Sewage Disposal... C. E. 194.....			5	5
Railroad and Highway Curves and Earthwork..... C. E. 181.....			5	5
Highway Administration ..... C. E. 121.....		3		3
Railroads ..... C. E. 191.....		3		3
Highway Transportation ..... C. E. 125.....	3			3
Thesis ..... C. E. 198.....			1	1
Totals .....	17	19	16	52

## SENIOR—STRUCTURAL MAJOR

	F.	W.	S.	T.
Design of Irrigation Systems.... C. E. 146, 147.....	5	5		10
Hydroelectric Design..... C. E. 148.....			5	5
Electric Machinery ..... C. E. 197.....		3		3
Masonry Construction and Foundations ..... C. E. 107.....	5			5
Engineering Economics ..... C. E. 192.....		5		5
Structural Design ..... C. E. 113.....	4			4
Sewerage & Sewage Disposal.... C. E. 194.....			5	5
Railroad & Highway Curves & Earthwork ..... C. E. 181.....			5	5
Highway Administration ..... C. E. 121.....		3		3
Building Construction ..... C. E. 108.....		3		3
Adv. Structural Theory..... C. E. 201.....	4			4
Thisis ..... C. E. 198.....			1	1
Totals .....	18	19	16	53

PRESCRIBED COURSES IN AGRICULTURAL  
ENGINEERING

See page .... for Freshman year common to all Engineering Courses.

## SOPHOMORE YEAR

Subjects	Catalogue			
Calculus ..... Math. 117, 118, 119.....	5	5	5	15
Heat, Light, Sound..... Phyx. 20, 21, 22.....	5	5	5	15
Plane Surveying ..... A. E. 1, 2.....	4		4	8
General Economics ..... Ag. Econ. 51, 53.....		5	5	10
Sophomore Composition ..... Eng. 11.....	4			4
General Crops ..... Agron. 101.....		4		4
Totals .....	18	19	19	56

## JUNIOR YEAR

Hydraulics ..... C. E. 141.....		5		5
App. Mech. & Strength of Materials ..... C. E. 101, 102, 103.....	5	5	5	15
Agricultural Economics ..... Ag. Econ. 102, 120.....	3	3		6
Contracts and Specifications..... C. E. 190.....			3	3
Reinforced Concrete ..... C. E. 106.....		5		5
Farm Machinery ..... A. E. 15.....			3	3
Sewerage & Sewage Disposal.... C. E. 193.....			5	5
Electives .....	8			8
Totals .....	16	18	16	50

## SENIOR YEAR

Highway Administration ..... C. E. 121.....		3		3
Design of Irrigation Systems.... C. E. 146, 147.....	5	5		10
Irr. Institutions & Mgnt..... C. E. 143.....	5			5
Railroad Curves & Earthwk.... C. E. 181.....			5	5
Soils ..... Agron. 106 .....	4			4
Farm Structures ..... A. E. 6.....		3		3
Farm Motors ..... A. E. 13.....	3			3
Public Speaking .....			3	14
Electives ..... Speech .....		5	9	14
Totals .....	17	16	17	50

## MECHANIC ARTS

This division offers a four-year course leading to the degree of Bachelor of Science in Mechanic Arts, with the object of training efficient auto mechanics and garage foremen, auto electricians, machine shop foremen and High School shop teachers. It lays an Engineering and Mechanical foundation for building and contracting. Two years' trade courses in Machine Work, Forging, Woodwork, Auto Mechanics, and Auto Ignition are provided for those who wish to become proficient tradesmen in these lines.

The shops are modern and well equipped, and ample floor space is provided.

## REQUIREMENTS FOR GRADUATION

Candidates for the degree Bachelor of Science in Mechanic Arts must meet in full all college entrance requirements and present 180 quarter hours of college work as outlined below, exclusive of the required courses in Physical Education or Military Science.

## THE FOUR BASIC GROUPS

The candidate must present the following number of quarter hours of work in each of the basic groups: Language Group, 12 hours, (must include English, 10, 11); Social Science Group, 9 hours; Biological Science Group, 9 hours; Exact Science Group, 18 hours; Special Group, 18 hours; Special Technical Group, 30 hours.

## MAJOR AND MINOR

A major of 30 hours and a minor of 18 hours are required. For further explanation of these see page 66. The Mechanic Arts courses from which the Major, Minor, and Special Technical groups must be selected are announced under Courses of Instruction.

# THE SCHOOL OF HOME ECONOMICS

....., Dean

The School of Home Economics is organized for study in fields essential to successful home life in modern society. The activities of the present-day household include the promotion of the health and comfort of its members through proper food, clothing, and shelter, the fostering of satisfactory family relationships, and the functioning of the family group as an important part of the community.

In keeping with the newer trend of Home Economics which stresses the importance of a knowledge of child life and parental education a new department has been established in the School of Home Economics. This new department of child development and parental education, with its nursery school, gives opportunity for study and research along lines of physical, nutritional, mental, social and emotional aspects of child life and family relationships. Students may major in this field or may take 24 to 26 hours for Smith Hughes Teacher's certificate.

Women who graduate from the School of Home Economics are fitted for various lines of work, including homemaking, teaching, and extension service. The training given furnishes also a basis for specialization leading to positions in nursery schools, hospitals, institutions of various kinds and in the commercial field.

## ADMISSION

See statement of entrance requirements of the College on page 63.

## GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science Degree must meet in full all entrance requirements and present 180 quarter hours of college work as outlined below (exclusive of the required courses in Physical Education.)

## THE FOUR BASIC GROUPS

Candidates must present twelve hours from each of the following three basic groups of work, and eighteen hours from the fourth basic group:

**Social Science Group:** (History, Economics, Political Science, Sociology).

**Biological Science Group:** (Botany, Zoology, Bacteriology, Public Health, Physiology).

**Exact Science Group:** (Chemistry, Physics, Geology, Mathematics, Accounting 101, 102, 103).

**Language Group:** (English, Modern Languages, or Public Speaking.) Must include English 10, 11, unless excused by the English Department.

### MAJOR SUBJECT

Those students wishing to specialize or to prepare themselves for graduate work may major in Foods, Textiles, or Child Development and Parental Education. The major may be chosen by the candidate but should receive the approval of the professor in charge of the Department concerned prior to entering Senior College. (See page 66).

### MINOR SUBJECTS

From 18 to 30 hours of work in some field closely related to the major subject will be chosen as a minor by the candidate with the advice and concern prior to entering Senior College. (See page 66).

### SENIOR COLLEGE WORK

Fifty-four hours of Senior College work taken after the candidate has completed at least ninety-six hours of work must be presented by each candidate for the B. S. Degree. (See page 65 for a definition of Senior College work.)

### THE B. S. DEGREE IN HOME ECONOMICS WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

Candidates for the High School Teacher's Certificate in Home Economics are advised to take the Smith-Hughes Course as outlined below. This course will prepare them equally well to teach in all three fields of Home Economics: Foods, Clothing, and Child Development and Parental Education. The Professional educational subjects and other requirements for certification in Utah are included in this prescribed course as well as the requirements for a B. S. Degree in Home Economics. The following are the required courses for State certification.

27 hours of Professional Educational subjects which shall include Psychology 101 and either 102 or 103, and Education 111, 121 and 122 or their equivalents. The candidate's Biological Science Group must include Bacteriology 1, and Health Education 108. Five hours of Sociology or Ethics must be included in the Social Science Group in addition to 5 hours of Economics or Political Science. Graduates of Standard Normal Courses or those who have had one or more years of successful teaching experience may have some of these requirements waived. Consult the Dean in regard to this matter.



**OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE  
B. S. DEGREE AND SMITH-HUGHES TEACHER'S  
CERTIFICATE**

FRESHMAN YEAR\*

	Fall	Winter	Spring
Foods 20, 21, Food Study and Meal Preparation....	5	5	..
Clothing 10, 11, Clothing Selection and Constr.....	..	3	3
Art 1, 2, 3, Nat. Appreciation, Design, Art App.....	3	3	3
Home Economics 10, Survey in Home Economics..	1	..	..
English 10, Freshman Composition, Lit. 15.....	5		3
Anatomy & Physiology 4, Physics 1, Gen. Physics....	..	5	5
Sociology 4, Social Relations .....	..	..	3
Physical Education 13, 14, 15, Freshman Gym.....	Req.	Req.	Req.
Electives .....	3	1	..
<b>Totals .....</b>	<b>17</b>	<b>17</b>	<b>17</b>

\*Physical Education is required of all girls during the first two years.

SOPHOMORE YEAR

	Fall	Winter	Spring
Food Economics .....	..	..	4
Clothing 50 (20, 21), Textile Selection.....	..	3	..
Economics 51, General Economics .....	5	..	..
H. E. 25, Care of the Sick .....	..	2	..
Chemistry 3 and 4 .....	5	5	..
English 13, Children's Literature.....	2	..	..
English 11, Sophomore Composition.....	..	..	4
History .....	..	5	..
Foods 35, Infant and Child Nutrition.....	3	..	..
Clothing 55, Children's Clothing.....	..	..	2
Bacteriology 1 and 2.....	..	..	5
Physical Education 16, 17 and 18.....	Req.	Req.	Req.
Electives .....	2	2	2
<b>Totals .....</b>	<b>17</b>	<b>17</b>	<b>17</b>

## JUNIOR YEAR

	Fall	Winter	Spring
Chemistry 26, Organic Chemistry.....	--	--	5
Foods 106, Food Engineering .....	--	3	--
Clothing 115, 125, Costume Design and Applied Costume Design .....	--	3	3
Child Development 125, Mothercraft.....	3	--	--
H. E. 149, Household Management .....	--	3	--
Art 123, Interior Decoration .....	--	5	--
Psychology 101, 103, Principles of Psy. & Psy. of Adolescence .....	3	--	3
English .....	3	--	--
Education 111, 119, Science of Ed., & Methods of Teaching H. E. ....	3	--	3
Public Health 108 .....	--	--	3
Sociology 171, Social Problems of the Family.....	--	3	--
C. D. 130, Physical Growth and Development of Child .....	3	--	--
Electives .....	2	--	--
Totals .....	17	17	17

## SENIOR YEAR

	Fall	Winter	Spring
Foods 140, Dietetics .....	4	--	--
H. E. 150, Residence in Home Economics Cottage....	5	--	--
Education 120, 121, Problems in Teaching, Home Economics & Organization and Administration	3	--	3
Education 122, Practice Teaching.....	--	--	8
Clothing 160, 161, 162, Advanced Problems.....	2	2	2
C. D. 132 Nursery School Technique.....	--	3	--
C. D. 135, Behavior Problems.....	--	--	3
Elective .....	3	12	1
Totals .....	17	17	17

A Summary of Requirements for Graduation, with a Smith-Hughes Teacher's Certificate:

Foods 20, 21, 30, 35, 106, 140 (24 hours).

Clothing 10, 11, 50 or 20, 21, 55, 115, 125, 160, 161, 162 (23 or 25 hours).

Child Development and Parental Education 125, 130, 132, 135, Soc. 171.

Home Economics 10, 25, 149, 160, Art 123.

Bacteriology, 3 hours.

Public Health, 3 hours.

Economics, 5 hours.

Sociology, 5 hours.

Senior College, 54 hours.

Education, 27 hours.

English, 18 hours.

Exact Science, 12 hours.

Social Science, 12 hours.

Biological Science, 12 hours.

## THE SUMMER SESSION

For over twenty-five years the College has conducted Summer Sessions as an important part of its curriculum. Since 1924 the curriculum has been materially enlarged and enriched and a very efficient lecture course established. The purpose of this large educational undertaking is to bring to Logan, with its delightful summer climate and its many recreational features, a number of the leading educators of the nation, and build, in the intermountain west, a summer school of wide influence.

During the Summer session nearly all of the departments of the College are represented, the courses of instruction being arranged to meet the particular needs of Summer students.

The courses offered in Education, Psychology, and related departments make it possible for the students to meet nearly all of the requirements for Utah certification in School Administration and Supervision for High Schools, Junior High Schools, and Grammar Schools; also the subjects offered will meet most of the requirements for certification in surrounding states.

The departments of Botany, Geology, and Zoology are especially emphasized because of the location of the School. Cache Valley, Logan Canyon, and nearby Bear Lake afford unparalleled opportunities for the study of plant and animal life and geological formations, while Bear River Bay near Brigham City, only thirty-five miles from the College campus, affords possibly as fine an opportunity as can be found anywhere in America for the study of water fowl and fish life.

Students desiring to make up certification requirements or prepare for advanced standing are given all the assistance possible. The entire equipment of the Institution is available, and every care is taken to preserve the standard and the spirit of the College.

### GRADUATE CREDIT

Summer quarter students are allowed six years in which to satisfy requirements for the Master's degree. This makes it possible to secure this degree without giving up present teaching employment. Those who expect to register for work leading to this degree should submit their credits to the Dean of the Faculty several weeks in advance of registration and indicate the subject in which they wish to major. This will make it possible to have the course of study approved at the time of registration.

## AGRICULTURAL EXPERIMENT STATION

P. V. CARDON, Director

The establishment of Land-Grant colleges, under provisions of the First Morrill Act (1862), soon led to the development of a national sentiment favoring the creation of agricultural experiment stations in the various states and territories of the union, to supplement the educational functions of the colleges.

In keeping with this sentiment Congress, in 1887, passed the Hatch Act providing for the establishment in each state and territory, under the direction of the Land-Grant college an experiment station "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." The Hatch Act appropriated \$15,000 per annum to each state.

Supplementing the Hatch Act, another act known as the Adams Act, was passed by the National Congress in 1906. Under the provisions of this act, an additional sum of \$15,000 per annum was appropriated for the use of each state experiment station "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States, having due regard to the varying conditions and needs of the respective states and territories."

For the still more complete endowment of the agricultural experiment stations Congress, in 1925, passed the Purnell Act, which gave to each station the sum of \$20,000 per annum with an addition of \$10,000 each year thereafter until for the fiscal year ending June 30, 1929, the total sum of \$60,000 was available, and shall continue to be available each year indefinitely. "The funds appropriated pursuant to this act shall be applied only to paying the necessary expenses of conducting investigations or making experiments bearing directly on the production, manufacture, preparation, use, distribution, and marketing of agricultural products and including such scientific researches as have for their purpose the establishment and maintenance of a permanent and efficient agricultural industry, and such economic and sociological investigations as have for their purpose the development and improvement of the rural home and rural life, and for printing and disseminating the results of said researches."

In addition to the Federal funds appropriated for agricultural research under the provisions of the Hatch, Adams, and Purnell Acts, the state agricultural experiment stations receive money appropriated by their respective state legislatures. The amount of money coming from the state treasury is governed in each case by the relative importance of agriculture within the state and the urgency of the agricultural problems demanding solution. Hence, while the Federal funds are uniform in size in all states, the total funds differ widely, owing to the variation in state appropriations.

In 1889, two years after the Hatch Act was passed, the State of Utah, taking advantage of the provisions of that act, established the Utah Agricultural Experiment Station as a major division of the Utah State Agricultural College. Since its establishment, the Station has functioned as an active investigational unit, steadily extending its investigations into an ever-broadening field of research.

The research work is conducted on a project basis, each project, after approval, being assigned to one or more of the researchers who make up the Station Staff. While most of the projects now in progress are wholly under the supervision of state workers, a few projects are conducted cooperatively with various Bureaus of the U. S. Department of Agriculture, which assigns additional workers to the respective fields of investigation.

The present scope of Station research work is indicated by the titles of some of the projects listed under different departments, as follows:

**Agromony:** Fertilizer tests showing their effect on a highly calcareous soil; tank experiments on the effect of soil moisture; effect of barnyard manure and of various cropping systems on the productivity of the soils; rotation and fertility tests; cultural methods with sugar-beets; miscellaneous crop studies including intensive work on sugar-beet varieties; test of grain varieties; wheat breeding and genetics investigations; control of perennial weeds by chemical means; bunt control, (in cooperation with Botany Department); alfalfa-seed investigations; muck soil studies; dry-farming studies; cropping experiments on various substations; etc.

**Animal Husbandry:** Production, breeding, and feeding experiments with poultry; effect of winter feed and shelter vs. open-range wintering on the quantity and quality of wool from Utah range ewes; relative market value of crossbred lambs from crosses of purebred Hampshires, Suffolk, Rambouillet, and Corriedale rams on Utah range ewes; comparative values of fleeces from Types A and B Rambouillet ewes; animal disease investigations; pasture studies with beef cattle; fattening lambs in winter dry-lots; pasture dry-lot production for swine; dairy studies on cost of production.

**Chemistry and Bacteriology:** Study of microflora of soil; mineral content of wheat; nutritive value of high vs. low calcium—and phosphorus—carrying wheats; permanent fertility studies; composition of irrigation waters of the state.

**Entomology:** Investigations on miscellaneous insects; study of chalcis-fly in alfalfa-seed; sugar-beet leafhopper investigations; cooperative studies in tomato psyllid (with Department of Botany).

**Economics and Sociology:** Economic factors affecting the production and marketing of Utah's poultry products; study of factors influencing the financial condition of certain Utah irrigation and drainage projects (in cooperation with other departments); family living expenditures on Utah farms; sociological study of towns and villages; etc.

**Geology:** Development of underground water.

7 ✓ **Home Economics and Human Nutrition:** Study of food habits of elementary rural school children in relation to their physical well-being; a study of "greens" or pot plants; investigations on physical curd character of milk and its relationship to the digestibility and food value of milk for infants; the effect of evaporation of milk on its physical curd character; effect of physical curd character of cheese; investigation on high-altitude metabolism studies on normal college women.

8 ✓ **Horticulture:** Investigation of orchard rootstocks; cherry-pollination studies; variety testing; truck-crops investigations.

9 ✓ **Irrigation, Physics, and Soils:** Technical studies of the physical and physico-chemical properties and processes in soils; study of some factors which influence the reclamation of water-logged and alkali lands; study of factors influencing the financial condition of certain Utah irrigation and drainage projects (in cooperation with other departments); seasonal snow surveys.

10 ✓ **Plant Pathology and Physiology:** Investigations of potato-virus disease; bacterial canker of the tomato; plant disease survey; cooperative studies in tomato psyllid (in cooperation with Department of Entomology); bunt studies (in cooperation with Agronomy Department); investigations on nature and cause of chlorosis and practical methods of control.

11 ✓ **Range Management:** Range reseeding studies with native forage plants.

Much of the research work conducted in furtherance of the fore-going projects, and others, is carried on in the various laboratories and greenhouses located on the college campus, but many phases of the work must of necessity be conducted on the farms and open ranges of Utah. A number of studies are made each year in cooperation with stockmen, farmers, and farm women and many more are made on the substations located in various parts of the state.

The educational importance of the Experiment Station is emphasized by the fact that most members of the Station Staff are also members of the regular college faculty, which makes it possible for students to receive first-hand information regarding the methods employed in research, and to familiarize themselves with the results recorded each year from the researches in progress. Under proper arrangements, also, students are given access to the Station Library; and Staff members are always willing to direct students who are interested in any of the several branches of science.

# THE EXTENSION SERVICE

WILLIAM PETERSON, Director

The Division of Extension Service is the joint representative of the United States Department of Agriculture and the Utah State Agricultural College. It is charged under Federal legislation (Smith Lever Act, May 8, 1914) and under State legislation (Sections 5290 to 5296, 1917) with the task of disseminating information that shall further the interests of agriculture and rural living.

The Extension Service thus becomes an official carrier of experimental and research information from the federal department and from the state college to the rural people. It assists also in translating scientific information into good farm or home practices by conducting tests or demonstrations into methods of application under farm or home conditions. Much effort is given to stimulating individuals and organized groups to try out and carry on practices that have been tested and are known to be good.

The Extension Service organization consists of State and of county staff members. The state includes a director, an assistant director, supervisors, and subject-matter specialists. The county staff consists of one or more county agents in each county that fulfills requirements necessary to secure the services of an agent.

The Extension Service works preferably with existing rural organizations as a means of reaching the largest possible number of people. Individuals may receive attention, however, upon personal requests. Assistance is given to men, women, boys and girls in problems pertaining to Agriculture and to Home Economics including Project Leadership and Organization Methods. Problems that are of common interest to groups are given in project form, and followed up progressively until satisfactory solutions are found and approved practices established. The State Specialists work with the County Agricultural Agents and the County Home Demonstration Agents in assembling information and determining methods of solution. Voluntary Project Leaders are trained by Specialists and County Agents to assist in organizing and leading project groups. Usually the selection of Project Leaders is made in cooperation with a sponsoring organization. State and County special short-course training is provided annually for these leaders. The State training courses are held at the College and are more intensive than those of the county.

## CORRESPONDENCE-STUDY

The Utah State Agricultural College was one of the first educational institutions of the inter-mountain region to establish a Correspondence-study department. Correspondence-study furnishes an excellent opportunity for systematic instruction to students of high school or of college grade; the same is true also of the teacher, the professional or business man, the club woman, the project leader in extension work—to all who cannot leave home.

Students must be nineteen years of age, or submit fifteen units of high school work, or be graduates of a high school for admission to Correspondence-study courses of college grade.

One-fifth of the credits necessary for a degree may be earned through this department.

Courses offered:

1. Collegiate studies. A wide variety of subjects are offered in the following departments: Agricultural Economics and Marketing, Agronomy, Animal Husbandry including Poultry and Dairying, Art Business Administration and Accounting, Economics and Sociology, Education, English, Entomology, Geology, History, Horticulture, Irrigation and Drainage, Mathematics, Modern Languages, Psychology, Mechanic Arts, Public Health, and Bacteriology.

2. Practical studies designed to advance men and women in a given occupation.

3. Preparatory, or High School Studies for those who have been unable to complete their high school courses and who wish to satisfy the entrance requirements of the College; also for those who wish to fit themselves for careers in which the equivalent of a high school education is necessary.

In isolated communities, there are many who cannot obtain a good high school education because of the expense involved in leaving home. There are also those even in favored communities who, on account of the necessity of bread winning, are unable to leave their employment for nine or ten months of the year. Both of these classes may now receive a high school education.

4. Reading Courses for the housewife; short, practical, non-credit courses in sanitation, home management, home decoration, home care of the sick, etc.

5. Reading Courses for the farmer; short, practical, non-credit courses in agronomy, animal husbandry, and horticulture.

6. Reading Courses for the business man; short, practical non-credit courses in analysis of retail merchandising, retail store accounting, book-keeping for the cooperative grain elevators and creameries.

A special catalogue of Correspondence-study courses will be mailed on request.



## ADMISSION

Entrance to the Freshman class is based upon graduation from an accredited high school, or upon the presentation of fifteen approved high school units of work, or upon examination, in case of students of special training not obtained in high school. Prospective students are strongly urged to send a record of their credits to the Registrar at least two weeks before the opening of school. Students who expect to become candidates for the Bachelor's degree from any of the Schools of the College should include (among those units presented for entrance), ten units in the following five groups: English, Mathematics, Social Science, Natural Science, and Modern Languages, of which at least seven must be as follows:

English .....	three units
Algebra .....	one unit
Geometry .....	one unit
Social Science.....	one unit
Natural Science.....	one unit
(Requiring laboratory work)	

Students may not receive more than Sophomore standing until the foregoing requirements have been met.

When a deficiency exists; that is, when a student has fifteen units of high school work but lacks one or more of the units specified above, the student will be required to complete nine quarter hours of college work for each unit in which he is deficient, in addition to the regular group requirements in that field.

A student who has less than fifteen units of high school work cannot enter unless he is beyond high school age, in which case he must register as a vocational student (see below).

Physical Education and Military Drill will not be accepted in the fifteen approved units.

### VOCATIONAL STUDENTS

Persons 19 years of age, or over, who have less than 15 units of high school work and who have not been in attendance at any high school within one year preceding the time of application for admission to the Utah State Agricultural College, may, at the discretion of the Entrance Committee, be admitted as vocational students. Such persons are not candidates for a degree, and have no collegiate rating. They may register for any courses which their previous training or experience will enable them to carry successfully, but only after consultation with the instructors concerned, and their written approval.

If the applicant has been in attendance at a high school within one year preceding the time of application for admission to the Utah State

Agricultural College, his application will not be considered unless it is accompanied by a statement from the superintendent of the high school attended to the effect that the applicant is a person worthy of admission to the College, and that in his opinion the applicant could be better served at the Utah State Agricultural College than at the high school concerned.

Such persons may receive college standing and become candidates for a degree:

a. By using the credits obtained while vocational students to satisfy college entrance requirements. In such cases 12 quarter hours will be taken for each deficient high school unit.

b. By passing written entrance examinations. These examinations will be offered the third day of each quarter. The questions will be prepared, and papers graded, by the departments concerned. The examinations will be conducted by the Entrance Committee.

No credits obtained prior to the quarter in which college standing was established can be used toward a degree.

✓ **Advanced Standing:** The College does not grant credit for excess high school work. Advanced standing for work done in some other accredited college after the completion of 15 units of high school work may be granted by the Committee on Advanced Standing, provided the student present satisfactory evidence that the work offered is equivalent to the work for which he wishes to substitute it. Transcripts submitted for evaluation become the property of the institution, and will not be returned.

**Class Standing:** Forty hours (40) of approved college work, in addition to the prescribed entrance requirements, are required for Sophomore rank; ninety hours and Senior College Standing for Junior rank (See page 65) and one hundred thirty hours and Senior College Standing for Senior rank. The foregoing requirements are to be exclusive of the required courses in Physical Education or Military Science.

**Registration:** The Fall quarter opens on Monday, September 21, on which date entrance examinations will be given for those requesting them. Freshmen will register on Monday, September 21, other students will register on Tuesday, September 22. The Winter quarter begins on Monday, January 4; the Spring quarter opens on Monday, March 14; the Summer session on Monday, June 6. It is of decided advantage to register upon the opening date. The amount of work for which any students will be allowed to register will be reduced by one and one-half credit hours for each week or fraction thereof that the student is late in registering.

Fifteen hours, exclusive of Physical Education or Military Science, is the normal registration for any one quarter. A student may, however, with the consent of the Dean, register for seventeen hours.

*A fee of one dollar per day will be charged those who register late. In no case, however, will the fee for late registration exceed five dollars.*

**Quarter Hours.** A quarter hour credit is the credit given for one hour of lecture or three hours of laboratory work each week for twelve weeks.

The collegiate work of the Institution is divided into two divisions: Junior College, and Senior College. Courses numbered 1 to 99, inclusive.

are Junior College courses. Those listed from 100 to 199, inclusive, are Senior College courses. All courses with the numbers 200 and over are Graduate courses.

Qualified students may enter courses in any quarter, unless a statement to the contrary appears in the description of the courses.

### THE JUNIOR COLLEGE

The work of the Junior College comprises the studies of the Freshman and Sophomore years. In this College it is expected that the student, in addition to fulfilling the prerequisites for the major work upon which he will concentrate in the upper division, will make an effort to establish a basis for the breadth of culture which will give him a realization of the methods and the results of some of the more important types of intellectual endeavor, and a mental perspective that will aid him in reaching sound judgments. The Junior College requirements are designed to provide in some degree for the accomplishment of this purpose, without unduly limiting the student's opportunity to satisfy his individual tastes and preferences.

Students who expect to become candidates for advanced degrees either in Arts and Science or in the professional schools in this institution or in other leading colleges of the country should plan their courses with great care through consultation with their deans, in order to insure proper foundation for advanced work.

During the two years the student is expected to completely satisfy the entrance requirements (see page 63) and complete 96 hours, which shall include 54 hours of work in four basic groups as follows:

**Language Group:** 18 hours (English, Modern Languages or Public Speaking). Must include English 10, 11 unless excused by the English Department.

**Social Science Group:** 12 hours (History, Economics, Political Science, Sociology).

**Biological Science Group:** 12 hours (Botany, Zoology, Entomology, Public Health, Bacteriology, Physiology).

**Exact Science Group:** 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103, when preceded by the Mathematics prerequisite).

In addition, the 96 hours should include at least 15 hours of work in one subject, or school. This work is to serve as a beginning for his major work which is to be continued in the Senior College. The student must fulfill all the requirements in Physical Education and Military Science. Junior College students will not be allowed to enter Senior College courses except in meritorious cases, and upon formal application approved by both the dean and the instructor of the course.

### SENIOR COLLEGE

Only such students as have completed the Junior College requirements may be registered in the Senior College.

Graduates of standard normal schools and junior colleges and students

from other colleges who present at least 90 hours of college work exclusive of required courses in Physical Education, may be registered in the senior college, even though they lack some of the group requirements of the junior college, provided they register so as to remove these deficiencies within two quarters of the time of registration.

### **Major Subject**

The student must select a major subject upon entering the senior college. The Dean will assign the student to the professor in charge of this major who will register the student during his junior and senior years and act as his adviser.

The Major Department has the authority to prescribe not less than thirty, nor more than fifty hours of work in the Major Subject (exclusive of any courses which may have been used to satisfy Junior College requirements in any of the four basic groups). The Major Department and the Dean shall also prescribe such other related courses as may be considered desirable, provided always that the students' free electives may not be reduced below thirty-six hours.

### **Minor Subjects**

A minor subject or group of related subjects consisting of from eighteen to thirty hours of work closely related or basic to the major must be selected by the student and approved by the Dean of the School and the Major Department.

# GRADUATION

## REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE

The College confers the Degree of Bachelor of Science in Agriculture, Arts and Science, Agricultural Engineering, Civil Engineering, Commerce and Business Administration, Home Economics, Education, or Mechanic Arts upon students who meet the requirements specified herewith:

Before a student can become a candidate for a baccalaureate degree, the abstract of his record in the College must show: first, that he has satisfied the entrance requirements as prescribed for the class with which he expects to be graduated; second, that the collegiate work for which he has credit, his conditional and other pending credits, the completion of which is reasonably assured, and the work for which he is registered or is planning to register, together satisfy the requirements for graduation including Physical Education and Military Science as prescribed for his class.

Students who are planning to graduate at the next commencement should apply for candidacy not later than the 4th week of the fall quarter. The Graduation Committee will then check over the records and admit to candidacy all students whose records show that the conditions specified above have been fully met. Students who have not fully met the conditions as specified will be officially notified of their deficiencies and withheld from candidacy until such time as the deficiencies have been removed.

### GENERAL REQUIREMENTS

1. Six quarters work in Physical Education by men and women, provided that candidates who are officially excused from physical education present one credit of other work for each quarter that they had been excused.

2. Six quarters of work in Military Science for men unless officially excused from this requirement. Men who take the work in Military Science are excused from the Physical Education requirement mentioned in paragraph one (1) above.

3. One hundred eighty credits of collegiate work, exclusive of the required courses in Physical Education or Military Science. ✓ 180

4. Fifty-four hours of Senior College work taken after the candidate has presented at least ninety college credits, in addition to the required courses in Physical Education or their substitutes.

5. The completion of a major, a minor, and related work as outlined under Senior College. (See page 65).

6. The completion of required work in the four basic groups as outlined under Junior College. (See page 65).

Paragraphs 5 and 6 above do not apply to students who are pursuing a prescribed course of study such as in Engineering, Pre-medical work, Forestry and Smith-Hughes Teacher Training courses.

7. Candidates must have been in residence at the Utah State Agricultural College during three full quarters. During this period the candidate must have obtained at least 45 resident credits. The last 45 credits presented for the degree must have been earned in the College, and of these 45, at least 30 must have been earned in residence. The residence requirement may be satisfied by residence Summer School work.

8. An average grade of "C" or higher; credits of "D" grade not to exceed one-fifth of those used toward graduation; and no credit for courses having a grade lower than "D".

9. Written application to graduate, filed with the Graduation Committee about January 15, containing information requested. A special fee of one dollar will be charged those applying later than that date.

10. Recommendation for graduation in writing by:

(a) The Professor in charge of the major subject.

(b) The Dean of the school in which the major work is done, and

(c) The Committee on Graduation.

11. The candidates must be of good moral character and must have discharged all college fees.

12. Attendance in person at the Commencement and Baccalaureate exercise at which the candidate expects to secure the degree, unless excused in writing by the Graduation Committee for very urgent reasons.

The College reserves the right to change at any time the requirements for graduation, and every candidate for a degree shall be held to a compliance with such changes, as far as the uncompleted portion of his course is affected.

Students who do not graduate with the class with which they entered are held to the requirements, including entrance, which are applicable to the class with which they graduate.

### MILITARY SCIENCE REGULATIONS

The Utah State Agricultural College has been designated by law as an institution where units of the Reserve Officers' Training Corps are maintained. As such, it has promised the Government to give certain military instruction of a definite kind and character.

The student by registration at the Institution, obligates himself to conform to such requirements as are or may be prescribed by the College Council under the regulations of the Reserve Officers' Training Corps. These requirements, at present, are as follows: Two years of military training (6 credit hours) are required of all able-bodied male students. By regulation of the College the course is required during the first and second years at the Institution.

In order to remain in and receive instruction at the College or to graduate finally from the College, the student must be in attendance at all military classes and do satisfactory work in them.

It shall be the duty of every student of whom military training is required, to see that he is properly registered for the course and to report for instruction. Students who are required to take military training but fail to register or to report for classes will, with the approval of the Pres-

ident, be excluded from all classes in the College. The responsibility of complying with the regulations regarding military science rests entirely with the student.

Upon petition, the following classes of students may defer, or be excused from, the requirements in military science:

a. Students who are physically disqualified may be excused from Military Science by the College Medical Examiner. Participation in athletics cancels all excuses from Military Science based on physical disability.

b. Any student entering as a junior or senior may be excused from military science.

c. In exceptional cases, students over twenty-five years of age at the time of original entrance into the College may be excused from military science.

d. Married students may be excused from the requirements in military science.

e. Students who are not citizens of the United States and who do not intend to become citizens will not be permitted to take military training.

f. A student who is working his way through college by means of employment which conflicts with Military Science may have said requirements deferred during any quarter in which he is so employed. Students taking advantage of this provision must present a letter from their employer substantiating their claim and setting forth the hours of employment.

g. Students who attend college during the Winter quarter only may have the requirements in Military Science deferred during that quarter.

h. Students who are active in the Army, Navy, or Marine Corps of the United States, or who are commissioned officers of the National Guard or Naval Militia, or reserve officers of the military or naval forces of the United States, or members of the Naval Reserves will not be permitted to enroll in the Reserve Officers' Training Corps.

Vocational students are automatically excused from the requirements in Military Science.

A student claiming exemption from military science for any of the reasons noted above will present a petition for such excuse to the appointed Committee on or before the beginning of the quarter in which he desires to be excused. All such petitions will be prepared on the prescribed form which may be obtained in the office of the Professor of Military Science and Tactics, and will be accompanied by letters, or other documentary evidence substantiating the claim. Petitions for deferment on grounds of employment must be presented immediately after such employment has been secured.

Pending the action of his petition, the student will register for the course prescribed for his class and will enter upon the work of such course.

Any student who may be excused from attendance in military science for any valid reason must make up the deficiency in other departments of study.

Every student registered for military science is required to make a

uniform deposit of \$5.00. A laboratory fee of \$1.00 will be deducted from this deposit. The balance, less the cost of any property lost or damaged, will be refunded upon the completion of the year or upon withdrawal from the course.

### GRADUATION WITH HONORS

In order to stimulate individual work and to encourage superior students to strive toward their highest possible attainments the college affords opportunity for graduation with honors. Measurements of attainments of honor students is based largely on the student's ability to pursue individual work through a period of two years in preparation for a group of comprehensive examinations. The important elements of the plan are to leave the student sufficient opportunity to develop independence and initiative and yet to provide him with a plan of work, and enough individual instruction to prevent misdirected effort.

Any student of more than usual ability and scholarship who has been admitted to senior college standing may be advanced to candidacy for the Bachelor's Degree with honors under the following conditions:

1. Completion of 48 credit hours in the four basic groups; namely, biological science, exact science, social science and language, and not less than 9 credit hours in each of these groups, provided that a candidate in the School of Engineering shall have 9 credit hours in each of the groups except biological science.

2. Showing of superiority in the proposed major field.

3. Grades as follows at the time of application for candidacy for graduation with honors:

- a. Not less than 50 per cent of the credit hours "A" grade.
- b. Not less than 85 per cent of the credit hours "A" and "B" grade.
- c. No grade used for eligibility for honors work lower than "C".

4. Written approval by the major and minor department.

5. Presentation to the College Council by the Graduation Committee together with a two-thirds favorable vote of the Council not earlier than the end of the Sophomore Year nor later than the beginning of the second quarter of the Junior Year.

#### Departmental Plans and Requirements for Honors Work

The honors student must satisfy a major department and two minor departments.

In addition to the requirements above specified for advancement to candidacy for graduation with honors the following requirements must be satisfied for graduation:

#### Requirements for the Bachelor's Degree with Honors

1. Full time work in residence during a period of not less than five quarters nor more than nine quarters after being advanced to candidacy for the honors degree. Three quarters residence must be immediately preceding the conferring of the degree.



2. The completion of 180 credit hours, of which not less than 75 hours must be honors work.

3. The candidate must be recommended for graduation with honors unanimously by the professors in the major and minor departments and must receive favorable vote of two-thirds of the members of the College Council.

## GRADUATION AT THE CLOSE OF THE SUMMER SESSION

Any student who can satisfy the requirements for graduation by the close of the Summer Session may be presented to the College Council in May. Such students are listed with the class of the following year, and receive their public graduation at the following Commencement. The graduation of such students, however, will be certified to by the proper authorities of the college as soon as their work is completed.

## REQUIREMENTS FOR THE MASTER'S DEGREE

Registration of all graduate students shall be made by the chairman of the committee on graduate work.

The degree of Master of Science may be granted on the completion of the following requirements:

The candidate must have been in actual residence at the College three full quarters after receiving the standard Bachelor's degree (or after having met the requirements for this degree), and must obtain forty-five (45) credits of which at least twenty (20) must be of graduate grade, in addition to the 180 college credits and 15 high school units, or their equivalent, required for the Bachelor's degree.

Summer school students with the baccalaureate degree are allowed six years in which to complete their work and residence requirements for the Master's degree.

To be admitted to the candidacy for the Master's degree the student must have his course of study approved by November 1, or at least seven months preceding the date on which he expects to receive the degree, by the committee on graduate work, the professor in charge of his major subject and the dean of the school in which his major subject is taken.

A thesis covering the work done in the major department (from 9 to 15 credits) must be prepared by May 1, and must be accepted by the group which approved his candidacy. At least two copies of the thesis must be filed with the college librarian.

The candidate must successfully pass an oral examination which will be given under the direction of the committee on graduate work by the professor in charge of his major subject, the dean of the school in which his major work is taken, and three professors to be selected by the committee on graduate work.

Graduate students should not register for more than 15 credit hours. Students who have established records of high scholarship may be permitted to register for additional credits, (not to exceed 17 per quarter) by the Dean of the Graduate Division.

## STUDENT EXPENSES

Students must pay the following fees upon registration:

## UTAH STUDENTS

	Three Quarters	Winter and Spring Quarters	Winter Quarter Only	Spring Quarter
Registration fee .....	\$10.00	\$10.00	\$10.00	\$10.00
Tuition .....	27.00	18.00	9.00	9.00
Library fee .....	3.00	3.00	3.00	3.00
Laboratory fee .....	3.00	3.00	3.00	3.00
Gymnasium fee .....	3.00	2.00	1.00	1.00
Student Body fee.....	15.00	12.00	10.00	7.00
Withdrawal deposit .....	1.00	1.00	1.00	1.00
Class Fee .....	1.00	1.00	1.00	1.00
	<u>\$63.00</u>	<u>\$50.00</u>	<u>\$38.00</u>	<u>\$35.00</u>

## STUDENTS FROM OTHER STATES

	Three Quarters	Winter and Spring Quarters	Winter Quarter Only	Spring Quarter
Registration fee .....	\$35.00	\$35.00	\$35.00	\$35.00
Tuition .....	27.00	18.00	9.00	9.00
Library fee .....	3.00	3.00	3.00	3.00
Laboratory fee .....	3.00	3.00	3.00	3.00
Gymnasium fee .....	3.00	2.00	1.00	1.00
Student Body fee.....	15.00	12.00	10.00	7.00
Withdrawal deposit .....	1.00	1.00	1.00	1.00
Class Fee .....	1.00	1.00	1.00	1.00
	<u>\$88.00</u>	<u>\$75.00</u>	<u>\$63.00</u>	<u>\$60.00</u>

All students registered for Military Science and Tactics are required to make a \$5.00 deposit for uniform.

A fee of one dollar per day will be charged those who register late. In no case, however will the fee for late registration exceed five dollars.

All students registering in the fall must pay fee for the entire year. If the student desires to discontinue, refund will be made on all fees except the registration and student body fees. By state law, the Institution may relieve worthy and deserving students from payment of the registration fee, provided that not more than ten per cent of the total student body be relieved of the fee in any one year.

According to the constitution of the Student Body, every regular student must obtain at time of registration a Student Body card which will

admit him to all activities controlled by the Student Body organization; athletic events—football, baseball, tennis and track—dramatics and musical entertainment, socials, lectures, etc., and, in addition, give him a copy of the annual year book and subscription to the college paper. This system has been found to be a great saving to the students and a most excellent means of fostering proper interest in student activities.

Since all women students are required to take Physical Education they must provide themselves with gymnasium suits and gymnasium shoes. The cost is about \$6.00.

Each student in Foods and Dietetics courses and Household Administration 150, must provide herself with the following: Two hair nets, one or two white petticoats, two washable white uniforms, two white work aprons. Each student in Home Nursing courses must provide herself with the following: One or two white petticoats, two washable white uniforms. The uniforms required for the Home Nursing course, and the aprons and uniforms required for the Foods course and Household administration 150, must be of the standard designs provided by the Textile and Clothing Department. Materials should be procured after consultation with the instructors in charge.

All graduates from the School of Home Economics who desire to qualify as teachers in home economics under the Smith-Hughes Act must spend the required period of residence in the Home Economics Cottage, as indicated in Household Administration 150. The expenses are \$6.00 per week for board and room.

The fee charged for a diploma of graduation is \$5.00.

Good board and room in a private home costs from \$6.00 to \$7.50 a week. By renting rooms and boarding themselves, students are able to reduce considerably the cost of room and board.

The College maintains a modern well equipped cafeteria, where students may eat at cost.

The following table furnishes an estimate of the actual yearly expenses of students attending the Utah State Agricultural College:

	Low	Average	Liberal
Tuition, books, fees, etc.....	\$ 94.00	\$ 94.00	\$ 94.00
Room and Board.....	200.00	250.00	300.00
Incidentals or Miscellaneous.....	75.00	100.00	150.00
Total .....	\$369.00	\$445.00	\$544.00

Students are held responsible for any injury done by them to the College property.

The Senior Loan Fund, a gift of the class of 1911, and added to by the class of 1922, has helped many students through school.

### SELF HELP

A large number of the students of the Utah State Agricultural College earn part of their expenses while in residence. The College itself gives employment to many students, and college officers are glad to be of assistance to students in finding work.

Young people who expect to earn their way through college should first of all, by earnest labor and careful economy, accumulate as large a college expense fund as possible. It is desirable, if possible, that this sum be sufficient to cover the expense of the first year. Correspondence or conference with the College Secretary usually reveals some way to earn the additional amount needed. After one year in college, the earnings of the student in vacation and during the college year generally enable him to continue his course without interruption.

It is the policy of the College to encourage and aid in every possible way earnest, ambitious young men and women who want an education and an opportunity to help themselves.

### SCHOLARSHIPS AND AWARDS

**The Johansen Scholarship Fund** of \$5,000, a gift of the late Mrs. Johana Johansen, provides three scholarships annually, worth in the aggregate from \$300 to \$350, for help of worthy students of Junior or Senior rank. Applications for this scholarship must be filed with the chairman of the committee on honors and awards before April 15, for the succeeding year.

**The One Thousand Dollar Liberty Bond Endowment** yields a loan fund of \$40, which is to be loaned by the Director's Council to a student who has made formal application before April 12, and who has need of financial help and who has demonstrated a high degree of scholarship in the work of previous quarters.

**The 1927 Class Gift** to the College yields an income sufficiently large to insure two annual scholarships of \$125.00. Recipients are to be selected by the Awards and Honors Committee.

**The U. S. A. C. Faculty Women's League** has a loan fund for the women students of the college. Loans may range from \$50 to \$200. Preference is given to senior women students. Loans are made at any time during the year when money is available.

**The College Award** is conferred annually upon the male student of the institution who shows evidence of being able in greatest measure to repay to the Nation the investment which it has made in him, on the basis of the following rating:

(a) The potential vocational or professional efficiency of the student as shown by his scholarly attainment, industry, natural ability and talent (50 points); and

(b) His patriotism, honesty, and good judgment as a student citizen, as an indication of his future attitude as a voter or public servant, combining a progressive spirit with a love of country and a concern for the safety and development of American institutions of liberty and justice, and his qualities of social leadership, as shown in student affairs, based upon physical and moral cleanliness and strength (50 points).

The College Award is conferred annually upon the woman student of the institution who shows evidence in greatest measure of:

(a) Potential vocational or professional efficiency as shown in scholarship, industry, and natural ability (50 points); and

(b) Womanly qualities, development of the social graces, not necessarily social prominence, and attitude of mind (50 points).

**The Rhodes Scholarships.** An appointment to the Rhodes Scholarships in Oxford University, England, is made each year from the State of Utah. They are of the value of \$2,000.00 a year, and are tenable for three years. Students who wish to apply for them must have some social and athletic distinction as well as high scholarship in mathematics, sciences, or letters. All applicants must also have three years of French, and it is advisable to have Latin, German, and English history, as well as high school mathematics. Full information and application blanks may be secured at the President's Office or from Professor Frank R. Arnold, chairman of the Rhodes Scholarship committee. Students who wish to apply for these scholarships are advised to start preparing for them in Freshman year. They are usually given to seniors or graduate students.

**The American Legion Scholarship Medal** is awarded each year to the letterman on the football team who maintains the highest scholastic record during the football season.

**The R. O. T. C. Medal**, a gift of the Institution, is awarded each year to the student in Military Science and Tactics who most nearly represents the ideal that the Reserve Officers' Training Corps is striving to develop, upon the following basis:

- (a) Character, 20 points.
- (b) Scholarship, 15 points.
- (c) College Activity, 15 points.
- (d) Leadership, 20 points.
- (e) Aptitude for and interest in Military Science, 20 points.
- (f) Physique and bearing, 10 points.

**The American Legion Military Medal** is given to a letterman who exhibits the most wholesome attitude toward military training during the year in which he earns his letter.

**The Thatcher Brothers Banking Company**, as a member of the First Security Corporation System offers annually a scholarship of \$150.00 to that student who excels in Banking and other related subjects.

**The A. A. Firmage Scholarship** of \$100.00 is awarded annually to that student who in his Senior College work excels in merchandising and closely related subjects.

**The Hendricks Medal**, a gift of Mrs. Carrie M. Hendricks in memory of the late Professor George B. Hendricks, is awarded yearly to the student who delivers the best extemporaneous speech.

**The Sons of the American Revolution** award a medal annually for the best patriotic speech.

**The Vernon Medal**, a gift of Dr. Weston Vernon, is given each year for the best short story written around western characters and with a western setting.

**The U. S. A. C. Women's Club** offers each year a prize of \$10.00 for the best literary essay.

**The Phi Upsilon Omricon Scholarship** of \$50.00 is given annually

by the Kappa Chapter of that organization to the freshman girl in the School of Home Economics ranking highest on the following points :

- (1) Scholarship.
- (2) Participation in student activities.
- (3) Service and cooperation.
- (4) Leadership.
- (5) Strong moral character.
- (6) Judgment and reliability.

In addition, the candidate must be a member of the Home Economics Club.

**The Gertrude Musser Howard Medal** is to be awarded annually to a senior student in the School of Home Economics on the following basis :

- (a) Qualities of womanhood, as represented by health, physical and moral cleanliness, personality, cooperation, and leadership.
- (b) Application of home economics principles.
- (c) Scholastic attainment.

**The Utah State Agricultural College Science Medal**, a gift of Professor William Peterson, is given each year to the student writing the best review of recent scientific research in either mathematics, physics, chemistry, geology, zoology, botany, or astronomy.

**An Annual Scholarship of \$25.00** will be awarded by the Chi Omega Fraternity to the girl majoring or minoring in Sociology who gives evidence of Superior Scholarship, and ability to make a contribution to organized group life; and who writes the best 2000 word essay on a social welfare subject to be approved by a committee before the close of the fall quarter and to be finally submitted by the close of the winter quarter.

The committee of award shall be appointed by the Chi Omega Fraternity, each year, from the teaching staffs of the departments of Sociology and Economics.

**The Myers Drama Award**, a copy of Mantle's "The Best Plays" for the current year, is given each year by Professor Chester J. Myers to the senior who has made the most outstanding record in the field of Dramatic Production.

#### AWARDS OFFERED IN THE DIVISION OF ANIMAL HUSBANDRY

**The Leadership Challenge Cup** is a gift to the College by Kenneth C. Ikeler and is to be awarded each year to a Senior student in Agriculture who has exhibited the greatest measure of constructive organization and leadership in the School of Agriculture through his College course.

**The John K. Madsen Challenge Cup** is a gift to the College by John K. Madsen, Mt. Pleasant, Utah, and is awarded each year to the student who shows the most proficiency in the judging of sheep.

**The Ogden Union Stock Yards Challenge Cup** is a gift to the College by the Union Stock Yards Company of Ogden and is to be awarded each year to the student who shows the most proficiency in the judging of beef cattle.

The **Hawaiian Steam Ship Company's Challenge Cup** is a gift from the Hawaiian Steam Ship Company and is to be awarded each year to the student who shows the most proficiency in the judging of wool.

The **Salt Lake Union Stock Yards Company Challenge Cup** is a gift to the College by the Union Stock Yards Company of Salt Lake City and is to be awarded each year to the student who shows the greatest proficiency in the judging of hogs.

The **John M. Richie Challenge Cup** is a gift to the College from John M. Richie of Charleston and is to be awarded each year to the student who exhibits the most proficiency in the judging of horses.

The **American Packing Company Challenge Cup** is a gift to the College from the American Packing Company of Ogden and is awarded each year to the student who shows the most proficiency in the judging of meat.

**Livestock Judging Medals** are gold medals and are given each year by the Student Body to the men who are members of the Stock Judging team which competes in the livestock judging contest at the National Western Stock Show at Denver.

Scholarship A's are given at the close of each year to the six highest ranking students.

Several further awards are given for athletic and other student body activities.

A list of the recipients of various honors will be found at the back of the catalogue.

## BUILDINGS

The College now has nearly thirty buildings, all modern, well lighted and heated, and all carefully planned.

The **Main Building** is 360 feet long, 200 feet deep in the central part, and four stories high. It contains the large auditorium, seating about 1,500, the administrative offices of the College and the Experiment Station, and many class rooms and laboratories.

The **Home Economics Building** is one of the largest and best equipped structures devoted entirely to domestic science and arts in the inter-mountain region.

The **Thomas Smart Gymnasium** is one of the finest and most complete college gymnasiums in the Rocky Mountain region. It contains a main exercise hall, 114 by 70 feet, the equipment of which can be quickly put in place or hoisted out of the way to suit any need, and a smaller floor for women. Ten feet above the main floor is a running-track, hand-ball court and wrestling and boxing room. The large pool, shower and steam baths, and dressing rooms with steel lockers are ideal.

The **Extension Service Building** is a two story structure 45 feet long and 35 feet wide, containing the offices of the Extension Service staff, with a dark room for photography.

The **Mechanic Arts Building**, a two-story brick structure, has a floor area of 40,000 square feet and contains the wood-working de-

partment, machine shops, forging rooms, foundry, carriage building rooms, mechanic arts museum, drafting rooms, blue-printing room, room for painting and staining and class rooms—all well equipped.

**Widtsoe Hall**, containing three stories, thoroughly modern in plan and equipment, is occupied by the Departments of Chemistry, Physics and Bacteriology.

**The Livestock Building** of three stories is exceptionally well fitted with facilities for the study of dairying, hog, horse, poultry and sheep husbandry, and range management.

**The Agricultural Engineering Building**, an excellently arranged three-story brick structure, houses the Departments of Irrigation and Drainage, Surveying, Hydraulics, Mechanical Drawing, Architecture, Household Sanitation, Farm Mechanics, including Auto and Tractor work, and some related phases of the work of the institution.

**The Library Building**, cultural center of the College, is one of the best of its kind in this region. It is appealing in design and furnishings, and is fireproof.

**The Plant Industry Building** is a four story brick building, thoroughly modern in arrangement. It houses the departments of Agronomy, Botany, Plant Pathology, and Horticulture.

**The Barns** contain the various breeds of cattle, horses, sheep and hogs most common in the western section.

**The Horse Barn** is the most modern structure of its kind that can be built.

**The Stock Judging Pavilion** makes it possible to do stock judging in all kinds of weather.

**The Poultry Yards** are equipped with various types of buildings to accommodate about one thousand fowls, a brooder house with a capacity of 2,500 chicks and a modern incubator cellar with standard incubators of several makes and designs. The laboratory is well supplied with different styles and sizes of incubators, brooders, food hoppers, etc. suited to use in study of the management of large and small flocks.

**The Green Houses** are prepared for laboratory instruction in the propagation of horticultural plants, and in the practice of floriculture and vegetable gardening.

**The Veterinary Hospital** contains a well equipped dispensary, operating room, stalls for patients, and up-to-date fixtures.

**The Seed House** is designed as a store house for the seeds of the Department of Agronomy.

A modern heating plant recently renovated and enlarged keeps the building comfortably warm during the winter months.

## EQUIPMENT

**The Bacteriological Laboratory** is well equipped with modern apparatus. To encourage careful work, the students are provided with individual lockers.

**The Chemical Laboratories** are modern and thoroughly equipped.

**The Physical Laboratory Equipment** is complete, consisting of all the necessary apparatus for class demonstrations.



**The Physiological Laboratory** is supplied with an excellent collection of tanned animals, skeletons, many enlarged models of organs, and complete slides of all the tissues.

**The Zoological and Entomological Laboratory** is equipped with improved instruments, embryological models, skeletons from the vertebrae groups, collections of mounted birds, mammals, reptiles, fishes and insects.

**The Botanical and Plant Pathological Laboratory** is well equipped for general work as well as for research. The department maintains a good working library in connection with the laboratory.

**The Department of Agronomy** is provided with a large collection of agricultural plants, seeds and soils representing the main crops and types of soil of the inter-mountain region.

**The College Farms** are equipped with the best and latest implements and machinery for carrying on work scientifically. They are divided for illustrative and experimental purposes, into numerous plots on which many varieties of farm crops are grown and upon which important experiments are carried on.

**The Soil Physics Laboratory** has a good supply of apparatus for accurate and up-to-date work.

**The Farm Crops Laboratory** has a large supply of farm crops on hand and is well supplied with apparatus.

**The Commercial Rooms**, occupying the entire third floor of the front of the Main building, are specially designed and furnished for business. A full complement of standard machines is supplied.

**The College Museum** contains many specimens illustrative of geology, mineralogy, paleontology and vertebrate and invertebrate zoology, including a large series of plants of the western mountain region and an extensive series of plants of the western highlands. An extensive collection of grains represents the produce of Utah and other states. Contributions of fossils, ores, animals, plants, relics or other material of value to the museum, are appreciated. All gifts are labeled and preserved and the names of the donors are recorded.

**The Art Rooms**, composed of six studios, are supplied with plain and adjustable tables, easels and model stands, individual lockers, cases for material, casts from the old masters in sculpture, reproductions of great paintings, still-life models and draperies, and a valuable collection of ceramics, textiles, and books on art.

**The Library** occupies most of the space in the new building. It is the laboratory for every course given at the College, and contains 36,000 books, and a large number of pamphlets. The books are classified by the Dewey decimal system and there is a complete dictionary and catalogue. The shelf list, also on cards, forms a classified catalogue for official use.

The library is also a depository for United States documents and for the Carnegie Institute. The files of the United States Department of Agriculture and publications of the Experiment Stations are nearly complete; the bulletins are bound and made easy of access by the printed card catalogues. There are one hundred and forty periodicals

on the subscription lists, besides about one hundred which are received as exchanges for publications of the college and of the Experiment Station. Practically all the newspapers of the State are on file in the Reading Room. The Reading Room is beautiful and comfortable, and is provided with modern facilities for study.

### CAMPUS AND FARMS

The land occupied by the College embraces about 155 acres. Of this, forty acres constitute the campus, laid out with flower beds, broad stretches of lawn, tennis courts, wide drives and walks.

Immediately east of the main building is the quadrangle of about ten acres. A large athletic stadium located just north of the campus on a ten-acre tract of land affording a beautiful view of the east mountains and Cache Valley, is an attractive place for U. S. A. C. athletic contests. The farms comprise 97 acres, the orchards and the small fruit and vegetable gardens, 10 acres.

Other farms are maintained under the direction of the Experiment Station in various parts of the State.

The equipment of the Branch Agricultural College is described in the circular of that institution.

### THE STUDENT BODY ORGANIZATION

The Student Body Organization embraces all the students of the Institution. Its prime object is to foster a proper spirit of college loyalty, and to give the students practice in managing public affairs. It also secures dispatch and efficiency, as well as uniformity, in the administration of all matters pertaining to the entire student body, and induces all students to participate in college activities. The organization provides each member with a maximum of proper athletic, theatrical, and social recreation at a minimum expense. This society has control, under faculty direction of the following student activities:

1. a. **Athletics**, for men;
- b. **Athletics**, for women.

An intra mural program, including all seasonal sports for which awards are given.

2. **Musicals**, including all public performances of the Band, the Orchestra, and Musical clubs.

3. **Theatricals**. In the past, *A Midsummer Night's Dream*, *She Stoops to Conquer*, *Pygmalion*, *Milestones*, *The Admirable Crichton*, *What Every Woman Knows*, *Twelfth Night*, *Hamlet*, and various other productions have been presented.

4. **Debating and Public Speaking**. Triangular debating arrangements have been made whereby, annually, the Agricultural College debates the University of Utah and the Brigham Young University on the same question. Interstate debates are also held. Those who make places on the teams not only win awards, but are admitted to membership in the Agora, an honorary debating fraternity. Debaters showing

special excellence are admitted to membership in Tau Kappa Alpha, a national honorary debating fraternity, a chapter of which is established at the College. Interest in debating is keen.

The annual oratorical contest for the Hendricks medal and for that given by the Sons of the American Revolution maintain among the students an active interest in extemporaneous public speaking.

5. **Student Publications.** The students of the College, under the direction of the faculty of English, publish a weekly school paper, **Student Life**, and the College year book, named **The Buzzer**; the Scribblers' Club publish **The Scribble**; The Agricultural Club, the **Ag. Club Link**. Interest in journalistic work is stimulated by the presence on the campus of the chapter of the national honorary journalistic fraternity, Pi Delta Epsilon.

6. **Lyceum Course.** Each year the Student Body presents from six to eight numbers of national or local repute. These entertainments are free to members of the Student Body.

### STUDENT CLUBS

Not affiliated with the Student Body organizations but standing largely for the interest of the various schools, are the following clubs:

**The Agricultural Club**, which aims to promote interest in scientific and practical agriculture. The club has effected similar organizations in the high schools of the State. Special lectures, often illustrated, are given at intervals throughout the season. The club conducts an annual tour, studying farm conditions in northern Utah.

**The American Association of Engineers**, a local chapter of the national organization made up of students and practicing engineers. Any student majoring in any branch of engineering is eligible for membership. The purpose of the organization is the advancement of the engineering profession and the promotion of the economic and social welfare of the engineer. Regular monthly luncheons are held at which men of repute are invited to speak on pertinent current problems.

**The Home Economics Club**, to which all students registered in the School of Home Economics are eligible. The object of the club is four-fold:

1. To stimulate interest in Home Economics;
2. To broaden and elevate each member's ideals for social, industrial, and economic life, thereby helping her better to fit into the home and community;
3. To provide wholesome recreation;
4. To foster ties of friendship among the members.

**The Mechanic Arts Association**, designed to promote the social and intellectual interests of its members. All the teachers and all the regularly enrolled students of mechanic arts are eligible to membership. Monthly meetings are held throughout the year, at some of which lectures are given by specialists.

**The Utah Foresters**, whose purpose it is to foster mutual interest and scholarship in Forestry, to help promote the interests of the For-

estry movement and to form and strengthen friendships among Forestry students at the Utah State Agricultural College and among foresters of this region. Talks are given by members of the Forest Service throughout the school year. The Forester's banquet and the Forester's ball are among the club's activities. The club publication, issued annually, is known as "**The Utah Juniper.**"

**Phi Kappa Phi**, a chapter of the national honorary scholarship fraternity.

**Tau Kappa Alpha**, a chapter of the national honorary debating fraternity open to both men and women.

**Alpha Kappa Psi**, a national fraternity, devoted to the interests of commerce and business.

**The Friars Club**, a state-wide organization which purposes to keep alive the "Missionary Spirit" among its members, and to promote social and educational functions, is open to male students who have spent six months or more in exclusive missionary work.

**Der Germania-Verein**, or German club, organized to promote the use of spoken German and an acquaintance with German life, art, and literature.

**Scabbard and Blade**, a company of the national, honorary, military fraternity of the same name, organized to perpetuate American ideals and efficiency among young college men and open to cadet officers who have shown particular excellence in their R. O. T. C. work.

**Pi Delta Epsilon**, a chapter of the national honorary journalistic fraternity.

**The Agora**, a local organization open to men and women from the inter-collegiate debating teams. Its purpose is to foster debating in the College and keep alive among the old debaters an interest in such contests. Students may become members of both **Tau Kappa Alpha** and the **Agora**.

**The Chemistry and Physics Club**, organized to promote interest in chemistry.

**The Be-No Club**, organized to foster scholarship, fellowship and loyalty.

**The Booklover's Club**, organized for the study of subjects related to English literature, but not usually treated in the classroom.

**The Scribblers' Club**, an organization of writers.

**The Cosmos Club**, organized for the study of present day problems; open only to men.

**Theta Alpha Phi**, an honorary, professional dramatic fraternity.

**The Jesters**, a group of campus players chosen from a list of successful performers in high school.

**The Tennis Club**, organized to promote interest in tennis and to develop players for intercollegiate matches.

**The Empyrean Club**, organized for the study of current problems; open only to women of Senior College Standing.

**Le Cercle Francais**, maintained by students in French for practice in speaking the language.

**The Cosmopolitan Club**, composed of faculty members and students

and organized for the purpose of furthering internationalism and world peace. To be eligible for membership, candidates must be of foreign birth, must have lived in a foreign country or show a keen interest in world problems.

**Beaux Arts Guild**, designed to encourage interest in the various phases of Art by lectures and informal social meetings.

**Alpha Sigma Nu**, a senior honorary society. Membership is maintained by election from the Junior Class held each spring.

**The Men's Rifle Club**, organized to foster marksmanship among its members.

**The Women's Rifle Club**, composed of women interested in the use of firearms.

**The Botany Club**, composed of students especially interested in botany. Lectures are given by faculty members and initiation discussions by new members.

**Phi Delta Pi** is a chapter of the Women's National Professional P. E. fraternity. Its purpose is to promote interest in Physical Education and Scholarship.

**Phi Upsilon Omricon**. The Kappa charter of this national professional and honorary fraternity is installed at the College. Its purpose is to stimulate interest in Home Economics.

**The Short Story Club**, organized to promote interest in the short story.

**The Girls' Athletic Club**, composed of women students who are particularly interested in athletic contests, hiking, etc.

Various other clubs, as well as a number of fraternities and sororities are also to be found on the campus.

## DEPARTMENTS OF INSTRUCTION

(ARRANGED ALPHABETICALLY)

- Agricultural Economics and Marketing  
 Agronomy and Soils  
 Animal Industry  
 a. Animal Husbandry  
 b. Dairy Husbandry and Manufacturing  
 c. Poultry Husbandry  
 d. Veterinary Science  
 Bacteriology and Biochemistry  
 Botany  
 Business Administration and Accounting  
 a. Accounting  
 b. Advertising and Selling  
 c. Business Administration  
 d. Secretarial Work  
 Chemistry  
 Child Development  
 Economics and Sociology  
 Education  
 English and Speech  
 Engineering  
 1. Civil Engineering  
 a. Applied Mechanics and Design  
 b. Highways  
 c. Irrigation and Drainage  
 d. Mechanical Drawing  
 e. Surveying  
 2. Agricultural Engineering  
 a. Rural Architecture  
 b. Farm Machinery and Farm Motors  
 3. Mechanic Arts  
 a. Auto Mechanics  
 b. Auto Ignition—Radio  
 c. Forging  
 d. Machine Work  
 e. Woodwork  
 Foods and Dietetics  
 Forestry  
 Geology  
 History  
 Horticulture  
 Household Administration  
 Mathematics  
 Military Science and Tactics  
 Modern Languages and Latin  
 Music  
 Physical Education  
 a. For Men  
 b. For Women  
 Physics  
 Physiology and Public Health  
 Political Science  
 Psychology  
 Textiles and Clothing  
 Zoology and Entomology

## RECITATION TABLE

The recitation hours are sixty minutes in duration and begin at 8:00 a. m. The following shows the entire schedule:

1st hour, 8:00-9:00	4th hour, 11:00-12:00	7th hour, 2:00-3:00
2nd hour, 9:00-10:00	5th hour, 12:00-1:00	3th hour, 3:00-4:00
3rd hour, 10:00-11:00	6th hour, 1:00-2:00	3th hour, 4:00-5:00

# Courses of Instruction

## AGRICULTURE AND FORESTRY

### AGRICULTURAL ECONOMICS AND MARKETING

(Administered jointly by the Schools of Agriculture and Commerce)  
W. P. THOMAS, P. E. PETERSON, Professors; W. U. FUHRMAN, Assistant Professor.

Students in either the School of Agriculture or the School of Commerce may major in this department. The choice of school in which to register should depend upon whether the student intends to enter the field of agriculture, or the field of commerce.

53. **Principles of Agricultural Economics**—A general study of the more important economic principles, forces and institutions affecting agricultural income, production, marketing, finance, prices, labor, land utilization, tenancy, taxation, tariff, etc.; the inter-relation of these factors; and the relation of agriculture to other industries. Prerequisite, Economics 51 or equivalent. Winter and Spring quarters. Three credits.

*Fuhrman*

62. **Principles of Marketing**—The principles of marketing, consumer demand, economic factors affecting sales, marketing agencies and sale policies, function of middlemen, channels of distribution, organized exchanges, and effect of governmental activities on distribution. Prerequisite, Economics 51. Spring quarter. Five credits.

*Fuhrman*

70. **Farm Management**—The Keeping and Analysis of Farm Accounts—This course deals with the keeping, use, interpretation, and analysis of farm accounts and records. The meaning of various measures of farmers' financial success, the methods of computing the common efficiency factors, etc., will be considered. Prerequisite, Economics 51. Spring quarter. Three credits.

*Fuhrman*

80. **Accounting for Agricultural Students**—A brief course in accounting for agricultural students. As far as possible application will be made to specific enterprises. (Not given 1931-32).

*Peterson*

102. **Principles of Farm Management**—An analysis of the principles and problems of farm organization and management. A study

of the problems of choosing, buying, organizing, and managing the various types of farms. Discussion of proper size, balance, diversity, and the relationship between the various enterprises. Prerequisite, Economics 51. Fall quarter. Three credits.

*Fuhriman*

104. **Economic Development of Agriculture**—A historical analysis of agriculture through the various stages of its economic development with special reference to the United States. Fall quarter. Three credits. (Not given 1931-32).

105. **Agricultural Finance**—A study of agricultural credit with regard to requirements, facilities, instruments, and methods of financing agriculture. This involves an analysis of our present financial organization and its relation to agriculture. Special attention will be given to the agencies authorized by the Federal Government to provide financial aid and credit to farmers and farmers' organizations. Prerequisite, Economics 51. Fall quarter. Three credits.

*Fuhriman*

106. **Land Economics**—Principles underlying the utilization, valuation tenure, and conservation of our land resources available for crops, pastures, and forests. Prerequisite, Economics 51. Fall quarter. Three credits.

*Fuhriman*

113. **Cooperative Marketing**—This course deals with the fundamental principles of cooperative marketing of agricultural products, the legal status of cooperation, and the growth and development of cooperative marketing in the United States as a whole. Particular emphasis will be given to the development of cooperative marketing in Utah to the present problems of the cooperatives of the state. Those registering for three credits will be required to attend the lectures only, while those registering for five credits will take two laboratory periods in addition. Winter quarter. Three or five credits.

*Fuhriman*

114. **Marketing Fruits and Vegetables**—Trends in production, consumption, and marketing fruits and vegetables in United States as a whole and in Utah, together with special problems of over-production, local and foreign competition, quality of products, transportation factors; grading, inspection, and marketing methods will be given consideration. Prerequisite, Economics 51 and Agricultural Economics 117. Spring quarter. Three credits.

*Fuhriman*

116. **Marketing Livestock and Livestock Products**—The production and marketing factors as they relate to the marketing of livestock and livestock products with special reference to Utah's condition. Prerequisite, Agricultural Economics 118. Spring quarter. (Not given 1931-32; alternates with 114)

117.<sup>2</sup> **Grading of Field Crops, Fruits, and Vegetables**—This course



is designed to furnish a brief practical course in actual commercial grading of field crops, fruits, and vegetables. Market demands and grade requirements, methods employed in commercial grading, and actual participation in grading will be emphasized. The greater portion of the time will be spent in actually doing commercial grading. Fall quarter. Two credits.

*Tingey, Coe, Wilson and Fuhrman*

118.<sup>2</sup> **Grading of Livestock and Livestock Products**—This course is designed to furnish a brief practical course in actual commercial grading of livestock and livestock products. Market demands and grade requirements, methods employed in commercial grading, and actual participation in grading will be emphasized. The greater portion of the time will be spent in actually doing commercial grading. Winter quarter. Two credits.

*Alder, Smith, Esplin, Morris, and Thomas*

120. **Agricultural Prices**—Relationship between production and prices of agricultural products; trends in prices of agricultural commodities in Utah and competing states, in comparison with prices of non-agricultural products, and price cycles in their relation to Utah's agriculture. State and National Agricultural Outlook, as it applies to Utah will be given special consideration. The aim of the course is to make application of principles in prices, production and marketing to an agricultural program for the individual and the group. Prerequisite, Economics 51. Winter quarter. Three to five credits.

*Thomas*

191. **Advanced Farm Management**—A detailed farm management analysis, including methods of making surveys, collecting, tabulating, organizing, and analyzing data and a study of the application of results toward the improvement of the farm business. The student will be expected to do some actual field work and to analyze the farm management data in the laboratory. Prerequisite, Agricultural Economics 102. Winter quarter. Three credits.

*Fuhrman*

210. **Research in Agricultural Economics**—Time and credit to be arranged.

*Thomas*

214. **Research in Agricultural Economics**—Thesis.

*Thomas*

211, 212, 213. **Agricultural Economics and Marketing Seminar**—All seniors and graduate students majoring in this department are required to take part in these round table discussions of current problems and recent publications in Agricultural Economics and Marketing. Fall, Winter and Spring quarters. One credit each quarter.

*Thomas and Fuhrman*

**SUGGESTED COURSE OF STUDY FOR MAJORS IN AGRICULTURAL ECONOMICS IN THE SCHOOL OF AGRICULTURE**

		FRESHMAN YEAR		
Course		Fall	Quarters Winter Spring (Hours)	
English 10 .....	5			
Chemistry 1 .....				5
Sociology 70 .....			3	
Political Science 11, 12.....	3		3	
Biological Science <sup>1</sup> .....	4		4	5
Agriculture <sup>1</sup> .....	3		5	5
Typewriting .....	1		1	1
Electives <sup>1</sup> .....	0-1		0-1	0-1

		SOPHOMORE YEAR		
Course		Fall	Quarters Winter Spring (Hours)	
Economics 51 .....	5			
Agricultural Economics 53 .....			3	
Agricultural Economics 62.....				5
Agricultural Economics 70 .....				3
English 11 .....			4	
Mathematics 35 .....			5	
Mathematics 75 .....				5
English or Language .....	5			
Agriculture <sup>1</sup> .....	5		3	3
Electives <sup>1</sup> .....	0-2		0-2	0-1

		JUNIOR YEAR		
Course		Fall	Quarters Winter Spring (Hours)	
Agricultural Economics 105 .....	3			
Agricultural Economics 114 or 116 .....				3
Agricultural Economics 117 <sup>2</sup> .....	2			
Agricultural Economics 118 <sup>2</sup> .....			2	
Economics 155 .....			5	
Psychology 101 .....	3			
Agronomy 117 .....				4
Sociology 101 .....			3	
Economics 135 .....				3
Civil Engineering 149 .....			3	
English or Language .....				4
Electives <sup>1</sup> .....	4-6		2-4	1-3
Agricultural Economics 106.....	3			

Course	SENIOR YEAR		Quarters	
	Fall		Winter (Hours)	Spring
Agricultural Economics 102 .....	3			
Agricultural Economics 191 .....			3	
Agricultural Economics 113 .....			5	
Agricultural Economics 120 .....			5	
Economics 145 .....				2
Economics 140 .....				3
Agriculture <sup>1</sup> .....	5			
Seminar Agricultural Economics 211, 212, 213.....	1		1	1
Research Agricultural Economics 210 .....			2-3	2-5
Agricultural Economics 114 or 116 .....				3
Accounting 101 .....	5			
Electives <sup>1</sup> .....	1-3		0-1	3-6

<sup>1</sup>The courses to be selected will depend upon the special interest and need of the student, and his minor subject. He should consult his major and minor professors in the selection of these courses.

**SCHEDULE OF COURSES IN AGRICULTURAL ECONOMICS AND MARKETING FOR 1931-32**

No. of		Fall Quarter							
Course	Title of Course	Cr.	M	T	W	T	F	Instructor	
102	Principles of Farm Mgmt...	3	8		8		8	Fuhriman	
105	Agricultural Finance.....	3	9		9		9	Fuhriman	
106	Land Economics.....	3	1	9		9		Fuhriman	
51	Principles of Economics....	5	10	10	10	10	10	Fuhriman	
117	Grading of Field Crops, Fruits, and Vegetables.....	2				1-5		Tingey, Coe, Wilson, Fuhriman	
211	Agricultural Economics Seminar .....	1	To be arranged					Thomas, Fuhriman	
214	Thesis .....		To be arranged					Thomas	
210	Research .....		To be arranged					Thomas	

No. of		Winter Quarter							
Course	Title of Course	Cr.	M	T	W	T	F	Instructor	
51	Principles of Economics.....	5	8	8	8	8	8	Fuhriman	
113	Cooperative Marketing.....	5	9		9		9	Fuhriman	
191	Advanced Farm Mgmt.....	3	1	9		9		Fuhriman	
120	Agricultural Prices.....	3-5	10		10		10	Thomas	
53	Agricultural Economics.....	3	11		11		11	Fuhriman	
118	Grading of Livestock and Livestock Products.....	2				1-5		Alder, Smith, Esplin, Merrill, Thomas	
212	Seminar .....	1	To be arranged					Thomas, Fuhriman	
210	Research .....		To be arranged					Thomas	
214	Thesis .....		To be arranged					Thomas	

## Spring Quarter

No. of Course	Title of Course	Cr.	M	T	W	T	F	Instructor
53	Agricultural Economics.....	3	8		8		8	Fuhriman
70	Farm Management—The Keeping and Analysis of Farm Accounts .....	3	1	8		8		Fuhriman
62	Principles of Marketing.....	5	10	10	10	10	10	Fuhriman
114	Marketing Fruits and Vegetables .....	3	11		11		11	Fuhriman
213	Seminar .....	1	To be arranged					Thomas, Fuhriman
210	Research .....		To be arranged					Thomas
214	Thesis .....		To be arranged					Thomas

## AGRONOMY AND SOILS

R. J. EVANS, Professor of Agronomy, D. W. PITTMAN, Professor of Soils, A. F. BRACKEN, D. C. TINGEY, Assistant Professors.

**Note:** Students who major in Agronomy are expected to take Courses 1 or 2, 3, 106, 108, 109, 111, 113, 117, 104 or 110, and one of these three: 114, 116, 119. Irrigation and Agricultural Economics 102 are recommended for students majoring in agronomy. Students not majoring in agronomy but who wish to be recommended as capable of doing agronomy teaching or technical work should take courses 3, 1 or 101, 106, 109, 117, and one of these three: 104, 108, 116.

1. **Cereal Crops**—The history, cultivation, production, and marketing of cereal crops; a basis for judging and grading plant products. Must be preceded or accompanied by Botany or Chemistry. Three lectures. One lab. Winter quarter. Four credits.

*Bracken*

2. **Root Crops**—Sugar-beets, potatoes, mangels, turnips, other root crops, and beans; cultural methods, market types, and commercial possibilities are studied in detail. Three lectures. One lab. Fall quarter. Four credits.

*Tingey*

3. **Forage and Miscellaneous Crops**—Alfalfa, clovers, grasses, and other forages; methods of handling hay; meadow and pasture management, and soiling crops, are discussed. Must be preceded or accompanied by Botany or Chemistry. Three lectures. One lab. Spring quarter. Four credits.

*Tingey*

101. **General Crops**—Essentials in the production of principal field crops; small grains, corn, potatoes, sugar-beets, and miscellaneous crops. Designed for those students not majoring in Agronomy who wish minimum work in crops. Courses 1 and 2 are recommended for Agron-

omy majors instead of course 101. Prerequisites, Chemistry and Botany. Three lectures, one or more labs. Spring quarter. Four credits.

*Pittman*

104. **Weeds, Seeds and Grading**—Common weeds of Utah and methods of eradicating them; the quality and care of seeds; market classes and grades of grain, seeds, hay, and potatoes. Prerequisites, Botany, Agronomy 1 and 2 or 3 (or 101); some horticulture preferred. One lecture, two labs. Fall quarter. Three credits.

*Tingey*

105. **Seed Analysis and Testing**—Impurities of farm and garden seeds; methods of analysis and testing; the inspection and marketing of seeds. Prerequisites, Botany, Agronomy 1, 2, (or 101, 104.) Not given except on application of two or more students who have open, during the week, the same two laboratory periods, of three hours each. Any quarter. Two or more credits. Two or more laboratory periods a week. Time to be arranged.

*Tingey*

106. **Soils**—Review of the entire field of soils study; designed as a foundation course for all students of agriculture. Prerequisites, Chemistry 1, 2 (High School chemistry not adequate). Three lectures, one lab. Fall quarter. Four credits.

*Pittman*

108. **Management of Arid Soil**—The composition, nature, and management of soils of arid regions; special attention to water relations, alkali, rotations, and other problems in the management of arid soils. Prerequisites, Agronomy 106 and either Geology or Bacteriology 1, preferably both. Winter quarter. Four credits.

*Pittman*

109. **Plant Breeding**—Varieties of field crops; their selection and improvement; attention to the methods of plant breeding as practiced in America and Europe. Prerequisites, Genetics and Botany. Three lectures, one lab. Winter quarter. Four credits.

*Evans*

110. **Soil Fertility**—Principles of soil fertility; fertilizers and their most productive use; review of experimental work in America and Europe. Prerequisites, Chemistry 1, 2, and Agronomy 106. Spring quarter. Two credits.

*Pittman*

111, 112, 113. **Seminar**—Current agronomic literature; agricultural problems; assigned topics. Required of all seniors and graduates in agronomy; open also to juniors. Fall, Winter and Spring quarters. One credit each quarter.

*Evans*

114. **History of Agriculture**—Development of agriculture, with em-

phasis on practical and scientific phases; the successive steps by which modern agriculture has attained its present status. Winter quarter. Three credits.

*Bracken*

116. **Dry Farming**—Principles of dry farming from practical and scientific standpoints; a survey of agricultural work in the Great Plains and the Mountain regions; an analysis of the possibilities in typical climatic areas and on important soil types. Selecting and organizing a dry farm unit. Advanced students may obtain additional credit for extra work. Winter quarter. Three lectures. Three credits.

*Bracken*

117. **Geography of Agriculture**—Relation of geography to present agricultural development; where plant and animal products are produced; why only in the present regions; a survey of the United States with respect to possible new agricultural development; effect of the relative position of the large markets to agriculture, especially in Utah. Winter quarter. Three credits.

*Evans*

119. **Crop Products**—Nature, importance, and uses of various crop products; their physical and chemical nature; their effects on the market value of the crop; and their place in agricultural technology. Related soil problems are also discussed. Prerequisites, Organic Chemistry and Botany. Winter quarter. Three credits.

*Bracken*

207. **Soil Technology**—An advanced course in soil technology for students who wish fundamental work in soil science. A study of the formation, classification, and functions of soils in relation to their environments. Prerequisite, Agronomy 106, Bacteriology and Geology. Winter quarter. Two or more credits.

*Pittman*

208. **Management of Arid Soils**—Special problems in the management of arid soils. Original papers are considered in addition to regular lectures and discussions. Three lectures, one lab. Winter quarter. Four credits.

*Pittman*

209. **Advanced Plant Breeding**—The science and practice of plant breeding. Original papers and lectures. Three lectures, one or more labs. Winter quarter. Three to six credits.

*Evans*

212. **Graduate Seminar**—Current scientific papers and topics in Agronomy. Fall, Winter or Spring quarter. One to three credits.

*Evans*

214. **History of Agriculture**—Development of scientific agriculture

with emphasis on recent period. Original papers and lecture material. Winter quarter. Two to five credits.

*Bracken*

215. **Research Methods in Plant Production**—Analysis of research methods; reviews of the scientific literature. Prerequisites, Agronomy 1 or 2 and 3; or 101, and 106. Open to approved senior college students. Spring quarter. Two to five credits.

*Evans*

217. **Geography of Agriculture**—Relation of geography to production and to development of agriculture. Winter quarter. Two to five credits.

*Evans*

218. **Special Problems or Advanced Laboratory**—Students desiring to do advanced laboratory work, or to make a special study of any particular problem will make a complete study of available literature on this problem under supervision of the instructor, and write a thesis. One to five credits. Prerequisites, Agronomy 106, Crops and either General Bacteriology or General Geology. Any quarter.

*Evans, Pittman*

230. **Research and Thesis**—Organizing and prosecuting a thesis, or a research problem without thesis. Any quarter. Two or more credits each quarter.

*Evans, Bracken, Tingey, Pittman*

## ANIMAL INDUSTRY SECTION

The Animal Industry Section includes the courses of instruction in the closely related special departments of Animal Husbandry, Dairy Husbandry, Dairy Manufacturing, Poultry Husbandry, and Veterinary Science.

### ANIMAL HUSBANDRY

E. J. MAYNARD, GEORGE B. CAINE, Professors; A. C. ESPLIN, HARRY H. SMITH, Assistant Professors.

The Department of Animal Husbandry offers instruction in the selection, breeding, feeding, management, and marketing of cattle, horses, sheep, and swine; in the slaughtering, cutting, and curing of meats, and in the production and grading of wool.

The following courses should be taken by students who major in Animal Husbandry: 1, 2, 3, and one of (6, 7, 8, 9, 10), 100, (101 or 102), 103, 104, 105, 107, 108; D. H. 109 or 110, and Animal Husbandry Seminar, A. H. 120, 121, 122. Courses in Dairy Husbandry, Dairy Manufacturing, Poultry Husbandry, and Veterinary Science may be used to strong advantage in the major. Accounting, Agronomy and

Soils, Agricultural Economics and Marketing, Bacteriology, Botany, Commercial Law, Entomology, Farm Mechanics, Geology, Horticulture, Irrigation, Mathematics, Organic Chemistry, Physics, and Range are among the supporting courses most strongly recommended for graduation in Animal Husbandry.

*Smith, Caine*

1. **General Animal Husbandry**—The fundamentals of animal husbandry as applied to Utah conditions. Numbers and location of livestock, principal breeds of cattle, sheep, swine and horses. Simple breeding and feeding problems as well as general livestock management studies and judging of commercial animals. For all students of agriculture and a prerequisite for Animal Husbandry 6, 7, and 9. Fall quarter. Five credits.

*Smith, Caine*

2. **Breed Types of Livestock**—The origin, history, characteristics, and selection of the economic breeds of horses, cattle, sheep, and swine. Spring quarter. Five credits.

*Smith, Caine, Esplin*

3. **Market Classes and Grades of Live Stock**—The commercial classes and grades of market cattle, sheep and hogs. Students will compile market quotations and will classify and evaluate animals for market. Prerequisite, A. H. 1 or 2. Spring quarter. Three credits.

*Smith*

4. **Market and Breed Types of Livestock (For Forestry and Range Students)**—The practical selection and judging of commercial and breed types of horses, cattle, sheep and hogs. Spring quarter. Three credits.

*Smith*

6. **Beef Cattle Production**—The selection, feeding, and marketing of range and feeder cattle, and the management of the breeding herd of beef cattle. This course includes a trip to Ogden and Salt Lake Stock Yards for study purposes. Fall quarter. Three credits.

*Smith*

7. **Horses and Horsemanship**—A study of market types and the breeding, feeding, handling and selling of draft and light horses. Spring quarter. Two credits.

*Caine*

8. **Swine Management**—The management of the breeding herd of hogs, feeding for market, and the fitting for show. The relation of the industry to dairy cattle farming. Winter quarter. Three credits.

*Smith*

9. **Sheep Husbandry**—A study of the methods of producing sheep for meat and wool under range and farm conditions. Also a study of



sheep husbandry of the leading sheep producing countries of the world. Special emphasis is placed upon sheep and wool production upon the ranches and the farm. The farm sheep include small commercial herds, pure bred herds, and winter lamb feeding. Winter quarter. Three credits.

*Esplin*

10. **Wool Study**—A history of sheep and wool production. A study of zoological position of sheep, and the physical and chemical structure of the wool fiber. The grading of wool, shrinkage, and a study of market reports. A study of the relation of quality in raw wool to quality in manufactured woolen products. Winter quarter. Three credits.

*Esplin*

100. **Principles and Practices of Judging Live Stock**—This is a course designed for students that wish to register for Animal Husbandry 107 and become candidate for the Livestock judging team the following fall. Spring quarter. Two credits.

*Smith*

101. **Livestock Management**—Instructions and practice in the feeding and fitting of horses, cattle, sheep, and hogs for show or sale. A show of college livestock will be a part of this course. Spring quarter. One to three credits, by arrangement.

*Caine, Smith, Esplin*

102. **Practical Problems in Livestock Production and Feeding**—This course affords the Animal Husbandry student an opportunity to plan a definite livestock enterprise based on subject matter acquired in previous agricultural courses. A study is made of the relationship of location, feed crops, general cropping system, and marketing facilities to the number and kind of livestock produced. Livestock selection, feeding and care, equipment, sanitation and marketing are points considered in the development of a plan in which each individual outlines a definite livestock operation. Three hours credit. Winter quarter.

*Smith*

103. **Feeds and Feeding**—The principles of feeding and how animals digest and utilize feed. The balancing of rations and the feeding of horses, cattle, sheep, and hogs for economical production. Winter quarter. Five credits.

*Maynard*

104. **Animal Nutrition**—The anatomy and physiology of the digestive tract, digestion, metabolism, and energy balances. The essential vitamins, deficiency diseases, and the value of minerals in an adequate ration. Prerequisites, An. Hus. 103, Organic Chemistry and Veterinary Physiology. Winter quarter. Five credits.

*Maynard*

105. **Livestock Breeding**—The principles and practices of livestock improvement. A study of heredity, variation, selection, breed analysis, and herd synthesis, inbreeding, outcrossing, and cross breeding. Prerequisite, Zoology 111 (Genetics). Spring quarter. Five credits.

*Smith*

107. **Advanced Stock Judging**—The comparative judging of breeding and market horses, cattle, sheep, and swine to prepare students for officiating at livestock shows. Herds away from the college will also be studied for the purpose of selecting a livestock judging team. Fall quarter. Four credits.

*Smith*

108. **Advanced Wool**—This course is a study of wool as a finished product of the ranch and farm, considering the fleece as a unit. The study includes the physical and chemical properties of the wool fibre, grading and sorting, explanation of terms used in market reports, and determination of shrinkage. Consideration is given the world wool supplies as fleece wools, pulled wools and reworked or shoddy wools. Visits to Logan City Knitting Factories and Brigham City Woolen Mills are included. Prerequisites: Chemistry 1, 2 or 3, 4, 5. Winter quarter. Three credits.

*Esplin*

109. **Farm Meats and Meat Products**—The slaughtering of farm animals and the cutting and curing of meats on the farm. Trips will be taken to local meat shops and to the Ogden and Salt Lake packing houses. The students will evaluate the animals on foot and measure their judgment in the dressing percent, and quality of the product in the carcass. Winter quarter. Three credits.

*Smith*

110. **Selection of Meats for the Household**—A study of the principles and practice in the selection of quality meats for the table. This course is open for women students. Winter quarter. Two credits.

*Smith*

120, 121, 122. **Animal Husbandry Seminar**—Reports and discussion of current literature and research in Animal Husbandry, by students and faculty members. Fall, Winter, and Spring quarters. One credit each quarter.

*Smith*

200. **Graduate Research**—Students working towards a graduate degree in Animal Husbandry are required to conduct research in some branch of the subject. Any quarter.

*Time and credit by arrangement.*

*Animal Husbandry Staff*

203. **Scientific Meat Studies**—A study in the cutting and curing of meats; for Senior College and graduate students. It emphasizes the physical structure and the chemical composition of meats, and their

relationship to nutritional qualities. Prerequisites: Animal Husbandry 11, and Organic Chemistry. Winter quarter.

*Time and credit by arrangement.*

*Smith*

204. **Wool Problems**—Research work in wool. Winter quarter.

*Esplin*

205. **Special Problems**—This is a survey of the research conducted in the breeding or feeding of livestock. Prerequisites: Animal Husbandry 104 and 106. Spring quarter. Three credits.

*Maynard, Esplin, Smith*

207. **Animal Experimentation**—The organization of live stock experiments. Time and credit by arrangement.

*Animal Husbandry Staff*

210. **Graduate Thesis**—The outlining, prosecuting and summarizing of Animal Husbandry research data for a thesis. Two to five credits each quarter.

215. **Graduate Seminar**—Weekly check up and report on graduate work.

*Maynard, Esplin, Smith*

## SUGGESTED COURSE FOR STUDENTS MAJORING IN ANIMAL HUSBANDRY

### FRESHMAN YEAR

#### (Animal Industry)

		F.	W.	S.
Botany 21, 22 .....	Ag'l Botany .....	5	5	..
Bacteriology 1 and 2 .....	Gen. Bacteriology .....	..	..	5
English 10 .....	English Composition .....	5	..	..
Vet. Science 10 .....	Veternary Elements .....	..	4	..
An. Husb. 1 .....	General Animal Husbandry .....	5	..	..
An. Husb. 3 .....	Classes and Grades .....	..	..	3
Dairy 2 .....	Farm Dairying .....	..	..	4
Zool. 1 .....	General Zoology .....	..	5	..
Poultry 1 .....	General Poultry .....	..	..	4
Electives .....	.....	2	..	1
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**SOPHOMORE YEAR**  
**(Animal Industry)**

	F.	W.	S.
Chemistry 3, 4 .....	5	5	5
Chemistry 26 .....	..	..	..
English 11 .....	..	4	..
Economics 51 .....	5	..	..
Agr. Econ. 53 .....	..	..	3
An. Husb. 2 .....	..	..	5
An. Husb. 8 .....	..	2	..
Agron. 1 .....	..	4	..
Hort. 1 .....	4	..	..
Ag. Eng. 12 .....	..	..	3
Electives .....	3	2	1
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**JUNIOR YEAR**  
**(Animal Industry)**

	F.	W.	S.
Entomology 13 .....	4	..	..
Zoology 111 .....	5	..	..
An. Husb. 101 .....	..	..	3
An. Husb. 105 .....	..	..	5
An. Husb. 109, 100 .....	..	3	2
An. Husb. 9 or 109 .....	..	3	..
Dairy Husb. 109 .....	..	3	..
Poultry Husb. 105 .....	..	3	..
Vet. Science 107 .....	..	..	4
Agronomy 106, 117 .....	4	..	3
Agr. Econ. 102 .....	3	..	..
An. Husb. 103 .....	..	5	..
Electives .....	1	..	..
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**SENIOR YEAR**  
**(Animal Industry)**

	F.	W.	S.
Agri. Econ. 112 .....	3	..	..
Eng. and Language .....	6	4	4
Accounting .....	..	..	3
An. Husb. 120, 121, 122 .....	1	..	1
An. Husb. 107 .....	4	..	..
An. Husb. 103 .....	..	5	..
An. Husb. 104 .....	3	3	..
An. Husb. 6, 7 or 8 .....	..	..	5
Dairy Husb. 110 .....	..	..	4
Range or Hort. ....	..	5	..
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## DAIRY HUSBANDRY AND MANUFACTURING

GEORGE B. CAINE, Professor; A. J. MORRIS, Assistant Professor.

Students majoring in Dairy Husbandry must complete the following major courses for graduation. Dairy 1, 5 and 6; Animal Husbandry 1, 103, 104, 105, 107, as well as all courses listed in the Department of Dairy Husbandry. Chemistry 107, 108, and Bacteriology 104 will also be required. Courses in Botany, Crops, Accounting, Advertising, English and Mechanics should be followed carefully to fill other groups.

1. **General Dairy**—Designed for students who desire a short, general course in dairying. Especially taught for students majoring in other departments of the School of Agriculture, for Smith-Hughes students and for prospective county agents. The following will receive consideration: history and present status of the dairy industry, the Babcock test for milk and cream, the manufacture of some dairy products, kinds, uses and care of farm utensils, best and most sanitary methods of handling milk, methods of starting dairy herds, breeds of cattle, cow testing associations, and testing circles, bull associations, advanced registry, boys and girls clubs and herd records. Four lectures, one lab. Fall and Winter quarters. Five credits.

*Caine and Morris*

2. **Dairy Farming**—A general course in dairy production designed for all students in the school of agriculture wanting further training in this phase of dairying. A study of the bases for successful dairy farming and the important economic factors in the production of milk. Various systems of housing and herd management. Prerequisite Dairy 1. Winter quarter. Three credits.

*Caine*

12. **Breeds of Dairy Cattle**—Study of history and development of all breeds of dairy cattle. Special emphasis on the various families within the breeds. Requirements for official testing. Pedigree and Herd Book Study. Three lectures, one lab. Winter quarter. Four credits.

*Caine*

109. **Dairy Production**—A brief review of dairy farming and the dairy breeds. Ways of starting a dairy herd, system of herd records, selection and management of her sires, calf feeding and management, developing dairy heifers. Winter quarter. Three credits.

*Caine*

110. **Dairy Production**—A study of pure bred cattle breeding. Care and management of dairy sires. Special emphasis on feeding for milk production. A brief study of metabolism and the characteristics of feeds and feeding standards. A thorough study of housing dairy cattle. Prerequisite, Dairy Production 109. Lectures and lab. Spring quarter. Five credits.

*Caine*

111. **Dairy Cattle Judging**—A study of the types of the various breeds of dairy cattle. Visits to important herds. Valuation of dairy cattle. Prerequisites, Animal Husbandry 1 and 2, or Dairy Husbandry 12. Spring quarter. Two credits.

*Caine*

115. **Seminar**—Discussion and reports of current literature. Time and credit to be arranged.

*Staff*

150. **Special Problems**—A course for students wishing to study certain specialized phases of the dairy industry. Reading of recent research literature and a certain amount of individual investigational work required. This course requires a thesis. Students majoring in Dairying are required to carry at least six hours of this during their senior year. Any quarter. Time and credit to be arranged.

*Staff*

216. **Research**—Original research work on problems in the dairy industry. Graduate students only. Any quarter. Time and credit to be arranged.

*Staff*

## DAIRY MANUFACTURING

A prescribed course is set up for students majoring in Dairy Manufacturing. Students should study this course rather carefully and adhere to it as closely as possible. It is expected that students spend at least six months in a commercial dairy manufacturing establishment before graduation. It is strongly recommended that more than six months be spent in dairies if possible. This can usually be arranged by securing summer work through the Department. Very good cooperation exists between the department and the commercial dairies, and frequent trips are made to them during this course of study.

4. **Operation of Dairy Plants**—A study of the location and construction of a dairy plant, the construction, selection and arrangement of equipment, operation of equipment including steam boilers, refrigeration systems, and the common mechanical devices used in dairy plants. Studies in operation costs and wastes and keeping plant records will receive consideration. Fall quarter. Five credits.

*Morris*

5. **Judging Dairy Products**—Special methods in judging and inspecting dairy products for market quality. Spring quarter. Two credits.

*Morris*

6. **Market Milk**—Modern sanitary methods of producing, processing and marketing milk for city milk supply. Spring quarter. Two credits.

*Morris*

101. **Manufacture of Ice Cream and Ices**—Purchase of raw materials. Chemical and physical structure of an ice cream mix and their relation to the finished product. Standardizing and processing of standard commercial ice creams and ices. Four lectures and one lab. Spring quarter. Five credits.

*Morris*

102. **Manufacture of Butter**—Receiving and grading milk and cream. Neutralizing cream. Manufacture, packing and grading of butter under commercial conditions. Four lectures, one lab. Fall quarter. Five credits.

*Morris*

103. **Manufacture of Cheese**—Receiving and grading milk, manufacture of American, Cheddar, and various other standard varieties of cheese. Three lectures, two labs. Fall quarter. Five credits.

*Morris*

104. **Manufacture of Condensed and Dried Milk**—Purchasing and grading milk. Modern methods of manufacture. Four lectures, one lab. Winter quarter. Five credits.

*Morris*

105. **Management of Dairy Manufacturing Plants**—Forms of organization of dairy manufacturing enterprises. Personal problems, advertising and selling, managerial use of accounting records and other principles underlying successful management are considered. Spring quarter. Five credits.

*Morris*

## OUTLINE OF COURSE IN DAIRY MANUFACTURING

### FRESHMAN

	F.	W.	S.
General Physics .....Phy. 1 .....	5	..	..
General Dairy .....Dairy 1 .....	5	..	..
Inorganic Chemistry .....Chem. 3, 4 and 5.....	5	5	5
Dairy Farming .....Dairy 2 .....	..	3	..
Principles of Sociology .....Soc. 70 .....	..	3	..
General Poultry .....Poultry 1 .....	..	4	..
Freshman English .....English 10 .....	..	..	5
Market Milk .....Dairy 6 .....	..	..	2
General Economics .....Econ. 51 .....	..	..	5
Elective .....	2	2	..
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## SOPHOMORE

	F.	W.	S.
Organic Chemistry .....Chem. 21 and 22 .....	5	5	--
General Bacteriology .....Bact. 1 and 2 .....	5	--	--
Operation of Dairy Plants.....Dairy 4 .....	5	--	--
Sophomore English .....Eng. 11 .....	--	--	4
Introductory Accounting .....Acct. 1 and 2 .....	--	5	5
Poultry Breeds & Breeding...Poultry 106 .....	--	3	--
Poultry Feeds & Feeding.....Poultry 107 .....	--	3	--
Judging Dairy Products .....Dairy 5 .....	--	--	2
Anatomy and Physiology.....Phy. 4 .....	--	--	4
Elective .....	2	1	2
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## JUNIOR

	F.	W.	S.
Dairy Chemistry .....Chem. 107 and 108 .....	5	5	--
Manufacture of Butter .....Dairy 102 .....	5	--	--
Manufacture of Cheese .....Dairy 103 .....	5	--	--
Dairy Bacteriology .....Bact. 104 .....	--	5	--
Dairy Production .....Dairy 109 .....	--	3	--
Manufacture of Ice Cream...Dairy 101 .....	--	--	5
Dairy Production .....Dairy 110 .....	--	--	5
Scientific Vocabulary .....Eng. 9 .....	--	--	3
Dairy Cattle Judging .....Dairy 110 .....	--	--	2
Elective .....	2	4	2
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## SENIOR

	F.	W.	S.
Special Problems .....Dairy 106 .....	3	3	3
Industrial Cost Accounting...Acct. 111 .....	--	5	--
Manu. of Condensed Milk.....Dairy 104 .....	--	5	--
Management of Dairy Plants.....	--	--	5
Community Organization and Leadership.....Soc. 185 .....	--	--	3
Market Livestock and Livestock Products .....Econ. 116 .....	--	--	5
Seminar .....	1	1	1
Agricultural Prices .....	--	3	--
Elective .....	13	--	--
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## POULTRY HUSBANDRY

BYRON ALDER, Professor

1. **General Poultry**—A study of breeds, judging, breeding, incubation, brooding, housing, feeding, marketing. Designed to meet the needs of the students wishing a general knowledge of the poultry industry and the problems of production, and a foundation upon which other courses are built. Three lectures, one lab. Winter or Spring quarter. Four credits.

*Alder*

2. **General Poultry**—Same as Poultry 1, except that no laboratory is given. Winter or Spring quarter. Three credits.

*Alder*

3. **General Poultry**—The course is planned to meet the needs of Home Economics students. Not given unless six students apply. Spring quarter. Three credits.

*Alder*

4. **Incubation and Brooding**—Practice work with incubator and a study of the factors which influence the hatching quality of eggs and the raising of chicks. Prerequisite, Poultry 1, Spring quarter. Two credits.

*Alder*

8. **Turkey Raising**—A study of the breeds, breeding, feeding, marketing, etc. Winter quarter. Two credits.

*Alder*

10. **Poultry Practice**—Elementary practice at the poultry yards. Time and credit to be arranged.

*Alder*

**Poultry Diseases**—(See Veterinary Science 70).

105. **Poultry Management**—The housing, care, feeding and management of different breeds under western conditions. Prerequisite, Poultry 1. Winter quarter. Three credits.

*Alder*

106. **Breeds and Breeding**—The origin and development of the breeds and varieties of poultry; practice in judging; a review of the literature on breeding for utility and exhibition. Prerequisite, Poultry 1. Winter quarter. Three credits (1932-33).

*Alder*

107. **Poultry Feeds and Feeding**—A study of nutrition problems; the feeds and methods of feeding. Prerequisite, Poultry 1, or 2. Winter quarter. Three credits.

*Alder*

125. **Special Problems**—Special assignment to work out certain

assigned information on special problems. Prerequisites, Poultry 1, 4 and 105. Time and credit to be arranged.

*Alder*

126. **Seminar**—Current poultry literature studies; assigned problems and special topics. Winter quarter. One credit.

*Alder*

127. **Advanced Poultry Practice**—Special practice at the poultry yards. Prerequisite Poultry 1, 4 and 105. Time and credit to be arranged.

*Alder*

## VETERINARY SCIENCE

H. J. FREDERICK, Professor

10. **Veterinary Elements**—Introduction to anatomy and physiology and the common ailments of domestic animals; the most prevalent diseases, their distribution, causes, symptoms, course, diagnosis, and treatment; observation and practice in the free weekly clinics. Fall or Winter quarter. Four credits.

*Frederick*

15. **Indications of Disease in Animals**—General appearance, nursing, restraint, conformation and soundness, and post-mortem demonstrations. Winter quarter. Three credits.

*Frederick*

20, 21, 22. **Comparative Anatomy**—Especially for students in agriculture and animal husbandry; also students wishing to follow veterinary science. This course is supplemented with practical work in dissection, illustrated by skeletons and models. Fall, Winter and Spring quarters. Three credits each quarter. Given if ten students apply.

*Frederick*

40, 41, 42. **Physiology**—The vital functions of the different species of domestic animals, and those of the human body are compared; the physical and chemical laws as related to physiology, the general properties of animal cells, their origin, development, and growth; special physiology of the various organs and tissues of the animal body. Fall, Winter and Spring quarters. Three credits each quarter. Any or all quarters may be taken.

*Frederick*

50, 51, 52. **Clinics**—Free clinics at the hospital in which students of veterinary science must assist. The numerous cases represent all diseases common to this locality, and furnish the clinic with abundant material for observation and practice. Fall, Winter, and Spring quarters. Hours and credits to be arranged.

*Frederick*

60. **Principles of Horse Shoeing**—The anatomy and physiology of the horse's foot; the form of the foot and the direction of the limb; variations in the flight of the foot; styes of going; shoeing of normal and irregular feet; winter shoeing; correction of defects in gait, and methods of shoeing hoofs defective in form, or diseased. Winter quarter. Three credits. *Frederick*

70. **Poultry Diseases**—The common diseases affecting poultry in this region. Symptoms, diagnosis, prevention, and treatment. Lectures and practical demonstrations. Winter quarter. Three credits. *Frederick*

107. **Hygiene and Infectious Diseases**—A discussion of water and food supply, disinfection, care and management of animals, and feeding of sick animals. The common infectious diseases prevalent here. Methods which should be adopted in their control and eradication. Tests applied for diagnosis, vaccination, and serum treatment of animals. Lectures and Lab. Winter or Spring quarter. Four credits. *Frederick*

118, 119. **Anatomy and Physiology**—A study of the form, structure and functions of the animal body. Attention is given to all domestic animals and students are required to locate and point out the parts related to the form, movement and utility of the animal. Fall and Spring quarters. Three credits each quarter. (Given if 10 students apply.) *Frederick*

120. **Sanitary Inspection**—Inspection of slaughter houses, packing houses, butcher shops, etc., and means of detection of communicable diseases and spoilage in meat products. Prerequisite, Bacteriology 2. One quarter. Three credits. (Given if 10 students apply.) *Frederick*

130, 131. **Obstetrics**. Obstetrical anatomy, reproduction, hygiene of pregnant animals. Obstetric operations, accidents of parturition, and diseases of the new-born. The college herd and the surrounding stock breeding community give ample opportunity for practical work. Winter and Spring quarter. Two credits each quarter.

## BOTANY

B. L. RICHARDS, Professor; F. B. WANN, Associate Professor; BASSETT MAGUIRE, Assistant Professor; H. L. BLOOD, Agent in Cooperation with the U. S. Department of Agriculture.

Botany 21, 22, 30, 120, 126, 130, 131, 240 and 241 or equivalent required for students majoring in Botany.

1. **Elementary General Botany**—A brief study of the nature and development of plants; plant parts and their functions; the food of plants; the relation of plants to human needs. Three lectures, two demonstration periods. Fall or Spring quarter. Five credits. *Maguire*

21, 22. **General Botany and Comparative Morphology**—A general course dealing with the structure, growth, nutrition and reproduction of plants. Gross morphology and functions of the flowering plants are emphasized the Fall quarter; comparative morphology of the plant groups from evolutionary standpoint in the Winter quarter. Designed especially for students in Agriculture. Two lectures and two labs. Fall and Winter quarters. Four credits each quarter.

*Wann and Maguire*

23. **Plant Morphology**—Life histories and structural relationship of plants representative of the four big groups. The course is so organized as to give a broad view of the processes of evolution. Prerequisite Botany 1 or 21, 22. Three lectures, two labs. Spring quarter. Five credits.

*Staff*

30. **Systematic Botany**—Fundamentals of plant classification, with emphasis on flowering plants, especially economic groups. Individual practice with botanical keys. Prerequisite, Botany 1 or 21, 22 or equivalent. Two lectures, one laboratory. Spring quarter. Three to five credits.

*Maguire*

102. **Systematic Botany**—A continuation of course 30. Individual work with particular families or floras. Summer quarter. Two or three credits. Time to be arranged.

*Maguire*

116. **Histological Technique**—Methods of killing and preserving botanical specimens and the preparation of permanent sections of plant material. Designed especially for teachers of Botany and research students. Time and credit to be arranged. Any quarter.

*Staff*

120. **Elementary Plant Physiology**—A course dealing with fundamental principles of the development of the plant in relation to its environment, including a study of absorption, nutrition, food manufacture, metabolism, translocation, and growth. Special emphasis is placed on water relations, light, and temperature. Prerequisite, Botany 21, 22. Should be preceded or accompanied by organic chemistry. Three lectures, two labs. Spring quarter. Five credits.

*Wann*

122. **Physiological Diseases of Plants**—A study of the abnormalities in plant growth caused by disturbances in the physiological functions of the plant. Prerequisite, Botany 120. Winter quarter. Three credits. (1932-33.)

*Wann*

124. **Plant Chemistry**—Chemical reactions and transformations underlying the vital processes in plants. Alternates with 122. Three lectures. Winter quarter. Three credits.

*Wann*

126. **Plant Ecology**—Distribution and structural adaptations of plants as affected by environmental factors. Occasional field trips. Prerequisite, Botany 21 and 22. Two lectures, one lab. Fall quarter. Three credits.

*Maguire*

127. **Continuation of course 126.** Two lectures, one lab. Winter quarter. Three credits.

*Maguire*

130. **Principles of Plant Pathology**—Fundamental principles underlying diseases in plants. The types of diseases and methods of study are such as will give the student a comprehensive view of the subject of plant pathology. Prerequisite Botany 1 or 21, 22. One lecture, two labs. Fall quarter. Three credits.

*Richards*

131. **Truck Crop Diseases**—Diseases of vegetable crops with special emphasis on the factors underlying their cause, development and control. Prerequisite, Botany 130. Winter quarter. One lecture, two labs. Three to five credits. (Not given 1931-32.)

*Richards*

133. **Field Crop Diseases**—Diseases of cereal and forage crops. Prerequisite, Botany 130. One lecture, two labs. Winter quarter. Three to five credits. Given alternate years with Botany 131.

*Richards*

135. **Orchard Crop Diseases**—Diseases of orchard and small fruits. Prerequisite, Botany 130. One lecture, two labs. Three to five credits. To alternate with Botany 140.

*Richards*

140. **Forest Crop Diseases**—Study of nature, cause and control of diseases, and decay of forest trees and woods. Prerequisite, Botany 130. One lecture, two labs. Winter Quarter. Three credits. To alternate with Botany 135. (Not given 1931-32.)

*Richards*

150. **Mycology**—Morphological and taxonomic relations of fungi with emphasis on economic forms. Prerequisite, Botany 1, or 21, 22. Fall quarter. One lecture, two labs. Three credits.

*Richards*

221. **Pathological Technique**—Special cultural methods as applied to Plant Pathology, Physiology, and related subjects. Students may register for courses 221 and 222 only by special permission. One lecture, three labs. Fall quarter. Three credits.

*Staff*

222. **Pathological Technique**—Continuation of course 221. Fundamental principles of photography as applied to advanced work in biology

and plant pathology. Special attention is given to micro-photography and lantern slide production. One lecture, two labs. Winter quarter. Three credits. *Richards*

240, 241, 242. **Seminar**—Fall, Winter, and Spring quarters. Two credits each quarter. Time to be arranged. *Staff*

250. **Research**—Open to all qualified Senior college students in Ecology, Physiology and Pathology. *Staff*

## FORESTRY AND RANGE

T. G. TAYLOR, Professor; R. J. BECRAFT, Associate Professor; P. M. DUNN, Assistant Professor; ....., Instructor.

The department of forestry and range was organized in 1927, as a result of a definite development of interest in the region for college training in this field. The course of study constitutes four years training, upon completion of which graduates are awarded the Bachelor's degree in forestry. Graduation requirements include completion of the course as outlined, and attendance at summer camp, the first session of which is planned for the summer of 1932.

The aim of the curricula of this department is to train men for private or government work in (1) technical forest management, and (2) technical range management. The course for the first two years is practically the same for both majors, with opportunity for specialization the last two years. The course of study has been outlined to prepare senior students for the technical examinations for Junior Forester or Junior Range Examiner.

A forest tree distribution program is now under way. The presence of the forest nursery, which is situated on the campus, furnishes a considerable amount of work for students of the department. The department has been fortunate in placing a large number of qualified students in temporary positions with the Forest Service during the summer vacation periods.

The fortunate geographical location of this department, the opportunity for self help, and the rapid expansion of forestry and range work provide a happy combination of circumstances for training in these fields.

1. **Elementary Forestry and Range**—A general survey of the profession of forestry and range, character of the work, relation of forestry and range to the welfare of the state and nation. Three lectures. Fall Quarter. Three credits. *Taylor and Becraft*

6. **Mensuration I**—The methods of measurements of logs, trees and stands. The theory of log rules and volume table construction and their use in timber measurement. Three lectures, two labs. Fall quarter. Five credits. *Dunn*

7. **Mensuration II**—The methods of determining the rate of growth and yields of trees and stands of timber. The relationship of growth study to timber survey and the management of the forest. Three lectures, one lab. Winter quarter. Four credits.

*Dunn*

12. **Dendrology I**—Important American species of Gymnosperms: character, identification, economic importance, distribution. Two lectures, one lab. Occasional field trips. Winter quarter. Three credits.

*Becraft*

13. **Dendrology II**—Same as dendrology I except for broad leaved trees. Three lectures, one lab. Field trips. Spring quarter. Four credits. (Not given 1931-32.)

18. **Fire Protection**—The organization problem in forest fire protection. The proper method of attack to control fires. The course is aimed to fit one to take a definite place in a fire organization. Three lectures. Winter quarter. Three credits.

*Taylor*

25. **Logging and Milling**—Various methods of handling timber from the tree to the mill for different forest regions of the U. S. The manufacture of lumber and other sawed products from logs. Three lectures. Winter quarter. Three credits.

*Dunn*

114. **Silvics**—A study of the climatic, physiographic and biotic factors and their effect upon tree growth. The reaction of the forest upon the site factors. Prerequisites, Forestry 12, 13. Three lectures. Fall quarter. Three credits.

*Taylor*

115. **Silviculture**—Systems of marking to insure natural regeneration. Methods of thinning stands to stimulate the rate of growth. A study of methods of cutting the important timber stands of the U. S. Three lectures. Winter quarter. Three credits.

*Taylor*

116. **Planting**—The raising of forest tree planting stock by artificial methods. The collection and storage of seed. Nursery practice and field planting. Two lectures, one lab. Spring quarter. Three credits.

*Dunn*

121. **Forest Management**—Division of the forest into working units, choice of rotation, determination of the cut, frequency of returns, relation to market. Four lectures. Fall quarter. Four credits.

*Taylor*

122. **Forest Finance**—The value of forest property for continued timber production. The determination of loss from fire and other causes. Forest insurance and taxation. Five lectures. Winter quarter. Five credits.

*Taylor*

125. **Wood Technology**—Structural and physical properties and identification of economic woods. Two lectures, two labs. Fall quarter. Four credits.

127. **Forest Products**—The utilization of wood for products other than sawed material as the manufacture of turpentine, pulp and paper, rayon; the preservation and fireproofing of wood. Prerequisite, Forestry 125. Three lectures. Winter quarter. Three credits.

*Taylor*

132. **Forest Administration**—Organization and work of the U. S. Forest Service. Priority of work. Methods of rating men. Three lectures. Winter quarter. Three credits.

*Taylor*

133. **Forest Economics**—The relation of forests to our economic life. The economic consequences of forest destruction. Forestry as a land problem. Three lectures. Fall quarter. Three credits.

*Taylor*

134. **Forest Policy**—The various land policies of the U. S. Development of federal forest policies and legislation. State developments in forestry. Three lectures. Winter quarter. Three credits. (Not given 1932-33.)

136. **Related Resources**—The recreational uses of forests. A study of fish and game and their relation to forestry. Five lectures. Spring quarter. Five credits.

*Taylor*

142. **Forestry Research Methods**—The method of conducting a complete research problem. How to select a problem, prepare a working plan, execute the work, derive conclusions with the aid of graphic and statistical methods and prepare the results for publication. Three lectures. Winter quarter. Three credits.

*Dunn*

143-144. **Forestry Seminar**—A study of forestry problems and a general consideration of forestry practice. Fall and winter quarters. Three hours each quarter. Two credits each quarter.

*Taylor and Dunn*

145. **Forestry Thesis**—Individual accomplishment of an original problem in forestry. Time by special arrangement. Any quarter. Two to six credits. A total of six credits allowed.

*Taylor and Dunn*

**Summer Camp**—Eight weeks. Following the junior year, all students majoring in forestry or range are required to spend eight weeks in camp on the department forest. The entire time will be devoted to field work in mensuration, silvics, silviculture and range. Twelve hours credit for summer camp will be allowed. The first summer camp is planned for 1932.

*Staff*



162. **Range Management**—Grazing regions, range forage plants and their growth requirements, seasonal use, grazing capacity, range improvement, methods of handling livestock. Three lectures, one lab. Field trips. Fall quarter. Four credits.

*Becraft*

164. **Range Problems**—Technical problems in range management. field methods in administration and research. Prerequisite, Forestry 162. Four lectures. Winter quarter. Four credits.

*Becraft*

166. **Range Management Plans**—Detail of methods in range reconnaissance, assemblage and application of data, development of a specific range management plan. Prerequisite, Forestry 162. One lecture, one lab. Fall quarter. Two credits.

*Becraft*

176. **Range Forage Plants**—Native forage plants: taxonomy, economic value, distribution, associations. Prerequisite, Botany 30. Three lectures, two labs. Winter quarter. Five credits.

*Becraft*

181. **Range Economics**—Development of the range industry, land utilization, control systems, range and ranch units, grazing resources and capacity, value of range forage, production costs of livestock. Two lectures. Winter quarter. Two credits. (Not given 1932-33.)

193, 194. **Range Seminar**—Discussion of current development in range management. Fall and winter quarters. Three lectures. Two credits each quarter.

*Becraft*

195. **Range Thesis**—Individual accomplishment of an original problem in range. Time by special arrangement. Any quarter. Two to six credits. A total of six credits is allowed.

*Becraft*

## OUTLINE OF COURSES IN FORESTRY AND RANGE

### FRESHMAN

	F.	W.	S.
Freshman Composition .....	Eng. 10 .....	..	5
General & Systematic Botany.....	Bot. 21, 22, 30.....	4	4 3
Algebra, Trigonometry .....	Math. 35, 46 .....	5	5 ..
General Physics .....	Phys. 1 .....	5	.. ..
Market & Breed Types.....	An. Hus. 4.....	..	.. 3
E1. For. & Range, Fire Pro.....	For. 1, 18 .....	3	3 ..
Dendrology .....	For. 12, 13 .....	..	3 4
Elective .....	.....	..	2 2
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		17	17 17

## SOPHOMORE

	F.	W.	S.
Sophomore Composition ..... Eng. 11 .....	..	..	4
Forest Entomology ..... Zoo. 105 .....	..	..	4
Inorganic & Organic Chem..... Chem. 3, 4, 26.....	5	5	5
Plane Surveying, Mapping..... A. E. 1, C. E. 83, A. E. 2.....	4	2	4
Mensuration ..... For. 6, 7 .....	5	4	..
Logging and Milling ..... For. 25 .....	..	3	..
Elective .....	3	3	..
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**Sophomore Range**—Same as Sophomore Forestry except omit Mensuration, For. 7 and Forest Entomology, Zoo. 105, and add Sheep Management, An. Hus. 9 and Elem. Zoology, Zoo. 1 (Eng. 11 shifts to winter quarter).

## JUNIOR FORESTRY

	F.	W.	S.
Plant Physiology ..... Bot. 120 .....	..	..	5
Mycology, Forest Pathology..... Bot. 133, 135 .....	3	3	..
Geology ..... Geol. 12 .....	..	..	5
Silvics, Silviculture, Planting... For. 114, 115, 116.....	3	3	3
Wood Technol., For. Prod..... For. 125, 127.....	4	3	..
Economics, Policy, Admin..... For. 133, 134, 132.....	3	3	3
Forestry Research Methods..... For. 142 .....	..	3	..
Range ..... For. 162 .....	4	..	..
Elective .....	..	2	1
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## SENIOR FORESTRY

	F.	W.	S.
Management, Finance ..... For. 121, 122 .....	4	5	..
Related Resources ..... For. 136 .....	..	..	5
Range Mgt. Plans..... For. 166 .....	2	..	..
Forestry Seminar ..... For. 143, 144 .....	2	2	..
Forestry Thesis ..... For. 145 .....	3	3	..
Elective .....	6	7	12
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## ELECTIVE COURSES—FORESTRY AND RANGE

Required:

Language .....	9 credits
Social Science .....	5 credits

## JUNIOR RANGE

	F.	W.	S.
Plant Ecology, Physiology.....Bot. 126, 127, 120.....	3	3	5
Geology.....Geol. 12.....	..	..	5
Silvics, Silviculture, Planting.....For. 114, 115, 116.....	3	3	3
Policy, Administration.....For. 134, 132.....	..	3	3
Forestry Research Methods.....For. 142.....	..	3	..
Range, Forage Plants.....For. 162, 176.....	4	5	..
Elective.....	7	..	1
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	17	17	17

## SENIOR RANGE

	F.	W.	S.
Soils.....Agron. 160.....	4	..	..
Feeds and Feeding.....An. Hus. 103.....	..	5	..
For. Mgt., Rel. Resources.....For. 121, 136.....	4	..	5
Range Mgt. Plans, Problems.....For. 166, 164.....	2	4	..
Range Economics.....For. 181.....	..	3	..
Range Seminar.....For. 193, 194.....	2	2	..
Range Thesis.....For. 195.....	3	3	..
Elective.....	2	..	12
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## HORTICULTURE

FRANCIS M. COE, A. L. WILSON, Assistant Professors

The State of Utah and the Intermountain and Pacific Coast regions offer excellent commercial opportunities to men with fundamental and practical horticultural training. The wide variety of fruit and truck crops for market and cannery offer excellent possibilities for college trained men who plan to farm. The widespread interest in beautification makes the allied fields of landscape gardening, floriculture, and nursery business attractive to qualified men and women. Opportunities are also open in high school Smith-Hughes and college teaching, in inspection and regulatory work, in experiment station and extension work, in the government service, and in many allied industries, such as seed, nursery, spray material, agricultural journalism, and fruit and vegetable marketing.

Major, minor, or elective work is offered in Pomology (fruit culture) Vegetable Crops, and Landscape Gardening and Floriculture. Emphasis is placed on the practical art, as well as on the fundamental science of Horticulture. Work in laboratories, greenhouses, gardens, and orchards of the College and surrounding country is used to supplement the lectures and recitations, and field trips are made to commercial fruit and truck farms to study practical problems at first hand.

Students majoring in Horticulture should, in addition to the Junior College courses in this department, secure a thorough grounding in Chemistry (including organic), Botany and Plant Pathology, Entomology,

and Soil Science in preparation for advanced work in Horticulture. Courses in Agronomy, Animal Husbandry, Dairy and Poultry Husbandry, Agricultural Economics and Marketing, Irrigation and Drainage, and Farm Mechanics are especially suitable to accompanying course work in Horticulture. Courses in speech and writing are also advised. Students are urged to confer with the departmental staff in arranging their courses of study.

For a major in Pomology the following courses are required: 101, 102, 107, 108, 110, 130, 151, 152 and Seminar. For a major in General Horticulture, courses 3, 4, 6, 101, 107, 108, 130 and Seminar are required.

1. **General Horticulture**—This course, which is designed to meet the needs of students in Agriculture, Commerce and Education, covers in an introductory way the field of horticulture.

Lecture, recitation, and laboratory work on the outlook, opportunities and methods of profitable fruit production in the intermountain region. Elementary work in vegetable gardening, small fruits, plant propagation, landscape gardening and floriculture. Five lectures, one lab. Participation in the annual Horticultural Show is a part of this course. Should be preceded or accompanied by Botany 21. Five credits. Sec. 1—Fall quarter. Sec. 2—Winter quarter (given for 10 or more students).

*Coe, Wilson*

3. **Landscape Gardening**—Elementary theory and practice of laying out and beautifying home grounds in the city and on the farm. Trees, shrubs, vines, perennial and annual flowers and their use in ornamental gardening. Garden appreciation. Problems in improvement of home grounds, rural and urban. This course is designed to meet the needs of women as well as men students, and should be particularly valuable to teachers. Three lectures, one lab. Spring quarter. Four credits.

*Coe*

4. **Vegetable Crops**—A general survey of the entire field of vegetable production. It includes types of vegetable production, factors influencing the developing of the industry, management of home and market gardens, cultural practices, varieties and market requirements for vegetable crops. Three lectures, one lab. Fall quarter. Four credits.

*Wilson*

6. **Plant Propagation**—Principles and methods of plant propagation. One laboratory period each week will be devoted to practical work. Should be preceded or accompanied by Botany 22. Two lectures, one lab. Winter quarter. Two credits.

*Wilson*

7. **Greenhouse Practice**—Practice work in propagating and growing ornamental plants and greenhouse floral crops, supplemented by one lecture and assignment per week. Winter quarter. Two credits.

*Coe*

8, 9. **Vegetable Forcing**—Principles of greenhouse management

with emphasis on vegetable forcing. Prerequisite, Hort. 4 and 6. One lecture, one lab. Winter and spring quarters. Two credits. (1932-33.)

*Wilson*

**101. Orchard Management**—This course comprises a complete course in modern fruit growing practice, with sufficient emphasis on fundamental principles to enable the student to adapt himself to changing practices and conditions. This course is recommended to fill Smith-Hughes requirements in Horticulture.

Lecture and recitation work in establishing orchards, varieties and their selection, propagation, management, harvesting, grading, packing, etc., accompanied by laboratory work and field trips. Students assist in staging the annual Horticultural Show and participate in exhibiting, packing, identification, and other contests. Prerequisites, Botany 21, Chem. 1 or 3. Fall quarter. Three credits.

*Coe*

**102. Fundamentals of Fruit Production**—A thorough review of fundamental principles and practices as developed by research in horticultural science. Geography, climatic factors, propagation, water relations, nutrition, soil management, pruning and training, fruit setting. Practical applications of fundamentals are considered. Prerequisites, Botany 22, Chem. 4 and 26, Agron. 106 (Soils). Winter quarter. Five credits. Given alternate years only. (Will be given 1931-32.)

*Coe*

**104. Advanced Vegetable Crops**—Geographic, ecological and physiological factors underlying the production, preparation for market, and storage of vegetable crops. Prerequisites: Hort. 4, Botany 120, Chemistry 21 and 22 or 26. Bacteriology 111 is also desirable. Winter quarter. Three credits. (1932-33.)

*Wilson*

**105. Canning Crops**—Special emphasis will be placed on the canning crops grown in Utah. Some of the more important canning crops not grown in Utah will also be considered. Prerequisite: Hort 4. Winter quarter. Two credits. (1932-33.)

*Wilson*

**107. Spraying**—Fungicides and insecticides used in the control of fruit and vegetable insects and diseases; their preparation, properties and use in spraying; spray machinery and equipment, dusts and dusting; spray schedules; economics of spraying; fumigation; rodent control. Practical laboratory and field work in the preparation, mixing and application of spray materials. Problems in practical spray management. Prerequisites: Chem. 4, Botany 130 (Plant Pathology); and Zool. 14; (Ec. Entomology). Three lectures, 1 lab. Winter quarter. Four credits.

*Coe*

**108. Small Fruits**—Commercial and home culture of raspberries, blackberries, currants, gooseberries, strawberries, and grapes. Soils and

sites for small fruit plantations; varieties, propagation, planting, training, pruning, culture, harvesting and handling. Practical laboratory work in greenhouse, nursery, and field; trips to vineyards and berry farms. Three lectures, one lab. Spring quarter. Four credits.

*Wilson*

109. **Horticultural Products**—Study of manufacturing processes used in the utilization of fruits and vegetables. Canning, dehydration, beverages, vinegar making, fruit confections and by-products. Laboratory work in preparation of products, and trips to canneries and by-products plants. Three lectures, one lab. Fall quarter. Four credits. (1932-33.)

*Coe*

110, 111. **Orchard Practice**—Field work in seasonal orchard operations. Fall quarter includes picking, grading and packing of fruits, and field trips to orchards in Cache and Box Elder Counties. Spring operations are pruning, renovation, grafting, planting, spraying, cultivation, irrigation, and thinning. Must be preceded or accompanied by Hort. 101, Orchard Management. Given for 5 or more students. Fall quarter. One credit.

*Coe*

120. **Advanced Landscape Design**—Continuation of Course 3. Students work on assigned projects under supervision of instructor. Prerequisite, Hort. 3. Winter quarter. Two credits.

*Coe*

130. **History and Literature of Horticulture**—Brief study of the history of horticulture, survey of the literature to acquaint students with sources of horticultural knowledge. Winter quarter. Two credits. (1932-33.)

*Coe*

131. **Subtropical Fruits and Nut Culture**—Culture of citrus fruits, avocados, figs, dates, bananas, and other tropical and sub-tropical fruits; walnuts, almonds, filberts, pecans and other nuts. Winter quarter. Three credits.

*Coe*

151. **Systematic Pomology**—Varieties of fruits; their classification, identification, and adaptation; critical study of many varieties of fruits; the more important fruit groups and their inter-relationships. Breeding and improvement of fruit plants. Practical work in variety identification, fruit exhibition and judging. Assigned readings on fruit varieties. Staging the Horticultural Show including participation in judging contest required as a part of this course. Prerequisites, Hort. 1, Bot. 30. Fall quarter. Five credits. (Not given 1931-32.)

*Coe*

152. **Commercial Pomology**—Problems dealing with the handling and marketing of fruits, including picking, grading, packing, transportation,

storage, distribution and sale; study of buildings and equipment for packing and storing fruit; roadside and local marketing. Hort. 110, Orchard Practice should precede this course. Prerequisite, Hort. 1. Winter quarter. Five credits. (Not given 1931-32.)

*Coe*

153, 154. **Seminar**—Discussion of current Horticultural topics, recent research work, reports on subjects not covered by regular courses, presentation of original papers on selected topics. Required of Senior students in Horticulture and elective to other upper division students. All students are welcome to participate as visitors. Fall and Winter quarters. One credit each quarter.

*Coe, Wilson*

155. **Special Problems**—Studies of advanced problems in Pomology, Landscape Gardening, or Vegetable Gardening for qualified senior or graduate students. Problem or subject selected by student. Assigned readings and research work in library, laboratory, greenhouse or field, presented as thesis. Registration by permission only. Two to five hours credit.

*Staff*

Hort. 190, 290. **Summer Horticultural Travel Course**—A supervised field trip to the Northern States and California to study orchard, small fruit, vegetable and ornamental enterprises in their highest development. This course is intended for seniors and graduates to put the finishing touches to their horticultural training through first hand observation of successful enterprises in these leading horticultural states. Travel will be by automobile, students defraying their own expenses, which will be kept at a minimum. Trips will require about six weeks in late summer, and will carry six credits. Will be given alternate years only if sufficient students are interested.

*Coe*

201, 202, 203, 204-a, 204-b. **Research**—Original research on horticultural problems for graduate students qualified to do investigational work in Horticulture, to be presented as graduate thesis for major or minor credit. Graduate thesis work may be used in partial fulfillment of requirements for the Master of Science degree, with major or minor in Horticulture. Re-registration until problem is completed. Registration by permission only. Course 201, Fall quarter; 202, Winter quarter; 203, Spring quarter; 204-a and 204-b, first and second Summer Sessions, respectively. Three to ten credits.

*Staff*

# ARTS AND SCIENCE AND EDUCATION

## ART

CALVIN FLETCHER, Professor; H. R. REYNOLDS, Assistant Professor.

1. **Nature Appreciation**—Study of beauty in natural form with a view of its use in design. Fall quarter. Three credits.

*Fletcher and Reynolds*

2. **Organization and Design**—General principles of design in pattern and color, color theory, etc. Winter quarter. Three credits.

*Fletcher and Reynolds*

3. **Art Appreciation**—Art principles as applied to costume, interior decoration, painting, sculpture and architecture will be discussed. Spring quarter. Three credits.

*Fletcher and Reynolds*

31. **Commercial Art and Posters**—Design in advertising, commercial illustration, posters, displays, lettering, etc., will comprise the course. It is recommended to students of commerce, show card and illustration. Spring quarter. Three credits.

*Reynolds*

32. **Color**—The *Enjoyment and Use of Color*, by Sargent, will be used as a text. A thorough study of color will be taken up. Recommended for students in Commerce and all students specializing in art, or any who desire a good understanding and appreciation of color. Winter quarter. Three credits.

*Reynolds*

33. **History and Appreciation of Painting and Sculpture**—Survey of the great achievements of art throughout the ages together with analysis of modern technical processes necessary to the understanding of present day paintings, sculpture, and architecture. Recommended to students of Commerce and all others interested in understanding the work of the great artists of all time. Spring quarter. Three credits.

*Reynolds*

34. **Art for Young Children**—Designed to meet the needs of child development specialists, mothers in the home, and kindergarten teachers. Simple handiwork, color, design, and drawing expression will be considered as an educational and recreational activity in the life of the child. Winter quarter. Two credits.

*Fletcher*

51. **Drawing for Public Schools**—Methods of vitalizing the teach-



ing of drawing in the graded schools including use of line and color media; also blackboard work. Spring quarter. Three credits.

*Fletcher*

52. **Design and Handiwork for Graded Schools**—Methods of doing and teaching design and color to children. Work in stick printing, stenciling, weaving basketry, jesso and other crafts used to relate design and color to the crafts studied. Fall or Winter quarter. Five credits.

*Reynolds*

122. **Home Planning, Construction and Design**—The principles of home design, garden design, house construction, heating, sanitary equipment, etc., together with painting, color and wood finishing will comprise the course. Fall quarter. Three credits.

*Fletcher*

**Note:** Art 122, 123 and 126 may be used in Household Administration Department to apply on major.

123. **Interior Decoration**—Decoration and furnishing of interiors including furniture, walls, tableware, pottery, pictures, flowers and the practical assembling of all features which go to make the home beautiful. Also the historic styles of furniture and furnishing will be taken up. Four lectures, one lab. Winter quarter. Five credits.

*Fletcher*

124. **Perspective Theory**—The principles of cylindrical, parallel, and oblique perspective as used in drawing will be covered. Fall quarter. Three credits. (1932-33.)

*Fletcher*

125. **Anatomy and Figure Drawing**—Study of art form in the human figure by means of artistic anatomy and creative expression by use of the human figure. Fall quarter. Three credits.

*Fletcher*

126. **History and Appreciation of Architecture**—The characteristics of the great historic styles of building and their evolution, will be studied, with a view to developing good taste and judgment in this field at the present time. Spring quarter. Three credits.

*Fletcher*

151. **Art Education for High Schools**—What to teach and how to present it. Drawing design, crafts and theory will all be considered. A basic knowledge of drawing and design is prerequisite. Required of all art majors who expect to teach in High School. Fall quarter. Three credits. (Not given 1931-32.)

*Fletcher*

### STUDIO COURSES

Conducted as individual laboratory work. Three hours work each week required for each credit granted. Two, three or more credits may

be taken each quarter. Students must file their studio hour schedule with the professor in charge of the course during the first week of their attendance.

All studio courses are given in the Art Studios on 3rd floor, Main building, and may be taken up in any quarter.

One or more examples of student's work may be retained during the succeeding year for exhibition.

A class in pose drawing will meet Wednesday, 2-5, during the Winter quarter.

A sketch class will be organized to work out of doors on Wednesday afternoons during the Fall and Spring quarters. Any medium within the range of the student's ability may be used. Sketching is recommended especially to painting, drawing and illustration students.

4. **Drawing**—Free hand drawing from still life, cast and nature.  
*Fletcher*
5. **Elementary Painting**—In water color, oil, or pastel.  
*Fletcher*
6. **Elementary Modeling**—From antique and nature.  
*Fletcher*
7. **Illustration**—Elementary illustration and processes for newspapers, books and magazines.  
*Fletcher*
8. **Embroidery Design**—Design for embroidery, lace weaving, etc.  
*Fletcher*
9. **Historic Ornament**—Egyptian, Assyrian, Greek, French and Renaissance may be studied.  
*Reynolds*
10. **Elementary Show Card**—Show card and elementary sign writing.  
*Fletcher*
11. **Pottery**—Elementary, including building, turning, glazing, firing, etc., such as may be done with limited equipment.  
*Reynolds*
12. **China Painting**—Elementary painting processes. Prerequisites, Art 1, 2, 3, or equivalent.  
*Fletcher*
13. **Copper Work**—Simple exercises in sawing, raising, and repousse.  
*Reynolds*
14. **Leather Work**—Elementary etching, dyeing, cutting, and tooling in leather mats, purses, bags, etc.  
*Reynolds*

15. **Basketry**—Weaving processes in reed, raffia, and grass.  
*Reynolds*
16. **Enameling**—Work on glass, wood, ivory, Polychrome, etc.  
*Reynolds*
17. **Fabric Decoration**—Elementary stenciling, tie and dye, block-printing and Batik.  
*Reynolds*
106. **Advanced Drawing**—Life drawing from draped figures, animal drawing, and advanced antique.  
*Fletcher*
108. **Advanced Painting**—Oil, water color, or pastel may be used.  
*Fletcher*
109. **Advanced Modeling**—From animals or living models.  
*Fletcher*
110. **Advanced Illustration**—Newspaper, magazine, costume and decorative illustration, illumination, poster work, or cartooning may be pursued. Opportunity is also given to pursue scientific illustration. Students will pursue one line at a time.  
*Fletcher*
111. **Professional Design**—Design for textiles, wall paper, interior decoration, furniture, etc. One line to be taken at a time.  
*Fletcher*
112. **Advanced Costume Design**—Prerequisites, Textiles, 105, 115.  
*Fletcher*
113. **Advanced Show Card and Technical Sign Work.**  
*Fletcher*
114. **Fancy Lettering and Illumination**—Pen lettering and decoration for memorials, documents, Christmas greetings, place cards, etc.  
*Reynolds*
115. **Advanced China Decoration**—Incrusted work, enameling, lustre, and past to be taken up.  
*Fletcher*
116. **Advanced Art Metalry**—  
*Fletcher*
117. **Jewelry**—Sawing, wire work, filigree, stone setting, enameling, soldering, will be taken up with brooches, rings, lavalliers, pins, chains, etc.  
*Reynolds*
118. **Advanced Leather Work**—Tooling, carving, mounting and finishing.  
*Reynolds*

119. **Advanced Wood Ornamentation and Picture Framing**—Carving, inlay, scraffito, esso, etc.  
*Fletcher and Reynolds*
120. **Advanced Fabric Decoration**—Advanced work in Batik, dyeing, stenciling, and block-printing.  
*Reynolds*
206. **Advanced Drawing**—From animals, life, and close anatomical analysis.  
*Fletcher*
208. **Advanced Painting**—Landscape or portrait may be pursued.  
*Fletcher*
209. **Advanced Modeling**—Original projects in sculpture to be carried out.  
*Fletcher*
211. **Professional Design**—Interior decoration, or commercial design may be taken up.  
*Fletcher*

## BACTERIOLOGY AND BIOCHEMISTRY

J. E. GREAVES, Professor; KENNETH R. STEVENS, Instructor.

1. **General Bacteriology**—This course deals with the biology and significance of bacteria. The following are considered: The development of bacteriology; the morphology and physiology of bacteria; bacteria in air, food and water, and the role they play in the arts and industries. Where possible this course should be accompanied by Bacteriology 2. Fall, Winter or Spring quarter. Three credits.  
*Greaves and Stevens*
2. **General Bacteriology (Laboratory)**—It is desirable that this accompany Bact. 1. Fall, Winter or Spring quarter. Two credits.  
*Greaves and Stevens*
10. **Physiological Bacteriology**—A course dealing with the important physiological properties of bacteria. It is in reality a continuation of Bacteriology 1, and is given for those students who wish more work in this subject than is given in the first course. Prerequisite, Bacteriology 1. Winter quarter. Three credits.  
*Greaves*
101. **Industrial Microbiology**—This course deals with the part played by microorganisms in the arts and industries. Prerequisite, Bacteriology 1 and 2. Spring quarter. Three or five credits.  
*Stevens*
102. **Soil Bacteriology**—Bacteria are considered in relation to soil

fertility. The class will be conducted much as a seminar. Graduate students should arrange with the professor in charge for graduate credit, and register for 202. Prerequisite, Bacteriology 1. Spring quarter. Three credits. (Given only if registration justifies.)

*Greaves*

103. **Soil Bacteriology**—Methods used in bacteriological investigations. Should accompany Bacteriology 102. Prerequisites, Bacteriology 1, 2. Spring quarter. Two credits. (Given only if registration justifies.)

*Stevens*

104. **Dairy Bacteriology**—The bacteria of milk, butter, and cheese, and their relation to disease. Prerequisite, Bacteriology 1. Winter quarter. Three to five credits.

*Stevens*

106. **Pathogenic Bacteriology**—The pathogenic bacteria are considered in relation to disease, the subject of immunity is stressed. Prerequisite, Bacteriology 1. Fall quarter. Five credits.

*Stevens*

111. **Biochemistry**—The transformation going on in the plant and animal. Prerequisite, Chem. 22 or 26. Spring quarter. Five credits.

*Greaves*

112. **Biochemistry**—A laboratory course which may accompany Bacteriology 111. Spring quarter. Two credits.

*Stevens*

113, 114, 115. **Advanced Biochemistry**—A study of the chemical transformation going on in the animal body. The class will be conducted much as a seminar. Graduate students should arrange with the professor in charge for graduate credit, and register for 213, 214 and 215. Two credits each quarter. Fall, Winter, and Spring quarters.

*Greaves*

116. **Sanitary Analysis**—Methods used by the sanitary inspector in examining water, milk and other foods. Prerequisites, Chemistry 103 and Bacteriology 1 and 2. Time and credit to be arranged.

## GRADUATE COURSES

207. **Research**—The laboratory and library facilities are especially equipped for advanced students in bacteriological investigation in agriculture, household science, the industries, sanitary science, and veterinary science. Time and credit to be arranged.

*Greaves and Stevens*

208, 209, 210. **Seminar**—Fall, Winter and Spring quarters. Time and credit to be arranged.

*Greaves*

## CHEMISTRY

R. L. HILL, Professor; C. T. HIRST, SHERWIN MAESER, Associate Professors.

Students desiring to major in chemistry should consult with the head of the department as soon as possible, since departmental approval is necessary for graduation. Courses 102, 103, 104, 105, 106, 112, 113, 160, are required for a major. Majors must also complete physics 20, 21, 22 and Math. 117.

1. **General Chemistry**—An informational course in beginning college chemistry, designed especially for students who desire a brief applied survey of the field of inorganic chemistry. Credit in this course cannot be used as a prerequisite for any course in chemistry. Students majoring in chemistry or desiring premedical credit should register for Chemistry 3, 4 and 5. This course should be preceded if possible by Physics 1.

Five lectures and one quiz period per week. Five credits. Any quarter. Students must elect one quiz section. Quiz sections limited to 15 students.

*Hill and Hirst*

3, 4, 5. **Inorganic Chemistry**—A more complete course in inorganic chemistry, including a beginning in qualitative analysis. Prerequisites, High School Chemistry, or Physics or Chemistry 1, or Physics 1 and 2. The course is so arranged that students who do not have time for a full year course in chemistry may get a general knowledge of the more fundamental principles in the first two terms (3, 4). Those majoring in chemistry or in other natural sciences, or doing premedical work should register also for the third term (5). Three lectures, two labs. Fall, Winter and Spring quarters. Five credits each quarter. One section of 3 and 4 will be repeated Winter and Spring quarters.

*Maeser*

14, 15. **Qualitative Analysis**—A course in the theory and practice of inorganic qualitative analysis. Prerequisite, Chem. 4. Winter and Spring quarters. Three credits each quarter.

*Hirst*

21, 22. **Organic Chemistry**—Fundamental Principles of Organic Chemistry. The aliphatic and aromatic hydrocarbons, and their derivatives. Prerequisite, Chemistry 4. Three lectures, two labs. Fall and Winter quarters. Five credits each quarter.

*Hill*

26. **Organic Chemistry**—An informational course in organic chemistry arranged for students who desire a brief applied course. Students majoring in chemistry or desiring premedical credit should register for Chemistry 21 and 22. Prerequisite, Chemistry 4. Spring quarter. Five credits.

*Hirst*

126. **Applied Organic Chemistry**—The application of organic chemistry to plant and animal life. This course is a brief course for students who have taken 26. Students with credit in Chemistry 5 and 22, should register for Bact. 111, or Chem. 112. Credit in this course is not allowed on a major in Chemistry. Prerequisite, Chem. 26. Fall quarter. Three credits. (Not given 1931-32.)

*Hill*

102-103. **Quantitative Analysis**—A course in the application of theory and the fundamental principles of gravimetric and volumetric analysis to inorganic, agricultural and food analysis. Prerequisite, Chem. 5 or 15. Winter and Spring quarters. Three credits each quarter.

*Hirst*

104, 105, 106. **Physical Chemistry**—See Physics 104, 105, 106.

107, 108. **Dairy Chemistry**—The chemistry of milk and milk products, including tests for adulterants, preservatives, and the routine quantitative methods of the analysis of dairy products. Prerequisite, Chem. 22 or 26. Fall and Winter quarters. Three lectures, two labs. Five credits each quarter. Given if registration justifies.

*Hill*

112, 113. **Advanced Organic Chemistry**—The more important theories and reactions employed in organic chemistry. Prerequisite, Chemistry 22. Fall and Winter quarters. Two credits each quarter.

*Maeser*

115. **Organic Preparations**—An advanced laboratory course in practical laboratory methods of synthetic organic chemistry. Prerequisites, Chemistry 22 and 103. Any quarter. Credit and hours to be arranged.

*Maeser*

116. **Inorganic Preparations**—An advanced laboratory course in practical laboratory methods of synthetic Inorganic Chemistry. Prerequisites, Chemistry 5, or 15, and 103. Any quarter. Credit and hours to be arranged.

*Maeser*

120. **Special Courses in Quantitative Analysis**—Prerequisite, Chemistry 103. Winter or Spring quarter. Time and credit to be arranged.

120-A. **Water Analysis**—

120-B. **Food Analysis**—

120-C. **Soil Analysis**—

120-D. **Urine Analysis**—

120-D. **Gas Analysis**—

*Hirst*

160. **Chemistry Seminar**—Required of all seniors majoring in Chemistry. Spring quarter. Two credits.

*Maeser*

180, or 280. **Research**—Senior or Graduate students majoring in

Chemistry may elect research in any branch of the subject. Time and credit to be arranged.

*Staff*

## EDUCATION

E. A. JACOBSEN, L. R. HUMPHERYS, Associate Professors; \*C. E. McCLELLAN, ELSIE BROWN BATE, Assistant Professors; GEORGE W. BATES, ALVIN HESS, Instructors.

4. **Principles of Education**—A study of (a) the meaning and purpose of education, formal and informal; (b) the nature of the human mind and the learning process; (c) the objectives of education as determined by the individual's needs and by the demands of the social group; (d) the nature and function of the school as an educative agency. Fall, Winter or Spring quarter. Three credits.

5. **Elementary School Curriculum**—This course is designed to familiarize prospective elementary teachers with the content of the elementary curriculum and the objectives and standards to be realized in the grades. Fall, Winter or Spring quarter. Three credits.

6. **Educational Organization and Administration**—A brief survey of the evolution of American public schools. A comparative study of the organization and function of the different units of educational control (national, state and local); methods of raising and apportioning school funds. Special attention will be given to Utah School law and its administration. Fall, Winter or Spring quarter. Three credits.

*Jacobsen and Humpherys*

41. **Principles of Teaching in Elementary School**—The spontaneous purposeful activity of the child as the basic principle determining teaching procedure. Subject matter reviewed in the light of the foregoing theses. Significance to teachers of the fact of individual differences. Consideration of school room equipment, organization and play activity. Fall, Winter or Spring quarter. Three credits.

42. **Practice Teaching**—This course is for sophomores who have had educational psychology, principles of education and methods. The apprentice plan is followed which requires an initial period of observation with minor responsibility but with gradual increase of work and responsibility as trainees' ability is demonstrated. Fall, Winter or Spring quarter. Ten credits. The quarter during which the student is to do practice teaching must be arranged for at the time of registration in the Fall quarter.

105. **The Junior High School**—A course dealing with historical

\*On leave of absence.



development of the junior high school movement together with present theories, principles and practices underlying its operation. .... quarter. Three credits. (Not given 1931-32.)

*Jacobsen*

110. **History of Education**—A brief review of the historical development of educational theories and practices from the Greeks to the present. Special emphasis will be placed upon the relation of education to the social, religious, political and industrial conditions of the period. Important educational reforms and reformers will be studied for the lessons they may teach to modern education. Winter quarter. Three credits.

*Jacobsen*

111. **Science of Education**—A study of the scientific data of education as related to the processes and methods used in high school teaching. Consideration will be given to educational values and objectives and to tests and measurements by which standards are determined. Prerequisite, Psychology 102 or 103. Fall, Winter or Spring quarter. Three credits.

*Jacobsen and Humpherys*

112. **Rural Education**—A survey and study of proposed objectives for rural schools; tendencies in curriculum revision and the organization of rural schools; the preparation of rural teachers, and the functions of the schools as agents in the solution of rural life problems. Winter quarter. Three credits. (Not given 1931-32.)

*Humpherys*

114. **Methods in Secondary Education**—A course dealing with the application of the principles of education in the teaching process. Such problems as motivation, presentation of subject matter, and discipline, as they occur in actual teaching will be considered. Fall, Winter or Spring quarter. Required in connection with 115. Three credits.

*Jacobsen*

115. **Practice Teaching in High School**—For those preparing for Junior High School or Senior High School certification by the State. The apprenticeship plan is followed, which requires a period of observation and the performance of minor duties at first with gradual increase as the trainee proves himself equal to the work. Prerequisites, psychology 102 or 103, and Education 111. Four to eight credits. Fall, Winter or Spring quarter. Arrangements must be made at the time of registration in the Fall if training is desired at any time during the year.

*Jacobsen, Bates and Hess*

119. **Methods in Teaching Home Economics**—The principles of teaching applied to the selection and development of Home Economics subject matter and to conduct of laboratory and classroom. Prerequisites, Food 20 and 21, or Textiles 10 and 11, and Psychology 102. Spring quarter. Three credits.

*Bate*

120. **Problems in Teaching Home Economics**—Objectives and principles involved in teaching subjects related to Home Economics. Planning of courses of study based upon the problem method of teaching. (Especially for teachers who are to qualify for Smith-Hughes certificate.) Prerequisites, Methods in Teaching Home Economics 119. Fall quarter. Three credits.

*Bate*

121. **The Organization and Administration of Secondary Education**—(a) The State Law and regulations of the State Board of Education pertaining to public high school; (b) high school courses of study, including the Utah State course; (c) organization, duties and activities of the teaching staff and the student body; (d) special study of the objectives of social education, including character education as applied to secondary schools and the methods of realizing these objectives. Fall, Winter or Spring quarter. Three credits.

*Jacobsen*

122. **Practice Teaching in Home Economics**—Supervised teaching carried on in the Logan High School. (For twelve weeks). One group and two individual conferences with each girl weekly. Prerequisite, Education 119. Fall, Winter or Spring quarter. Five to eight credits.

*Bate*

124. **Special Methods of Teaching Shop Work**—The analysis and classification of trade knowledge. Establishing an effective instructional order. Methods of instruction. Lesson planning. A consideration of the various teaching devices and the Utah course of study. Problems in instructional management. Winter quarter. Five credits.

*Humpherys*

125. **Practice Teaching in Shop Work**—Supervised observation and practice teaching in various shop units in selected schools near the College. Individual conferences and round table discussion. Prerequisite, Education 124. Winter or Spring quarter. Five to eight credits.

*Humpherys*

126. **Methods of Teaching Agriculture**—For prospective Smith-Hughes and Agricultural Teachers. The home project and agricultural job analysis will be the basis of the course. Special topics considered are: The Smith-Hughes law and how it operates in Utah; selection and arrangement of subject matter; lesson planning; management of students in class room, laboratory and field; visual and extension methods of teaching. Prerequisite, Education 111 or its equivalent. Winter quarter. Five credits.

*Humpherys*

127. **Practice Teaching in Agriculture**—Opportunity will be provided for a limited number of men to do some personally directed teaching in Smith-Hughes work in the Logan High School, North Cache High

School, and the South Cache High School. Prerequisite, first three years of Smith-Hughes course. Winter or Spring quarter. Eight credits.

*Humpherys*

129. **Vocational Educational Guidance and Personnel**.—A study of the meaning, purpose and methods of vocational and educational guidance. An analysis of our vocations. How to organize and administer services of guidance and personnel. Winter quarter. Two credits.

*Humpherys*

131. **Educational Tests and Measurements**.—A course dealing with the history, principles and practices of the testing movement. Analysis of types of tests, their construction and use, with some practice in giving, scoring and interpretation. Spring quarter. Three credits.

*Jacobsen*

229. **Educational Administration**.—A study of state, city, and rural school systems, with the principles underlying their organization and administration; an examination of the powers, duties and responsibilities belonging to state and local boards of education, and upon superintendents, principals, and other school officials. A review of the literature of the field. Prerequisites, Psychology and History of Education. Fall quarter. Two credits. (Not given 1931-32. Will be given 1932-33.)

*Jacobsen*

230. **Educational Supervision**.—A study of the objectives, ideals and present practices of the school; an examination of courses of study as a means of reaching desired objectives; a study of psychological principles as applied to present practices in teaching; a consideration of the technique necessary for the supervisor in determining success or failure on the part of the teacher. Specially arranged visits to teachers at work will constitute a part of the course. Winter quarter. Two credits. (Not given 1931-32. Will be given 1932-33.)

*Jacobsen*

231. **Educational Survey**.—A study of techniques of evaluation of school systems and of revealing and solving educational problems by survey methods. The making of a practical survey will be included as part of the course. Spring quarter. Two credits. (Not given 1931-32. Will be given 1932-33.)

*Jacobsen*

267, 268, 269. **Introduction to Research in Education**.—An inquiry into the nature and source of research problems, with a study of the underlying principles and the methods of working out such problems in the field of education. Some attention is given to the matter of thesis writing as a problem related to research. Fall, Winter and Spring quarters. Two credits each quarter.

*Jacobsen*

271. **Research in Education**.—This course gives opportunity to

seniors and graduate students who are in a position to carry on some worthwhile piece of research in education in which they are especially interested. No regular class is held, but students receive the necessary instruction and guidance for their work through special conferences with the instructor in charge. Time and credit to be arranged.

*Jacobsen*

## ENGLISH AND SPEECH

N. ALVIN PEDERSEN, FRANK R. ARNOLD, Professors; WALLACE J. VICKERS, ALMA N. SORENSEN, Associate Professors; CHARLOTTE KYLE, CHESTER J. MYERS, GEORGE C. JENSEN, Assistant Professors; WALLACE A. GOATES, Instructor; RUTH MOENCH BELL, Assistant; FLOYD LARSEN, Teaching Fellow.

English 10, 11, 50, 51, 52, 105, 108, 109, 140, 141, 153, together with two years of French or German, and English History are required of majors in English.

A comprehensive written examination in English and American literature, given during the Spring quarter of the senior year, is also required of English majors.

**English A**—Drill in fundamentals of preparatory English for students unprepared to take English 10. Three days a week. Winter quarter. No credit. Students taking this course will be charged an extra fee of five dollars.

10. **\*Freshman Composition**—Fundamentals in sentence and paragraph structure; practice in outlining; attention to correct usage; expository and argumentative writing. Fall, Winter or Spring quarter. Five credits.

*Staff*

11. **\*Sophomore Composition**—Open to sophomores who have completed English 10. Freshmen may not register for this course, or receive credit for it, if taken without permission from the head of the department. Practice in selecting and organizing material; drill in effective presentation of subject matter; diction; narrative and descriptive writing. Fall, Winter or Spring quarter. Four credits.

*Staff*

13. **Children's Literature**—Introduction to the prose and poetry of childhood and adolescence. A dollar and a half library fee is required. The course should be helpful to teachers. Fall or Winter quarter. Two credits.

*Pedersen*

15. **Miscellaneous Literature**—Prose fiction and poetry from different ages and countries. Spring quarter. Three credits.

*Pedersen*

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\*English 10 and 11 are required of all graduates.

19. **Scientific Vocabulary**—Intensive study of English word formation, derivation, synonyms, and figurative language in order to acquire a large English vocabulary, and to be able to understand scientific terms. Spring quarter. Three credits.

*Arnold*

31. **World Literature**—A survey course including a study of epic and romance, tragedy, comedy, the tale, satire, etc., as these forms of literature have appeared in Greek, Roman, Hebrew, Italian, French, German, English, and American literature. The course offers an opportunity for contact with the great literature of the world. Winter quarter. Five credits.

*Vickers*

50, 51, 52. **Survey of English Literature**—The literature of Great Britain from the Anglo-Saxon period to the present time, with emphasis upon the literature since the time of Shakespeare. To register for Winter or Spring quarter exclusive of Fall quarter, consult instructor. Fall, Winter, and Spring quarters. Three credits each quarter.

*Sorensen and Jensen*

53, 54, 55. **Nineteenth Century Novel**—Class discussion and reports. French, Russian, Italian, German, English, and American novels. Fall, Winter and Spring quarters. Three credits each quarter.

*Kyle*

60. **The Essay**—The English Essay of the nineteenth century from Lamb to Stevenson. Recent English and American Essays by Arnold Bennett, H. G. Wells, G. K. Chesterton, Agnes Repplier, and Samuel Crothers. Winter quarter. Three credits.

*Kyle*

70. **The Short Story**—A study of the technique of the short story. Stories by Poe, Maupassant, Hawthorne, Bret Harte, Kipling, O Henry and others will be analyzed. Attention will be given to the best short stories appearing in current magazines. Spring quarter. Three credits.

*Kyle*

80, 81. **American Literature**—From Colonial times to the present. Winter and Spring quarters. Three credits each quarter.

*Kyle*

86. **Emerson**—His principal essays and speeches. Spring quarter. Three credits. Given 1932-33.

*Sorensen*

87. **Carlyle**—A study of selected masterpieces. Fall quarter. Two credits. (Given 1932-33.)

*Sorensen*

88. **Browning**—Principally a study of Browning's monologues. Fall quarter. Two credits. *Sorensen*

English 10 and 11 are prerequisites for all courses in English that follow.

105. **College Grammar**—Fall quarter. Five credits.

*Vickers*

108, 109. **Advanced Writing**—Review of rhetorical details. Practice in various forms of discourse. Considerable freedom of choice as to type of writing. To register for Winter quarter, exclusive of Fall quarter, consult instructor. Fall and Winter quarters. Three credits each quarter.

*Pedersen*

111. **The Eighteenth Century Novel**—Sources of the English novel and its development in the eighteenth century, with attention to its influence on the continent. Fall quarter. Five credits.

*Sorensen*

130. **The Bible as English Literature**—The literature of the Bible arranged chronologically and studied in its relationship to the historical, social, and religious background of the Hebrews. (1932-33.)

*Vickers*

131. **Introduction to Greek Drama**—This course provides an opportunity to become acquainted with the greatest of all ancient drama. The plays are read in translation. Spring quarter. Five credits.

*Vickers*

133. **Medieval Literature**—English and some continental literature is studied by types, the epic, the lyric, the romance, etc. The reading is done in translation. Five credits. (1932-33.)

*Vickers*

134. **English Poetry 1500-1660**—A study of the development of the non-dramatic poetry of the period. Five credits. (1932-33.)

*Vickers*

136. **The Teaching of English in Secondary Schools**—Open to seniors who have a major or minor in English. Fall quarter. Two credits.

*Vickers*

140, 141. **Shakespeare**—Detailed study in class of six plays: Macbeth, Henry the Fourth, King Lear, Hamlet, Othello, Twelfth Night. Collateral readings: various other Shakespearean plays as well as a biography. To register for Winter quarter exclusive of Fall quarter, consult instructor. Fall and Winter quarters. Four credits each quarter.

*Pedersen*

143. **Milton**—Selected prose and poetry, with the emphasis upon Paradise Lost. Spring quarter. Five credits. (1932-33.)

*Vickers*

145. **Wordsworth and the Romantic Movement**—Fall quarter. Two credits. (1932-33.)

*Kyle*

153. **Chaucer**—Extensive reading course. Attention is paid to pronunciation. Spring quarter. Five credits.

*Pedersen*

163. **The Modern Drama**—A study is made of the plays of Ibsen, O'Neill, Galsworthy, Andreyev, Benavente, Brieux, Gorki, Maeterlinck, Rostand, Stringberg, Wedekind and others. Spring quarter. Three credits.

*Pedersen*

166, 167. **Types of Fiction**—Period restricted to the eighteenth and nineteenth centuries. The appearance and development of important types in England and America, together with a comparative study of selected European fiction in translation. Winter and Spring quarters. Two credits each quarter.

*Sorensen*

175. **Biography**—An appreciative study of great personalities in the light of their times. Boswell, Cellini, Strachey, Ludvig and others will be studied. Winter quarter. Five credits. (1932-33.)

*Sorensen*

184. **Epic Poetry**—The Iliad, Odyssey, Aeneid, and parts of Dante's Divine Comedy in translation. Fall quarter. Four credits. (1932-33.)

*Vickers*

185. **Contemporary Poetry**—Studies in the poetry of representative English and American authors since 1900. Spring quarter. Five credits.

*Sorensen*

186. **Elizabethan Drama**—A study of the predecessors of Elizabethan dramatists, with emphasis on the contemporaries and the followers of Shakespeare. Fall quarter. Five credits. (1932-33.)

*Sorensen*

## SPEECH

### Majors and Minors

#### Departmental Major:

Interpretation: Speech 1, 2, 4, 5, 6, 102, 104, 106, 112, English 140 or 141. Recommended in addition: English 50, 51, 52; Speech 8, 114.

Public Address: Speech 1, 2, 3, 4, 5, 7, 121, 123, 101, 102, 103, 111.

#### Departmental Minor:

Interpretation: Speech 1, 2, 4, 6, 102, and English 140 or 141.

Public Address: Speech 1, 3, 5, 7, 121, 123.

Teaching Majors and Minors: Same schedules as listed above, but in

addition the candidates must take Speech 111, 113, Education 115, and any other courses in Education necessary for certification. Stress placed upon preparing teachers for speech arts and directors for community dramatics.

All majors must be presented in at least one public recital during his residence at the U. S. A. C.

All majors must appear in at least one departmental play during the four years, and must be on the staff of at least three other plays.

Majors are encouraged to participate in intermural and intercollegiate debates, and in other forensic contests.

Six hours of private lessons required of all majors in interpretative work. Hours and fees to be arranged.

### General Courses

1. **Fundamentals of Speech**—Practice in extemporaneous speaking with a definite study of those principles which make speech effective. Emphasis on delivery. Fall quarter. Five credits.

*Pedersen and Goates*

2. **Vocal Interpretation**—The vocal interpretation of the printed page. The aim of the course is to develop the ability to appreciate intellectually and emotionally any good literature, and to interpret it so that others will appreciate it. Fall or Spring quarter. Five credits.

*Myers and Goates*

3. **Elements of Speech Composition**—Continuation of Speech 1. Emphasis on speech outlines and speech composition. Prerequisite, Speech 1. Winter quarter. Five credits.

*Pedersen and Goates*

4. **Principles of Reading**—An analysis and study of the printed page. Beneficial to those who wish to read effectively either orally or silently. Of value to teachers of reading. Fall or Winter quarter. Five credits.

*Myers and Goates*

5. **Speech Technique**—Special attention is to be given to voice science, gesture, breathing, posture, and phonetics. A course which aims at ease in cultural speech; for those who are interested in coming before the pulpit in any form of speech work. Required of all those who take any senior college speech work. Spring quarter. Three credits.

*Myers and Goates*

6. **Dialect**—A study of the dialect forms of such writers as Burns, Kipling, Drummond, Riley, Dunbar, Harris and Kirk. A course for those who desire a knowledge of the monologue and the use of various dialectic forms. Spring quarter. Five credits.

*Myers*

7. **Argumentative Speech**—A study of the principles governing argumentative discourse, formal and informal. A disciplinary course,



with emphasis on types of argument and professional speech. Practice will be given in oral discussion; some written work, including a long brief on some current problem; practice in speech-delivery of defensive argument. Prerequisites 1, 3, 5. Winter quarter. Three credits.

*Goates*

8. **Story Telling**—The story as an educational factor; analysis and classification of typical stories, with reference to each period of the child's development. Study of source: adaptation of material; actual practice in story telling. The work is designed to meet the needs of student, teacher, librarian and mother. Fall quarter. Five credits. (Given in 1932-33.)

*Myers*

9. **Extemporaneous Speaking (to meet vocational needs)**—Stress placed upon the types of speeches given by those in the fields of agriculture, forestry and engineering. Winter quarter. Three credits.

*Goates*

### Advanced Courses

101. **Advanced Public Speaking**—Practice in the making and delivery of speeches adapted to various audiences and occasions. Written outlines are required. Some attention is given to the matter of parliamentary procedure. Prerequisites, Speech 1, 3, 5. Spring quarter. Five credits.

*Goates*

102. **Dramatic Production (Acting)**—Study and production of plays. Attention is given to work in the art of stage make-up, stage technique, and technique of acting. Public performance of one-act plays. Prerequisites 2, 4, 5. Five hours lecture and three hours laboratory. Winter quarter. Six credits.

*Myers*

103. **Oratory**—A study of the psychology of effective persuasion as shown by the great orations of great orators. Prerequisites, Speech 1, 3, 5, 7, 121. Winter quarter. Three credits. (1932-33.)

*Goates*

104. **Platform Reading**—An analytical study of oral literary forms, emphasizing the differentiation of such forms. The course deals with both dramatic and non dramatic material. Prerequisites, Speech 2, 4, 5, 6. Spring quarter. Three credits.

*Pedersen*

106. **Play Production (Directing)**—A course especially arranged for those who wish to be directors of community dramatics. Attention is given to prompt books, miniature stages, costumes, and lights. Students in this course direct and present the one-act plays spoken of in speech 102. Prerequisites 2, 4, 5, 6, 102. Five lecture hours and three laboratory hours, Winter quarter. Six credits.

*Myers*

110. **Program Building**—A study of types of audiences, and of material suitable for presentation before the same. Reading of short stories, plays and novels to determine suitability. The cutting of stories, novels and plays to suitable form and length for public reading. Fall quarter. Five credits.

*Myers*

111. **Psychology of Speech**—A study of speech as a psychological problem. Attention given to the matter of audience-speaker relationships. Register for this course only by permission of the instructor. Spring quarter. Three credits.

*Myers*

112. **Private Instruction**—Hours and fees to be arranged. (1932-33.)

*Staff*

113. **Pedagogy of Speech**—A study of the methods and problems peculiar to the teaching of Speech, with a study of organization of courses and lesson plans. Register for this course only by permission of the instructor. Spring quarter. Two credits.

*Myers*

114. **Children's Theatre**—Creative Dramatics for Children. A course in educational dramatics for students who wish to prepare to direct children in dramatic work. A study will be made of plays suitable for primary and intermediate schools. Courses in dramatics will be outlined, stories dramatized, and plays produced. The U. S. A. C. Training School will afford laboratory opportunities for this work. Prerequisite, Speech 102. Spring quarter. Five credits. (1932-33.)

*Myers*

## GEOLOGY

WILLIAM PETERSON, Professor; REED W. BAILEY, Associate Professor.

1. **Geology and Geography of Utah**—This course is planned especially to give the student a knowledge of the state, its mountains and valleys, rivers and lakes, and how they came to be. The geological processes such as running water, wind and moving ice, that have operated in this intermountain region, and modified the land forms, will be studied. There will be a brief study made of the geological history of the state, of the sequence of events that have led up to its present form, and the ancient life that lived here. This work will also include a study of the National parks and monuments in the State. Special reports and field trips will be required. Fall or Winter quarter. Five credits.

*Bailey*

5. **The Natural Economic Resources of Utah and their Utilization**—Includes a study of land and water relationships, water power, timber, and

metal and mineral deposits, as they have influenced the industry of the area. Special study will be given to the geographic distribution and economic importance of deposits containing gold, silver, iron, copper, zinc, manganese, clay, gypsum, coal, sulphur, cement, lime, gilsonite, elaterite, oil shale, oil, salt, alunite, phosphate, sulphate, etc. Winter quarter. Five credits.

*Peterson*

10. **Engineering Geology**—General principles of geology and their application to engineering problems. A study will be made of the materials of the earth, such as rock, gravel, sand, and clay; of structural features of the earth's crust; of maps representing these materials and structures, with their application to the construction of roads, dams, and canals, and the development of water supply, drainage, etc. The course will consist of four lectures and one laboratory period. Spring quarter. Five credits.

*Bailey*

12. **Forest Geology**—Planned specially for the student in forestry. It will include physiography, a study of land forms and the processes which made them, such as running water, wind, weathering and moving ice, (glaciers), the formation of forest soils and the rocks from which they come. A study of topographic maps will be made. Spring quarter. Five credits.

*Peterson and Bailey*

15. **College Geography**—General principles of geography. Study of the physical environment in which man lives and relationship of this to his development. Fall quarter. Five credits.

*Peterson and Bailey*

105, 106. **General Geology**—Physical and Historical Geology. A study of the materials making up the earth's crust, their arrangement and origin. Also, a study of the dynamic agents, such as wind, running water, moving ice, volcanic activities, etc., which operate upon the earth and modify its outer portion. A study of the sequence of events which have happened to the earth in the past as revealed by the rocks and fossils. A review of the building of the continent with its mountain ranges, and the succession of life which has inhabited the earth. Field trips will be required. Prerequisites, College Chemistry, and Zoology. Winter and Spring quarters. Five credits each quarter.

*Bailey*

108. **Economic Geology**—The first part of the course will deal with the non-metals, with special emphasis on mineral fertilizers and coal; the second part, with metals, such as iron, lead, zinc, copper, gold, and silver, and their economic use. Prerequisite, General Geology. Five credits. (1932-33.)

*Bailey*

110. **Common Minerals and Rocks**—The origin and formation of the different kinds of rocks, both sedimentary and igneous, and of about

seventy-five minerals with methods for their determination. Prerequisite General Geology. Three lectures, two labs. Fall quarter. Five credits.

*Bailey*

111. **Geology of Ground Water**—A study of structure to determine the cause of springs, artesian wells, etc. Structural characteristics that will yield water, either through tunneling or boring. Prerequisites, Geology 105, and Physics 1, 2. Spring quarter. Five credits.

*Peterson*

113. **Paleontology**—Life succession as found in fossil record. Special emphasis will be placed on the origin and the development of the mammals of today. Winter quarter. Five credits.

*Bailey*

114. **Field Methods**—Necessary in mapping the detailed geology of an assigned area. Fall and Spring quarters. Time and credits to be arranged.

*Peterson and Bailey*

120. **Structural and Metamorphic Geology**—A description and interpretation of structural features found in the earth's crust. Structures related to Ground Water, and Mining and Oil development will be emphasized. Regional structures such as mountain ranges will be studied. Metamorphic rocks and their origin will be a part of the course. Prerequisite, General Geology. Five credits. (1932-33.)

*Peterson and Bailey*

## HISTORY

JOEL E. RICKS, Professor; MILTON MERRILL, Assistant Professor.

1, 2, 3. **European History**—Survey of European History from the fall of Rome to the present. Fall, Winter and Spring quarters. Five credits each quarter.

*Merrill*

13, 14, 15. **United States History**—Survey of United States History from the earliest times to the present. Fall, Winter and Spring quarters. Five credits each quarter.

*Ricks*

120. **European History**—Renaissance and Reformation. A study of the Renaissance and Reformation movements in Europe. Fall quarter. Two credits.

*Ricks*

121. **European History**—The French Revolution and Napoleon. Winter quarter. Two credits.

*Ricks*

126. **European History**—Europe, 1815 to 1870. Social, economic and political problems of Europe from Congress of Vienna to 1870. Fall quarter. Two credits. (1932-33.)

*Ricks*

127. **European History**—Europe, 1870 to 1914. Survey of domestic history of principal European countries and their foreign relations from 1870 to 1914. Background of World War. Winter quarters. Two credits. (1932-33.)

*Ricks*

131, 132, 133. **United States History**—History of the West. The Old West; the frontiers. The Rise of the New West; the Trans-Mississippi West; economic and social problems of the West; relation of the West to the Nation. Fall, Winter and Spring quarters. Three credits each quarter. (1932-33.)

*Ricks*

157, 158, 159. **United States History**—From the Civil War to the present time. Fall, Winter and Spring quarters. Three credits each quarter.

*Ricks*

197. **Seminar in United States History**.—Required of all Seniors majoring in History. Spring quarter. Two credits.

*Ricks*

## MATHEMATICS

A. H. SAXER, Professor; ROY EGBERT, Assistant Professor; V. H. TINGEY, Instructor.

20, 21. **Elementary Analysis**—A course arranged for students who can take but two quarters of mathematics, and who have presented but one unit of algebra for entrance. Graphical methods for presenting facts. Relation of the graph to algebra, arithmetic, and geometry. Detailed analytical discussion of the linear equation. Graphical and algebraical solution of triangles. Trigonometry and use of trigonometric tables. Use of logarithms, slide, rule, etc. Prerequisite, one year of high school algebra. Winter and Spring quarters. Three credits each quarter.

*Saxer and Egbert*

30. **Solid Geometry**—Prerequisites:  $1\frac{1}{2}$  units of High School algebra and plane geometry. Fall, Winter and Spring quarters. Two credits each quarter.

*Saxer*

35. **College Algebra**—Quadratic equations and beyond. Will include a brief review of entrance algebra. This course or its equivalent is a prerequisite to all courses which follow. Fall quarter. Five credits.

*Egbert and Tingey*

46. **Trigonometry**—Prerequisite, Math. 35. Winter quarter. Five credits.

*Egbert and Tingey*

48. **Analytical Geometry**—Prerequisite, Math. 46. Spring quarter. Five credits.

*Egbert and Tingey*

50. **Descriptive Astronomy**—An introductory course. General facts and principles underlying the science of Astronomy in all of its branches. Prerequisites, Entrance Mathematics, and Physics I. Spring quarter. Four credits.

*Saxer*

60. **The Mathematical Theory of Investment**—Prerequisite, Mathematics 21 or 35. Fall quarter. Three credits.

*Saxer*

61. **Probability and Life Insurance**—A continuation of Mathematics 60. Prerequisite, Mathematics 60. Winter quarter. Two credits.

*Saxer*

75. **Elementary Statistical Methods**—An introduction to the mathematical theory of statistics together with application in the fields of Education and Business. Prerequisite, Math. 21 or 35, or their equivalent. Spring quarter. Five credits.

*Tingey*

117, 118, 119. **Differential and Integral Calculus**—Prerequisite, Math. 48. Fall, Winter and Spring quarters. Five credits each quarter.

*Saxer*

120. **Advanced Analytical Geometry**—With applications. Prerequisite, Mathematics 119. Fall quarter. Three credits.

*Saxer*

121. **Advanced Calculus**—Together with applications to engineering and the sciences. Prerequisite, Mathematics 120. Winter quarter. Three credits.

*Saxer*

122. **Differential Equations and Their Applications**—Prerequisite, Mathematics 121. Spring quarter. Three credits.

*Saxer*

160, 161, 162. **Seminar in Mathematics**—Arranged for students majoring in mathematics, honors candidates, and graduate students. Advanced topics in Analytical Geometry, Calculus, Differential Equations, and Statistical Methods may be chosen. Any quarter. Time and credit to be arranged.

*Saxer*

## MODERN LANGUAGES AND LATIN

F. R. ARNOLD, Professor; GEO. C. JENSEN, Assistant Professor.

## FRENCH

1, 2, 3. **First Year French**—Beginner's French with grammar and conversation. About 800 pages of modern prose are read. Fall, Winter, and Spring quarters. Five credits each quarter.

*Arnold*

101, 102, 103. **Second Year French**—Dictation and original composition. History of France by Lavisse. Study of French literature of the nineteenth century with reading of about 600 pages from Victor Hugo, Daudet, and Loti. Fall, Winter, and Spring quarters. Three credits each quarter.

*Arnold*

104, 105, 106. **French Conversation and Composition**—Weekly debates in French on such subjects as militarism, education, country towns, and college pleasures. Writing up of each debate in French. Prerequisite, two years of college French or three years of high school. Fall, Winter, and Spring quarters. One credit each quarter.

*Arnold*

107, 108, 109. **French Composition**—Translation of English into French. Prerequisite, two years of college French or equivalent. Fall, Winter and Spring quarters. (Not given 1931-32.)

110, 111, 112. **Research Work in French Periodicals and Books**, in any one of the following subjects;

- (a) Landscape gardening.
- (b) Percheron horses.
- (c) French finance.
- (d) French scientific reports.
- (e) Home economics.
- (f) European finance.

The work will consist of outside reading and weekly reports to the instructor. Prerequisites, two years of college French, or three years of high school. Fall, Winter and Spring quarters. Hours and credits to be arranged with instructor.

*Arnold*

113, 114, 115. **Reading Course in Classic Plays of Seventeenth Century in France**—Fall quarter, plays of Corneille. Winter quarter, plays of Racine. Spring quarter, plays of Moliere. Prerequisite, two years of college French. Two credits each quarter. (1932-33.)

*Arnold*

116, 117, 118. **Reading Course in Romantic Plays from "Hernani" to "Cyrano de Bergerac."** Prerequisite, two years of college French. Fall, Winter and Spring quarters. Two credits each quarter. (1932-33.)

*Arnold*

119, 120, 121. **French of the 18th Century**—Voltaire, Rousseau, Marivaux and Beaumarchais. Prerequisite, two years of college French. Fall, Winter and Spring quarters. Two credits each quarter. (1932-33.)

*Arnold*

### SPANISH

1. **First Year Spanish**—Grammar, conversation and reading. Winter quarter. Four credits.

2. **Continuation of Spanish 1**—Spring quarter. Three credits.

### LATIN

1, 2, 3. **Grammar and Reading**—And study of English vocabulary. Fall, Winter and Spring quarters. Three credits each quarter.

*Arnold*

19. **Scientific Vocabulary**—Intensive study of English word formation, derivation, synonyms, and figurative language in order to acquire a large English vocabulary, and to be able to understand scientific terms. Spring quarter. Three credits. See English 19.

*Arnold*

Latin 101, 102, 103. **Reading of Caesar and Virgil**—Fall, Winter and Spring quarter. Two credits each quarter. (Not given 1931-32.)

*Arnold*

Latin 104, 105, 106. **Reading of Cicero's Orations**—Three to five credits. Any quarter.

*Arnold*

Latin 107, 108, 109. **Legal Latin**—1 credit each quarter.

*Arnold*

### GERMAN

1, 2, 3. **First Year German**—Grammar, reading, and conversation. Fall, Winter and Spring quarters. Five credits each quarter.

*Jensen*

101, 102, 103. **Second Year German**—Reading of modern texts, grammar, composition. Fall, Winter, and Spring quarters. Three credits each quarter.

*Jensen*

104. **Scientific German**—Reading of Scientific texts. Specially recommended for students who are planning to do advanced work in the sciences, or who are working for advanced degrees. Prerequisite, two years of college German. Fall quarter. Two credits.

*Jensen*



105, 106, 107. Research work in German Periodicals and scientific books in the following subjects:

- (a) Chemistry.
- (b) Medicine.
- (c) Biology.
- (d) Botany.
- (e) Agronomy.
- (f) Sociology.
- (g) Physics.

Prerequisite, German 104. The work will consist of outside reading and weekly reports to the instructor. Fall, Winter and Spring quarters. Hours and credits to be arranged with instructor.

*Jensen*

108, 109. Conversation on German Life and Composition on the Same Subject—Fall quarter. Three credits.

*Jensen*

120. Deutsche Erzähler von heute and gestern—Fall quarter. Three credits. (1932-33).

121. Lessing's Plays—Winter quarter. Three credits (1932-33).

122. Schiller's Plays and Lyrics—Spring quarter. Three credits. (1932-33).

130. Goethe's Faust—Fall quarter. Three credits.

131. Goethe's Prose—Especially recommended for literary students and returned missionaries. Prerequisite, two years of college German. Winter and Spring quarters. Three credits.

*Jensen*

## MUSIC

WALTER WELTI, N. WOODRUFF CHRISTIANSEN, Assistant Professors.

### ASSOCIATED TEACHERS

William Spicker, Violin.

A. L. Farrell, Vocal.

Samuel E. Clark, Piano and Organ.

Mrs. Walter Welti, Piano.

Mrs. Frances Winton Champ, Piano.

Mrs. N. Woodruff Christiansen, Piano.

The following courses are required for music majors.

VOCAL: Harmony 108, 109, 110; at least six quarters of Chorus; Methods 30, 31; three quarters of Band or Orchestra; and sufficient private vocal instruction to present a creditable recital, prescribed by the major professor, or a minimum of nine quarters study approved by the major professor.

**INSTRUMENTAL:** Harmony 108, 109, 110 (111, 112, 113); at least six quarters in Symphony Orchestra; six quarters in Band; three quarters in Chorus; and sufficient private instruction on some instrument for a creditable solo performance, prescribed by the major professor; or a minimum of six quarters of private study.

5-6. **Music History and Appreciation**—From the following points of view: Winter quarter, Form Analysis. Text: "The Appreciation of Music," Welch. Spring quarter. Historical Development and lives of composers. Text: "The Outline of Music History." This course alternates yearly with Music 9 and 10. Three credits. (Not given 1931-32).

*Wolti*

9, 10. **Sight Singing**—Designed to develop ability to sing music at sight, with Latin syllables and text. A study of all rhythms and kinds of measure used in standard choral music. Intervals and progressions of the major scale in the Winter quarter. A reasonable amount of dictation both quarters. Three credits each quarter.

*Wolti*

15, 16, 17. **Orchestra Combinations**—Students may enter this course by permission of the teacher only. Instrumental trios, quartets, etc., for ensemble training. Students taking this course will be required to furnish music for assemblies and school functions. Fall, Winter and Spring quarters. One-half credit each quarter. Time to be arranged.

*Christiansen*

18, 19, 20. **Symphony Orchestra**—Provides training and practical experience in a wide range of orchestral work. Students are required to play at all public appearances of the orchestra. Fall, Winter and Spring quarters. One and a half credits each quarter.

*Christiansen*

24, 25, 26. **Men's Glee Club**—Open to all male students with an accurate sense of pitch. Membership limited by proper balance of parts. Consult director as soon as possible. One song a week must be memorized. The cost of music is nominal. This chorus will join with the Ladies chorus for occasional special functions. Fall, Winter and Spring quarters. One credit each quarter.

*Wolti*

27, 28, 29. **Ladies' Glee Club**—Membership limited by proper balance of parts. Consult director as soon as possible. One song a week must be memorized. The cost of music is nominal. This chorus will join with the men's chorus for occasional special functions. Fall, Winter and Spring quarters. One credit each quarter.

*Wolti*

30, 31. **Methods**—A study of the presentation of music in grade schools, through the sixth grade. Three grades will be studied each quarter. No technical knowledge of music is required. Special emphasis will be

placed on the selection of song material and care of the child voice. The fundamental elements of music will also be studied. Prerequisite: the ability to carry a simple melody. Winter and Spring quarters. Three credits each quarter. *Wolti*

35, 36, 37. **Vocal Groups**—Male, female, and mixed quartets. A good singing voice is required. Fall, Winter and Spring quarters. One credit each quarter. *Wolti*

38. **Music for Young Children**—A study of music appreciation for little children, chiefly through participation in song singing and bodily response to various rhythms. The procedure of rote song teaching, the careful selection of song material, other music for listening lessons, and care of the child voice. Fall quarter. Two hours credit. *Wolti*

40. **Band-B**—For students needing additional work as a preparation for Band-A; also to include students playing instruments whose instrumental sections in Band-A are already filled. This band is in no sense a beginners' band and members must have a fair degree of skill. This course may continue through the Winter and Spring quarters. Fall quarter. One credit. *Christiansen*

41, 42, 43. **Band-A**—This organization is the College Concert Band. Special emphasis will be placed upon the proper instrumentation. Membership will be determined by examination. Concerts will be given and music furnished for athletic events. Members are required to play in all public appearances of the Band. Fall, Winter and Spring quarters. One and a half credits each quarter. *Christiansen*

44, 45, 46. **Brass and Reed Groups**—Brass Quartets, Sextets, and Saxophone Quartets. Members will be selected from applicants. Students taking this course will be required to play for school functions. Fall, Winter and Spring quarters. One-half credit each quarter. *Christiansen*

47, 48, 49. **Hearing and Knowing Music**—This course is intended to acquaint the student with the finest numbers in musical literature. Symphonies, overtures, solos and selections from operas will be given by means of phonograph records. Suitable explanations will accompany the demonstrations. This course will be given wholly for its cultural value and no credit is offered. Open to anyone. Every Wednesday at 2 o'clock. *Christiansen*

108, 109, 110. **Harmony**—Prerequisite, familiarity with the piano keyboard. Drill will be given on keys, scales and intervals, followed by a study of chords, up to modulation. Fall, Winter and Spring quarters. Three credits each quarter. *Wolti and Christiansen*

111, 112, 113. **Advanced Harmny**—Prerequisite, Harmony 108, 109, 110. Chord construction, including modulation, secondary sevenths, mixed chords. Leads to a practical knowledge of harmony, useful for anyone in the field of music. Suitable analysis accompanies the work in Harmony. Fall, Winter and Spring quarters. Three credits each quarter.

*Christiansen*

121, 122. **Band and Orchestra Methods**—A study of the various band and orchestra instruments, their character, transpositions, and essential points in the teaching of them. Designed for students who may teach elementary bands and orchestras or who intend to follow music as a profession. Winter and Spring Quarters. Two credits each quarter.

*Christiansen*

### PRIVATE INSTRUCTION COURSES

The following courses are given through private study only, and for a special fee ranging from \$1.00 to \$3.50 per lesson, according to the teacher and subject.

50, 51, 52. **Piano**—For students having less than two full years of piano instruction.

*Associated Teachers*

53, 54, 55. **Vocal**—For students having less than two full years of vocal instruction.

*Welti and Associated Teachers*

56, 57, 58. **Wind Instruments**—All the wind instruments of the band and orchestra. For students having less than two full years of previous training.

*Christiansen*

60, 61, 62. **Violin**—For students having less than two full years of previous training.

*Christiansen and Associated Teachers*

130, 131, 132. **Counterpoint**—Study of polyphonic music writing. A continuation of advanced harmony. Prerequisites, 111, 112, 113. Given in private lessons only. One and one-half credits each quarter for one lesson a week. Time to be arranged.

*Christiansen*

150, 151, 152. **Piano**—For students recommended by an Associated Teacher, and satisfying the departmental standards for the equivalent of two full years of previous study.

*Associated Teachers*

153, 154, 155. **Vocal**—For students recommended by an approved teacher and satisfying the departmental standards for the equivalent of two full years of previous study.

*Welti and Associated Teachers*

156, 157, 158. **Wind Instruments**—For students satisfying the departmental standards for the equivalent of two full years of previous study.  
*Christiansen*

160, 161, 162. **Violin**—For students recommended by an approved teacher and satisfying the departmental standards for the equivalent of two full years of previous study.

*Christiansen and Associated Teachers*

163, 164, 165. **Pipe Organ**—For students recommended for the course, and satisfying the departmental standards for the equivalent of two full years of previous piano study.

*Clark*

**Note:** Students taking one lesson a week in any private music study, and getting the required amount of practice and preparation, shall register for one and one-half credits per quarter.

Students taking two lessons a week, and getting the required amount of practice and preparation, shall register for three credits per quarter. Lesson appointments shall be arranged with the teacher.

**Note:** Public Recital. A series of recitals will be given at the College during the year. Students registered in the Private Instruction Courses are eligible to participate upon recommendation of their teachers. No additional credit is offered for this work.

**Note:** An opera by the combined classes of the Music Department will be presented during the Fall quarter.

## PHYSICAL EDUCATION

W. B. PRESTON, CHRISTINE B. CLAYTON, Professors; \*JOS. R. JENSON, CATHARINE C. CARLISLE, Associate Professors; E. L. ROMNEY, Director of Athletics; CHARLOTTE E. DANCY, Assistant Professor; H. B. HUNSAKER, GENEVA SCHAUB, Instructors.

Because Physical Education determines capacity for efficiently carrying out work which a student prepares for in College, it is being emphasized more and more each year.

At the beginning of every school year each student is given a medical and physical examination so that he can be adjusted properly to his physical activities.

Women students are required to take physical education for six quarters. One credit hour is given for each quarter.

Freshmen are required to register for physical education 13, 14, 15 and Sophomore must elect advanced activity courses for three quarters.

\*On leave of absence.

## THE COLLEGE HEALTH SERVICE

The Health Service is maintained primarily for the care of students who may become ill during their stay on the campus. It is also looked upon as an educational department to teach preventive medicine and hygiene. Through consultations, examinations, and advice, it attempts to point out the causes of ill health, and to present clearly the fundamental laws of good health.

### PROFESSIONAL COURSES IN PHYSICAL EDUCATION

Because of the great demand for trained leaders in community recreation and playground management, for directors of physical education in high schools, high school coaches, etc., this department offers an opportunity to major or minor in physical education and also to meet the state requirements for certification of teachers of physical education and coaching in high schools.

#### PHYSICAL EDUCATION FOR MEN

1, 2, 3. **Freshman Athletics**—Designed to furnish activity of such kind and in such a way as will insure correct posture and physical efficiency. Required of all Freshmen. Every quarter. One credit each quarter.

*Hunsaker*

4, 5, 6. **Sophomore Athletics**—A continuation of Physical Education 1 with emphasis on more advanced types of gymnastics and heavy apparatus. Every quarter. One credit each quarter.

*Hunsaker*

8, 9, 10. **Individual Athletics**—The work of this course is given for those students who are physically unable to take Physical Education 1, 2, 3, 4, 5, 6. It is arranged to meet the needs of the individual students, as indicated by the physical examination and study of personal tendencies. Fall, Winter, and Spring quarters. One credit each quarter. Hours to be arranged.

*Hunsaker*

#### PHYSICAL EDUCATION FOR WOMEN

13, 14, 15. **Freshman Physical Education**—This course consists of marching, natural gymnastics, dancing, athletic activities, and games. Required for graduation. Fall, Winter and Spring quarters. One credit each quarter.

*Carlisle and Schaub*

**Sophomore Physical Education**—A choice of the following activities must be made by all students who have completed 13, 14, 15.  
16-17-18. **Advanced Gymnastics.**

- 31-32-33. Elementary Natural Dancing.  
 41-42-43. Elementary Folk Dancing.  
 64. Clog Dancing (Spring quarter only).  
 81-82-83. Competitive Athletics.  
 91-92-93. Swimming.  
 94. Advanced Swimming (Winter quarter only).  
 134-135-136. Advanced Natural Dancing.  
 144-145-146. Advanced Folk Dancing.

Not more than one course per quarter may be used to satisfy Sophomore Physical Education requirements.

16, 17, 18. **Advanced Gymnastics**—A study of advanced exercises, gymnastics, apparatus work, and teaching methods. Fall, Winter and Spring quarters. One credit each quarter.

*Carlisle*

19, 20, 21. **Individual Gymnastics**—This course is given for those students physically unable to take the required work in physical education. It is arranged to meet individual needs as shown by physical examination and study of personal tendencies. Fall, Winter, and Spring quarters. One credit each quarter. Hours to be arranged.

*Carlisle*

### PROFESSIONAL COURSES

31, 32, 33. **Natural Dancing**—For women. This course consists of dancing based on natural movements. It offers opportunity for music interpretation and pantomimic dancing. Fall, Winter, and Spring quarters. One credit each quarter.

*Carlisle*

41, 42, 43. **Elementary Folk Dancing**—For men and women. Includes study of fundamental dance steps, simple folk and national dances, and the presentation of dance material to different age groups. Particularly suited to needs of Two-year Normal students. Fall, Winter and Spring quarters. One credit each quarter.

*Carlisle*

64. **Clogging and Gymnastic Dancing**—For men. Elementary work in clogging, gymnastic and athletic dancing. Material suitable for presentation to boys in the elementary and high schools. Spring quarter. One credit.

*Carlisle*

71. **The Dramatic Game**—For women. This course takes up the fundamental play rhythms and music and singing games, showing their historical and racial significance; the development of simple folk dances from singing games; trade dances; Indian dances; pantomimes and ceremonies. Fall quarter. Two credits.

*Carlisle*

72. **Theory and Practice of Plays and Games**—For men and women. A study of play periods and material appropriate for each period. The selection of play material is considered, together with methods of presentation in the elementary school and on the playground. Winter quarter. Three credits.

*Carlisle*

73. **Community Recreation Leadership**—For men and women. Consists of lectures and practical work. Lectures will consider selection of suitable material, and methods of handling various groups. The practice hour will take up games and folk dances. Spring quarter. Two credits.

*Hunsaker*

74. **Advanced Swimming**—For men. A continuation of course 3. The student will be required to pass certain standard tests. Winter quarter. Two credits.

*Hunsaker*

75. **Competitive Activities**—A course designed to teach students to play basketball, volley ball, tennis, baseball, soccer, football; also the organization of intramural athletics, leagues, etc. Fall quarter. Two credits.

*Hunsaker*

76. **Advanced Gymnastics**—A study of methods of teaching gymnastics, such as parallel bars, side horse, rings, Indian club, as well as advanced floor work in calisthenics. Winter quarter. Two credits.

*Hunsaker*

77. **Personal Hygiene for Men**—Lectures covering personal and general hygiene, including care of skin, hair, teeth, nails; care of special senses as eye, ear, nose, and throat; study of rest, exercise, and recreation. Fall quarter. Two credits.

*Hunsaker*

81, 82, 83. **Competitive Athletics**—For women. Includes practice and methods of coaching sports and athletics for girls. Baseball, basketball, archery, volley ball, tennis, track and field events, arranged seasonally. Fall, Winter and Spring quarters. One credit each quarter.

*Carlisle and Schaub*

91, 92, 93. **Swimming**—For women. This course covers elementary and intermediate work in swimming. Fall, Winter, and Spring quarters. One credit each quarter.

*Schaub*

94. **Advanced Swimming**—For women. This course covers advanced swimming, diving and life saving. Winter quarter. One credit.

*Schaub*

106. **Applied Anatomy and Physiology of Exercise**—Prerequisite, Physiology 4. Fall quarter. Five credits.

*Carter*



108a. **Corrective Gymnastics**—For women. Prerequisite, Physical Education 106. Open to Juniors and Seniors only. This course gives theory of exercise for correction of the common physical defects—spinal curvature, flat feet, and all postural difficulties. Winter quarter. Two credits. *Carlisle*

108b. **Practice in Corrective Gymnastics**—Practical application of material studied in Physical Education 108a. Any quarter. Time and credit to be arranged. Consult head of department before registering. *Carlisle*

109. **Corrective Gymnastics**—For men. Open to Juniors and Seniors. This course is devoted to the application of gymnastics for the correction of such common defects as flat feet, spinal curvature, poor posture, etc. Prerequisite, Physical Education 106. Spring quarter. Five credits. *Hunsaker*

111. **Nutrition**—For Athletes and Physical Education Majors. For description, refer to Department of Foods and Dietetics. Fall quarter. Two credits. *Clayton*

120. **Methods of Coaching**—For men. A theoretical consideration of training and coaching of men's athletic teams. Fall, Winter and Spring quarters. One credit each quarter. Time to be arranged. *Romney*

134, 135, 136. **Advanced Natural Dancing**—A continuation of Physical Education 31, 32, 33. This course also includes methods of teaching musical interpretation through natural movement. Fall, Winter and Spring quarters. One credit each quarter. *Carlisle*

144, 145, 146. **Advanced Folk Dancing**—A continuation of Physical Education 41, 42, 43. More elaborate folk dances are taught in this course, which also includes clogging, program dances, and a consideration of pageant and festival production. Fall, Winter, and Spring quarters. One credit each quarter. *Carlisle*

151. **Principles of Physical Education**—A study of the principles upon which physical education is based; the place of physical education in our modern educational scheme; a brief consideration of the organization and administration of a department of physical education. Fall quarter. Three credits. *Carlisle*

152. **Methods of Teaching Physical Education**—A study of physical education activities and methods of presentation. Planned as an introductory course to Education 115. Winter quarter. Three credits. *Carlisle*

161. **Principles of Physical Training for Men**—Open to Juniors and Seniors. This course includes a comparison of the various systems of Gymnastics teaching in vogue today; also, the objective of Physical Education. Special attention is given to consideration of high school course of study. Prerequisites, Physical Education 73, 74, 75, 76, 77, 106. Winter quarter. Five credits.

*Hunsaker*

170. **Physical Diagnosis and Measurements**—For men and women. This course aims to train the prospective physical director to detect the common physical defects. Instruction is given in methods of taking measurements, and in strength tests. Prerequisite, Physical Education 106. Spring quarter. Three credits.

*Preston*

For other required and closely related courses see:

Textiles 105.

Bacteriology 1, 2.

Physiology and Public Health, 4, 14, 107, 108, 109.

Zoology 1, 111, 112.

## PHYSICS

FRANK L. WEST, WILLARD GARDNER, D. S. JENNINGS, Professors; DAVID HOMER, Assistant.

1, 2. **General Physics**—A lecture demonstration course, designed for students not majoring in Physics or Engineering and requiring a minimum of mathematics. It includes mechanics, heat, electricity and magnetism, sound and light with their most interesting applications to industry and to life. Fall and Winter quarters. Physics 1 repeated in Spring quarter. Five credits each quarter. Physics 2 may be taken without Physics 1.

*West*

10. **General Astronomy**—Prerequisite, General Physics. (See Mathematics 50).

16. **Meteorology, or Physics of the Atmosphere**—The methods of weather observation, predictions, frost warnings and the relation of climate to man, to forestry and to agriculture. Prerequisite, Elementary Physics. Spring quarter. Two credits. (Not given 1931-32)

*West*

20, 21, 22. **Mechanics, Molecular Physics, Electricity and Magnetism, Heat, Light and Sound**—Prerequisite, High School physics. Three lectures and two labs. Fall, Winter and Spring quarters. Five credits each quarter.

*West*

104, 105, 106. **Physical Chemistry**—Including atomic, kinetic and electron theories, gaseous, liquid and solid states; solutions, thermodynamics. General physics, chemistry, calculus and Physics 107 should

precede or accompany this course. Fall, Winter and Spring quarters. Three credits each quarter.

*West*

107. **Physical Chemistry Laboratory Work**—Fall, Winter, and Spring quarters. One credit each quarter.

*Jennings*

108. **Advanced Laboratory Work**—Electricity and magnetism, or physical chemistry. One to five credits each quarter. Recommended to students majoring in physics. Fall, Winter, and Spring quarters. Time to be arranged.

*West*

110, 111. **Direct and Alternating Current Electricity and its Application to Industry**—Winter and Spring quarters. Two credits each quarter.

*Gardner*

112. **Elementary Electrical Engineering**—For engineering students and majors in physics. Three credits. (See C. E. 197.)

*West*

118. **Thermodynamics, for Engineering Students**—Fall quarter. Three credits. (See C. E. 196.)

*West*

119, 120, 121. **Modern Physics**—Fall, Winter and Spring quarters. Two credits each quarter.

*West*

150, 151, 152. **Applied Mechanics for Engineers**—Prerequisite, Calculus. Fall, Winter and Spring quarters. Five credits each quarter. (See C. E. 101, 102, 103.)

*Kepner*

190, 191, 192. **Theoretical Physics**—An introduction to mathematical physics. Prerequisites, Physics 20, 21, 22, and Calculus. Fall, Winter and Spring quarters. Three credits each quarter.

*Gardner*

209, 210, 211. **Theoretical Mechanics**—Two credits each quarter. Fall, Winter and Spring quarters.

*Gardner*

212, 213, 214. **Hydrodynamics and Relativity**—Fall, Winter and Spring quarters. Two credits each quarter.

*Gardner*

215, 216, 217. **Mathematical Theory of Electricity and Magnetism**—Two credits each quarter.

*West*

218, 219, 220. **Atomic Structure, Thermodynamics, and Physical Chemistry**—Two credits each quarter.

*West*

## PHYSIOLOGY AND PUBLIC HEALTH

W. B. PRESTON, Professor; E. G. CARTER, Associate Professor; C. E. DANCY, Assistant Professor.

4. **Anatomy and Physiology**—A study of the structure and functions of the human body. Fall, Winter, or Spring quarter. Five credits.

*Carter and Dancy*

5. **Laboratory Physiology**. A course of laboratory exercises and demonstrations selected to illustrate the fundamental principles of physiology. Should accompany Anatomy and Physiology 4. Fall, Winter, or Spring quarter. One credit.

*Carter*

\*14. **Health Education**. (May be used for Grammar Grade certification)—This course deals with the adaptation of subject matter and methods to health education in the grades. Consideration will be given the various devices used at the present time in health teaching. The health of the teacher and the health habits of the pupils are emphasized. Two year Normal students only may register in this course, unless special permission is obtained. Fall, Winter, or Spring quarter. Four credits.

*Carter*

\*106. **Applied Anatomy and Physiology of Exercise**—Prerequisite, Anatomy and Physiology 4. Fall quarter. Five credits.

*Carter*

107. **Physiology**—An advanced course in special phases of physiology. Four lectures and one demonstration period per week. Prerequisites, Physiology 4 and General Chemistry or Physics. Winter quarter. Five credits.

*Carter*

108, 109. **Public Health and Hygiene**. (May be used for High School certification)—This course deals with the physical and mental health of the individual, and his relationship to other members of the community. Some of the subjects considered are: Nature and prevention of diseases, food in its relationship to the well-being of the individual, heating and ventilation, occupational diseases and especially the promotion of health through education. Prerequisite, Bacteriology 1. Winter and Spring quarters. Three credits each quarter.

*Preston and Carter*

110. **Physiology**—Advanced physiology of the glands of internal

\*Can not be counted in the Biological Science group.

secretion. Prerequisite, Physiology 4 or 107. Spring quarter. Two credits

*Carter*

115, 116, 117. **Journal Club. Seminar**—A study of current physiological literature including hygiene, with oral and written reports. Prerequisite, Physiology 107 or 108. Any quarter. One credit.

*Carter*

170. **Physical Diagnosis and Measurements**—For men and women. This course aims to train the prospective physical director to detect the common physical defects. Instruction is given in methods of taking measurements and in strength tests. Prerequisite, Physiology 106. Spring quarter. Three credits.

*Preston*

## PSYCHOLOGY

HENRY PETERSON, Professor; ERNEST A. JACOBSON, Associate Professor.

3. **Elementary Psychology**—A general course introducing the student to the science of psychology and to its applications in teaching and other activities of modern life. Open to the students of all schools. Fall, Winter, or Spring quarter. Five credits.

*Peterson*

8. **Elementary Educational Psychology**—Open to Freshmen and Sophomores who have had Psychology 3 or equivalent. This course prepares for teaching in elementary schools. Fall or Spring quarter. Three credits.

*Peterson*

18. **Applied Psychology**—This course will include the application of psychology to such activities as home-making, manufacture, commerce, and the various professions (other than teaching). Prerequisite, Psychology 3 or equivalent. Winter quarter. Three credits. 1932-33.

*Peterson*

101. **Principles of Psychology**—Open to Juniors and Seniors. Deals with the science of human behavior and prepares for the specific lines of applied psychology. Fall or Winter quarter. Three credits.

*Peterson*

102. **Advanced Educational Psychology**—Open to students who have had Psychology 101 or equivalent. Prepares for teaching in Junior or Senior high school, and for leadership in other lines. Winter quarter. Three credits.

*Peterson and Jacobson*

103. **Psychology of Adolescence**—Open to students who have had

Psychology 101 or equivalent. A study of the behavior of adolescents. Spring quarter. Three credits.

*Peterson*

104. **Psychology of Family Life**—Human mating; marriage and its meaning; harmony in marriage and its psychological basis; the behavior of infants and children in the various stages of growth; hereditary and environmental factors of personality and character development. This is a general course adapted to the needs of all young people. Prerequisite, a course in general psychology. Sophomores may enter by permission of instructor. Winter quarter. Three credits.

*Peterson*

105. **Experiments in Educational Psychology**—Prerequisite, Psychology 101 or equivalent. An elementary experimental study of habit formation, sensation, perception, memory, etc. Winter quarter. Two credits.

*Peterson*

106. **Experiments in Educational Psychology**—Continuation of Psychology 105. Spring quarter. Two credits.

*Peterson*

110. **Psychology of Infancy and Early Childhood**—Prerequisite, Psychology 3 or equivalent. A study of the behavior of infants and small children. Spring quarter. Three credits.

*Peterson*

## ZOOLOGY AND ENTOMOLOGY

W. W. HENDERSON, Professor; J. SEDLEY STANFORD, Assistant Professor.

Students specializing in Zoology must take courses 3, 4, 13, 111, 112, 116, 117, 118, 119, 124, 125 and 126.

1. **Principles of Zoology**—A study of morphology, physiology, differentiation, adaptation, and other zoological principles. Special emphasis is placed on man's relation to the rest of the animal world. This course is intended for those who have not studied Zoology before, and who desire only a general view of biological principles. It is recommended for all students except those in Agriculture and Arts and Science who desire a more comprehensive course. Four lectures, one quiz, and one lab. period. Fall, Winter, or Spring quarter. Five credits.

*Henderson*

3. **Invertebrate Zoology**—A type study of the phyla of the animal kingdom except the Chordates. General classification and the relationship of groups of animals to each other. Emphasis is placed upon structural characteristics, development and functions. This course is well adapted for premedical students. Three lectures and two labs. Fall quarter. Five credits.

*Stanford*

4. **Vertebrate Zoology**—Continuation of course 3; a type study of the Chordates and of the classes of Vertebrata. Useful for premedical students. Three lectures and two labs. Winter quarter. Five credits.

*Stanford*

13. **General Entomology**—A study of the structure, classification and life histories of insects. A course for students who desire a general knowledge of our common insects. Required of all students majoring in Zoology. Some field trips will be taken. Three lectures and one lab. Fall quarter. Four credits.

*Stanford*

14. **Agricultural Entomology**—Life histories and control of the more injurious insects affecting agricultural crops, with special reference to those of the intermountain region. It is preferred that this course be preceded by Entomology 13. Three lectures and one lab. Winter quarter. Four credits.

*Stanford*

101. **Insect Morphology**—A comparative study of the external anatomy of insects. Emphasis will be laid on structures used in classification. Prerequisite, Entomology 13. Required for courses, 102, 103, and 104. Two lectures and one lab. Spring quarter. Three credits.

*Stanford*

102, 103, 104. **Systematic Entomology**—The structure of insects is studied sufficiently to enable the student to use keys employed in classification. Each student must collect, mount and properly identify a representative collection of insects found in the vicinity of Logan. Fall, Winter, and Spring quarters. Three laboratory periods. Three credits each quarter. Graduate credit may be allowed for this course.

*Henderson*

105. **Forest Entomology**—A study of the major insects affecting forests and forest products. Prerequisite, Entomology 13. Three lectures and one lab. Spring quarter. Four credits.

*Stanford*

106. **Entomological Literature**—Each student investigates and reports on the literature of some insect within his state. Historical development of entomology, current entomological literature and bibliographies are considered. Prerequisites, Entomology 13, 14, and 102. Graduate credit may be allowed for this course. Three lectures. Spring quarter. Three credits. (Not given 1930-31.)

*Stanford*

107. **Entomological Technique**—A study of methods of collecting, preserving, and rearing insects, designed to fit students for specialized work in entomology. Graduate credit may be allowed for this course. Prerequisite, Entomology 13. One lecture and one lab. Spring quarter. Two credits.

*Stanford*

109. **Insect Ecology**—A study of the insect in its relationship to biological and physical factors. Three lectures. Fall quarter. Three credits.

*Stanford*

111. **Genetics**—The biological principles of life and the inheritance of characters. A study of the germ cells with reference to heredity. The questions of variation, mutation, the inheritance of acquired characters, pure-lines, Mendelism, sex-determination and genetic principles generally are the main subjects of discussion. Prerequisite, Zoology 1 or 4. Five lectures. Fall or Winter quarter. Five credits.

*Henderson*

112. **Eugenics**—The principles of genetics as applied to the human race. Attention is given the historical development of and needs for eugenics, the inheritance of physical, mental and moral traits, human crosses, consanguineous marriages, eugenic procedure, and other principles which influence the innate qualities of human beings. Prerequisite, Zoology 111. Three lectures. Spring quarter. Three credits.

*Henderson*

113. **Heredity and Eugenics**—A brief study of the laws and principles which govern heredity as shown by experimental breeding and cytology and some of the more important human applications. Spring quarter. Three credits. Students may not get credit for this course and course 111 or 112.

*Henderson*

114-115. **Comparative Anatomy**—The structure of the vertebrate animal body. In the Winter quarter students will make a thorough dissection of a sexually mature dog-fish shark and in the Spring quarter of a sexually mature cat. Prerequisite, Zoology 1, 3 or 4. Zoology 113 is prerequisite to Zoology 114. Two lectures and two laboratory periods a week. Winter and Spring quarters. Four credits each quarter. (1932-33.)

*Henderson*

116. **Parasitology**—The classification, morphology, and life history of human parasites. The disease producing protozoans, flukes, tape-worms, and round worms receive special study. Arthropods as external parasites and carriers of pathogenic organisms receive attention. This course should be taken by all premedical students. Three lectures and one lab. Spring quarter. Four credits.

*Stanford*

117. **Histological Technique**—A practical course in fixing, imbedding, sectioning, staining, mounting and magnifying of tissues. One lecture and two laboratory periods a week. Fall quarter. Three credits.

*Stanford*

118. **Histology and Organology**—A study of the microscopic struc-



ture of vertebrate organs and the functions of tissue aggregations. Prerequisite, Zoology 117. One lecture and two laboratory periods a week. Winter quarter. Three credits.

*Stanford*

119. **Vertebrate Embryology**—A study of the developmental stages more common to animals in general and a particular consideration of vertebrate development based on the chick and the pig. One lecture and two laboratory periods a week. Spring quarter. Three credits.

*Stanford*

124, 125, 126. **Seminar**—The students and the faculty of the department meet for one hour each week and hear reports from the members of the seminar on topics of mutual interest. Students specializing in Zoology must attend and participate in the activities of this seminar for at least three quarters. One credit each quarter. Time to be arranged.

*Staff*

131. **Organic Evolution**—A critical study of the facts of evolution as obtained from a careful study of comparative anatomy, embryology, geographical distribution, blood tests and other fields upon which the doctrine of evolution is based. Factors causing evolution will be considered and discussions will be undertaken on other bodies of related thought. Prerequisite, some thorough course in biology. Three lectures. Spring quarter. Three credits.

*Henderson*

## GRADUATE COURSES

201. **Zoological Research**—The student who wishes to engage in some line of original research and is qualified to do so may elect and study some topic from eugenics, ecology, morphology, or other branch of Zoology. Open to under-graduate students only by special arrangement with the department. Thesis required. Hours to be arranged.

*Henderson*

210. **Entomological Research**—Students may select or will be assigned certain problems dealing with different phases of entomology. The amount of credit will depend on the nature of the problem and the time spent. Thesis. Open to under-graduate students only by special permission. Prerequisites, Entomology 13, 14, and 102.

*Stanford*

## COMMERCE

### AGRICULTURAL ECONOMICS AND MARKETING

(Administered jointly by the schools of Agriculture and Commerce)

W. P. THOMAS, P. E. PETERSON, Professors; W. U. FUHRIMAN, Assistant Professor.

Students in either the School of Agriculture or the School of Commerce may major in this department. The choice of School in which to register should depend upon whether the student intends to enter the field of Agriculture or Commerce.

53. **Principles of Agricultural Economics**—A general study of the more important economic principles, forces and institutions affecting agricultural income, production, marketing, finance, prices, labor, land utilization, tenancy, taxation, tariff, etc.; the inter-relation of these factors; and the relation of agriculture to other industries. Prerequisite, Economics 51 or equivalent. Winter and Spring quarters. Three credits.

*Fuhriman*

62. **Principles of Marketing**—The principles of marketing, consumer demand, economic factors affecting sales, marketing agencies and sale policies, function of middlemen, channels of distribution, organized exchanges, and effect of government activities on distribution. Prerequisite, Economics 51. Spring quarter. Five credits.

*Fuhriman*

70. **Farm Management**—The Keeping and Analysis of Farm Accounts. This course deals with the keeping, use, interpretation, and analysis of farm accounts and records. The meaning of various measures of farmers' financial success, the methods of computing the common efficiency factors, etc., will be considered. Prerequisite, Economics 51. Spring quarter. Three credits.

*Fuhriman*

80. **Accounting for Agricultural Students**—A brief course in accounting for agricultural students. As far as possible application will be made to specific enterprises. (Not given 1931-32).

*Peterson*

102. **Principles of Farm Management**—An analysis of the principles and problems of farm organization and management. A study of the problems of choosing, buying, organizing, and managing the various types of farms. Discussion of proper size, balance, diversity, and the relationship between the various enterprises. Prerequisite, Economics 51. Fall quarter. Three credits.

*Fuhriman*

104. **Economic Development of Agriculture**—A historical analysis of agriculture through the various stages of its economic development with special reference to the United States. Fall quarter. Three credits. (Not given 1931-32.)

105. **Agricultural Finance**—A study of agricultural credit with regard to requirements, facilities, instruments, and methods of financing agriculture. This involves an analysis of our present financial organization and its relation to agriculture. Special attention will be given to the agencies authorized by the Federal Government to provide financial aid and credit to farmers and farmers' organizations. Prerequisite, Economics 51. Fall quarter. Three credits.

*Fuhriman*

106. **Land Economics**—Principles underlying the utilization, valuation, tenure, and conservation of our land resources available for crops, pastures, and forests. Prerequisite, Economics 51. Fall quarter. Three credits.

*Fuhriman*

113. **Cooperative Marketing**—This course deals with the fundamental principles of cooperative marketing of agricultural products, the legal status of cooperation, and the growth and development of cooperative marketing in the United States as a whole. Particular emphasis will be given to the development of cooperative marketing in Utah and to the present problems of the cooperatives of the state. Those registering for three credits will be required to attend the lectures only, while those registering for five credits will take two laboratory periods in addition. Winter quarter. Three or five credits.

*Fuhriman*

114. **Marketing Fruits and Vegetables**—Trends in production, consumption, and marketing fruits and vegetables in United States as a whole and in Utah, together with special problems of over-production, local and foreign competition, quality of products, transportation factors; grading, inspection, and marketing methods will be given consideration. Prerequisite, Economics 51 and Agricultural Economics 117. Spring quarter. Three credits.

*Fuhriman*

116. **Marketing Livestock and Livestock Products**—The production and marketing factors as they relate to the marketing of livestock and livestock products with special reference to Utah's condition. Prerequisite, Agricultural Economics 118. Spring quarter. (Not given 1931-32; alternates with 114.)

117. **Grading of Field Crops, Fruits, and Vegetables**—This course is designed to furnish a brief practical course in actual commercial grading of field crops, fruits, and vegetables. Market demands and grade requirements, methods employed in commercial grading, and actual participation in grading will be emphasized. The greater portion

of the time will be spent in actually doing commercial grading. Fall quarter. Two credits.

*Tingey, Coe, Wilson, and Fuhriman*

118. **Grading of Livestock and Livestock Products**—This course is designed to furnish a brief practical course in actual commercial grading of livestock and livestock products. Market demands and grade requirements, methods employed in commercial grading, and actual participation in grading will be emphasized. The greater portion of the time will be spent in actually doing commercial grading. Winter quarter. Two credits.

*Alder, Smith, Esplin, Morris, and Thomas*

120. **Agricultural Prices**—Relationship between production and prices of agricultural products; trends in prices of agricultural commodities in Utah and competing states, in comparison with prices of non-agricultural products, and price cycles in their relation to Utah's agriculture. State and National Agricultural Outlook, as it applies to Utah will be given special consideration. The aim of the course is to make application of principles in prices, production and marketing to an agricultural program for the individual and the group. Prerequisite, Economics 51. Winter quarter. Three to five credits.

*Thomas*

191. **Advanced Farm Management**—A detailed farm management analysis, including methods of making surveys, collecting, tabulating, organizing, and analyzing data and a study of the application of results toward the improvement of the farm business. The student will be expected to do some actual field work and to analyze the farm management data in the laboratory. Prerequisite, Agricultural Economics 102. Winter quarter. Three credits.

*Fuhriman*

210. **Research in Agricultural Economics**—Time and credit to be arranged.

*Thomas*

214. **Research in Agricultural Economics**—Thesis.

*Thomas*

211, 212, 213. **Agricultural Economics and Marketing Seminar**—All seniors and graduate students majoring in this department are required to take part in these round table discussions of current problems and recent publications in Agricultural Economics and Marketing. Fall, Winter and Spring quarters. One credit each quarter.

*Thomas and Fuhriman*

SUGGESTED COURSE OF STUDY FOR MAJORS IN  
AGRICULTURAL ECONOMICS IN THE  
SCHOOL OF COMMERCE

FRESHMAN YEAR

Course	Fall	Quarters	
		Winter	Spring
(Hours)			
English 10 .....	5		
Chemistry 1 .....			5
Sociology 70 .....		3	
Political Science 11, 12 .....	3	3	
Biological Science <sup>1</sup> .....	4	4	5
Agriculture <sup>1</sup> .....	3	5	5
Typewriting .....	1	1	1
Electives <sup>1</sup> .....	0-1	0-1	0-1

SOPHOMORE YEAR

Course	Fall	Quarters	
		Winter	Spring
(Hours)			
Economics 51 .....	5		
Agricultural Economics 53 .....		3	
Agricultural Economics 70 .....			3
Business Administration 25 .....	5		
Business Administration 28 .....		5	
Agricultural Economics 62 .....			5
English 11 .....	4		
Mathematics 35 .....		5	
Mathematics 75 .....			5
Electives <sup>1</sup> .....	1-3	2-4	2-4

JUNIOR YEAR

Course	Fall	Quarters	
		Winter	Spring
(Hours)			
Agricultural Economics .....	3		
Agricultural Economics 105 .....	3		
Agricultural Economics 114 or 116 .....			3
Agricultural Economics 117 <sup>2</sup> .....	2		
Agricultural Economics 118 <sup>2</sup> .....		2	
Economics 155 .....		5	
Psychology 101 .....	3		
Agronomy 117 .....			4
Sociology 101 .....		3	
Economics 135 .....			3
Civil Engineering 149 .....		3	
English or Language .....			4
Electives <sup>1</sup> .....	4-6	2-4	1-3

## SENIOR YEAR

Course	Fall	Quarters	
		Winter	Spring
(Hours)			
Agricultural Economics 102 .....	3		
Agricultural Economics 191 .....		3	
Agricultural Economics 113 .....		5	
Agricultural Economics 120 .....		5	
Economics 145 .....			2
Economics 140 .....			3
Economics 131 .....	5		
Seminar Agricultural Economics 211, 212, 213.....	1	1	1
Research Agricultural Economics 210 .....		2-3	2-5
Agricultural Economics 114 or 116 .....			3
Accounting 101 .....	5		
Electives <sup>1</sup> .....	1-3	0-1	3-6

<sup>1</sup>The courses to be selected will depend upon the special interest and need of the student, and his minor subject. He should consult his major and minor professors in the selection of these courses.

## BUSINESS ADMINISTRATION

P. E. PETERSON, W. L. WANLASS, Professors; V. D. GARDNER, IRVIN HULL, Assistant Professors; \*THELMA FOGELBERG, LUELLE HAWLEY EPPLEY, Instructors.

Accounting 101, 102, 103 may be used to satisfy in part of the group requirements in Exact Science. No other courses in accounting may be so used.

Students majoring in the Department of Business Administration and Accounting may concentrate in the fields of Accounting, Finance, Management, Merchandising, and Secretarial Science. In addition to the recommended basic work in the first two years the student is advised to complete the courses listed in the following table according to his field of concentration. (Students majoring in the field of Secretarial Science should register under the advice of the Department head.)

(To be included either in the major or special group)

Fields of Concentration	Recommended Courses
<b>Accounting:</b>	Accounting 101, 102, 103, 104, 111, 120, 121, 122; Economics 131, 132, 195, 206; Political Science 104, 105, 106, 107, 108, 109; Business Administration 130, 131.
<b>Finance:</b>	Business Administration 130, 131, 140, 141, 149; Economics 131, 132, 165, 167, 168, 195, 206; Political Science 104, 105, 109 or 106, 107, 108; Accounting 101, 102, 103, 111.
<b>Management:</b>	Business Administration 130, 131, 133, 134, 151, 152, 153, 149; Accounting 101, 102, 103, 111; Economics 131, 132, 145, 195, 206.

\*On Leave.

- Merchandising:** Business Administration 151, 152, 154, 155, 156, 161, 162, 131, 149; Accounting 101, 102, 103, 111; Economics 131, 132, 145, 195, 206; Political Science 104, 105, 109 or 106, 107, 108.
- Secretarial:** Accounting 101, 102, 103; Business Administration 28, 54, 130, 131, 136, 141, 146; Economics 131, 132, 135, 195, 206; Commercial Law 104, 105, 109; Mathematics 60, 61, 75.

## ACCOUNTING

**Accounting 1, 2. Introductory Accounting**—The purpose of this course is to present the basic principles of accounting and to furnish working material in the form of questions, problems, and practice sets which require the application of the theory advanced. Principles learned here will be useful as a basis for further study of accounting and as an aid in the understanding and control of the more common problems of business. Technique will be strongly emphasized. Fall or Winter, and Spring quarters. Five credits each quarter.

*Gardner and Eppley*

**101. Fundamentals of Accounting**—A basic course in fundamental theory. Emphasis will be given to the construction and interpretation of accounts. Required of all students majoring in Business Administration and Accounting. Graduate credit may be allowed upon the completion of some additional work. Prerequisite, Mathematics 35. Fall quarter. Five credits.

*Peterson*

**102, 103. Problems in Accounting Principles**—This course logically follows course 101 and brings to the classroom some of the vividness of the real problems as they arise in business. Selected cases and problems will be used. A critical understanding of accounting as it serves the executive is the aim of this course. Required of all majors in Business Administration and Accounting. Graduate credit may be allowed upon the completion of some additional work. Prerequisite, Accounting 101. Winter and Spring quarters. Three credits each quarter.

*Peterson*

**104. C. P. A. Problems**—A selection of typical problems taken from the examination questions of the various State Boards of Accountancy and the American Institute of Accountants. This is an essential course for students majoring in accounting. Spring quarter. Five credits.

*Gardner*

**107. Household Accounts**—The practical application of accounting principles to home management problems. Students are expected to acquire a fair technique in handling of accounting records. Lectures and assigned practice problems. (Not given in 1931-32.)

*Peterson*

108. **Business Organization and Accounting for Engineers**—A brief course in the study of those principles of Business Organization, Management and Accounting necessary to meet the needs of students in the School of Engineering. Winter quarter. Three credits.

*Peterson*

111. **Industrial Cost Accounting**—A detailed study of the principles of cost accounting as applied to manufacturing industry, with particular stress upon methods of burden distribution and interpretation of cost statistics. Lectures with assigned problems and cases. Winter quarter. Five credits. (Not given 1931-32.)

*Gardner*

120, 121. **Auditing**—A study is made of the theory and practice of auditing. Rules of professional conduct, and the duties and responsibilities of auditors are emphasized. A considerable time will be devoted to the mechanics of auditing, the preparation of audit programs, working papers, and final report. Open to graduate students. Prerequisites, Accounting 101, 104. Lectures, assigned cases and field work. Winter and Spring quarters. Four credits each quarter. Two lectures and two laboratory periods a week.

*Peterson*

122. **Auditing Practice**—The department is usually able to provide a limited amount of actual auditing practice. Only qualified students will be permitted to register for this work. Students must receive the approval of the instructor before registering. Fall quarter. Two credits.

*Peterson*

124, 125. **Seminar**—A reading and research course for graduates, seniors, and specially approved juniors in accounting. Required of all accounting majors. Current development in the field will be considered in lectures and reports. Winter and Spring quarters. Two credits each quarter.

*Peterson*

## BUSINESS ADMINISTRATION

25. **Introductory Business Administration**—An introductory course in the fundamentals of business administration. It is intended that this course shall furnish the students with a background for the study of the more complex problems of business. Not open to freshmen. Lectures and reports. Fall quarter. Five credits.

*Peterson*

26. **Applications of Engineering to Business**—Engineering applications of heating, lighting, ventilation power, transportation as they would affect the business executive in solving his problems of economy. Two recitations per week. Fall quarter. Two credits.

*R. B. West*



27. **Material Handling, Plant Layouts, Blue Print Reading**—Survey of material handling equipment, office and factory layouts, reading common blue prints, fundamentals of orthographic projection, simple drawings. One lecture, one laboratory. Winter quarter. Two credits.

*Kepler*

28. **Business Finance**—This course treats of the structure of the corporate enterprise; providing capital for a new company; expansion of existing companies; recapitalization and reorganization of the corporation. Financial and operating ratios will be discussed. Proper financial plans and methods of marketing securities will also be considered. Open to qualified Sophomores. Prerequisites, Economics 51, 52, or equivalent. Winter quarter. Five credits.

*Gardner*

54. **Psychology in Business Relations**—This course combines the study of all branches of business psychology for the business man and student, including the psychology of the consumer and psychology in marketing, advertising, selling and employment. Fall quarter. Three credits.

*Hull*

130. **Problems in Investment**—With concrete cases used as a basis of discussion the varying investment needs of different classes of people will be studied in the first part of the course. In the second part, attention will be given to different types of investment houses; while in the third, types of investments securities will be analyzed. Spring quarter. Three credits.

*Peterson*

131. **Corporation Finance**—This course is designed for students concentrating in accounting and finance. The financial plans and devices of various types and sizes of companies will be studied, with a view of determining sound means of raising and conserving funds in different phases of the business cycle. Some attention will be given to financial policy in re-organization. (Not given 1931-32.)

*Gardner*

133, 134. **Industrial Management Problems**—Selected cases will be taken up for study and report. Problems in industrial location; on choice of site; on buildings and layout; on selection, purchase, and arrangement of equipment; on purchasing and stores; on organization; on industrial research; on labor relations; and on problems in managerial control. Prerequisite, Business Administration 25. Winter and Spring quarters. Five credits each quarter. (Not given 1930-31.)

*Gardner*

136. **Business Ethics**—After a general survey of the science of ethics special consideration will be given to those principles of professional conduct which are rapidly being introduced into modern business. The work of trade associations and professional organizations will be critically analyzed. Spring quarter. Two credits.

*Wanlass*

137. **Management Seminar**—A course for seniors and specially approved juniors in which current developments in the field will be considered in lectures and reports. Winter quarter. One credit.

(Not given 1931-32.)

*Gardner*

146. **Risk and Risk-bearing**—This course deals with risks—why they exist, their influence on economic activity—who are subject to risks and the various ways of dealing with risks. The risks of the investor, worker, consumer, and business manager are treated—involving the study of speculation, research, forecasting, business judgment, the prices paid for risk-bearing services as insurance, and a somewhat critical appraisal of our present risk-bearing organization. Fall quarter. Five credits.

*Hull*

141. **Principles of Real Estate**—A general course designed for the business man rather than solely for the specialist. The technic of real estate appraisal, transfer, legal restrictions, and the forms and papers used in real estate transactions. Spring quarter. Three credits.

*Hull*

148. **Personal Finance and Insurance**—This course is designed to meet the needs of students in Home Economics and others wishing instruction in methods of building up a personal investment account and in the selecting of the most suitable types of insurance to meet the needs of persons with moderate incomes. Two lectures a week. Winter quarter. Two credits.

*Hull*

149. **Business Policy**—This is a co-ordinating course aimed to develop perspective and judgment. Problems will be discussed in finance, control, legal and ethical aspects. Required of all majors in Business Administration. Spring quarter. Five credits.

*Gardner*

## MERCHANDISING

51. **Principles of Selling**—Designed to meet the needs of students who want a general knowledge of the principles (psychological and economic) underlying retail, wholesale, and specialty selling. Spring quarter. Three credits.

*Hull*

151, 152, 153. **Problems in Merchandising**—The aim of this course is to present by means of carefully selected cases the manager's merchandising problems. Methods of marketing merchandise; selection of channels of distribution for consumers and industrial goods; sales organization and control; advertising and sales promotion; stock-turn; price policies. Fall, Winter and Spring quarters. Three credits each quarter.

*Peterson*

154, 155. **Principles of Advertising**—Designed to meet the needs of students who want a general appreciation of advertising as a tool in business. Attention will be given to the "advertisability" of products, the relationship of advertising to given plans of distribution and production, and to finance. The work will include choice of appeals for various classes of goods, choice of media, and the mechanics of good advertising. Principles will be applied to the analysis of magazine and newspaper advertising, and to the preparation of some advertisements. Fall and Winter quarters. Five credits each quarter.

(Not given 1931-32.)

*Gardner*

156. **Sales Administration**—The salesman in marketing strategy. Recruiting, selecting, developing, and equipping of salesmen. Direction of sales campaigns. Stimulating sales activities. Spring quarter. Three credits. (Not given 1931-32.)

*Hull*

161, 162. **Retail Store Management Problems**—The aim of this course is to present, by means of carefully selected and co-ordinated cases, the management problems of retail stores. The problems studied include accounting, statistics, organization, merchandise, selling, stocks, buying, personnel, finance, price policies, and general administrative policies. The case method. Winter and Spring quarters. Five credits each quarter. (Not given 1931-32.)

*Peterson*

## SECRETARIAL WORK

A considerable demand has been found for a short intensive course in secretarial work. Students wishing to complete such a course should register according to the following program:

### FIRST YEAR

	Fall	Winter	Spring
Elementary Stenography .....		5	5
Typewriting I .....	1	1	1
Freshman Composition .....	5		
Intro. Accounting .....		5	5
Economic Resources of U. S. ....	5		
Social Relations .....	3		
Business Practice .....			3
Burrough's Post. Mach. ....		1	1
Electives .....	2	4	1
	<hr/>	<hr/>	<hr/>
	16	16	16

## SECOND YEAR

	Fall	Winter	Spring
Advanced Stenography .....	3	3	3
Advanced Typewriting .....	1	1	1
Sophomore Composition .....	4		
Principles of Economics .....	5	5	
Commercial Law 11, 12, 13 .....	3	3	3
Secretarial Science .....			3
College Grammar .....			5
Calculator Operation .....		1	1
Electives .....		3	
	17	16	16

30. **Business English**—This course aims to give the student practice in the writing of different kinds of business letters and reports. Fall quarter. Three credits.

*Eppley*

75, 76. **Elementary Stenography**—Thorough drill in the fundamentals of the Gregg system of shorthand. Winter and Spring quarter. Five credits each quarter.

*Eppley*

78, 79, 80. **Advanced Stenography**—This course is a finishing course for stenographic students, and will include: A thorough review of the theory of Gregg shorthand with the development of new vocabulary; the study of letter forms and arrangement; transcripts.

Special attention will be directed toward the attainment of speed in taking dictation together with the making of a perfect transcript.

Prerequisites, one year stenography and typewriting.

Student must be registered in a course of advanced typewriting simultaneously with this course. Fall, Winter and Spring quarter. Three credits each quarter.

*Eppley*

81. **Speedwriting**—This course is an abbreviated system of long-hand—A Natural Shorthand. Speedwriting is a shorthand written with the a, b, c's. This course is recommended to students for the taking of ordinary office dictation, and also to facilitate note-taking.

Average rate of dictation at end of quarter 60 words a minute. Fall quarter. Five credits.

*Eppley*

86. **Typewriting I**—This course is designed to develop correct technique in:

Position—Syllable, Word and Sentence Drills.

Stroke—Rhythm, Number, and Shifting Drills.

Mechanical Features—Acceleration and Concentration Drills.

Mastery of Keyboard—Introduction of "Time" Writing.

Finger Exercises—Analysis of Errors.

Average speed 20 words a minute.

Student must arrange for three hours practice a week in addition to the regular class work. Fall, Winter quarters. One credit each quarter. *Eppley*

87. **Typewriting II**—This course continues with the advanced development of those features of the beginning course and in addition includes:

Care of the Machine—Centering.

Setting-up Copy—Frequency, Phrase and Word Combination Drills.

Sentence and Paragraph Practice.

Introduction to Letter Writing.

Average speed 25 words a minute.

Student must arrange for three hours practice a week in addition to the regular class hour. Winter and Spring quarter. One credit each quarter. *Eppley*

88. **Typewriting III**—This course continues with the advanced development of the features developed in Typewriting I and II, and in addition includes:

Letter Writing stressing Placement, Essentials, Styles, Tabulating.

Average speed 30 words a minute.

Student must arrange for three hours practice a week in addition to regular class hour. Spring quarter. One credit. *Eppley*

89. **Typewriting IV**—This course is designed to give special attention to the development of accuracy, and includes:

Advanced Letter Writing.

Telegrams.

Continuance of all Drills and Exercises.

Introduction to Invoicing.

Speed and Accuracy Tests.

Average speed 40 words a minute.

Students must arrange for three hours practice a week in addition to the regular class hour. Fall quarter. One credit *Eppley*

90. **Typewriting V**—This course is designed to give special attention to the development of accuracy and includes:

Continuance of Concentration, Acceleration, Rhythm and Corrective Drills.

Advanced Legal Forms.

Advanced Tabulation.

Speed and Accuracy Tests.

Average speed 45 words a minute.

Student must arrange for three hours practice a week in addition to the regular class hour. Winter quarter. One credit. *Eppley*

91. **Typewriting VI**—This course is designed to give special attention to the development of accuracy, and includes:

Continuation of all Drills.

Review of Machine and Short Cuts in Typewriting.

Billing and Tabulation.

Speed and Accuracy Tests.

Average speed 50 words a minute.

Student must arrange for three hours practice a week in addition to the regular class hour. Spring quarter. One credit.

*Eppley*

95. **Calculator Operation**—Instruction and practice in the use of the Burroughs calculating machines. Fall, Winter and Spring quarter. One credit each quarter.

A fee of \$1.00 will be charged.

*Eppley*

96. **Burroughs Posting Machine**—A laboratory course giving instructions in the use of the Burroughs Posting Machine. Fall, Winter and Spring quarter. One credit.

A fee of \$1.00 will be charged.

*Eppley*

175. **Business Practice**—This course is designed to familiarize students with business terms and to cover all phases of business practice which the office assistant is called upon to perform in addition to shorthand and typewriting service. Aside from general office details and management, actual knowledge and experience is obtained in the use of mailing devices; the receiving, distributing, and sending of mail; filing and filing systems; cutting stencils and operation of the Mimeograph and Ditto Machine; dictating to and transcribing from the Dictaphone; elementary operation of the adding and calculating machines. Spring quarter. Three credits.

*Eppley*

178. **Office Procedure**—This course is designed to give training in proper attitudes in business. Procedure is based on lectures and the use of problem method in classroom work covering: essential personal, moral, mental, and physical characteristics necessary to the successful office worker; essential ethics and amenities; the business organization and how to adjust oneself to the new position; marketing one's ability—personal application and letters of application, etc. Spring quarter. Three credits. (Not given 1931-32.)

*Eppley*

## ECONOMICS

W. L. WANLASS, F. D. DAINES, JOS. A. GEDDES, WILLIAM PETERSON, Professors; V. D. GARDNER, IRVIN HULL, Assistant Professors.

Students majoring in this Department should include the following

senior college courses in either the major or special group. Economics 116, 125, 131, 132, 135, 140, 155, 165, 167, 180, 181, 182, 195, and 206; Agricultural Economics 113; Accounting 101 and 102; Political Science 106, 107, 108, 109, 124, and 125.

4. **Economic Resources of the United States**—An analysis of resources and industries, with particular emphasis upon their regional distribution in United States. Relations of social and physical conditions. Climate, mineral, agricultural products, transportation facilities, etc. Special attention paid to those forces bringing about changes in our economic structure. Section 1, Fall quarter; Section 2, Winter quarter. Three credits.

*Hull*

\*10. **The Natural Economic Resources of Utah**—Includes a study of land and water relationships, water power, timber, and metal and mineral deposits, as they have influenced the industry of the era. Special study will be given to the geographic distribution and economic importance of deposits containing gold, silver, iron, copper, zinc, manganese, clay, gypsum, coal, sulphur, cement, lime, gilsonite, elaterite, oil shale, oil salt, alunite, phosphate, sulphate, etc. The various manufacturing processes involved in the turning Utah's natural resources into finished products will be studied. Attention will be given to the size, character, and location of the deposits as they affect manufacturing processes, as well as the markets for the products and the competition with other supplies. Winter quarter. Five credits.

*William Peterson*

25. **Economic Development of Western Europe**—A critical survey of the development of economic institutions and practices in Western Europe from the beginning of the Colonial period to the present time. Special attention will be given to those countries that have contributed most to the economic life of the United States. Fall quarter. Three credits.

*Hull*

30. **Economic Development of the United States**—This course indicates the dominance of economic forces in history. A critical study of the evolution and progress of American agriculture, industry, commerce, transportation, banking, labor organizations, etc., from the Colonial period to the present time, ending with a survey of existing institutions. Winter quarter. Three credits.

*Hull*

51. **General Economics**—An introductory course covering the entire field of Economics. After a brief survey of man's economic development, a careful study is made of those fundamental principles upon which modern economic life is based. Attention is also given to such subjects as money, credit, banking and labor problems. Sections

\*May not be included in Social Science group.

1, 2 and 3, Fall quarter; Sections 4, 5 and 6, Winter quarter; Sections 7, Spring quarter. Five credits. (Not open to Freshmen.)

*Staff*

52. **Advanced General Economics**—This course is especially designed for students of the School of Commerce and others who desire a more thorough grounding in Economics. A more intensive study of economic laws will be made with special reference to their application to present economic problems. Required as a prerequisite to all senior college courses in the School of Commerce except in Agricultural Economics and Marketing. Prerequisite: Economics 51—Sections 1 and 2, Winter quarter; Sections 3 and 4, Spring quarter. Five credits. (Not open to Freshmen.)

*Staff*

110. **Commerce and Commercial Policies**—Attention given to the fundamentals of trade and commerce, to the methods of increasing, limiting and directing American trade, and an analysis of sound commercial policies. Prerequisites, Economics 51, 52. Spring quarter. Three credits.

*Wanlass*

125. **Labor Problems**—A study of the labor situation from the social point of view. Special attention is given to labor problems and to methods of securing industrial peace. Prerequisites, Economics 51, 52. Three credits. (Not given 1931-32.)

*Geddes*

131, 132. **Statistical Methods**—This course deals with statistical methods rather than the mathematics of statistics. Special attention will be given to those forms and methods of procedure that are used in the social sciences and agricultural with most emphasis upon business application. Actual statistical studies will be made by each student. Prerequisites, Math. 22 or 25, Economics 51, 52. Fall and Winter quarters. Five credits each quarter.

*Gardner*

135. **Transportation Economics**—Emphasis is placed chiefly on railroad transportation in the United States. Some attention will be given to highways transportation. The underlying economic principles will receive more attention than the practical phases of transportation. Special attention will be given to those problems that are peculiar to the intermountain section. Prerequisites, Economics 51, 52. Spring quarter. Three credits. (1932-33.)

*Wanlass*

140. **International Economic Relations**—Special attention will be given to the basic economic relationships existing between the industrial nations of the world, international commerce, tariffs and trade restrictions, international debts and finance, and various means of promoting progress on a basis of sound economics. Prerequisites, Economics 51 and 52. Fall quarter. Three credits.

*Daines*



145. **Economics of Consumption**—There is an economics of consumption that is quite as important as the economics of production. This course deals with personal and group expenditures, standards of living, budgets, variations in consumption, etc. Spring quarter. Two credits.

*Wanlass*

155. **Principles of Taxation**—After a brief survey of the fundamental economic principles of public finance, a critical examination of our federal, state, and local taxes and the various business taxes will be studied. Special attention will be given to tax problems in Utah. Prerequisites, Economics 51, 52. Winter quarter. Five credits. (1932-33.)

*Wanlass*

165. **Money and Credit**—The nature, development and uses of money and credit. Special attention given to bimetallism, the gold standard, the money market and the relation of money and credit to prices. Prerequisites, Economics 51, 52. Fall quarter. Five credits.

*Wanlass*

167. **Banking**—The functions and operation of such financial institutions as commercial banks, savings banks, and trust companies will be studied critically. This will be followed by an historical treatment of banking in the United States and a survey of European and Canadian Banking in comparison with our Federal Reserve System. Varied reading and reports on pertinent problems will be part of the course. Prerequisites, Economics 51, 52. Winter quarter. Five credits.

*Wanlass*

168. **Money Markets**—A study of the factors affecting the international flow of funds and the relationships of banking institutions thereto. Foreign exchange. Governmental policies affecting inflation and deflation of money. International debts. Spring quarter. Five credits. (1932-33.)

*Wanlass*

175. **Public Utility Economics**—In this course will be presented first-hand information on the economic problems of the great organizations which provide our communications, transportation, light, heat, and power—selected from the reports of a great number of leading Public Utility Companies. Prerequisites, Economics 51, 52. Spring quarter. Three credits. (Not given 1931-32.)

*Hull*

180, 181, 182. **Current Economic Problems.** (Economics Seminar.)—A reading and research course designed for junior, senior, and graduate students who are majoring in economics and related subjects. Special reports on current economic problems and literature will be made. Required of students graduating in economics. Fall, Winter, and Spring quarters. One credit each quarter. Two years credit allowed.

*Wanless*

195. **History of Economic Doctrines**—A critical study of the origin and development of the economic theories of the leading thinkers in the leading nations of the world from 1750 to the present time. Spring quarter. Three credits.

*Wanlass*

200. **Research in Economics**—Special investigations in problems of economics may be carried on by senior and graduate students. Credit will be granted according to work done.

*Wanlass*

206. **Advanced Economic Theory**—A critical analysis of present day economic theories and doctrines. The purpose of the course is to enable students to get a better grounding in economics and to correlate the work of the various courses in economics. Only senior and graduate students who have had considerable work in economics will be admitted. Spring quarter. Two credits.

(Not given 1931-32.)

*Wanlass*

## POLITICAL SCIENCE

F. D. DAINES, ASA BULLEN, Professors.

Students majoring in this department should include the following senior college courses either in the major or special group: Political Science, 103, 116, 117, 118, 124, 125, 150, 151, 152; Psychology 101; Sociology 140; History 157, 158, 159; and Economics 125, 131, 132, 155.

4. **Citizenship**—The aim of this course is to make a study of the social environment, from the point of view of discovering the points of contact between the individual and the problems of human relationship. Fall, Winter, or Spring quarter. Three credits.

*Daines*

11, 12, 13. **Commercial Law**—The law of contracts, agency, negotiable papers, banks and banking, guaranty and suretyship. A comprehensive study of the principles of law underlying each of the above subjects. Open to all students of Sophomores standing or above. Fall, Winter, and Spring quarters. Three credits each quarter.

*Bullen*

102, 103. **International Relations**—Psychological, economic, racial and other obstacles to international cooperation, as exemplified in recent events. The Treaty of Versailles; the League of Nations; the present day world politics. Prerequisite, one year of Social Science. Winter and Spring quarters. Three credits each quarter.

*Daines*

104, 105. **Commercial Law**—The law of bailments, sales of per-

sonal property, partnerships, corporations and bankruptcy. Prerequisites, Political Science 11, 12, 13. Fall and Winter quarters. Three credits each quarter.

*Bullen*

106, 107, 108. **Commercial Law**—The law of property, real and personal, including deeds, conveyancing and abstracts of title, mortgages, wills and estates. The law of insurance and debtor and creditor. Prerequisites, Political Science 11, 12, 13. Fall, Winter, and Spring quarters. Three credits each quarter. (1932-33.)

*Bullen*

109. **The Law in Business Problems**—A study of the legal aspects of business. Prerequisites, Political Science 11, 12, 13, and Political Science 104, 105, 106, 107, 108. Spring quarter. Three credits.

*Bullen*

113, 114. **Municipal Government and Administration**—The government and problems of cities, with special reference to American experience. Organization, personnel, and practices which have developed in the performance of the various business functions of the city government. Prerequisite, one year of Social Science. Fall and Winter quarters. Three credits each quarter. (Not given 1931-32.)

*Daines*

116. **Theory of State**—The nature of the State, its organization and activities, and its relation to individuals and to other states. Prerequisites, one year of Social Science. Spring quarter. Three credits. (1932-33.)

*Daines*

117. **American Political Ideas**—Fundamental theories underlying American Political institutions and governmental policies. Prerequisite, one year of Social Science. Fall quarter. Five credits.

*Daines*

118. **Political Parties**—Their function in government; their organization and methods. Prerequisite, one year of Social Science. Fall quarter. Three credits. (Not given 1931-32.)

*Daines*

120. **Relation of Government to Industry**—An interpretation is sought of the present trends in regard to governmental regulation and control of important industries in the United States, the labor policies of the government and governmental aids to industry, with a discussion of the political philosophy implied in these trends and policies. Fall quarter. Three credits.

*Daines*

124, 125. **Public Opinion**—The aim of this course is to investigate the psychological and other factors involved in the determination of opinion on public questions. The reliability of sources of information

and the subjective influences that must be taken into consideration are considered. Prerequisite, one year of Social Science. Winter and Spring quarters. Three credits each quarter.

*Daines*

127, 128. **Constitutional Law**—The Constitution of the United States, especially as determined by judicial interpretation. Fall quarter. Five credits. (1932-33.)

*Daines*

150, 151, 152. **Current Political Problems.** (Political Science Seminar)—A course designed for junior, senior, and graduate students majoring in political science and related subjects. Required of those graduating in Political Science. Fall, Winter, and Spring quarters. One credit each quarter.

*Daines*

## SOCIOLOGY

JOSEPH A. GEDDES, FRANKLIN L. WEST, Professors; CAROLINE M. HENDRICKS, Assistant Professor.

Sociology 70 is prerequisite for all upper division courses in Sociology. Sociology 4 may be used for group requirements but is not accepted as a prerequisite. Social Hygiene heretofore given separately has now been combined with Sociology 4, which is developmental study as contrasted with the scientific group.

Students majoring in this department may emphasize any of the following five fields: 1. General Sociology. 2. Rural Welfare. 3. Social Work. 4. Family Welfare, and 5. Social Research.

Nuclei courses about which the choice of major and special group courses should revolve are suggested as follows:

Rural Welfare—Soc. 101, Soc. 140, Soc. 185, 190, 191, 192.

Social Work—Soc. 100, Soc. 140, Soc. 161, Soc. 170, Soc. 171, Soc. 172, 190, 191, 192.

Family Welfare—Soc. 170, Soc. 140, Soc. 171, Soc. 172, Soc. 190, 191, 192.

General Sociology—By consultation with department.

Research—Ec. 131, Soc. 140, Soc. 190, 191, 192. Graduate work in this field, open to Seniors, includes Soc. 201, 202, 204.

The special group may be filled from the following list of subjects through consultation with the department.

Accounting 107.

Zoology 111, 112, 131.

Psychology 101.

Public Health 108, 190.

Economics 131, 145, 195.

Political Science 124, 125.

Household Administration 125 (for women).

Geology 105, 106.

4. **Social Relations**—Given in conjunction with Political Science 4 and Economics 4 as an orientation course for freshmen. It emphasizes developmental materials as contrasted with a scientific treatise. Social conflicts and maladjustments are treated in such a way as to clarify adjustments and accommodations. Credit may be used to fill group requirements, but may not be used as a prerequisite for upper division courses. Fall, Winter or Spring quarter. Three credits.

*West and Mrs. Hendricks*

50. **Environmental Factors of Child Life**—Home conditions are dealt with briefly in this course in natural and adopted homes. The principal emphasis is on community influences and pressures which assist in the development of the personality. Field trips will supplement lectures as a means of coming into contact with societies, organized agencies and institutions. Spring quarter. Three credits.

*Geddes*

61. **Women and Culture**—Open to women students only. A study is made of women's contribution to culture. Traditional forms of individual refinement are observed, with the purpose of becoming familiar with inherently harmonious, balanced-types of personality. The richly varied, yet unified, life is emphasized. Fall quarter. Two credits.

*Mrs. Hendricks*

70. **Principles of Sociology**—The foundations of sociology are studied in order that a plan of social progress may be formulated. The problems of social origins, social structures, public opinion, social activities, social organization, and social evolution are carefully considered. Prerequisite for all upper division classes. Fall, Winter, or Spring quarter. Three credits.

*Mrs. Hendricks*

100. **Applied Educational Sociology**—The social viewpoint is used in this course as a means of appraising curriculum and materials. The socialization of attendance, discipline and methods receives attention. An attempt is made to relate the teaching population and the student population to the social order. Fall quarter. Three credits.

*Geddes*

101. **Applied Rural Sociology**—An advanced course. A study is made of the problems of rural life as a basis for constructive action in developing and maintaining an efficient and wholesome civilization in the country. Prerequisites, Sociology 70 and 142. Three credits. (Not given in 1931-32.)

*Geddes*

140. **Social Psychology**—The influence of the "groups" in the formation of the "norms" of life and in exerting pressure on the personality is stressed. Fall quarter. Five credits.

*Geddes*

142. **Rural-Urban Sociology**—This course deals with the modern

urbanization process as it effects country and city. Disorganizing factors influencing both groups are studied as well as progressive tendencies involving a gradual reconstruction of society. Winter quarter. Three credits.

*Geddes*

161. **Modern Social Problems**—A selection of a series of social problems is made. These problems are studied with the two-fold object of ascertaining the present situation and of arriving at common-sense solutions. Spring quarter. Three credits. (Not given 1931-32.)

*Geddes*

170. **Juvenile Delinquency**—A study of juvenile offenders. The causes of delinquency are considered with the purpose of arriving at intelligent remedies. Various methods of home, social, and institutional treatment are studied; parental cooperation, personal supervision allied with probation and parole, institutional treatment, etc. Winter quarter. Three credits. (Not given 1931-32.)

*Mrs. Hendricks*

171. **Social Problems of the Family**—In this course the relations of the family with outside groups, agencies, and institutions are stressed. Attention is also paid to the inter-relation between the different members of the family. Home life is treated as a changing, developing, basic organization which should be in constant reciprocal relation with outside agencies. Fall or Spring quarter. Three credits.

*Mrs. Hendricks*

172. **Poverty and Dependency**—A study is made of the extent of poverty, its causes, remedies now in use and others which give promise. Social methods of caring for dependents are examined. Emphasis is placed on programs which look to prevention and to minimization as well as to adequate care. Winter quarter. Three credits.

*Mrs. Hendricks*

185. **Community Organization and Leadership**—A course dealing with the efforts of communities to organize the various fields which have to do with the chief interests of life. The coordination of agencies, the opportunities for leadership, the effects of disorganization are studied. Spring quarter. Three credits.

*Geddes*

190, 191, 192. **Seminar in Sociology**—Fall, Winter, and Spring quarters. One credit each quarter.

*Department*

The following courses may also be used to satisfy the requirements for a major in Sociology.

Public Opinion (Political Science 124)

Eugenics (Zoology and Entomology 112) (Eugenics cannot be used to satisfy the Social Science group requirement of 12 hours.

Labor Problems (Economics 125.)

## GRADUATE COURSES

201. **Research in Sociology**—For advanced students only. A project is organized and field work is carried on under supervision. Original studies are made. Prerequisites, Sociology 4, 70, Math. 22. Credit and hours to be arranged.

*Geddes*

202. **The Study of Society**—An advanced course in Sociological theory. Sociology is studied as a classified body of facts and as a method of investigation. Prerequisites, Sociology 70. Winter quarter. Five credits. (Not given 1931-32.)

*Geddes*

204. **Methods in Social Research**—A study of present methods of carrying on social research. Exploration, the interview, the survey, the diary, the letter, the life history, interpretation of data are stressed. Prerequisites, Sociology 4, 70, Math. 75. Spring quarter. Two credits.

*Geddes*

## ENGINEERING

RAY B. WEST, O. W. ISRAELSEN, Professors; AARON NEWHEY, A. H. POWELL, GEORGE D. CLYDE, L. R. HUMPHREYS, Associate Professors; A. J. HANSEN, S. R. EGBERT, D. A. SWENSON, SIDNEY STOCK, H. R. KEPNER, Assistant Professors; V. H. TINGEY, Instructor.

### MILITARY SCIENCE AND TACTICS

CARR W. WALLER, Lt. Col., C. A. C., Professor; WALTER R. GOODRICH, Captain, C. A. C., JOHN H. PITZER, First Lieutenant, C. A. C., Assistant Professors; EUGENE J. CALLAHAN, First Sergeant, D. E. M. L., Instructor.

### CIVIL ENGINEERING

#### APPLIED MECHANICS AND DESIGN

CE 1, 2. **Materials of Engineering**—The chemistry of steel, the alloys, etc., and their special use in machine parts; strengths composition and proper use of wood, plaster, glass, glue, paint, brick, cement, sand and gravel. Mechanical analysis curves, water-cement, ratio cement and concrete testing. Fall and Spring quarters. Three credits each quarter.

*Newey and West*

(Courses numbered below 100 designate Junior College courses. Courses numbered from 100 to 199 are Senior College, and those numbered above are Graduate Courses.)

CE 101, 102. **Engineering Mechanics**—Statics and kinetics, resultant forces, equilibrium of force systems, friction; moments and moments of inertia; force, mass, and acceleration; work and energy; impulse and momentum. Winter and Spring quarters. Five credits each quarter. (See also Physics 150, 151.)

*Kepner*

CE 103. **Applied Mechanics and Strength of Materials**—The simple machine, reactions, moments, and shears; the design of beams and columns. Fall quarter. Five credits. (See also Physics 152.)

*Clyde*

CE 106. **Reinforced Concrete**—The fundamental principles of reinforced concrete design. Slabs, beams, girders, and columns. Winter quarter. Five credits.

*Clyde*



**CE 107. Masonry Construction and Foundations**—Design and construction of stone and concrete masonry structures including bridges, retaining walls, culverts, bins, and chimneys. Foundations. A reinforced concrete arch bridge is designed. Fall quarter. Five credits.

*Kepner*

**CE 108. Building Construction**—Design and construction of concrete, steel and mill buildings, fireproofing, building codes, cost of various types of buildings. Winter Quarter. Three credits.

*Kepner*

**CE 109. Elementary Structural Theory**—Reactions and stresses, graphic statics, roof and bridge trusses, long span bridges, lateral and portal bracing. Stresses in members of a roof truss and railroad bridge are computed. Spring quarter. Five credits.

*Kepner*

**CE 110. Advanced Structural Theory**—Slope and deflection by various methods, rigid frames, wind stresses in tall buildings, indeterminate trusses. Prerequisite CE 109. Fall quarter. Four credits.

*Kepner*

**CE 113. Structural Design**—Design of steel and timber structures. Details of a roof truss and railroad bridge are designed. Fall quarter. Four credits.

*Kepner*

**CE 202. Graduate Structural Theory**—Indeterminate structures, secondary stresses, suspension bridges, space frameworks, three and two hinged and hingeless arches. Prerequisite CE 109, 110. Four credits.

*Kepner*

**CE 203. Graduate Structural Design**—Investigation, design and cost comparisons of timber, steel and masonry structures. Four credits.

*Kepner*

## HIGHWAYS

**CE 120. Highway Construction and Design**—Location, grade, drainage, resistance to traction, road materials, construction methods and costs, road and pavement design. Fall quarter. Five credits. Four Rec., 1 Lab.

*West*

**CE 121. Highway Administration**—State, County and City highway departments, highway and local improvement laws, traffic regulations, taxation, and methods of financing country roads and city pavements. Winter quarter. Three credits.

*West*

**CE 125. Transportation**—Development of highway transportation, comparison of methods of transport of passengers and commodities by

highway, railway, and waterway. Organized and operated Rural Motor express lines, freight lines, and bus lines, etc. Fall quarter. Three credits.

*West*

## IRRIGATION AND DRAINAGE

CE 141. **Hydraulics**—Laws of liquids in motion and at rest; flow in natural and artificial channels and elementary principles of water power development. Fall quarter. Five credits.

*Clyde*

CE 143. **Water Supply and Hydrology**—The occurrence, utilization and control of water. Precipitation, evaporation, transpiration, and runoff. Precipitation runoff relations, mass diagrams, duration curves, and flood flows. Ground water storage developments for power, irrigation, and municipal use. Consumption of water, intakes, and aqueducts, design of distribution systems, and materials, pipes, and fittings. Spring quarter. Five credits.

*Clyde*

CE 144. **Management and Operation of Irrigation Systems**—Delivery of water to irrigators, annual water charges, operation costs. Prerequisites, Design of Irrigation Systems, CE 146. Winter quarter. Three credits.

*Clyde*

CE 145. **Designs of Drainage Systems**—Preliminary survey, location of drains, flows in open channels, and construction of drainage systems, with special reference to drainage of irrigated lands. Prerequisites, CE 141 and 142. Spring quarter. Three credits.

*Israelsen*

CE 146, 147. **Design of Irrigation Systems**—Sources of water supply, diversion works, canal alignment and cross section, flumes, drops, and spillways. Prerequisites, CE 141, and CE 101, 102, 103. Fall and Winter quarters. Five credits each quarter.

*Israelsen*

CE 148. **Hydroelectric Design**—Principles of design of hydraulic machinery used in the generation of power. Dams, perstocks, surge tanks, pipe lines, and plant layouts. Spring quarter. Five credits.

*Israelsen*

CE 149. **Irrigation Institutions and Management**—Laws governing the acquirement, adjudication, and distribution of water rights, irrigation and drainage enterprises, valuation of water rights, delivery of water to irrigators, annual water charges, operation and maintenance organizations, and costs. Fall quarter. Five credits.

*Clyde*

CE 241, 242. **Research in Irrigation and Drainage**—Specially prepared undergraduates or graduate students may elect a problem in irrigation or drainage for investigation, subject to the approval of the professor in charge. Such investigations may be conducted at the College or elsewhere. The studies may be used as a basis for a thesis to meet in part the requirements for an advanced degree. Students may register at the beginning of any quarter. Credits and hours to be arranged.

*Israelsen or Clyde*

## MECHANICAL DRAWING

Drawing rooms are open from 8:00 a. m. to 5:00 p. m., daily. Supervised instruction given from 2:00 to 5:00 p. m. A student may register for any number of credits. Three hours per week are required for one credit. All classes conducted simultaneously in Room 307, Engineering Building.

All courses in Drawing to be given by Professor Kepner.

CE 61. **Engineering Drawing**—Use of instruments, lettering, applied geometry, orthographic projection and pictorial representation. Fall quarter. Three credits.

CE 62. **Engineering Drawing**—Technical sketching, dimensioning, working drawings. Winter quarter. Two credits.

CE 63. **Descriptive Geometry**—Point, line, plane problems, developments, intersection, surfaces, mining problems. Spring quarter. Three credits.

CE 69. **Advanced Engineering Drawing**—Drawing of complete sets of plans for simple machines and parts, tracing, blueprinting, standard symbols. Three credits.

CE 71. **Map Reading and Topographical Drawing**—Topographical lettering, symbols, enlargement and reduction of maps, models. Three credits.

CE 75. **Architectural Drawing**—Freehand sketching, perspective, shades and shadows, building details, plans and details of typical dwelling house. Three credits.

CE 72. **Industrial Drawing and Lettering**—The use and care of instruments and the elements of orthographic projection. The graphical presentation of business data, plant layout, routing, flow sheets, etc. Inspection trips will be made to typical industries. Winter quarters. Three credits.

## SURVEYING

CE 81. **Plane Surveying**—Use of tape, transit, level, compass, etc., in field problems and traverses. Differential and profile leveling, plotting, mapping, and care of instruments used by engineers. Fall quarter. Four credits.

*Tingey*

CE 82. **Plane Surveying**—Topographical surveying, hydrographic surveying and some rural and city surveying. Prerequisite, Trigonometry. Spring quarter. Four credits.

*Tingey*

CE 83. **Mapping and Office Practice**—Practice in the mapping of the various kinds of surveys that may be encountered by the engineer. Winter quarter. Two credits.

*West*

CE 181. **Railroad and Highway Curves and Earthwork**—Instructions and practice in railroad and highway curves, transition curves, and earthwork computation. Prerequisite CE 81, 82. Spring quarter. Five credits.

*West*

### General

CE 190. **Contracts and Specifications**—The form and essential consideration in drawing up engineering contracts and specifications. Spring quarter. Three credits.

*West*

CE 191. **Railroads**—Economics of railroad location, and railroad construction. Winter quarter. Three credits.

*West*

CE 192. **Engineering Economics**—Winter quarter. Five credits.

*West*

CE 194. **Sewerage and Sewage Disposal**—Flow in sewers. Design and construction of sewerage works. Design and construction of sewage treatment works. Spring quarter. Five credits.

*Kepner*

CE 196. **Heat and Power Machinery**—Steam generation; fuels and combustion; construction and operation of boilers; elementary thermodynamics. Types, details and tests of steam engines and gas engines. Measurement of power. Fall quarter. Three credits. See also Physics 118.

*F. L. West*

CE 197. **Electric Machinery**—Principles of continuous and alternating current, generators and motors; transmission and distribution; air compressors. Winter quarter. Three credits. See also Physics 112.

*F. L. West*

CE 198, 199. **Undergraduate Thesis**—Senior year, one credit each quarter. Fall and Winter quarters. Hours to be arranged.

*Staff*

### AGRICULTURAL ENGINEERING

AE 1, 2. **Agricultural Surveying**—For students of forestry and Agriculture. Practice in the handling of surveying instruments, leveling,

and traversing. The surveying of forest roads. Public Land surveys and the retracing of section lines. Fall and Spring quarters. Four credits each quarter.

*Tingey*

AE 3. **Agricultural Drawing**—The use and care of instruments and orthographic projection. Farm structures. Two credits.

*Kepner*

AE 4. **Agricultural Mapping**—Maps and topographical drawing of farm problems. Two credits.

*Kepner*

AE 6. **Farm Structures**—The arrangement, design and construction of barns, stables, poultry houses, silos and other farm structures. Winter quarter. Three credits.

*Humpherys*

AE 7. **Poultry House Design**—The plans and layout of the various types of structures used in Poultry Husbandry, complete layout of poultry ranch. Winter or Spring quarters. Three credits.

*Humpherys*

AE 8. **Barn and Stable Design**—Various types of barns and stables, layouts and construction. Winter or Spring quarter. Three credits.

*Humpherys*

AE 9. **Concrete Construction for Agricultural Purposes**—Various mixtures of cement and their uses; the use of concrete in making barns, water troughs, posts, etc. Spring quarter. Three credits. Hours to be arranged.

*West*

AE 11. **House Construction**—Various methods of construction, the frame, two brick, three brick, stucco, cement block and stuccoed hollowed tile; cost and economy of each; interior finishing. Winter quarter. Five credits.

*West*

AE 12. **Irrigation and Drainage Practice**—Water measurements, effect of soil and plants on time and frequency of irrigation, duty of water, design of farm ditches and preparation for farm drainage. These courses may be used as a major or minor in the Department of Agronomy. Spring quarter. Four credits.

*Israelsen*

AE 201. **Research in Irrigation and Drainage**—Specially prepared undergraduate, or graduate students in civil or agricultural engineering may elect a problem in irrigation or drainage for investigation, subject to the approval of the professor in charge. Such investigations may be conducted at the College or elsewhere. The studies may be used as a basis for a thesis to meet in part the requirements for an advanced degree. Any quarter. Credits and hours to be arranged.

*Israelsen or Clyde*

**AE 13. Farm Motors**—This course will cover the care, adjustment and lubrication of the automobile, tractor, the stationary gas engine, and the home lighting and water systems, the care of this equipment when not in use, and precautions to be taken when preparing it for operation. It will also include bearings and bearing adjustment, babbiting and fitting of babbited bearings, soldering and fundamental principles of power transmission by the use of belts and pulleys, care of belts and speed calculations. Fall quarter. Three credits.

*Powell*

**AE 14. Farm Shop Repair Work**—(See Wood Work Unit C.) This course is especially arranged for agricultural students. The application of foregoing operations to repairs on the farm. The repairing of the following farm implements will be included in the course: the plow, wagon, harrow, hay rake, mowing machine, binder, header, etc.; making and tempering punches and cold chisel; sharpening and tempering harrow teeth, picks, etc. Fall and Spring quarters. Two credits.

*Egbert*

**AE 15. Farm Machinery**—A complete assembling, adjusting, care and repair of the various types of farm implements and farm machinery. Spring quarter. Three credits.

*Powell*

**AE 16. Gasoline Tractor Operation and Repairing**—The overhauling of the tractor including babbiting of bearings, fitting of new parts and operation of tractor. Fall quarter. Repeating Spring quarter. Three credits.

*Powell*

**AE 102. Tractor Repair and Operation**—An advanced course for men wishing to specialize in tractor service work. It includes field work, operating problems, trouble shooting and repairs. Fall quarter. Four credits.

*Powell*

## MECHANIC ARTS

### AUTO MECHANICS

**MA 1. Principles of Automobile Construction and Operation**—A course for beginners. This course is a thorough study of the design and construction and function of the various units and parts of the automobile, with special reference to gas engine principles and the mechanism involved. This course or its equivalent must be taken by all students who wish to specialize in any branch of automobile work. Fall quarter. Three credits.

*Powell*

**MA 2. Principles of Automobile Construction and Operation**—A continuation of Auto Mechanics 1. It also deals with the dismantling and the assembling of the automobile. Winter quarter. Three credits.

*Powell*

**MA 3. Automobile Care and Maintenance (Special)**—For winter students only. This course is designed especially for winter course or short term students who wish to learn enough about the care and operation of the automobile, to enable them to make their own minor repairs and adjustments. Oils, lubrication, valve grinding, bearing cutting, fitting of piston rings, etc., will be taken up, along with many other problems that the average owner has to be familiar with if he is going to do his own repairing and care for his car properly. Winter quarter. Three credits.

*Powell*

**Note:** Mechanic Arts 4, 101, and 102, are advanced courses. They must be taken by all students who intend to specialize in garage management, garage practice, teaching, or repairing. The course will cover the detailed theory, operation, advantages in design and construction of all modern makes of cars, and automobile equipment and appliances. Methods of systematic location of trouble, dismantling, repairing, and assembling. Modern shop methods, tools and equipment. Prerequisites, Mechanical Arts 1 and 2, or their equivalent.

**MA 4. Automobile Repair**—Spring quarter. Three credits.

*Powell*

**MA 5. Automobile Care, Adjustment and Lubrication**—For automobile owners and others desiring a course that will enable them to do their own service work on automobiles, to enable them to operate the car in the most efficient way and to reduce to a minimum the cost of operation. It will include all phases of lubrication, carburetion, brake adjustment, tappet adjustment and correct general principles of operation. Fall, Winter or Spring quarters. Two credits.

*Powell*

**MA 101. Automobile Repair**—Prerequisite, Auto Mechanics 4. Winter quarter. Three credits.

*Powell*

**MA 102. Automobile Repair**—A continuation of MA 101. Includes shop methods and equipment. Prerequisite, MA 101. Spring quarter. Three credits.

*Powell*

**MA 103. Gasoline Engine Carburation and Carburetor**—Internal combustion, engine fuels, and a thorough treatise on the principles of carburetion, the construction of carburetors and their relation to successful gas engine operation. Practice in repairing, overhauling and adjusting of carburetors, thorough study of the modern devices and improvements on new models will be taken up. Prerequisites, MA 4 and MA 111. Fall quarter. Three credits. (Not given 1931-32.)

*Stock*

**MA 104. Farm Machinery Research**—The economic application of power and machinery to farm crop production, and costs of operations. Fall or Spring quarter. Four credits.

*Powell*

## IGNITION, STARTING, LIGHTING AND RADIO

All courses taught by Sidney R. Stock, Assistant Professor

**MA 11. Elements of Electricity and Magnetism**—A complete study of magnets, magnetism, and the elementary principles of electricity. It includes a study of the units of electricity, the governing laws, power measurements, induction, electro magnets, sizes of wires and their carrying capacity, dry cells and their application to the automotive electrical industry. Required of all students specializing in Ignition, Starting, and Lighting. Fall quarter. Three credits.

**MA 12. Ignition, Starting and Lighting (Special)**—For winter quarter students only. This course is designed especially for short term students who wish to learn enough about the electrical apparatus of the automobile to enable them to care for and locate electrical troubles and make minor repairs. It will include a study of spark plugs, high and low tension coils, ignition timing, high and low tension magnetos, battery ignition systems, care and testing of batteries and adjusting the charging rate of generators. Winter quarter. Four credits.

**MA 14. High and Low Tension Magnetos**—A complete study of all low and high tension magnetos as to design, construction, and operation. Prerequisite, MA 11. Spring quarter. Three credits.

**MA 15. Special Course in Ignition, Starting and Lighting for Car Owners**—The course will cover the care, operation, adjustment, and methods of locating all electrical troubles on the storage battery, starting motors, generators, ignition units, lighting, and other electrical equipment used on the modern automobile. It should be especially interesting and valuable for anyone who drives an automobile. Open to both men and women. Two lectures and one laboratory or demonstration period. Winter quarter. Three credits.

**MA 111. Starting, Lighting and Ignition Systems**—A complete study of the modern starting, lighting and ignition systems their operation, design and construction; and direct current motor and generator; voltage and current regulation by vibration relays; third brush; battery cutouts; reading and drawing of wiring diagrams and electrical devices. Ample practice is given in disassembling and assembling, also trouble shooting. Testing and adjusting of the various units is taken up, to enable the student to handle such work in the shop. This course will also include a study of the kinds and types of storage batteries. About four weeks of the laboratory work will be devoted to storage battery repair, lead welding and method of charging storage batteries. Prerequisites, M. A. 11 and 14. Fall quarter. Four credits.

**MA 112. Motor and Generator Repair and Armature Winding**—A thorough study of direct current starting motors and generators; their construction, operation and repair including armature field and commutator testing; a systematic location and repair of all troubles encountered in the modern starting motors and generators; armature winding, as far as is practical for modern up-to-date garage and service station. Prerequisite, Ignition 111. Winter quarter. Four credits.



**MA 113. Automotive Electrical Equipment and Shop Management**—This course should prepare a student to handle an Automotive Electrical service station and repair shop. Considerable practice in the wiring, trouble shooting and repair of all kinds of electrical equipment. Shop kinks and the development of skill, accuracy and speed to prepare the student better to compete with those already in the commercial field, will be given. Business methods and commercial management, also costs and proper installation of shop equipment. Prerequisite, Starting, Lighting and Ignition 112. Spring quarter. Four credits.

**MA 123. Practical Electricity**—Required of all students who prepare to teach in Junior High Schools. This course will include a consideration of the fundamental principles of electricity and their application in the construction of such projects as bell circuits, house wiring, electro-magnet, heating elements, motor generators, transformers. Spring quarter. Four credits.

## PRACTICAL RADIO CONSTRUCTION AND SERVICE

The aims and purposes of courses MA 23, 24, 25, are to acquaint students with the units used in radio reception and broadcasting; their construction, and operation; methods of locating troubles; also the building and repair of radio receiving sets.

Students will be required to pay a laboratory fee or deposit, and to purchase all necessary material and equipment to be used in the building of their sets. Cost should not exceed \$30.00 for the three quarters work.

**MA 23. Principles and Operation of Radio Receiving Sets**—Fundamental operating principles of radio receiving sets, kinds and types of antennae and their installation, the installation and connecting of battery sets, function and operation of vacuum tubes, "A," "B," and "C" batteries, condensers, coils, transformers, etc., introducing radio frequency detection and audio frequency, building and operation of crystal receivers, and one, two, three, and four tube regenerative sets. Fall or Winter quarter. Four credits.

**MA 24. Radio Receiving Sets**—A continuation of MA 23. The more completed circuits, the building and wiring of these sets, more advanced work in radio frequency detections, audio frequency and regeneration, inductive resistance, transformer coupling, and tuning; operation and repair of head phones, loud speakers, magnetic and dynamic speakers. Winter quarter. Four credits.

**MA 25. Building and Testing, and Trouble Shooting of Radio Receivers**—A continuation of MA 24, going into the A. C. operated receiver, principles and operation of A. C. power packs, A. and B. eliminators, tube testing, testing and tracing of circuits, method of locating troubles and tuning condensers, servicing sets, building of more advanced circuits, elements of broadcasting and public address systems. Spring quarter. Four credits.

## AVIATION

### AVIATION GROUND SCHOOL

A standard Aviation Ground School has been established at the College. Considerable equipment has been secured from the government flying field for laboratory and training purposes.

Students who plan on entering the air service either as pilots or as airplane mechanics will do well to take the courses listed below. Students will save much time, and receive much more detailed and complete instruction than at a commercial school of aeronautics.

**MA 26. Aerodynamics**—The purpose of the course is to teach the principles and theory of flight of heavier than air machines. A detailed study of the types of modern planes, and their construction, will be covered. Methods of assembling, rigging, inspecting and preparing a plane for flight will be done in the laboratory. Methods of repair of landing gears, wings and fusilage will also be done in the laboratory. Fall quarter. Four credits. *S. R. Stock*

**MA 27. Aviation Engines**—A detailed study of all kinds and types of aviation motors will be taken up as to their installation, operation, design and efficiency. The laboratory work will consist of complete methods of overhauling, repairing, inspecting and testing of the different types of airplane motors. Winter quarter. Four credits. *S. R. Stock*

**MA 28. Avigation and Aerology**—The course will include the study, use and application of various airplane instruments used in the modern plane to safely direct the pilot on his course. Methods of laying out and flying a course by air pilotage, dead reckoning, astronomical avigation and radio avigation will be taken up. Some work in aerology weather maps and a study of weather conditions will also be covered. Spring Quarter. Four credits. *S. R. Stock*

### OXY-ACETYLENE ELECTRIC ARC AND RESISTANCE WELDING

#### RESISTANCE WELDING

**MA 21. Oxy-acetylene and Electric Welding**—The oxy-acetylene welding process, equipment and gases, properties of the various metals, etc. Practice in the welding of cast iron, steel, aluminum, and other metals is given, also the proper methods of pre-heating and the preparation of cylinder blocks and other castings that are to be welded in the latter part of the course. A special fee of \$25.00 is required for all students taking this course. Winter quarter. Three credits.

**MA 22. A continuation of course 21. Time and credit to be arranged.** *Powell*  
*Powell*

**FORGING AND GENERAL BLACKSMITHING**

All courses taught by S. R. Egbert, Assistant Professor

An average of one-third of the time in all courses in forging is spent in demonstrating and lecturing. All courses are given in the forge rooms, Mechanic Arts building.

MA 31, 32, 33. **Forge Practice**—Forging, welding, tempering, tool making and other operations essential to forge work. Open to Vocational Students. Fall, Winter, and Spring quarters. Section 1, three credits. Section 3, three credits. Section 4, two credits.

MA 34, 35, 36. **Forge Shop Operation**—Advanced and general repair work, including plow work, spring work, axle and tire setting, and horse-shoeing. Prerequisites, Forge Practice 31, 32, 33. Fall, Winter and Spring quarters. Section 1, three credits. Section 2, five credits.

MA 37, 38, 39. **Select Work From Forge Practice 31, 32, 33**—For automobile and tractor students who cannot spend each day in the shops. Fall, Winter and Spring quarters. Section 1 and 3, three credits each quarter. Section 4, two credits.

MA 40, 41, 42. **Farm Shop Work**—This course is especially arranged for students in agriculture. The application of forging operations to repair on the farm. The repairing of the following farm implements will be included in the course: plow, harrow, wagon, hay-rake, mowing machine, binder, header, etc. Making and tempering punches and cold chisels, sharpening and tempering harrow teeth, picks, etc. Welding. Fall, Winter, and Spring quarters. Two credits each quarter.

MA 43. **Fender and Body Repair**—Straightening and welding of broken fenders. Servicing and painting of automobile fenders and bodies. Fall quarter, repeats Spring quarter. Two credits.

MA 131. **Advanced Shop Practice**—Composition and heat treatment of steel. The student may emphasize any line of blacksmithing work that suits his particular needs. Prerequisites, Forging 34, 35, 36. Five credits. Credit will be given for unfinished courses according to work done. Not less than two credits will be given.

MA 132. **Smith-Hughes Unit**—Metal Work. Cold metal, hot metal, soldering, sheet metal, and plumbing. Fall and Spring quarters. Three credits each quarter.

MA 133. **Foundry**—Operated for demonstration and the making of castings. If sufficient number of students apply, the foundry will be run for instructional purposes also.

MA 134. **Smith-Hughes Course**—Including cold metal, soldering and sheet metal. Monday, Wednesday and Friday from 2:00 to 5:00 during last half of Spring quarter. One and a half credits.

For related work given during first half of the quarter see Department of Woodwork, MA 168.

## MACHINE WORK

All courses taught by Aaron Newey, Associate Professor

The courses offered in the Machine Work Department give good basic training for the student who is entering a career in any line of mechanical work. The operations and principles taught will help in advancement in many lines of mechanical endeavor. Students preparing for engineering, electrical work, auto-mechanics, aviation, ignition, tractor work, farm machinery; and those interested in model building and experimenting, can well afford to study machine work.

All courses in Machine Work are open to vocational students.

MA 51, 52, 53. **Machine Shop Practice**—Lathe, planer, shaper, and drill-press operations, the use of hand tools, laying out, making automobile and machine parts, and other operations that are essential in machine shop work. These courses include assignments of reading on machine work subjects, and the application of mathematics to machine work. Each course repeats Fall, Winter and Spring quarter. Four or five credits.

MA 54, 55. **M. S. P. Short Course**—The contents of MA 54, 55 is the same as MA 51. Each course repeats Fall, Winter and Spring quarter. Two or three credits.

MA 56, 57. **M. S. P. Short Course**—The content of MA 56, 57 is the same as MA 52. Each course repeats Fall, Winter and Spring quarter. Two or three credits.

MA 58, 59. **M. S. P. Short Course**—The content of MA 58, 59 is the same as MA 53. Each course repeats Fall, Winter and Spring quarter. Two or three credits.

MA 151, 152, 153. **General Machine Work**—Advanced lathe, planer and milling machine work, grinding, milling cutters, making tools, and special shop equipment. Prerequisite MA 51, 52, 53 (Prerequisite courses must total 15 credits). Each course repeats Fall, Winter and Spring quarter. Four or five credits.

MA 154, 155, 156. **Tool Making**—These courses include practice in making arbors, gauges, taps, reamers, milling cutters, etc., and in designing and building special tools and equipment. Prerequisite MA 152. Each course repeats Fall, Winter and Spring quarter. Four credits.

MA 157. **S. H. Teachers' Machine Course**—This course is planned to give a student, who is training to become a shop-work teacher, a general training in the operations and methods of doing machine work. Its purpose is to broaden his understanding of mechanic arts and make him more proficient in tool processes and in the care and repair of school shop equipment. Only students of senior standing may register. From two to nine credits. Time and credit to be arranged with the instructor.

(Note: For unfinished courses credit will be given according to work done, provided the student re-registers. Not less than two credits will be given.)

## WOODWORK

All courses taught by D. A. Swenson, Assistant Professor

The elementary courses in woodwork are designed to give training in the use of woodworking tools and to lay a foundation for advanced woodwork, also to enable the student to do the innumerable jobs in repairing and upkeep, which come up on every farm and in every home.

The time spent in this kind of training will prove valuable to anyone, no matter what the eventual choice of profession or occupation may be.

The aim in advanced woodwork is to prepare the student for specialized work in House-building, Millwork, Pattern work, or whatever his choice may be in the line of woodwork.

All courses listed are given during Fall, Winter and Spring quarters and they are all open to vocational students.

MA 61, 62, 63. **Elementary Woodwork**—The different methods of joining, splicing and gluing, also practice in saw filing, tool grinding and the proper handling and use of woodworking tools. Two and three credits.

MA 64, 65, 66. **Mill Work**—Use of the Planer, Shaper, Jointer and the different sawing machines as applied to mill work. The care of the machines and sharpening of cutters and saws, as well as proper adjustments for different kinds of work, is taught in this course. Two and three credits.

MA 67. **Elementary Wood Turning**—Practice in care and use of the Turning lathe, sharpening and control of turning tools by the making of progressive projects in elementary turning. Two credits.

MA 70. **Farm Woodwork**—A special course for students in the winter term. Embraces such problems as are commonly met on the farm. Two credits.

MA 71. **Wood Carving**—Simple problems in straight and curved lines. Conventional ornamentation and design. Spring quarter. Two credits.

Courses 61 to 66 are prerequisites to the advanced courses in woodwork.

MA 161, 162, 163. **Advanced Woodwork**—Use of woodworking machines in hardwood construction, including the preparation of wood for finishing, staining, filling, waxing and varnishing, etc. Two credits.

MA 164. **Fundamentals of Patternmaking**—Making of simple patterns to illustrate suitable materials for the work. Care and precision necessary in the making of usable patterns. Fall quarter. Two credits.

MA 165. **Advanced Patternmaking**—Making of practical patterns for use in the foundry. Teaching the principles of draft, shrinkage, core print and core box work, master patterns, double shrinkage, etc. Spring quarter. Two credits. Prerequisite MA 164.

MA 166. **Building Construction**—The successive steps in the con-

struction of houses and farm buildings are taken up by lecture and in practice. The course is designed to give practice in actual building operations from the laying of the foundation to that of roof covering with full size dimensions and materials. Fall and Winter quarters. Three credits.

MA 167. **Building Construction**—Continuation of MA 166, including principles of architecture and design. Spring quarter. Three credits. Prerequisite MA 166.

MA 168. **S. H. Teachers Course**—A course designed to meet the needs of teachers in Smith-Hughes work. Projects in Leather Work, Rope Work and Concrete. Spring quarter. One credit.

MA 169. **Wood Finishing**—The use of Water, Oil and Spirit stains. Paint, primers and fillers, Rubbing and Polishing. Fall quarter. Two credits.

MA 170. **Advanced Wood Turning**—Wood turning of original design, including Finishing, Staining and Polishing. Any quarter. Two credits.

## MILITARY SCIENCE AND TACTICS

CARR W. WALLER, Lt. Col., C. A. C., Professor; WALTER R. GOODRICH, Captain, C. A. C., JOHN H. PITZER, First Lieutenant, C. A. C., Assistant Professors; EUGENE J. CALLAHAN, First Sergeant, D. E. M. L., Instructor.

The Utah State Agricultural College, having accepted the provisions of the Act of Congress approved July 2, 1862, is classified as a Land Grant College and is therefore obliged to offer a course in military science and tactics as a part of the College curricula.

Recognizing that preparation for the national defense is one of the important duties of citizenship, and that qualities of patriotism, loyalty, discipline, leadership, and respect for constituted authority inculcated by proper military training are valuable in the formation of character, it has been the consistent policy of the College to cooperate with the Federal Government in making the Department of Military Science and tactics as effective as practicable.

To this end, military training has been made a required subject for all male students qualified and eligible therefor. Two years' training in the basic course is required of such students in all Schools of the College unless excused by proper authority.

At the request of the College authorities a senior unit of the Reserve Officers' Training Corps was authorized at this Institution by the President of the United States under the provisions of Section 33 of the Army Reorganization Act of June 4, 1920. Accordingly, the Board of Trustees has agreed to maintain a course in Military Science and Tactics as a required subject for all able-bodied male students during their first two years at the College.

The primary object of establishing units of the Reserve Officers'

Training Corps is to qualify students for appointment in the Officers' Reserve Corps of the United States Army. This training will also be as valuable to the student in his industrial or professional career as it would be should the nation call upon him to act as a leader in its defensive forces.

Enrollment in the Reserve Officers' Training Corps is not in any sense "conscription," nor does it convey liability to service in any component or branch of the United States Army. As its name implies, the R. O. T. C. is an instrument of training and instruction only.

### REQUIREMENT IN MILITARY SCIENCE

Two years of military training are required of all able-bodied male students. By regulation of the College the course is required during the first and second years at the Institution.

No male student will be excused from the requirements in military science except for the reasons as listed on page 65 of this catalogue.

Any student claiming exemption for any valid reason will be required to present a petition on the prescribed form which may be obtained at the office of the Professor of Military Science and Tactics.

### RESERVE OFFICERS' TRAINING CORPS

The four years course in the Reserve Officers' Training Corps is divided into the basic course and the advanced course.

The basic course consists of the first two years in Military Science and corresponds to the freshman and sophomore years. When entered upon by any student it shall, as regards such student, be a prerequisite for graduation unless he is relieved from this obligation by proper authority.

The advanced course consists of the third and fourth years of Military Science, and corresponds to the junior and senior years. Entrance upon the advanced course is elective, but once entered upon such course becomes a prerequisite for graduation, in accordance with the terms of the establishment of the Reserve Officers' Training Corps.

### UNIFORMS AND EQUIPMENT

A serviceable uniform of standard army pattern is furnished by the War Department to each student taking military training. Shoes are not furnished. Each student should provide himself with a pair of high tan shoes, not lace boot, before entering the College, as they will be required immediately upon his admission.

Every student registered for military science is required to make a uniform deposit of \$5.00. A laboratory fee of \$1.00 will be deducted from this deposit. The balance, less the cost of any property lost or damaged, will be refunded upon the completion of the year or upon withdrawal from the course.

The uniform and equipment issued for the use of student remains

the property of the United States. At the end of each year, or at such other times as students may terminate their military training, all clothing and other supplies will be returned in a serviceable condition not later than one week following the termination of such training. Articles which have been lost, damaged, or destroyed will be charged against the student concerned.

### BASIC COURSE

Students in the basic course are required to pursue their courses diligently until satisfactorily completed, and to meet such requirements for the care of equipment as may be prescribed. In case of failure in any quarter of the freshman or sophomore years, the student will be required to repeat the work during the next quarter in residence.

Students who complete the two years' basic course are qualified as non-commissioned officers in the organized reserve, to which position they are appointed if they so desire.

### ADVANCED COURSE

The advanced course is elective.

The general prerequisites for admission to the advanced courses are:

- a. Completion of two years' training in the basic course in any senior unit of the Reserve Officers' Training Corps.
- b. Selection for further military training by the President of the College and the Professor of Military Science and Tactics.
- c. The execution of an agreement in writing, whereby the student in consideration of the commutation of subsistence furnished to him, agrees:

- (1) To continue in the Reserve Officers' Training Corps during the remainder of his course in this College.
- (2) To devote a minimum of five hours per week during this period to the military training prescribed.
- (3) To pursue such courses of camp training during this period that may be prescribed by the Secretary of War.

d. The student must be registered in one of the Schools of the College as an undergraduate while pursuing the advanced course.

Each student enrolled in the advanced course will be paid commutation of subsistence at the rate of thirty cents per day from the beginning of the first year of the advanced course to the end of the second year of the advanced course, except while attending camp, when the student will be subsisted in kind.

The course of camp training is for six weeks during the summer vacation, normally following the student's completion of the first year of the advanced course. The United States furnishes uniforms, transportation to and from the camp at the rate of five cents per mile, and subsistence for students attending the training camp. Students are also paid at the rate of seventy cents per day during their attendance at camp.



### R. O. T. C. BAND

A military band is an element of the Reserve Officers' Training Corps, under the direction of the Band Instructor, and is governed by the rules of the Department of Military Science and Tactics. Uniforms and instruments are furnished by the War Department.

Members of the band will be selected from among those students who are registered in Military Science and who have demonstrated their ability for such selection. Tryouts for the band will be conducted under the supervision of the Band Instructor and will be held preferably during the first two weeks of each quarter. Members of the band receiving credit in Military Science will be limited to not more than thirty-six (36) students.

Students who are selected for the band will be required to take such theoretical work in Military Science as may be prescribed by the Professor of Military Science and Tactics, and sufficient practical drill to insure their making a creditable appearance in ranks.

Instruction taken by members of the band is credited as instruction in Military Science, but will not be accepted toward qualification for admission to the advanced course.

### CREDITS

Students who satisfactorily complete the basic course receive one credit hour per quarter, which is included in the 180 credit hours required for graduation.

Students who satisfactorily complete the advanced course receive three credit hours per quarter, which counts toward the 180 credit hours required for graduation. In addition, students enrolled in the advanced course will receive three credit hours for satisfactory completion of the six weeks course at the training camp, held during the summer, between the junior and senior years.

Students majoring in the Schools of Arts and Science and Engineering may submit Advanced Military Science as a minor for graduation.

Members of the band who successfully complete the work in the various quarters receive credits as follows: First and Second years, one credit per quarter in Military Science.

### COURSES OF INSTRUCTION

Classes in Military Science will not be held at times other than as scheduled, but any student desiring extra instruction may make the necessary arrangements with the professor of Military Science and Tactics.

### BASIC COURSES

1. **Military Science**—First Year. Fall quarter. Three hours per week. One credit.

Instruction during this period will include infantry and artillery

drill; ceremonies; military courtesy and discipline; military policy; rifle marksmanship.

*Goodrich and Pitzer*

2. **Military Science**—First year. Winter quarter. Three hours per week. One credit.

Instruction during this period will include infantry and artillery drill; Coast Artillery instruction (second class subjects).

*Goodrich and Pitzer*

3. **Military Science**—First Year. Spring quarter. Three hours per week. One credit.

Instruction during this period will include infantry and artillery drill; ceremonies, inspections, military hygiene and first aid; Coast Artillery instruction (second class subjects).

*Waller and Goodrich*

4. **Military Science**—Second Year. Fall quarter. Three hours per week. One credit.

Instruction during this period will include drill and command (infantry and artillery); ceremonies; Coast Artillery instruction (first class subjects).

*Waller*

5. **Military Science**—Second Year. Winter quarter. Three hours per week. One credit.

*Waller*

Instruction during this period will include drill and command (infantry and artillery); Coast Artillery instruction (first class subjects).

6. **Military Science**—Second Year. Spring quarter. Three hours per week. One credit.

*Pitzer*

Instruction during this period will include drill and command (infantry and artillery); ceremonies; inspections; Coast Artillery instruction (first class subjects).

### R. O. T. C. BAND COURSES

1B, 2B, 3B. **R. O. T. C. Band**—First Year. One credit per quarter.

*Goodrich*

4B, 5B, 6B. **R. O. T. C. Band**—Second Year. One credit per quarter.

*Goodrich*

### ADVANCED COURSES

101. **Military Science**—First Year. Fall quarter. Five hours per week. Three credits. Prerequisite, Military Science 203.

Instruction during this period will include military map reading

and sketching; drill and command; drill regulations and Coast Artillery instruction (expert subjects).

*Goodrich*

102. **Military Science**—First Year. Winter quarter. Five hours per week. Three credits. Prerequisite, Military Science 301.

Instruction during this period will include drill and command; gunnery; Coast Artillery instruction (expert subjects).

*Pitzer*

103. **Military Science**—First Year. Spring quarter. Five hours per week. Three credits. Prerequisite, Military Science 302.

Instruction during this period will include drill and command; gunnery; conduct of fire; analysis of drill and service practice.

*Pitzer*

104. **Military Science**—Second Year—Fall quarter. Five hours per week. Three credits. Prerequisite, Military Science 303.

Instruction during this period will include drill and command; artillery material; military law; administration and supply.

*Pitzer*

105. **Military Science**—Second Year. Winter quarter. Five hours per week. Three credits. Prerequisite, Military Science 401.

Instruction during this period will include drill and command; motor transportation; military history; artillery tactics.

*Goodrich*

106. **Military Science**—Second Year. Spring quarter. Five hours per week. Three credits. Prerequisite, Military Science 402.

Instruction during this period will include drill and command; field engineering; orientation.

*Goodrich*

## HOME ECONOMICS

CHRISTINE B. CLAYTON, JOHANNA MOEN, Professors; CHARLOTTE DANCY, ELSA BROWN BATE, Assistant Professors; ALTA ORSER CROCKETT, FRANCES KELLY and ALBERTINE APPY, Instructors.

### GENERAL AND SERVICE COURSES

(Recommended for all students in the College)

HE 5. **Principles of Nutrition (Foods 5)**—A practical study of the relation of food to health. Natural food groups and their relation to each other are studied through the selection of foods. Open to men and women in all schools of the College. Winter quarter. Two credits.

*Clayton*

HE 10. **Survey in Home Economics**—Deals with the orientation of the student to her college environment, and the guidance of the student in her choice of the field of home economics for her profession. Open to all College women. Fall quarter. One credit.

*Moen*

HE 15. **Clothing Appreciation and Selection (Textiles 15)**—This course is organized to meet the needs of men from all schools of the College. A study of the importance of dress in the business world; development of fabric and fashion in men's clothing; a brief study of wool, silk, cotton, and rayon fabrics with emphasis on hygienic and economic factors. Fall quarter. Two credits.

*Crockett*

HE 25. **Care of the Sick**—A course in home nursing and first aid to the injured. The first hour is devoted to discussion, the laboratory to demonstrations and practice. Reading of reference material and writing of special reports required. Laboratory apron needed, see instructor. Fall, Winter or Spring. Two credits. Class limited to 16.

*Dancy*

HE 125. **Mothercraft (CD 125)**—This course includes a study of the anatomy and physiology of the reproductive system, preparation for motherhood, and the physical care of mother and child from the prenatal period to the end of the first year of the child's life. Prerequisite, Physiology 4. Fall, Winter or Spring quarter. Three credits.

*Dancy*

HE 149. **Household Management**—A study of good methods of housekeeping and the simplification and organization of housework; management of time, money, energy, selection and care of the household

furnishings. Prerequisites, Clothing 10, 11, 50 or 20, 21, Foods 20, 21, 30 and 106. Winter quarter. Three credits.

*Kelly*

HE 150. **Residence in Home Economics Cottage**—Residence in the Home Economics Cottage for a period of twelve weeks (1 quarter). Gives opportunity for the application of principles of science and art to the home. Prerequisite or parallel, HE 149. Fall, Winter or Spring quarters. Five credits.

*Kelly*

### CHILD DEVELOPMENT AND PARENTAL EDUCATION

Students who elect Child Development as their major are required to complete the following courses: 13, 35, 50, 55, 104, 110, 125, 130, 132, 135, 171. For students who wish to have Child Development work as electives the following courses are recommended: 35, 50, 104 and 171.

CD 13. **Children's Literature** (English 13)—Introduction to prose and poetry of childhood and adolescence. The course should be helpful to teachers and parents. Fall quarter. Two credits.

*Pedersen*

CD 34. **Art for young Children** (Art 34)—Designed to meet the needs of child development specialists, mothers and kindergarten teachers. Simple handwork, color, design, freehand expression will be considered as an educational and recreational activity in the life of the child. Winter quarter. Two credits.

*Fletcher*

CD 35. **Infant and Child Nutrition** (Foods 35)—A course in infant and child nutrition designed to meet the needs of parents, teachers of little children, and students of home economics. Topics considered are food requirements for children of various ages, problems of child feeding, and modern methods of infant feeding. Fall quarter. Three credits.

*Clayton*

CD 50. **Environmental Factors of Child Life** (Soc. 50)—Home conditions in natural and adopted homes are dealt with briefly in this course. The principal emphasis is on community influences and pressures which assist in the development of personality. Field trips will supplement lectures as a means of coming into direct contact with organized agencies and institutions. Spring quarter. Three credits.

*Geddes*

CD 55. **Children's Clothing** (Text. 55)—A study of types of clothing, material and decoration suitable for different ages of children. Construction emphasizing comfort, beauty, convenience and self-help for the little child. Prerequisites, Clothing 10, 11 and 50 or its equivalent. Spring quarter. Two credits.

*Moen*

CD 38. **Music for Young Children**—A study of music appreciation for little children, chiefly through participation in some singing and bodily responses to various rhythms, the procedure rote song teaching, careful selection of song material, other music for listening lessons, and care of the child voice will receive special attention. Fall quarter. Two credits.

*Walti*

CD 104. **Psychology of Family Life** (Psy. 104)—Human mating; marriage and its meaning, harmony in marriage and its psychological basis, the behavior of infants and children in various stages of growth, hereditary and environmental factors of personality and character development. This is a general course adapted to the needs of all young people. Prerequisite, a course in general psychology. Sophomores may enter by special permission of instructor. Winter quarter. Three credits.

*Peterson*

CD 110. **Psychology of Infancy and Early Childhood** (Psy. 110)—A study of the behavior of infants and small children. Prerequisite, Psychology 101 or equivalent. Spring quarter. Three credits.

*Peterson*

CD 125. **Mothercraft** (HE 125)—This course includes a study of the anatomy and physiology of the reproductive system, preparation for motherhood, and the physical care of mother and child from the prenatal period to the end of the first year of the child's life. Prerequisite, Physiology 4. Fall, Winter or Spring quarter. Three credits.

*Dancy*

CD 130. **Physical Growth and Development of Young Children**—A study of the physical growth and development of children with special emphasis on the period from 18 months to five years of age; the forces influencing the growth process, the formation of health and foot habits; and standards for increases in height and weight. Prerequisites, Physiology 4 and Nutrition 35. Fall quarter. Three credits.

*Bate*

CD. 132. **Nursery School Technique**—Opportunity is afforded in this course for a practical study of the techniques of guiding young children and for observation and teaching under the supervision in the Nursery School. A special problem is required of each student. Winter quarter. Three credits.

*Bate*

CD 135. **Behavior Problems**—Several fundamental theories of behavior are reviewed preparatory to a consideration of the causes and treatment of specific behavior problems. Methods of prevention receive special emphasis. Prerequisite, Psychology of Infancy, and Environmental Factors in Child Life. Spring quarter. Three credits.

*Bate*

CD 143. **Nutrition Work With School Children** (Foods 143)—This course is designed especially to suit the needs of teachers, health workers and parents. The nutritional requirements for growth and development will be emphasized. Devices for the teaching of correct eating habits will be demonstrated. Spring quarter. Two credits.

*Clayton*

CD 171. **Social Problems of the Family** (Soc. 171)—In this course the relation of the family with outside groups, agencies and institutions are stressed. Attention is paid to the inter-relation between the different members of the family. Home life is treated as a changing, developing, basic organization which should be in constant reciprocal relation with outside agencies. Fall or Spring quarters. Three credits.

*Hendricks*

CD 200. **Research**—Individual research in the fields of Nutrition, Psychology, Sociology. Time and credit to be arranged.

*Staff*

## FOODS AND NUTRITION

Students who elect Foods and Dietetics as their major are required to complete the following courses: Foods 20, 21, 30, 35, 105, 106, 107, 140 and 141. Foods 143 and 192 are recommended for all Foods majors in their Senior year. Closely related courses such as Inorganic Chemistry, Organic Chemistry, Bio-Chemistry, Bacteriology, Physiology, General Economics and Botany are recommended for all Foods and Dietetics majors.

5. **Principles of Nutrition**—A practical study of the relation of food to health. Natural food groups and their relation to each other are studied through the selection of foods. Open to men and women from any department except Foods. Winter quarter. Two credits.

*Clayton*

9. **Meal Preparation**—Selection and preparation of food through meal service. This course is designed especially for those who desire some work in the preparation of food but are not Home Economics majors. Not open to Foods and Dietetics majors. Fall quarter. Three credits.

*Kelly*

20, 21. **Food Study and Meal Preparation**—A study of the food classes, methods of preparation, serving and principles of nutrition. This course is designed for Home Economics students only. Foods 20, Fall or Winter quarters; Foods 21, Winter or Spring quarters. Five credits each quarter. Three lecture periods and two laboratory periods.

*Kelly and Clayton*

30. **Food Economics**—This course aims to train the student to become an intelligent consumer. It deals with household marketing; the study of grades, brands and qualities of products as found on the

market; factors governing cost; food laws; ethics of buying and selling. Field problems and projects. Prerequisites, Inorganic Chemistry and General Economics. Spring quarter. Four credits.

*Kelly*

35. **Infant and Child Nutrition**—A course in the nutrition of little children. Topics considered are food requirements for children from infancy to school age; problems in child feeding, and nutritional disturbances of infancy and early childhood. This course is prerequisite to the class in Nursery School Technique. Prerequisites—Physiology and Foods 20, 21 or Foods 5. Laboratory daily from 12 to 1 in Nursery School. Three credits. Fall quarter. 26 HE.

*Clayton*

105. **Food Preservation**—The preservation of foods by canning, preserving, pickling; storage and refrigeration is included in this course. Prerequisites, Food Preparation, Food Economics, Bacteriology 1. Fall quarter. Three credits.

*Clayton*

106. **Food Engineering**—This course consists of a study of the most efficient methods of preparing and serving meals at a minimum cost of money, time and energy. This course is a prerequisite to the Cottage. Prerequisites, Food Economics and Food Study. Winter quarter. Three credits.

*Clayton*

107. **Catering**—Meal preparation and service suited to various social occasions. Commercial projects in the purchase, preparation and serving of food are undertaken. Prerequisite, Food Engineering. Spring quarter. Three credits.

*Clayton*

111. **Nutrition (for Athletes and P. E. Majors)**—A practical study of nutrition in relation to health with emphasis on the needs of the body during muscular activity. Spring quarter. Two credits.

*Clayton*

140. **Dietetics**—A review of the fundamentals of Biochemistry most closely related to the nutrition of man. The quantitative basis of human nutrition is studied and illustrated through laboratory procedure in the calculation and preparation of dietaries. This course is open to Home Economics majors and students of medicine or public health. Prerequisites, Organic Chemistry and Food Study. Fall quarter. Four credits.

*Clayton*

141. **Advanced Nutrition**—Nutrition in health and disease. Biological analysis of foods illustrated by problems in animal feeding. Prerequisite, Dietetics. Winter quarter. Four credits.

*Clayton*



143. **Nutrition Work With Children**—This course is designed especially to suit the needs of teachers, health workers and parents. The nutritional requirements for growth and development will be emphasized. Devices for the teaching of correct eating habits will be demonstrated. Spring quarter. Two credits.

*Clayton*

160. **Experimental Cookery**—This course will consist of such individual or group problems as have been suggested by preceding courses in Food Study and will involve both cooking and chemical experiments. Open only to advanced students. Spring quarter. Two hours credit. Hours to be arranged. (Not given 1931-32.)

*Kelly*

192. **Readings in Nutrition**—Introduction to problems in nutrition through assigned readings and reports of current literature. Spring quarter. Two consecutive hours once per week. Two credits.

*Clayton and Kelly*

210. **Research**—Investigation of problems concerned with nutrition or food preparation. Time and credit to be arranged.

*Clayton*

## TEXTILES AND CLOTHING

Students who elect Textiles and Clothing as their major are required to complete the following courses: Textiles and Clothing 10, 20, 30, 105, 115, 125, 160. Closely related courses such as Art 1, 2, 3, 17 and 32, Chemistry 109, Textile Chemistry, are recommended for Textiles and Clothing majors. Students who wish to prepare for positions in the commercial field should in addition to courses in Textiles and Clothing and Art, elect courses in Economics and Merchandising.

1. **Elementary Clothing**—A service course for students from other schools of the College. Emphasis on the relation of personality to dress through the study of art principles applied to clothing construction; pattern study, selection and construction of underclothing and dresses. Lectures and laboratory work. Three credits. Sec. 1. Fall quarter. Repeated Winter and Spring quarters.

*Crockett*

5. **Clothing Appreciation**—This course aims to develop appreciation of appropriateness, good color and design in dress. Clothing Economics and Clothing Hygiene will also be discussed. Selection and care is emphasized. Fall quarter; repeated in Spring quarter. Two credits.

*Crockett*

10, 11. **Clothing Selection and Construction**—A study of the fundamental principles of pattern making, design, selection and construction of dresses, underwear and household furnishings. Prerequisites, Art 1, 2, 3. Lectures and laboratory work. Fall, Winter and Spring

quarters. Three credits each quarter. Section 1, Fall and Winter. Section 2, Fall and Winter. Section 3, Winter and Spring.

*Moen and Crockett*

15. **Clothing Appreciation and Selection**—This course is organized to meet the needs of men from all schools of the college. A study of the importance of dress in the business world; development of fabric and fashion in men's clothing; a brief study of wool, silk, cotton and rayon fibers with emphasis on hygienic and economic factors. Fall quarter. Two credits. HE 12. Tuesday and Thursday at 11.

*Crockett*

20, 21. **Household Textiles**—Part 1 is a study of standard textiles from the standpoint of growth, structure, preparation, design and relative value of materials for clothing and house furnishing. Attention is given to the historical and economic phases of the textile industry.

Part 2 includes identification of fibers and substitute material by means of the microscope and physical tests. The aim of this work is to form a basis for intelligent purchase and use of materials. Prerequisites or parallel courses, Economics 50 and 51. Fall and Winter quarters. Three credits each quarter.

*Moen*

30. **Millinery**—Special study of individual problems in selection of hats; blocking felt and straw hats; designing in paper. Application of principles of making fabric hats; flower making. Prerequisites or parallel courses, Art 1, 2, 3; Textiles 10, 11 or their equivalents. Spring quarter. Three credits.

*Crockett*

50. **Textile Selection**—Judgment in selection and purchasing of textiles in relation to design, quality and cost as affected by economic and social factors. Elective to students other than Textile majors. Winter quarter. Three credits.

*Crockett*

55. **Children's Clothing**—A study of styles, material and decoration suitable for different ages of children. Construction emphasizing comfort, beauty, convenience and self-help for the rapidly growing child. Prerequisites, Clothing 10, 11 and 50, or 20 and 21. Spring quarter. Two credits.

*Moen*

105. **History of Costume**—A survey of ancient Egyptian, Grecian, Roman, early and modern French costumes. It aims to give practical information for the use of students and teachers of Clothing, Costume Design and Physical education majors. Fall quarter. Three credits.

*Moen*

115. **Costume Design**—Art structure in its application to dress. Studies of personality and types of people; harmonies in spacing,

rhythm, balance, color theory. Designing for various occasions. Outside work required. Prerequisites, Art 1, 2, 3. Winter quarter. Three credits.

*Crockett*

125. **Applied Costume Design**—Practical training in the application of the principles of costume design, color harmony, texture, for different individuals and purposes. Practice in constructive design is given by modeling in cloth on the dress form. Outside work required. Spring quarter. Three credits.

*Crockett*

140. **Applied Decoration**—A study of principles of design in relation to decoration of dress and household furnishings. Various means will be used in developing simple decorations for all types of garments and household furnishings. Outside work required. Prerequisites, Art 1, 2, 3, and Textiles 10, 11. Spring quarter. Three credits.

*Moen*

160, 161, 162. **Advanced Problems in Clothing**—Special application of principles of design and construction to tailored garments, afternoon and evening dresses. Demonstrations and laboratory work. Prerequisites, Textiles and Clothing, 10, 11, 20, 21, 105, 115, 125. Fall, Winter and Spring quarters. Two credits each quarter.

*Moen*

190. **Special Problems**—Arranged for advanced students in Textiles and Clothing. Working out problems of special interest, readings and reports. Spring quarter. Time and credit to be arranged.

*Moen*

For closely related courses see:

**Economics 145**—Economics of Consumption. Personal Finance and Budgeting.

**Accounting 107**—Household Accounts.

**Art 122**—Home Planning Construction and Design.

**Art 123**—Interior Decoration.

**Art 126**—History and Appreciation of Architecture.

**Education 119**—Methods of Teaching Home Economics.

**Education 120**—Problems in Teaching Home Economics.

**Education 122**—Practice teaching in Home Economics.

THIRTY-EIGHTH ANNUAL  
COMMENCEMENT

List of Graduates 1930-31

GRADUATE DIVISION

Graduates with the Degree of  
MASTER OF SCIENCE

School of Agriculture

B. W. ALLRED

B. S., U. S. A. C., 1926

Thesis: "Hygroscopic Properties of Wool Under Atmospheric Conditions of Logan, Utah."

GEORGE THOMAS BLANCH

B. S., U. S. A. C., 1930

Thesis: "A Farm Organization and Management Study in Western Millard County, Utah."

LELAND A. CLARK

B. S., U. S. A. C., 1930

Thesis: "Temperature and Atmospheric Humidity as Factors Influencing Seed Setting in Alfalfa."

C. LELAND DALLEY

B. S., U. S. A. C., 1930

Thesis: "Inheritance in a Wheat Cross of Redit x Utac."

ROBERT HENRY DAINES, JR.

B. S., U. S. A. C., 1929

Thesis: "Pathogenicity of Strains of Rhizoctonia on Sugar Beet Seedlings With Special Reference to Methods on Tissue Invasion."

LIONEL HARRIS

B. S., B. Y. U., 1929

Thesis: "The Use of Chlorates for the Eradication of Certain Perennial Weeds in Utah."

DWIGHT KOONCE

B. S. Colorado State Agricultural College, 1925

Thesis: "Genetic Study of Certain Spike and Floral Characters in Barley."

## LESLIE WALDEMAR NELSON

B. S., U. S. A. C., 1930

Thesis: "Inheritance of Glume and Kernel Color, of Awnedness, and of Spike Density in a Cross Between Ridit and Sevier Wheat."

## LYMAN ROBERTS

B. S., U. S. A. C., 1930

Thesis: "An Analysis of the Farm Business and of the Poultry Enterprise on Twenty-five Farms in Cache County."

## PRABH DYAL SIKKA

Diploma of the Licentiate Punjab Agricultural College, India, 1918

Thesis: "Principles of Irrigation Farming as Developed by American Field Experiments."

## NEWEL WASHBURN

B. S., U. S. A. C., Summer 1930

Thesis: "The Influence of Clippings on the Yields of Pasture Forage."

**School of Home Economics**

## THELMA HUBER

B. S., U. of U., 1925

Thesis: "A Study of the Rural Home on the Small Income in Utah."

**School of Arts and Science**

## LELAND M. OLSON

B. S., U. S. A. C., 1928

Thesis: "An Application of Hydrodynamics to the Design of Drainage Wells."

**School of Engineering**

## LELAND KERR HILL

B. S., U. S. A. C., 1930

Thesis: "The Design of Masonry Gravity Dams."

**School of Commerce**

## ALANDO B. BALLANTYNE

B. S., U. S. A. C., 1910

Thesis: "Relationship of the Revenues from the Hydro-Electric Power Development of the Salt River, Arizona Project, to the Fixed Costs, Operation and Maintenance of the Project and the Annual Charges for Water."

## WILLIAM HAROLD BELL

B. S., U. S. A. C., 1923

Thesis: "A Technique for Preparing and Duplicating Students' Records of Credits."

EARL A. FREDERICKSON

B. S., U. S. A. C., 1928

Thesis: "Major Community Movements in Paradise, Utah."

ROY A. WEST

B. S., U. S. A. C., 1928

Thesis: "High School Boys and Girls of Richmond Express Their Opinions on Working Conditions and Recreation."

**School of Education**

JOHN BENSON

B. S., U. S. A. C., 1928

Thesis: "An Experimental Study in Homogeneous Grouping in English in Consolidated High School."

**UNDERGRADUATE DIVISION**

Graduates with the Degree of Bachelor of Science

**Agriculture and Forestry****Agriculture**

Adams, Alden Swapp  
 Ashbaker, C. Freeman  
 Bahen, Harry Shaw  
 Baird, Junius P.  
 Bangarter, Alma Horace  
 Bennion, Hugh C.  
 Blackham, M. Stafford  
 Bryan, Alexander Joseph  
 Christensen, Jack Cyril  
 Christoffersen, Paul John  
 Clark, Ira  
 Cleveland, George W.  
 Cook, S. Bryson  
 Ellis, Martell T.  
 Ellis, Wayne A.  
 Erekson, Arthur Beau  
 Gordon, Sam H.  
 Hinton, Wayne H.  
 Hunter, Alfred Walker  
 Hutchings, Gilbert Alden  
 Jackson, Frank Leslie

Keller, Edwin Henry  
 Keller, Lamont  
 Loosli, John K.  
 Manning, Melvin Nephi  
 Maughan, Cyril P.  
 McAlister, Dean F.  
 Merrill, Thais A.  
 Moody, Emerald Lester  
 Parsons, LaVell H.  
 Peterson, Waldo Joseph  
 Reeves, Charles Vincent  
 Remund, Clive Ott  
 Richard, Ralph J.  
 Rollins, C. Wallace  
 Shaw, Seth T.  
 Taylor, Nelden Alois  
 Tueller, Lamont Edwin  
 Ward, Reuben A.  
 Warren, Rex  
 Washburn, Newel  
 Westenskow, Owen F.

**Forestry**

Bentley, Valentine I.	Starr, Courtland P.
Cliff, Edward P.	Swensen, Marriner
Hansen, Wilford P.	

**Home Economics**

Beckstead, Melburn	Madsen, Bertrude
Hansen, Roma	Olson, Erma Ruth
Hartvigsen, Dora	Parrish, Ruth
Hirst, Hazel	Pedersen, Jean Russell
Hoopes, Hilda	Rosengreen, Bernice L.
Johnson, Thelma	Smith, Helen J.
Keller, Delilah Dudley	Tasso, Eleonora Jennie
Lenkersdorfer, Lelah O.	Turner, Eleanor J.

**Arts and Science**

Bancroft, Lutie	Madsen, Marcelle
Bennion, Marian	Merrill, Marriner Wood Low
Calderwood, Blanche	Miller, Ephraim S.
Cardon, Lucille	Mitton, Ruby
Christensen, John F.	Neeley, Arthur H.
Crapo, George LaVell	Niles, Susie Selina
Daines, Anna S. Merrill	Nishimoto, Earl S.
Eliason, Orville L.	Peterson, J. Darrel
Francis, Lovinia	Reeder, Hope
Frost, Irving Condie	Reeves, Millie McNeil
Griffin, Herbert T.	Robbins, Raymond
Gunnell, Waldon	Robertson, Von Hoyt
Hartvigsen, Elmer Jennings	Slater, Donna Maude
Hogan, Janice Arminta	Smith, Ruth
Homer, David	Stevens, J. Magnus
Israelsen, Lettie Ione	Stewart, Jennie C.
Janes, Melvin Joseph	Thain, Afton Margaret
Jorgensen, Melvin N.	Walker, Rulon Anthony
Kemp, Harry Hyer	Wallace, R. Bruce
Kilburn, Hyrum Parley	Weston, Ramona
Larson, Sterling C.	Wheeler, Thora
Larson, Vincent Victor	Winn, Jack C.
Linford, Henry Blood	Young, Delbert D.
Marble, Arthur L.	

**Engineering**

**Civil Engineering**

Harris, Albert B.	Rippon, Charles S.
Jensen, Lowell C.	Yeates, Alexander H.
Nelson, Bernard	

**Mechanic Arts**

Cromar, Eugene E.  
Gardner, Alma H.

Shields, Kenneth W.

**Commerce**

Ballard, William Henry  
Benson, Wesley Taft  
Bickmore, Lee Smith  
Bigler, Clarence Vance  
Bishop, Geo. E.  
Brian, Dow P.  
Brown, Helen  
Buchanan, Odin W.  
Burgoyne, Margaret  
Byram, Vern O.  
Cannon, Hyrum P.  
Christensen, Nyles Ivan  
Froyd, Glenwood  
Greaves, Ora G.

Hansen, Mitchell  
Hughes, William Durrell  
Johnson, William Owen  
Kotter, Virginia  
Larsen, Thyra Therese  
Nielsen, Ottis A.  
Odell, Wesley T.  
Packer, Lee Parkinson  
Scott, James D.  
Swendsen, Howard John  
Thomas, Alvin J.  
Thorpe, Paul Hyrum  
Tyson, Virginia

**Education**

Bergeson, Julia Audrey  
Bernards, Hilda P.  
Budge, Rulon Rushton  
Call, Marie  
Capener, Edna  
Carlisle, Martha  
Cranney, Monroe Cornforth  
Eames, Melba  
Gillespie, Daniel H.  
Grant, Howard E.  
Hansen, Wynona Mae  
Harding, Zella M.  
Jones, Vilate  
Lee, Inez  
Lewis, Lenore  
Lloyd, Erma Parkinson

McBeth, Ned  
Moesinger, Gilbert Carl  
Nielsen, Ruby Virginia  
Parker, Harrison Geo.  
Pearse, Mary R.  
Pedersen, Thelma  
Peterson, Ruth Elaine  
Power, Zona  
Rowberry, Valene H.  
Simmons, Shirley A.  
Simonsen, Elva  
Smart, Arba May McGregor  
Smedley, Delbert Waddoups  
Smith, Kate  
Taylor, Floyd Albert  
Wood, Lucile Anna

**Graduation With Honors**

Lettie Ione Israelson.....English

**Graduates With the Normal Certificate**

Allen, Dorothy  
Allen, Maude  
Anderson, Maurine  
Atkinson, Mary Louise  
Ball, Marjorie

Barrus, Ruth  
Beckstead, Coral N.  
Bennion, Gene  
Bronson, Veta  
Buist, Fern



Bunderson, Gayle	Leatham, Virginia
Burton, Wilda	Lee, Florence
Buttars, Susie M.	Manning, Margaret
Chadaz, Fannie	Manning, Viola
Cherry, Mildred Marie	Maughan, Ilah
Choules, Edna	Meadows, Merle
Clark, Jane LaRue	Merrill, Ann
Clark, Wilma	Merrill, Pearl
Corbridge, Leota	Myers, LaPriel
Crafts, Marjorie	Nielsen, Ella M.
Cranney, Rie Garr	Parkinson, Arabel M.
Daniels, Clara	Parkinson, Grace C.
Dunkley, Mary	Phelps, Hazel Areta
Egbert, Margaret	Pierce, Nettie J.
Hansen, Erma	Rawlins, Berness
Hart, Alfred Bruce	Rawlins, Mae
Hoopes, Eloise	Reeder, Edna
Hull, Emma	Sant, Mabel
Hunsaker, Reginald	Shepherd, Ruth
Hunsaker, Veressa	Siegfried, Silvano
Hymas, Wanda LaPriel	Smith, Phoebe Ruth
Jeppsen, Norinne Ida	Smoot, Ruth Parkinson
Johnson, Zelda	Sorensen, Veda
Kearl, Aretha	Swainston, Harriet
Kearns, Mary Elizabeth	Tingey, Mae
Kendall, Lorna	Tingey, Mary
Kunz, Elna	Wight, Francessa
Kunz, Myrle Maxine	Winward Effie
Kunz, Zina	Wood, June
Larsen, Ellen	

## OFFICERS RESERVE CORPS OF THE ARMY OF THE UNITED STATES

### Second Lieutenant, Coast Artillery Corps

Bahen, Harry	Gunnell, Waldon
Ballard, William H.	Homer, David
Bangerter, Alma	Jackson, Frank L.
Benson, Wesley T.	Lawrence, George A.
Cleveland, George W.	McBeth, Ned
Earl, Dean M.	Thorpe, Paul H.
Gardner, Alma	

**HONORS 1930-31****PHI KAPPA PHI****Agriculture**

Marriner Swenson  
Wayne Hinton  
Edward Cliff  
Ira Clark  
Dean McAlister  
Courtland Starr  
Newell Washburn  
Nephi Manning  
Rex Warren

**Commerce**

Ottis A. Nielsen  
Thyra Larsen  
O. W. Buchanan

James Scott  
Wesley T. Odell  
Wesley T. Benson  
Helen Brown

**Engineering**

Charles Rippon  
Lowell Jensen

**Education**

Vilate Jones  
Zona Power  
Melba Eames  
Lenore Lewis  
Edna Capener  
Gilbert Moesinger

**Home Economics**

Jean Pedersen  
Dora Hartvigsen  
Thelma Johnson

**Arts and Science**

Donna Slater  
John Christensen  
Arminta Hogan  
Lettie Israelsen  
Henry Linford  
Melvin Janes  
Anna S. Merrill  
Arthur Marble  
Lovinia Francis  
Harry Kemp

**VALEDICTORIAN**

Donna Slater

**SCHOLARSHIPS**

The following students were awarded the Johansen Scholarships for 1931-32:

Rex Dibble  
Julia Etta Devine

Harold Lillywhite  
Selma Hawkes, Alternate

The following students were awarded the 1927 Class Research Scholarships for 1931-32

Robert K. Gerber      Roscoe T. Pixton      Anthony Coletti, Alternate

The Rolla M. Rich Memorial Scholarship for 1931-32 was awarded to Paul Grace.

The Phi Upsilon Omicron Scholarship for 1931-32 was awarded to Eva Beutler.

The Thatcher Brothers Banking Company Scholarship for 1930-31 was awarded to Wesley T. Odell.

The A. A. Firmage Scholarship for 1930-31 was divided and awarded to Lee Packer and Clarence V. Bigler

## SCHOLARSHIP "A's"

Kourken Bardizbanian	Rex Dibble	Gilbert Moesinger
Wesley T. Benson	Allen G. Douglas	Arthur Neeley
Cornell Christensen	Doris Farr	Mathias Richards
Richard Costley	Robert K. Gerber	Lewis Roe
LaVell Crapo	Melvin Janes	Bion Tolman
Robert H. Daines		

## SPECIAL AWARDS

The College Awards. Two certificates given for distinguished College Citizenship were awarded to O. W. Buchanan and Lucille Cardon.

The Reserve Officers' Training Corps Medal. Given to the member of the R. O. T. C. who best represents the ideal of the Corps, was awarded to Wesley T. Benson.

The U. S. A. C. Science Medal. Given to the author of the best paper on some selected scientific subject, was won by Joseph D. Cummings.

The Vernon Medal. Given to the writer of the best short story written around a western setting, was won by Odell Julander.

U. S. A. C. Women's Club Essay Prize. A ten dollar book prize given to the writer of the best literary essay, was won by Alladine Bell.

The Hendricks Medal. Given to the student who makes the best extemporaneous speech, was won by Rulon Walker.

The American Legion Scholarship Medal. Given to the Letterman maintaining the highest scholastic standing during the Football Season, was won by Edward Cliff.

The American Legion Military Medal. Given to the Letterman exhibiting the most wholesome attitude toward military training during the Football Season, was awarded to Ned McBeth.

The Gertrude Musser Howard Medal. Given to the student who most nearly represents the ideal of the School of Home Economics, was awarded to Jean Pedersen.

The Leadership Challenge Cup. Given to the Senior Student in Agriculture that has exhibited the greatest measure of constructive organization and leadership in the School of Agriculture throughout his college course, was awarded to John K. Loosli.

The John K. Madsen Trophy. Given to the student who ranks the highest in judging sheep, was won by Donald M. Cox.

The John M. Ritchie Trophy. Given to the student who ranks the highest in judging horses, was won by David Evans.

The Ogden Union Stock Yards Trophy. Given to the student who ranks the highest in judging beef cattle, was won by John J. Barnard.

The Salt Lake Union Stock Yards Trophy. Given to the student who ranks the highest in judging swine, was won by Nat. N. Taggart.

The American Packing Company Trophy. Given to the student who ranks the highest in judging commercial meat carcasses, was won by Wayne Lowe.

The American-Hawaiian Steamship Trophy. Given to the student who ranks the highest in judging wool, was won by Alvin G. Carpenter.

Livestock Judging Medals. Given to the men who make the College Livestock Judging Team, were awarded to: Stafford Blackham, Gilbert Hutchings, Wayne Lowe, Ralph Stahle, Paul Christoffersen and Emerald Moody.

The Myers Award. Given to a senior student who is considered the most outstanding in Speech and Dramatics, was awarded to Lutie Bancroft.

The Home Economics Award. Given to an outstanding senior in the School of Home Economics, was awarded to Thelma Johnson.

## STUDENT BODY

### Student Body Officers

O. W. Buchanan	-	-	-	-	President
Thelma Johnson	-	-	-	-	Vice-President
Ione Tarbet	-	-	-	-	Secretary
Von Robertson	-	-	-	-	Editor, "Student Life"
Ora Greaves	-	-	-	-	Business Manager, "Student Life"
Weldon Burnham	-	-	-	-	Editor-in-Chief, "Buzzer"
Vern Byram	-	-	-	-	Business Manager, "Buzzer"

## DEBATING

Paul Heufner  
Richard Lee  
James Fillmore

Rex Dibble  
LaVell Crapo

## DRAMATICS

Lutie Bancroft  
Milton Johnson  
Oralie Cragun  
Boyd Pulley  
Ray Robbins  
John Anderson

LaVerle Flamm  
Rebecca Ririe  
Genevieve Cruikshank  
Loraine Boley  
Helen Henderson

## SUMMARY OF ATTENDANCE—1930-31

Rank	Agriculture Men	Agriculture Women	Arts and Science Men	Arts and Science Women	Commerce Men	Commerce Women	Education Men	Education Women	Engineering Men	Home Economics Women	Totals
Graduates .....	22	1	12	5	4	2	14	2	3	3	68
Seniors .....	44		33	21	19	3	7	14	11	15	167
Juniors .....	47		28	25	32	4	14	16	15	25	206
Sophomores .....	68	1	45	27	58	24	19	96	43	33	414
Freshmen .....	144		83	30	46	34	11	93	68	41	550
Total Collegiate.....	325	2	201	108	159	67	65	221	140	117	1405
Vocational .....	6		8	4	6	1		2	21	1	49
Totals .....	331	2	209	112	165	68	65	223	161	118	1454

Six-weeks Summer Session 1930—(297 Men, 206 Women)..... 503

1957

Less Names Repeated— ( 36 Men, 33 Women)..... 69

Net Total Resident Enrollment..... 1888

Correspondence Dept. Enrollment—(198 Men, 176 Women)..... 374

Extension Classes— ( 60 Men, 49 Women)..... 109

2371

Names Repeated:

(Correspondence and Extension) ( 7 Men)

(Resident and non-resid't groups) (52 Men, 41 Women)..... 100

Grand Total Enrollment ..... 2271

## ENCAMPMENT AND SHORT COURSES

Farmers' Encampment—(887 Men, 600 Women)..... 1487

In addition there were 250 Children.

Club Leaders' Training School—(50 Men, 98 Women)..... 148

Adult Leaders' Training School—(Women) ..... 138

Agents' Conference—(48 Men, 12 Women)..... 60

Total Registration at Encampment and Short Courses..... 1833

# LIST OF STUDENTS

1930-31

In the following list "a" stands for agriculture; "as" for arts and science; "e" for engineering and mechanic arts; "ed" for education; "ho" for home economics; "c" for commerce; "SS" for summer school; "G" for Graduate; "S" for Senior; "J" for Junior; "So" for Sophomore; "F" for Freshman; "V" for Vocational; "Un" for Unclassified.

Abbott, Emerson as-J .....	Tremonton	Anderson, Ella SS .....	Hyrum
Abbott, James a-J .....	Logan	Anderson, Ernest L. c-So .....	Logan
Abersold, Raymond e-V .....	Providence	Anderson, Fern SS .....	Logan
Abersold, Weldon a-F .....	Providence	Anderson, Gage R. a-So .....	Salt Lake City
Abrams, Frederick a-F .....	Payson	Anderson, George N. as-So .....	Brigham
Acker, Arthur SS .....	Chico, Calif.	Anderson, George W. ed-J .....	Logan
Adams, Alden Swapp a-J .....	Kanab	Anderson, Gladys ed-F .....	Logan
Adams, Allan N. a-F .....	Salt Lake City	Andersen, Hans P. SS .....	Hyrum
Adams, Ethel ed-F .....	Layton	Anderson, Hilda SS .....	Mendon
Adams, Evan A. c-So .....	Logan	Anderson, Ivan A. a-J .....	Riverdale
Adams, Hazel SS .....	Logan	Anderson, John M. as-J-SS .....	River Heights
Adams, Hugh e-F .....	Hyrum	Anderson, Jennie V. SS .....	Provo
Adams, John R. SS .....	Richfield	Anderson, Jessie SS .....	Ogden
Adams, Joseph C. SS .....	Logan	Anderson, Luella ed-So .....	River Heights
Adams, Louis J. a-So .....	Parowan	Anderson, Marion ed-J .....	Logan
Adams, Stanley T. as-V .....	Logan	Anderson, Maurine ed-So .....	Tremonton
Adams, Verena SS .....	Logan	Anderson, Paul E. c-S .....	Provo
Adams, Walter S. SS .....	Logan	Anderson, R. Clark a-F .....	Provo
Adams, Willis J. a-So .....	Brigham	Anderson, Rhea as-F .....	Fairview
Adamson, Lillian e-So .....	Tooele	Anderson, William E. e-F .....	Price
Affleck, Clark as-G .....	Logan	Anderson, Zeno a-F .....	Mendon
Affleck, Preston C. as-So .....	Logan	Arbon, Ted as-F .....	Springville
Ajax, Richard E. as-F .....	Tooele	Arbon, John T. SS .....	Snowville
Aklin, Walter M. SS .....	Salt Lake City	Archibald, Marion e-F .....	Hyrum
Alder, Ferdinand SS .....	Manti	Argyle, Emma ed-So .....	Randolph
Alexander, Glen M. e-So .....	Panguitch	Armstrong, Ike J. SS .....	Salt Lake City
Allen, Albert B. SS .....	American Fork	Armstrong, Sam W. SS .....	Willcox, Ariz.
Allen, Beatrice as-So .....	Hyrum	Asay, George A. c-F .....	Lovell, Wyo.
Allen, Ethel, ed-F .....	Logan	Ashbaker, C. Freeman a-S .....	Logan
Allen, Dorothy ed-So .....	Logan	Ashcroft, Eunice SS .....	Hyde Park
Allen, Hortense ed-So .....	Logan	Ashton, Ethelynn ho-J .....	Vernal
Allen, James C. e-F .....	Logan	Astle, Merle c-F .....	Logan
Allen, Maude ed-So .....	Providence	Astle, Thelma as-So .....	Logan
Allen, Paul e-F .....	Teton, Ida.	Astle, Walter a-J .....	Logan
Allen, Pearl ed-F .....	Logan	Atkinson, Mary Louise ed-So .....	Garland
Allen, Phyllis SS .....	Logan	Atkinson, Rulen Alvin as-F .....	Logan
Allen, Robert c-So .....	Logan	Atwood, Grant L. a-F .....	Pleasant Grove
Allen, Silas SS .....	Hyrum	Atwood, Walter E. SS .....	Roosevelt
Allen, Uleta as-F .....	Logan	Ault, Dorothy as-J .....	Logan
Allen, Wayne a-F .....	Teton, Ida.		
Allred, Wendell a-G .....	Logan	Bahen, Harry a-S .....	Paradise
Allred, Opal ed-F .....	Logan	Bahen, Paul a-F .....	Paradise
Allred, Robert C. a-F .....	Moab	Bagley, Edward c-So .....	Salt Lake City
Allsop, Warren c-So .....	Grace, Ida.	Bailey, Carrol SS .....	Fairfield, Calif.
Almond, James C. e-J .....	Downey, Ida.	Bailey, Fred B. C-So .....	Wellsville
Alvord, Paul A. as-F .....	Millville	Bailey, Helen ed-F .....	Escalante
Anderson, Ariel as-So .....	Hyrum	Bailey, Jack C. as-F .....	Sterling
Anderson, Bryce W. a-F .....	Grantsville	Bailey, Kenneth c-F .....	Wellsville
Anderson, Chlo ho-So .....	Logan	Bailey, Reed W. as-G-SS .....	Logan
Anderson, Eddie SS .....	Grantsville	Bailey, T. K. SS .....	Preston, Ida.

Bair, Amos W. SS	Richmond	Benson, Wesley T. c-S	Logan
Bair, Camilla as-J	Logan	Bentley, Valentine a-S	Provo
Baird, Brigham Y. SS	Draper	Bergeson, Arnold V. as-F	Lewiston
Baird, Glenn a-F	Ioka	Bergeson, E. C. c-So	Smithfield
Baird, Junius P. a-S	Brigham	Bergeson, Julia A. ed-S	Cornish
Baker, A. Cecil SS	Salt Lake City	Bergeson, Rulon C. a-J	Lewiston
Baker, Anna S. SS	Logan	Bernards, Hilda ed-S	Ogden
Baker, Arthella as-So-SS	Logan	Berrells, Laura as-J	Logan
Baker, Hayward e-F	Logan	Berrett, Halvor a-F	Salt Lake City
Baldrige, Walter SS	Chariton, Iowa	Best, Edgar Jr. a-F	Springville
Ball, Marjorie ed-So	McGill, Nev.	Best, Richard e-J	Springville
Ballam, Oral L. SS	Cove	Beutler, Eva ho-F	Logan
Ballard, William H. c-S	Logan	Bickmore, Ada SS	Paradise
Ballantyne, Alando SS	Tucson, Ariz.	Bickmore, Lee c-S	Paradise
Balling, Harold a-So	Logan	Bickmore, Wallace O. SS	Green River
Balling, Nina SS	Logan	Bigler, Clarence c-S	Colliston
Bancroft, Lutie as-S-SS	Logan	Bigler, Annetta SS	Salt Lake City
Bancroft, Paul a-F	Shoshone, Ida.	Binns, John A. a-So	American Fork
Bangerter, Alma H. a-S	Woods Cross	Bindrup, Karl e-V	River Heights
Bangerter, Thelma ed-J	Woods Cross	Bingham, Afton ho-F	Vernal
Barber, Marie SS	Logan	Bingham, Owen W. SS	Logan
Barber, Ross M. c-F	Tooele	Bird, Bedford W. e-F	Logan
Bardizbanian, Kourken e-F	Cairo, Egypt	Bird, Marvin M. SS	Sandy
Barfuss, Alma e-V	Logan	Bishop, Alvin e-F	Delta
Bargeron, Cecil, e-So	Brigham	Bishop, George E. c-S	Garland
Barkdull, Philip SS	Provo	Bjorkman, Charles P. ed-J	Logan
Barker, Ezma SS	Randolph	Black, Jesse ed-F	Logan
Barker, William c-So	Newton	Blackett, Marx C. e-V	Salt Lake City
Barnard, John J. a-So	Deweyville	Blackham, J. Howard as-So	Moroni
Barney, Ross SS	Burley, Ida.	Blackham, Lucile A. ho-G	Moroni
Barrows, Effie ho-J	Logan	Blackham, Stafford a-S	Moroni
Barrus, Merle C. ed-F	Logan	Blain, Rulon L. as-S	Spring City
Barrus, Ruth ed-So	Logan	Blake, Eldon R. SS	Bunkerville, Nev.
Bartlett, William H. SS	Sandy	Blamiers, Morris as-F	Kaysville
Bartlett, Zelda ho-So	Logan	Blanch, George T. a-G	Ogden
Barton, Dale e-F	Kaysville	Blanchard, Archie a-S	Logan
Barton, George SS	Ephraim	Boardman, William a-F	Paragonah
Bartschi, Melvin e-V	Providence	Boley, Loraine ho-So	American Fork
Bateman, Fred SS	Richmond	Bohman, Stanley e-So	Monroe
Bateman, Relä ed-So	Midvale	Bohne, E. F. SS	Spanish Fork
Bates, George S. ed-G	Logan	Bonnemort, Howard J. e-J	Kaysville
Baugh, William, Jr. c-So	Burley, Ida.	Borup, Fern C. ed-So	Ogden
Baugh, William H. e-So	Salt Lake City	Bosworth, Curtis C. a-F	Logan
Baxter, James L. as-F	Logan	Bott, Victor SS	Brigham
Baxter, Libbie H. c-F	Logan	Boudrero, Blanche ed-S	Logan
Beagley, Harry SS	Nephi	Bowcutt, Joe as-F	Brigham
Beal, John P. SS	Salt Lake City	Bowen, Albert SS	Payson
Beal, Margot S. SS	Salt Lake City	Bowen, Allie c-F	Spanish Fork
Beatty, Owen F. a-F	Hurricane	Bowen, Dale c-F	Logan
Bock, Ella SS	Logan	Bowen, Edith V. SS	Logan
Beckstead, Coral ed-So	Preston, Ida.	Bowen, Lora ed-So	Spanish Fork
Beckstead, Melburn ho-S	Preston, Ida.	Bowen, Ronald G. as-So	Logan
Beckstead, Thomas M. SS	Midvale	Boyce, Paul C. SS	Sandy
Bell, Alladine as-So	Logan	Boyle, Bernice c-J	Logan
Belliston, Carl F. as-J	Nephi	Boyle, Ray c-F	Ogden
Belliston, Nelda ho-F	Nephi	Bradley, Vincent F. SS	Elsinore
Bench, Howard SS	Logan	Bradshaw, Ivean ho-So	Wellsville
Bennion, Alden S. as-So	Cokeville, Wyo.	Brady, Elmo a-F	Sandy
Bennion, Donald C. e-So	Farmington	Brady, Robert L. e-F	Ogden
Bennion, Gene ed-So	Cokeville, Wyo.	Brady, W. Edgar SS	Sweetwater, Okla.
Bennion, Hugh C. a-S	Farmington	Bramwell, Delton C-S	Ogden
Bennion, Ira L. a-F	Logan	Brasher, Maesii F. a-So	Delta
Bennion, Marian as-S	Logan	Brenchley, Myron H. SS	Wellsville
Bennion, Mark a-So	Logan	Brian, Dow P. c-S	Loa
Bennion, Noel SS	Logan	Bright, Lynn as-F	Lewiston
Bennion, Rachel P. ed-F	Farmington	Brimhall, Ralph SS	Provo
Benson, John ed-G-SS	Garland	Broadbent, Berne P. SS	Provo

Broberg, Ilah ed-F.....	Logan	Carpenter, Alvin c-J.....	Manti
Broderick, Mathew W. SS.....	Magna	Carruth, William e-F.....	Evanston, Wyo.
Bronson, Veta ed-So.....	Burley, Ida.	Carter, Grace SS.....	Fulton, Mo.
Brossard, Gretta ho-So.....	Rigby, Ida.	Carter, Rosella ed-So.....	Tremonton
Brown, Beth ed-F.....	Grantsville	Casterline, Leonard e-So.....	Salt Lake City
Brown, Everett e-V.....	Logan	Casterline, Mildred SS.....	Wellsville
Brown, Helen c-J.....	Provo	Cates, Sophrona SS.....	Bear River City
Brown, Leora c-So.....	Logan	Cazier, Frank e-J.....	Morgan
Brown, Mary c-So.....	Smithfield	Chadaz, Fannie ed-So.....	Tremonton
Brown, Royal A. SS.....	Pocatello, Ida.	Chadwick, Rae SS.....	Liberty
Bryan, Alexander a-S.....	Tooele	Chalk Beatrice SS.....	Tularosa, N. M.
Buck, Robert SS.....	Arvada, Colo.	Chambers, Donald c-F.....	Garland
Buchanan, Edna ed-F.....	Logan	Chambers, Noble L. c-So.....	Smithfield
Buchanan, Odin c-S.....	Robinson, Ill.	Charles, Glenn ho-F.....	Tooele
Budge, Rulon R. as-S.....	Ogden	Chattin, Helen ho-F.....	Idaho Falls, Ida.
Budge, Ruth Ann ho-F.....	Logan	Cheatham, William SS.....	Briston, Okla.
Buist, Fern ed-So.....	Mendon	Cheney, Clayton as-F.....	Brigham
Bunderson, Gayle ed-So.....	Brigham	Cheney, Gretta c-G.....	Laketown
Bunnell, John G. SS.....	Eureka	Cherrington, Captola ho-J.....	Springville
Bunnell, LeRoy SS.....	Payson	Cherry, Mildred ed-So.....	Logan
Burch, Bessie ed-F.....	Pleasant Grove	Chez, Fred L. SS.....	Ogden
Burch, Fern ho-So.....	Pleasant Grove	Childs, Albert V. ed-So.....	Springville
Burgess, Briant G. as-F.....	Salina	Chipman, Ethel SS.....	Logan
Burgoyne, Lucile SS.....	Logan	Chipman, LaRee ed-SS.....	American Fork
Burgoyne, Margaret c-S.....	Logan	Chipman, Louise as-F.....	Cornish
Burleigh, Alice ed-F.....	Cache Junction	Chipman, W. M. c-F.....	American Fork
Burnham, Clarence a-G.....	Brigham	Choules, Edna ed-So.....	Preston, Ida.
Burnham, Lyman e-S.....	Logan	Choules, George SS.....	Provo
Burnham, Weldon as-So.....	Logan	Christensen, Alex as-F.....	Logan
Burr, Reed SS.....	Salina	Christensen, Carol ho-F.....	Malad, Ida.
Burrup, Ada Mary SS.....	Ogden	Christensen, Cornell T. as-J.....	Rexburg, Ida.
Burrup, Percy as-J.....	Logan	Christensen, Evan c-So.....	Downey, Ida.
Burt, John E. a-F.....	Ogden	Christensen, Paye SS.....	Elsinore
Burton, Wilda ed-So.....	Layton	Christensen, Hazel SS.....	Ogden
Buttars, Susie ed-So.....	Clarkston	Christensen, Jack C. a-J-SS.....	Redmond
Buxton, Winona ho-J.....	Driggs, Ida.	Christensen, John F. as-S.....	Wellsville
Byington, Freeman as-F.....	Logan	Christensen, LaVera SS.....	Tremonton
Byington, Leo c-So.....	Logan	Christensen, Leland e-J.....	Rexburg, Ida.
Byram, Vern O. c-S.....	Washington, Ind.	Christensen, Loraine SS.....	Bloomington, Ida.
		Christensen, Louis W. SS.....	Morgan
Calder, Howard B. as-F.....	Vernal	Christensen, Lowell J. e-V.....	Clarkston
Calderwood, Blanche as-S.....	Logan	Christensen, Nyles c-S.....	Salina
Call, Elizabeth ho-F.....	Brigham	Christensen, Rae SS.....	Elsinore
Call, Marie as-S.....	Brigham	Christensen, Ralph as-F.....	Wellsville
Call, Vivian ed-F.....	Logan	Christensen, Reed e-So.....	Sevier
Campbell, Everett as-F.....	Los Angeles, Calif.	Christensen, Rula C. SS.....	Logan
Canine, Herbert SS.....	Burley, Ida.	Christensen, Sybil ho-J.....	Logan
Cannon, Hyrum P. c-S.....	Logan	Christiansen, John R. c-F.....	Logan
Cannon, Julian S. e-J.....	Salt Lake City	Christoffersen, Paul J. a-S.....	Driggs, Ida.
Cannon, Winfield e-J.....	Salt Lake City	Christoffersen, Vernon a-So.....	Driggs, Ida.
Cantwell, Lawrence a-F.....	Smithfield	Chugg, Grant e-So.....	Providence
Capener, Edna ed-S.....	Garland	Chugg, Vera SS.....	Ogden
Capener, Howard a-F.....	Riverside	Church, Della ed-So.....	Logan
Capener, Leland a-G.....	Salt Lake City	Church, Rudolph SS.....	Panguitch
Cardon, Alice c-F.....	Logan	Church, Willmer a-F.....	Logan
Cardon, Dorothy ho-So.....	Logan	Clark, Clayton as-So.....	Logan
Cardon, Joan ed-So.....	Logan	Clark, DeVon a-So.....	Logan
Cardon, Karma ed-So.....	Logan	Clark, Ira a-S.....	Coalville
Cardon, Lucille as-S.....	Logan	Clark, Jane ed-So.....	Coalville
Cardon, Margaret ho-F.....	Smithfield	Clark, L. A. SS.....	Pleasant Grove
Cardon, Robert P. c-J.....	Logan	Clark, Legrand SS.....	Salina
Carlisle, Martha ed-S.....	Logan	Clark, Wilma ed-So.....	Farmington
Carlisle, Verna S. SS.....	Logan	Clarke, L. Floyd as-G.....	Newton
Carlson, Alvin c-J.....	Logan	Clarke, Oswald G. a-So.....	Newton
Carlson, Fred J. SS.....	Hyrum	Clawson, Joyce ed-F.....	Providence
Carlson, Leland a-F.....	Logan	Clayton, Ruth ho-So.....	Salt Lake City
Carlson, Venice ed-So.....	Logan	Cleveland, George W. a-S.....	Twin Falls, Ida.



## LIST OF STUDENTS

223

Cliff, Edward a-S.....	Heber	Darley, Farrell a-So.....	Wellsville
Cliff, Orson as-F.....	Heber	Darley, James a-F.....	Portage
Cole, Jack e-V.....	Logan	Darley, Leon c-J.....	Logan
Coletti, Anthony a-J.....	Ogden	Davis, A. Todd SS.....	Ruth, Nev.
Collins, Bessie SS.....	Provo	Davis, Chas. H. SS.....	Provo
Cook, Glade as-V.....	Logan	Davis, Edward a-F.....	Provo
Cook, LaRue as-F.....	Logan	Davis, Floraine B. c-G.....	Logan
Cook, Merfill a-F.....	Paris, Ida.	Davis, Florence as-F.....	Logan
Cook, S. Bryson a-S.....	Paris, Ida.	Davis, Owen SS.....	Malad, Ida.
Cooley, Charles SS.....	Grantsville	Davis, Roberta c-F.....	Lehi
Cooley, E. H. SS.....	Logan	Davis, William L. c-F.....	Vernal
Cooley, LeRoy a-F.....	Newton	Day, Betty SS.....	Idaho Falls, Ida.
Cooley, Marcus R. ed-G.....	Newton	Dent, Arthur J. a-F.....	Lewiston
Cooley, Maude ed-So.....	Logan	Derricott, Wyona ed-F.....	Logan
Corbett, Grace as-V.....	Logan	Deschamps, Ray as-F.....	Malad, Ida.
Corbridge, Leota ed-So.....	Logan	Deschner, Fred E. c-So.....	Bebe, Texas
Cordon, Theone as-J.....	Logan	DeSpain, Owen M a-J.....	Venice
Corlett, Margaret SS.....	Ogden	Devine, Julia ho-J.....	Tooele
Corlett, Vaughn ed-So.....	Provo	Dibble, J. Rex c-J.....	Logan
Corry, Virginia as-J.....	Cedar City	Deckelman, Edith SS.....	Ely, Nev.
Costley, Richard as-F.....	Ashton, Ida.	Dinnis, Lyle as-V.....	Logan
Couch, Sherman SS.....	Ogden	Dittmore, Marlin c-J.....	Pleasant Grove
Coulam, Joseph SS.....	Lehi	Dixon, Gordon as-F.....	Ogden
Coulter, Lola SS.....	San Angelo, Texas	Donohoo, Deway a-V.....	Logan
Cowan, Reed c-F.....	Payson	Doty, Ina c-F.....	Richmond
Cox, Donald a-So.....	Manti	Douglas, Allen G. a-F.....	Salt Lake City
Cox, Frances ed-So-SS.....	Salt Lake City	Drysdale, Elwood ed-So.....	Ogden
Cox, Minnie ho-F.....	Shelley, Ida.	Dudley, Lynne e-F.....	Jensen
Cox, Ruth ed-J.....	Manti	Dunbar, Marvin a-F.....	Logan
Cox, Veda SS.....	Manti	Dunford, Stephen a-So.....	Salt Lake City
Cox, W. Chad a-F.....	Fairview	Dunford, Whitney M. as-F.....	Logan
Crafts, Marjorie ed-So.....	Logan	Dunkley, Addie ed-F.....	Logan
Crafts, Norma ed-F.....	Logan	Dunkley, Mary ed-So.....	Whitney, Ida.
Cragun, Oralie as-J.....	Smithfield	Dunkley, Parley a-F.....	Whitney, Ida.
Crane, Claire B. SS.....	Circleville	Dunkley, Willis a-F.....	Whitney, Ida.
Crane, Clayton e-F.....	Calgary, Canada	Dunn, Beryl c-So.....	Logan
Cranney, Monroe SS.....	Logan	Eagar, James a-G.....	Nephi
Cranney, Rie ed-So.....	Logan	Eagar, Martha ho-G.....	Nephi
Crapo, George as-S.....	Parker, Ida.	Eames, Melba as-S.....	Logan
Crarath, Jeff SS.....	Denver, Colo.	Earl, Clyde a-F.....	Brigham
Crawford, L. DeVene a-So.....	Paris, Ida.	Earl, Dean a-J.....	Manhattan, Kansas
Creedy, Carson H. SS.....	Pocatello, Ida.	Earl, Luen ed-F.....	Fielding
Crockett, Cardon T. e-F.....	Richmond	Eddington, Henry SS.....	Sugar City, Ida.
Crockett, Norma c-F.....	Logan	Edgley, Ellen as-F.....	Pocatello, Ida.
Crockett, Susie as-F.....	Richmond	Erps, Joseph SS.....	Colorado Spr., Colo.
Cromar, Eugene e-S.....	Eureka	Egbert, Margaret ed-So.....	Logan
Crook, Ida ho-F.....	Heber	Ehlers, Forrest SS.....	Eden, Ida.
Crookston, Newell J. ed-F.....	Logan	Ekins, V. R. SS.....	Ogden
Cropley, Virgil ed-So.....	Tremonton	Eliason, Orville as-J-SS.....	Logan
Crossley, Ila ho-So.....	Thatcher, Ida.	Ellett, James SS.....	Freemont
Cruikshank, Genevieve as-So.....	Montpellier, Ida.	Ellis, Martell a-S.....	Pleasant Grove
Cummings, Boyd a-F.....	Heber	Ellis, Wayne a-S.....	Pleasant Grove
Cummings, Joseph a-G.....	Paradise	Ellison, Donell a-F.....	Nephi
Cummings, Kenneth W. a-F.....	Heber	Engstrom, Evelyn SS.....	Huntsville
Curtis, Blaine as-F.....	Declo, Ida.	Engstrom, Una e-F.....	Eureka
Curtis, Brentnall a-J.....	Payson	Erekson, Arthur a-G-SS.....	Murray
Dahlberg, Harry SS.....	Butte, Mont.	Erickson, Elva ho-F.....	Logan
Dahle, Robert SS.....	Ferron	Erlandson, Clara SS.....	Salt Lake City
Daines, Robert H. a-G.....	Logan	Eskelson, Lenard a-F.....	Kamas
Daines, Spencer as-F.....	Hyde Park	Esplin, Alma SS.....	Logan
Dalley, Charles L. a-G-SS.....	Summit	Esplin, Thora c-J.....	Cedar City
Daniels, Clara ed-So.....	Helper	Evans, Alton ed-So.....	Logan
Daniels, Harold S. e-F.....	Helper	Evans, Bertie ho-F.....	Logan
Darley, Arch E. SS.....	Mt. Pleasant	Evans, Beth ed-F.....	Salt Lake City
Darley, Byron c-G.....	Logan	Evans, David a-J.....	Lehi
		Evans, James ed-G-SS.....	Panguitch

Evans, Mabel ho-F.....	Logan	Garff, Thelma ed-J.....	Salt Lake City
Evans, Othelia SS.....	Tularosa, N. M.	Garner, Ray SS.....	Parowan
Evans, Richard as-So.....	Layton	Garrett, Ernest SS.....	Lehi
Evans, Shirley c-So.....	Salt Lake City	Gaskill, Jimmie M. a-F.....	Sandy
Everton, Bessie ed-F.....	Logan	Geddes, David R. ed-F.....	Logan
Everton, Walter e-V.....	Logan	Geddes, Helen as-So.....	Preston, Ida.
Ewer, Afton c-So.....	Logan	Gerber, Robert a-So.....	Salt Lake City
Ewing, Matt ed-G.....	Smithfield	Gessel, Alton a-F.....	Logan
Farmer, Russell SS.....	Oak Park, Ill.	Gibbons, LaThel ho-J.....	Garden City
Farnes, Loree SS.....	Logan	Gibbons, Lowell a-F.....	Garden City
Farnsworth, Howard a-So.....	Beaver	Gibson, Florence ed-F.....	Grace, Ida.
Farr, Doris as-So.....	Arimo, Ida.	Gills, Edward SS.....	Sandy
Farr, Mildred SS.....	Weston, Ida.	Gill, Gajinder a-G.....	Punjab, India
Faylor, Orpha ed-G.....	Logan	Gillespie, Daniel as-S.....	Tooele
Felsted, Harold e-J.....	Preston, Ida.	Gillespie, Kenneth c-J.....	Tooele
Fenton, Nelson R. a-F.....	Parowan	Gleason, Charles SS.....	Briston, Okla.
Flake, Augusta a-G.....	Logan	Gledhill, Ellwood SS.....	Pocatello, Ida.
Flake, Joseph a-J.....	Salt Lake City	Glenn, Alwilda as-So.....	Ogden
Eggen, Silas SS.....	Burley, Ida.	Glenn, George a-F.....	Brigham
Fife, Coy SS.....	Providence	Glenn, Marshall a-F.....	Logan
Fife, Glenchora ho-F.....	Logan	Godfrey, Arthur a-J.....	Murray
Fife, Luther SS.....	Weston, Ida.	Godfrey, Corinne ed-F.....	Clarkston
Fillerup, Maurus e-V.....	Logan	Godfrey, Wesley ed-F.....	Logan
Fillmore, A. James c-J.....	Richfield	Gordon, Sam H. a-S.....	Smithfield
Firmage, Doris ed-F.....	Spanish Fork	Grace, Paul E. a-J.....	Nephi
Firmage, John H. c-So.....	American Fork	Granger, Hellen as-J.....	Tremonton
Fisher, Alice ho-F.....	Richmond	Grant, Mary as-F.....	Woods Cross
Flamm, Lewis c-F.....	Billings, Mont.	Greaves, Ora c-J.....	Logan
Flanigan, William SS.....	Cedar City	Greaves, Perney ho-F.....	Logan
Fletcher, Herbert C. a-So.....	Logan	Green, Howard as-F.....	Ogden
Fletcher, Joel as-F.....	Logan	Greene, Julia as-So.....	Logan
Flint, Maurine ho-J.....	Layton	Greene, Laura as-J.....	Logan
Fluckiger, Norville a-F.....	Afton, Wyo.	Greene, Vira SS.....	Smithfield
Fullett, Ann ho-F.....	North Logan	Greenhalgh, Thomas A. SS.....	Logan
Fonnesbeck, Carl e-J.....	Logan	Griffin, Doloras ed-F.....	Logan
Fonnesbeck, Frank a-So.....	Logan	Griffin, Herbert as-S.....	Ogden
Fonnesbeck, Herman a-F.....	Logan	Griffin, J. Marcus as-J.....	Newton
Forgeon, Aland as-So.....	Burley, Ida.	Griffin, Maude ed-F.....	Logan
Foss, Margaret SS.....	Preston, Ida.	Griffin, Mina SS.....	Newton
Foster, Letha ho-F.....	Logan	Griffin, Spencer SS.....	Newton
Fowler, Evangeline SS.....	Birmingham, Mich.	Gudmundson, Montana as-F SS.....	Logan
Fowler, Maurine SS.....	Hooper	Gunderson, J. Douglas SS.....	Garland
Frampton, Earl as-So.....	Logan	Gunnell, Leo e-V.....	Logan
Franke, Ethel SS.....	Ogden	Gunnell, Waldon as-S.....	Wellsville
Franke, Gerhard as-V.....	Logan	Gunnell, Winston c-So.....	Wellsville
Frandsen, Kenneth as-J.....	Salt Lake City	Gutke, Worth c-So.....	Smithfield
Frandsen, Linden ed-So.....	Salt Lake City	Guyman, Valera ho-So.....	Logan
Frandsen, Waldo a-J.....	Price	Gyllenskog, Grant e-So.....	Smithfield
Francis, Lovinia as-S.....	Morgan	Habenicht, Luella SS.....	Fort Dodge, Ia.
Fredrickson, Earl c-G.....	Avon	Hacking, Junius a-F.....	Vernal
Frederick, Ellwood SS.....	Denver, Colo.	Haderlie, Virginia ho-F.....	Ogden
Freeman, Alfred SS.....	Brigham	Hadfield, Robert c-J.....	Salt Lake City
Freeman, Wilford SS.....	Brigham	Hafen, Leland SS.....	St. George
Frischknecht, Carl SS.....	Logan	Haggerty, Geraldine ed-J.....	Cokeville, Wyo.
Frost, Irving as-S-SS.....	Coalville	Hair, Clarice SS.....	Vernal
Frost, Ray c-So.....	Ephraim	Hale, Clarence a-So.....	Afton, Wyo.
Froyd, Glen c-S.....	Cedar City	Hale, Dean e-V.....	Logan
Froyd, Henry SS.....	Cedar City	Hale, Wilford as-So.....	Logan
Fry, Henry B. c-F.....	Ogden	Hales, Stephen a-F.....	Riverside
Frye, Clifford ed-J.....	Brigham	Hall, Ann SS.....	Preston, Ida.
Fuller, Varden c-So.....	Smithfield	Hall, Arthur a-So.....	Mapleton
Funk, Edith as-So.....	Richmond	Hall, Georgia SS.....	Ontario, Org.
Funk, McLaren J. as-F.....	Brigham	Halliday, Nina SS.....	American Fork
Gamett, Maurine SS.....	Pleasant Grove	Halverson, Carmen c-F.....	Brigham
Gardner, Alma e-S.....	Logan	Hammar, Glen as-F.....	Logan
		Hammond, D. M. as-J.....	Providence

Hammond, Don a-F.....	Ashton, Ida.	Hawkes, Selma as-J.....	Logan
Hammond, Elizabeth SS.....	Ursine, Nev.	Hawkins, Emma c-F.....	Logan
Hammond, Mabel SS.....	Ursine, Nev.	Hawley, Luell c-G.....	Logan
Hammond, Maxwell a-F.....	Providence	Hayball, Ruth c-F.....	Logan
Hanson, Melba ed-F.....	Tremonton	Heggie, Andrew e-So.....	Clarkston
Hancock, Doris SS.....	Greeley, Colo.	Heggie, John e-F.....	Clarkston
Hanks, Ellen SS.....	Tooele	Heinrich, Mildred SS.....	Smithfield
Hansen, Alice c-F-SS.....	Logan	Hemstreet, Glen a-F.....	Vernal
Hansen, Alma a-F.....	Monroe	Henderson, Helen ed-So.....	Logan
Hansen, Colline T. e-So.....	Collinston	Henderson, Ray SS.....	Medford, Ore.
Hansen, Dorothy ed-So.....	Brigham	Henderson, Weber as-F.....	Logan
Hansen, Ellis as-F.....	Paradise	Hendricks, Alton a-F.....	Richmond
Hansen, Erma ed-So.....	Tremonton	Hendricks, Beth ed-F.....	Richmond
Hansen, Evelyn ho-F.....	Tooele	Hendrickson, Gladys as-So.....	Idaho Falls, Ida.
Hansen, Knowlin ed-F.....	Logan	Hendrickson, Virginia SS.....	Idaho Falls, Ida.
Hansen, Mitchell c-S.....	Tremonton	Henrie, Iven L. SS.....	Gunnison
Hansen, Ralph e-F.....	Grace, Ida.	Herbert, Harry SS.....	Malad, Ida.
Hansen, Revere c-F.....	Tremonton	Herrnden, Donald W. SS.....	Maryville, Mo.
Hansen, Roma ho-S.....	Brigham	Hervilla, Ole c-So.....	Bingham
Hansen, Sidney a-F.....	Newton	Hess, Alvin as-G.....	Logan
Hansen, Wilford a-S.....	Richfield	Hess, Willis as-F.....	Fielding
Hansen, Wilma ho-J.....	Monroe	Hesser, Helen as-F.....	Bountiful
Hansen, Winston e-F.....	Providence	Hewitt, Andrew SS.....	Evanston, Wyo.
Hansen, Wynona ed-S.....	Providence	Hickman, Ida Marie c-F.....	Logan
Hanson, Olive c-F.....	Providence	Hill, Archie K. e-J.....	Logan
Hardaway, Dorothy SS.....	Carthage, Mo.	Hill, Cornella ed-F.....	Logan
Harder, James SS.....	Rapid City, S. D.	Hill, Ernest as-F.....	Logan
Harding, Ralph SS.....	Malad, Ida.	Hill, LaMar c-S.....	Thistle
Harding, Zella as-S.....	Burley, Ida.	Hill, Leland e-G.....	Logan
Harenberg, Urban a-F.....	Salt Lake City	Hill, Madeline SS.....	Metropolis, Nev.
Harmon, Mont ed-J.....	Brigham	Hill, Mark a-So.....	Salt Lake City
Harmon, Reid ed-G.....	Price	Hillam, Leroy SS.....	Salt Lake City
Harries, Reese a-So.....	Salt Lake City	Hinton, Wayne a-S.....	Hurricane
Harris, Albert e-S.....	Richmond	Hirst, Ivan e-F.....	Logan
Harris, Alvin SS.....	Portage	Hirst, Hazel ho-S.....	Logan
Harris, Denton a-F.....	Logan	Hobbs, George SS.....	Alhambra, Calif.
Harris, Joseph a-J.....	Richmond	Hobbs, James c-V.....	Logan
Harris, LaPhene e-So.....	Logan	Hodges, Irene as-So.....	Logan
Harris, Lionel SS.....	Pleasant Grove	Hodges, Lillian ed-F.....	Garden City
Harris, Melvin e-F.....	Fielding	Hodges, Lynn as-S.....	Garden City
Harris, Newman a-F.....	Logan	Hodgson, Fred a-So.....	Logan
Harris, Spencer a-F.....	Layton	Hodgson, Mary ed-So.....	Logan
Harris, Vernal SS.....	Tremonton	Hoffman, Maurice SS.....	East Las Vegas, N. M.
Harris, Wayne ed-F.....	Portage	Hoffman, Olif as-J.....	Logan
Harris, Zina as-So.....	Salt Lake City	Hoffler, Phyllis c-So.....	Logan
Harrison, Alta SS.....	Afton, Wyo.	Hogan, Arminia as-S.....	Lewiston
Harrison, Eleanor c-F.....	Logan	Hogan, Ray c-F.....	Thatcher, Ida.
Harrshbarger, Vaughn ed-So.....	Brigham	Hogenson, Beatrice as-F.....	Logan
Harston, Fay SS.....	Cowley, Wyo.	Hogenson, Lydia as-J.....	Logan
Hart, Adelbert as-F-SS.....	Preston, Ida.	Holman, Grant c-So.....	Logan
Hart, Alfred ed-So.....	Bloomington, Ida.	Holmes, Mosiah SS.....	Ogden
Hart, Charles J. SS.....	Provo	Holley, Uda ho-F.....	Mapleton
Hart, Marcus F. as-J.....	Preston, Ida.	Holmgren, Wayne a-So.....	Tremonton
Hart, Reed L. c-S.....	Preston, Ida.	Holt, Herber SS.....	Enterprise
Hart, Flora SS.....	Bloomington, Ida.	Homer, David as-S.....	Logan
Hartvigsen, Dora ho-S.....	Downey, Ida.	Hoopes, Eloise ed-So.....	Brigham
Hartvigsen, Elmer as-S.....	Logan	Hoopes, Patricia ho-S-SS.....	Thatcher, Ariz.
Havertz, Joseph SS.....	Logan	Houston, Mildred SS.....	Twin Falls, Ida.
Harvey, Helen ho-F.....	Garland	Hovey, Dennis as-F.....	Logan
Harvey, Margaret ed-So.....	Garland	Hovey, Margaret SS.....	Providence
Harvey, Ray B. e-So.....	Kaysville	Howard, Beatrice ed-J.....	Logan
Haslam, Reuben c-F.....	Logan	Howard, Fred a-So.....	Logan
Hatch, Sumner SS.....	Heber	Howell, Ferne a-J.....	Clifton, Ida.
Hausknecht, Howard SS.....	Salt Lake City	Howell, Noel e-So.....	Clifton, Ida.
Hawkes, Frank J. c-J.....	Logan	Howell, Orvid SS.....	Weston, Ida.
Hawkes, Gordon e-So.....	Logan	Hoyt, Elmo a-J.....	Marion
Hawkes, Kendrick as-F.....	Venice		

Hubbard, Harriet ho-J.....	Grace, Ida.	Jensen, Dwaine as-F.....	Brigham
Huber, Thelma ho-G.....	Mesa, Ariz.	Jensen, Earl c-F.....	Montpelier, Ida.
Huefner, Paul e-F.....	Salt Lake City	Jensen, Edmund as-S.....	Logan
Hughes, Durrell c-S.....	Mendon	Jensen, Ethel ed-F.....	Brigham
Hughes, H. W. SS.....	Fort Collins, Colo.	Jensen, Fred a-F.....	Richfield
Hughes, Laura as-So.....	Mendon	Jensen, Gertrude ed-F.....	Hyrum
Hull, Emma ed-So.....	Logan	Jensen, Joy ed-F.....	Brigham
Hull, John as-F.....	Logan	Jensen, LaVor a-F.....	Dayton, Ida.
Hull, Wealthy SS.....	Logan	Jensen, Lawrence J. a-So.....	Centerfield
Hulme, Alan c-So.....	Logan	Jensen, Lola ed-F.....	Nephi
Humphreys, Cleon as-F.....	Millville	Jensen, Lowell e-S.....	Logan
Humphreys, Joseph c-So.....	River Heights	Jensen, LuDeen as-J.....	Ephraim
Humphreys, LeGrande SS.....	Logan	Jensen, Mabel ed-F.....	Brigham
Hunsaker, Reginald ed-So.....	Tremonton	Jensen, Milton SS.....	Sandy
Hunsaker, Rex as-So.....	Logan	Jensen, Reta ed-F.....	Preston, Ida.
Hunsaker, Veressa ed-So.....	Honeyville	Jensen, Rex a-F.....	Malad, Ida.
Hunter, Alfred a-S.....	Lewisville, Ida.	Jensen, Stanton c-So.....	Salt Lake City
Huntington, Stanley c-F.....	Castle Dale	Jensen, Violet ed-J.....	Logan
Hussy, Marion as-So.....	Ogden	Jensen, Wanda ed-F.....	Brigham
Hutchings, Gilbert a-S.....	Beaver	Jensen, Wayne as-F.....	Los Angeles, Calif.
Hyde, Alice ed-So.....	Ogden	Jensen, William e-F.....	Brigham
Hyde, Thelma c-F.....	Rupert, Ida.	Jenson, Claud c-J.....	Brigham
Hymas, Bernice ed-F.....	Ovid, Ida.	Jenson, Dewane SS.....	Delta
Hymas, Cleone ed-F.....	Ovid, Ida.	Jenson, Eleanor ed-F.....	Bear River City
Hymas, Lane a-F.....	Ovid, Ida.	Jenson, Royal a-F.....	Brigham
Hymas, Wanda ed-So.....	Ovid, Ida.	Jenson, Lloyd as-F.....	Preston, Ida.
Inouye, Yukio K. a-F.....	Shelley, Ida.	Jeppsen, Elmer as-G-SS.....	Mantua
Isaacson, Eddie SS.....	Ephraim	Jeppsen, Norinne as-So-SS.....	Mantua
Israelsen, Lettie as-S.....	Logan	Jeppsen, John c-So.....	Ogden
Israelsen, Ward e-V.....	Hyrum	Jessop, Gladys ed-F.....	Logan
Izatt, Alex e-F.....	Logan	Jessop, Howard c-J.....	Logan
		Jessop, Sylmar SS.....	Lewiston
Jackson, Esther as-So.....	Logan	Johnson, Alma as-F.....	Logan
Jackson, Garold a-F.....	Beaver	Johnson, Annie c-So.....	Logan
Jackson, George SS.....	Ephraim	Johnson, Arthur e-F.....	Garland
Jackson, Inez SS.....	Ephraim	Johnson, Cale a-F.....	Ioka
Jackson, Leslie a-S.....	Tooele	Johnson, Clyde as-F.....	Lewiston
Jacobs, Emma SS.....	Ogden	Johnson, Dean a-So.....	Pleasant Grove
Jacobs, G. E. SS.....	Las Vegas, N. M.	Johnson, Edith SS.....	Ephraim
Jacobs, James a-S.....	Mt. Pleasant	Johnson, Evan a-F.....	Manti
Jacobson, A. E. SS.....	Springville	Johnson, Gertie ho-So.....	Richmond
James, Leah c-So.....	Salt Lake City	Johnson, Helen c-F.....	Logan
Janes, Elden as-F.....	Providence	Johnson, Howard e-F.....	Logan
Janes, Melvin as-S.....	Providence	Johnson, J. Arthur SS.....	Brigham
Janes, Ray L. as-J.....	Providence	Johnson, James as-F.....	Logan
Jeffery, Eldro a-F.....	Delta	Johnson, LaVell as-G.....	Smithfield
Jeffs, Armond as-S.....	Logan	Johnson, Lloyd e-J.....	Logan
Jeffs, Dorothy c-So.....	Logan	Johnson, Lucile SS.....	Logan
Jeffs, Newel as-So.....	Logan	Johnson, Milton as-J.....	Logan
Jeffs, Vaughn as-F.....	Logan	Johnson, Myrtle SS.....	Preston, Ida.
Jennings, Lydia ho-J.....	Logan	Johnson, Pearl SS.....	Provo
Jennings, Robert e-J.....	Logan	Johnson, Reynolds e-F.....	Brigham
Jenkins, Archie SS.....	Newton	Johnson, Rolla V. SS.....	Logan
Jenkins, J. D. as-J.....	Logan	Johnson, Ruth c-F.....	Logan
Jenkins, John L. a-F.....	Logan	Johnson, Thelma ho-S-SS.....	Richmond
Jenkins, Kurt as-G.....	Logan	Johnson, Vera SS.....	Manti
Jenkins, Lulu as-F.....	Robertson, Wyo.	Johnson, Wallace a-So.....	Ogden
Jenkins, Norma as-So.....	Logan	Johnson, William c-S.....	Santaquin
Jenkins, Pearl ed-F.....	Logan	Johnson, Zelda ed-So.....	Mendon
Jenkins, Ruth Mary ed-So.....	Logan	Jolley, Ida SS.....	Washington
Jensen, Achton e-So.....	Smithfield	Jones, Charles e-So.....	Sunnyside
Jensen, Alberta as-G.....	Logan	Jones, Claire SS.....	Chanute, Kan.
Jensen, Constance ed-J.....	Mantua	Jones, Clarence c-J.....	Ogden
Jensen, Darwin c-So.....	Bear River	Jones, Eddis c-F.....	Logan
Jensen, David as-J SS.....	Logan	Jones, Fawn as-F.....	Heber City
Jensen, Don c-F.....	Hyrum	Jones, Ferris c-J.....	Wellsville
		Jones, George e-So.....	Cache Junction

Jones, Gerald as-So.....	Logan	Kirkham, Phyllis c-So.....	Lehi
Jones, J. Virgil as-F.....	Malad, Ida.	Knight, Lester as-G.....	Brigham
Jones, John C. c-F.....	Newton	Koford, Rilla ed-F.....	Cornish
Jones, Lorraine ed-So.....	Cache Junction	Koonce, Dwight a-G.....	Fort Collins, Colo.
Jones, Louise ed-F.....	Logan	Kotter, Virginia c-S.....	Brigham
Jones, Oren a-F.....	Malad, Ida.	Kotter, Wilma ed-F.....	Brigham
Jones, Orlo c-F.....	Lewiston	Kraus, Paul SS.....	Kansas City, Mo.
Jones, R. K. SS.....	Twin Falls, Ida.	Kreasean, Roy a-So.....	Bingham
Jones, Stanley ed-So.....	Logan	Kropsh, Fred ed-J.....	Brigham
Jones, Thomas a-F.....	Logan	Krophli, Walter a-F.....	Logan
Jones, Vilate as-S-SS.....	Provo	Kunz, D. Elna ed-So.....	Montpelier, Ida.
Jorgensen, Clyde c-So.....	Logan	Kunz, Maxine ed-So.....	Montpelier, Ida.
Jorgensen, Eldores as-F.....	Ophir	Kunz, Zina SS.....	Logan
Jorgensen, EllVon ed-F.....	Salt Lake City	Laird, Lyndon a-So.....	Dubois, Ida.
Jorgensen, Grant a-F.....	Salina	Lallatin, Mark c-F.....	Soda Springs, Ida.
Jorgensen, Leon e-V.....	Smithfield	Lamb, Delbert SS.....	Hyde Park
Jorgensen, Melvin as-S-SS.....	Leota	Lambert, Watts SS.....	Murray
Jorgensen, Mildred ed-F.....	Hyrum	LaRoge, Clifford SS.....	St. Louis, Mo.
Jorgensen, Orba as-So.....	Huntsville	Larsen, Annie ed-F.....	Newton
Jorgensen, Reese e-V.....	Smithfield	Larsen, Clyde e-So.....	Mapleton
Jorgensen, Remina SS.....	Logan	Larsen, Ellen ed-So.....	Preston, Ida.
Jost, S. Emmett e-F.....	Ogden	Larsen, Erna ed-F.....	Logan
Judah, Mayme c-So.....	Logan	Larsen, Iver a-So.....	Hyrum
Julander, Odell a-J.....	Monroe	Larsen, John c-So.....	Logan
		Larsen, Joseph c-F.....	Pocatello, Ida.
Karns, Henry a-J.....	Logan	Larsen, Le Mar c-So.....	Logan
Kearsley, Amy ho-So.....	Heber City	Larsen, Stanley e-F.....	Newton
Kearl, Aretha ed-So.....	Laketown	Larsen, Thyra c-S.....	Ashton, Ida.
Kearl, Beatrice as-So.....	Logan	Larsen, Wilma as-F.....	Newton
Kearns, Mary ed-So.....	Logan	Larson, Ardis c-So.....	Smithfield
Keetch, Rulon SS.....	Hanford, Calif.	Larson, Dora SS.....	Logan
Keller, Delilah ho-S-SS.....	Preston, Ida.	Larson, Douglas c-F.....	Logan
Keller, Duane SS.....	Logan	Larson, Eldrid a-F.....	Hyrum
Keller, Edwin a-S.....	Rigby, Ida.	Larson, Everett e-So.....	Logan
Keller, Iva-Lou SS.....	Logan	Larson, Frank a-F.....	Logan
Keller, Lamont a-S.....	Manti	Larson, Howard e-So.....	Salt Lake City
Keller, Leslie SS.....	Logan	Larson, Kimber c-So.....	Preston, Ida.
Keller, Lloyd a-So.....	Ogden	Larson L. Waive a-So.....	Garland
Keller, Park as-F.....	Logan	Larson, Lavon e-V.....	Logan
Keller, Paul as-F.....	Logan	Larson, Mark as-F.....	Preston, Ida.
Keller, Tennie SS.....	Logan	Larson, Norman e-F.....	Garland
Keller, Wesley a-G-SS.....	Logan	Larson, R. Vernon as-G.....	Smithfield
Kellett, Rex e-So.....	Moroni	Larson, Sterling as-S.....	Richmond
Kemp, Harry as-S.....	North Logan	Larson, Vincent as-S.....	Smithfield
Kempton, Judson SS.....	Madison, Wis.	Larson, Willard c-G.....	Logan
Kendall, Lorna ed-So.....	Nephi	Lau, Richard a-J.....	Salt Lake City
Kennard, John SS.....	Overton, Nev.	Lauritzen, Arden e-So.....	Hill City, Ida.
Kent, Joy SS.....	Lewiston	Lauritzen, Ephin c-F.....	Hill City, Ida.
Khoubesserian, Hovhannes e-F.....	Cairo, Egypt	Lauritzen, Verda ho-So.....	Hill City, Ida.
		Law, Howard a-F.....	Springville
Killburn, Hyrum as-S-SS.....	Morgan	Law, Morris SS.....	Paris, Ida.
Kimball, Edwin SS.....	Salt Lake City	Law, Reuben SS.....	Randolph
Kimball, Mary SS.....	Salt Lake City	Lawrence, George e-S.....	Logan
Kincaid, Ralph a-F.....	Sheridan, Ind.	Lawson, Moveta as-F.....	Logan
King, Bernice ed-F.....	North Logan	Layton, Howard c-F.....	Kaysville
King, Betty ed-F.....	Malad, Ida.	Leatham, Marguerite SS.....	Ophir
King, Poisy a-F.....	Marysvale	Leatham, Virginia as-F.....	Wellsville
King, Gienna as-V.....	River Heights	Leavitt, Iras as-F.....	Ogden
King, Lorus a-F.....	Garland	Leavitt, Nina ed-F.....	Lewiston
King, Mildred as-J.....	North Logan	Lee, Farrell as-F.....	Brigham
King, William e-F.....	Logan	Lee, Florence ed-So.....	Brigham
Kingsford, Ellis a-F.....	Grace, Ida.	Lee, Inez ed-S.....	Hyde Park
Kinnear, John SS.....	McGill, Nev.	Lee, Orville a-F.....	Paradise
Knott, Frances ho-J.....	Garland	Lee, Richard e-F.....	Jerome, Ida.
Nowlton, Dorothy ho-F.....	Grantsville	Leishman, Ernest e-So.....	Wellsville
Irby, Cecil a-F.....	Hyde Park	Lenkersdorfer, Anna ho-So.....	Logan
Irby, D. M. e-So.....	Salt Lake City		

Lenkersdorfer, Lelah ho-S-SS.....	Logan	Mathews, Donald a-F.....	Beaver
Leonhardt, Alma SS.....	Providence	Mathew, Keith e-F.....	Providence
LeRoy, Daniel a-F.....	Springville	Mattson, Ruth ed-So.....	Salina
Lewis, Elmer e-F.....	Logan	Maughan, Alta ho-F.....	Wellsville
Lewis, Lenore ed-G-SS.....	Burley, Ida.	Maughan, Cyril a-S.....	Wellsville
Liljenquist, Alice SS.....	Hyrum	Maughan, Ernest SS.....	Wellsville
Lillywhite, Harold ed-So-SS.....	Brigham	Maughan, Harvey e-So.....	Wellsville
Lillywhite, Ray as-F-SS.....	Brigham	Maughan, Iiah ed-So.....	North Logan
Lindquist, A. H. e-V.....	Logan	Maughan, Lamoine as-So.....	Wellsville
Lindsay, Bertha c-So.....	Heber City	Maughan, Lois ed-F.....	Logan
Linebaugh, Glade a-So.....	Pleasant Grove	Maughan, Roy as-F.....	Preston, Ida.
Linford, Henry as-S.....	Logan	Maughan, Theodore c-So.....	Hyrum
Linford, Howard SS.....	Kaysville	Maughan, Wesley e-So.....	Wellsville
Linford, Jean as-So.....	Logan	Maxwell, James SS.....	Peoa
Linford, James SS.....	Logan	May, Ivan ed-F.....	Richmond
Linford, LaRue c-So.....	Logan	McAlister, Dean a-S.....	Logan
Littlelike, Ernest c-So.....	Smithfield	McAllister, John a-F.....	Logan
Littlefield, Joseph as-J.....	Morgan	McAlister, Sara ho-J.....	Logan
Lix, Henry SS.....	Ferguson, Mo.	McBeth, Ned as-S.....	Payson
Lloyd, Erma ed-S.....	Logan	McBride, Claude ed-S.....	Logan
Long, R. Wendell as-So.....	Logan	McBride, Jesse e-So.....	Ogden
Longhurst, Eddis ed-F.....	Randolph	McClellan, Agnes ho-So.....	Payson
Loose, Norman as-F.....	Clarkston	McClellan, Cyril as-F.....	Logan
Loosli, Adrienne ho-So.....	Marysville, Ida.	McCown, Alma ed-G.....	Brigham
Loosli, Clayton SS.....	Marysville, Ida.	McCracken, Venna SS.....	Logan
Loosli, John a-S.....	Clarkston	McCulloch, Anna SS.....	Logan
Lowe, Jennie as-So.....	Hooper	McCulloch, Clyde as-F.....	Logan
Lowe, Thomas a-F.....	Richfield	McDermid, Farris a-F.....	Logan
Lowe, Wayne a-So.....	Willard	McEntire, W. Davis as-J.....	Preston, Ida.
Love, Vernon SS.....	Hinckley	McGregor, Dora ho-F.....	Cleveland, Ida.
Loveless, Florence SS.....	Logan	McIntire, Henry c-J.....	Standard
Lund, Twilla c-F.....	Logan	McKell, Robert SS.....	Payson
Lund, Yepa ed-G.....	Logan	McKellar, Charles e-V.....	Tooele
Lundahl, Delas ed-F.....	Logan	McKinnon, DeMar e-So.....	Evanston, Wyo.
Lundberg, Glen e-F.....	Logan	McMullen, Helen as-F.....	Midvale
Lundberg, Horace e-F.....	Ft. Duchesne	McNeil, Millie as-S.....	Logan
Lundberg, Neal a-V.....	Roosevelt	McQuarrie, Harlow as-So.....	Salt Lake City
Lundell, Harold SS.....	Vernal	Meadows, Merle ed-So.....	Am. Falls, Ida.
Lundquist, Harold c-F.....	Smithfield	Meier, Fritz SS.....	Logan
Lunt, Lois ed-J.....	Nephi	Mendenhall, Vern SS.....	Springville
Luthy, Telesile ed-F.....	Preston, Ida.	Merrell, Mary ed-F.....	Brigham
Lyman, Eugene SS.....	Cedar City	Merrill, Ann ed-So.....	Logan
Macdonald, Owen c-So.....	Mesa, Ariz.	Merrill, Anna as-S.....	Richmond
Macdonald, Clyde as-F.....	Logan	Merrill, Alice ho-J.....	Pocatello, Ida.
Madsen, Anne SS.....	Logan	Merrill, Ardella ho-J.....	Richmond
Madsen, Bertrude ho-S.....	Manti	Merrill, Beth as-So.....	Logan
Madsen, Clay a-V.....	Manti	Merrill, Dean a-F.....	Logan
Madsen, Don e-So.....	Price	Merrill, Glenn SS.....	Preston, Ida.
Madsen, Louis SS.....	Salt Lake City	Merrill, Leah SS.....	Logan
Madsen, Marcelle as-S.....	Brigham	Merrill, Leland SS.....	Salt Lake City
Madsen, Milton a-F.....	Manti	Merrill, Lynn as-F.....	Logan
Madsen, Royal SS.....	Sandy	Merrill, Pearl ed-So.....	Logan
Mandry, James e-F.....	Maiaid, Ida.	Merrill, Thais a-S.....	Richmond
Manning, Joseph a-So.....	Ogden	Michaels, Charles a-So.....	Ogden
Manning, Linford a-F.....	Ogden	Middleton, Eugene e-G.....	Salt Lake City
Manning, Margaret ed-So.....	Garland	Miers, Katherine SS.....	Salt Lake City
Manning, Nephi a-So.....	Ogden	Mickelson, Melvin a-F.....	Logan
Manning, Rulon SS.....	Garland	Miller, Austin SS.....	Delta
Manning, Viola ho-So.....	Burley, Ida.	Miller, Ephraim as-S.....	Paris, Ida.
Marble, Arthur as-S.....	Brigham	Miller, Leais G. e-F.....	Rock Springs, Wyo.
Marble, Hyrum a-F.....	Deweyville	Miller, P. LaRue a-So.....	Venice
Marble, LaRain a-So.....	Deweyville	Miller, William SS.....	Syracuse
Marble, Orlin as-So.....	Deweyville	Milligan, Cleve e-S.....	Smithfield
Marksheffel, Ned a-So.....	Salt Lake City	Mitton, Ruby as-S.....	Logan
Martineau, Jess c-J.....	Logan	Mitton, Wesley a-F.....	Blackfoot, Ida.
Matley, Mark SS.....	Coalville	Moesinger, Gilbert as-S.....	Ogden
		Monson, Amy c-F.....	Richmond

Monson, Franklin e-J.....	Logan	Nielsen, Ottis c-S.....	Cache Junction
Monson, Lyman as-F.....	Downey, Ida.	Nielsen, Peter SS.....	Logan
Monson, Margaret as-So.....	Richmond	Nielsen, Robert a-F.....	Ephraim
Monson, Olof SS.....	Bozeman, Mont.	Nielsen, Ruby ed-S.....	Logan
Monson, Vivian SS.....	Lindsborg, Kan.	Nielsen, Ruth ed-F.....	Mantua
Moody, Emerald a-S.....	Hinckley	Nielson, Ted e-So.....	Calgary, Canada
Moore, William c-So.....	Salt Lake City	Niles, Susie as-S.....	Salt Lake City
Moran, William SS.....	Post Falls, Ida.	Nilsson, R. F. SS.....	Heber City
Morby, James c-So.....	Coalville	Nishimoto, Earl SS.....	Logan
Morey, Phyl SS.....	Columbia, Mo.	Noall, Albert SS.....	Brigham
Morgan, Ann c-F.....	Malad, Ida.	Noble, E. Agnes SS.....	Moore, Ida.
Morgan, Beulah c-F.....	Paris, Ida.	Norris, Dwain a-So.....	Randolph
Morgan, Elmo e-F.....	Paris, Ida.	Norris, Wilson as-F.....	Randolph
Morgan, George a-G-SS.....	Logan	Norton, Howard as-J.....	Salt Lake City
Morrell, Hattie SS.....	Hyde Park	Nuttall, Hazel SS.....	Provo
Murrell, Margaret as-So.....	Logan	Nyman, Marietta ed-F.....	North Logan
Morreil, Oreta SS.....	Logan	Nyman, Rodney a-F.....	North Logan
Morrill, Glenn a-F.....	Tridell		
Morris, Edward a-F.....	Brigham	Oberhansly, Verne SS.....	Ogden
Morris, Muriel ed-F.....	Logan	Oborn, William SS.....	Sandy
Morrison, Luey as-J.....	Preston, Ida.	Odell, Wesley c-S-SS.....	Logan
Morrison, Marriner c-So.....	Tremonton	Okerlund, Dent a-F.....	Loa
Morrison, Zoe SS.....	Preston, Ida.	Olsen, Bodell ed-F.....	Brigham
Moser, Faye as-G.....	Logan	Olson, Farrell a-F.....	Payson
Moser, Kenneth ed-So.....	Bancroft, Ida.	Olson, John SS.....	Brigham
Morton, Thomas c-J.....	Logan	Olson, Leah as-F.....	Logan
Muir, Joseph a-F.....	Heber	Olson, LeGrand a-So.....	Preston, Ida.
Murdock, Alma ed-F.....	Heber	Olson, LeLand as-G.....	Logan
Murdoch, Lauretta ho-F.....	Milford	Olson, Pearl SS.....	Smithfield
Murray, Evan SS.....	Wellsville	Olson, Crista ed-So.....	Payson
Musser, Dean as-V.....	Logan	Olson, Ross c-F.....	Logan
Myers, George a-V.....	Salt Lake City	Olson, Ruth ho-S-SS.....	Logan
Myers, J. Levi ed-S.....	Panguitch	Orgill, Fred as-F.....	Salt Lake City
Myers, LaPriel ed-So.....	American Fork	Orme, Lillian SS.....	Tooele
Myers, Marguerite SS.....	Ogden	Orme, Rollo SS.....	Nephi
		Orson, Morris SS.....	Murray
Nay, Roy A. a-So.....	Logan	Orton, Silas SS.....	Parowan
Needham, Sylvan as-So.....	Logan	Owen, Ethel as-So.....	Preston, Ida.
Neeley, Arthur as-S.....	Brigham	Owen, Ezra as-So.....	Logan
Neeley, Helen ed-F.....	Logan	Owen, Fred c-F.....	Logan
Neff, Steven a-J.....	Salt Lake City	Owen, Horace a-V.....	Logan
Neilsen, Ruth c-So.....	Logan		
Nelson, Agnes SS.....	St. Charles, Ida.	Pace, Gene SS.....	Los Angeles, Calif.
Nelson, Bernard e-S.....	Richmond	Packard, Rex e-F.....	Springville
Nelson, Clarence SS.....	Sandy	Packer, Lyman a-F.....	Logan
Nelson, Helen ho-So.....	Ogden	Packer, Lee c-S.....	Logan
Nelson, John as-F.....	Tooele	Packer, Lera ed-So.....	Logan
Nelson, Karl as-So.....	Preston, Ida.	Page, Edna ho-F.....	Payson
Nelson, LaPreal ed-F.....	Brigham	Page, Ferne as-J.....	Payson
Nelson, Laura as-So.....	Logan	Palfreyman, Helen SS.....	Springville
Nelson, Leo B. SS.....	American Fork	Palmer, Elva ed-F.....	Logan
Nelson, Leslie a-G.....	Morgan	Palmer, J. E. SS.....	Kaysville
Nelson, Mary as-So.....	Arimo, Ida.	Palmer, Jennie SS.....	Preston, Ida.
Nelson, Milton as-G.....	Brigham	Palmer, Merlin as-F.....	Logan
Nelson, Paul as-F.....	Morgan	Palmer, W. Horace e-F.....	Milford
Nelson, Rasmus a-So.....	Montpelier, Ida.	Parker, Harrison ed-S.....	Ogden
Newberger, Mark c-J.....	Logan	Parker, Laura Lee ed-So.....	Logan
Newey, Margaret ho-So.....	Logan	Parker, Max a-F.....	Joseph
Nichols, Mark SS.....	Garland	Parker, William SS.....	Wellsville
Nicholson, Paul as-So.....	Roosevelt	Parkin, Newell a-F.....	Woods Cross
Nielson, Carl as-So.....	Carmangay, Canada	Parkinson, Arabel ed-So.....	Logan
Nielsens, DeLona as-F.....	Logan	Parkinson, Eda SS.....	Salt Lake City
Nielsens, Ella ed-So.....	Brigham	Parkinson, Ernest as-J.....	Wellsville
Nielsens, Harold as-V.....	Hyrum	Parkinson, Grace ed-So.....	Logan
Nielsens, Hyrum e-F.....	Preston, Ida.	Parkinson, Keith e-F.....	Logan
Nielsens, Jay as-F.....	Burley, Ida.	Parkinson, Seth a-J.....	Logan
Nielsens, John e-F.....	Logan	Parkinson, Wanda ho-F.....	Logan

Parnell, John a-F	Logan	Pollard, Leonard a-J	Emmett, Ida
Parr, Frank SS	Anaconda, Mont.	Pond, Howard c-F	Logan
Parr, Paul a-F	Riverton	Poole, Clara ed-F	Venice
Parrish, Barnard c-So	Centerville	Pope, Gladys SS	Garden City
Parrish, Beth ed-F	Morgan	Porter, Earl SS	Annabella
Parrish, E. Crant a-So	Logan	Poulsen, Eva ed-F	Logan
Parrish, Joseph a-So	Farmington	Poulsen, Tilda ed-F	Logan
Parrish, Ruth ho-S	Peterson	Poulson, Joseph a-So	Richfield
Parry, Fern c-So	Ogden	Power, Zona ed-S	Ogden
Parsons, Harold c-F	Milford	Pratt, Alma e-F	Brigham
Parsons, LaVell a-S	Newton	Pratt, Harold ed-So	Preston, Ida
Paskett, Marguerite ed-F	Henefer	Preston, Mabel SS	Logan
Passey, Cleone SS	Logan	Preston, Virginia as-F	Logan
Patterson, Alexander SS	Hooper	Prestwich, Berg as-J	Moroni
Paulsen, Alton SS	Ogden	Price, Asael SS	Laketown
Paulsen, Esther SS	Logan	Price, Lessie as-S-SS	Paris, Ida
Payne, Raymond as-F	Bloomington, Ida.	Price, Minnie SS	Logan
Pearse, Mary ed-S	Brigham	Price, Willford ed-J	Paris, Ida
Pearson, Dwain a-F	Marysvale	Pulley, Boyd as-So	Logan
Pedersen, Jean ho-S	Logan	Pulley, Orion as-G-SS	Logan
Pedersen, Thelma ed-S	Logan	Purser, Bertha ed-So	Logan
Pendleton, Annie SS	Fairview	Pyper, Glen a-F	Heber City
Pendleton, Anthony SS	St. George	Quayle, June ho-F	Dingle, Ida
Pendleton, John SS	Parowan	Quinney, George c-F	Logan
Perkins, Edith ed-F	Salt Lake City	Rampton, William H. e-V	Ogden
Perkins, LaVon ed-F	North Logan	Randall, Elmer SS	Rigby, Ida
Perkins, Lewis a-J	Montpelier, Ida.	Randall, Leslie a-F	Ogden
Perkins, W. Wendell SS	Smithfield	Randall, Lottie ed-So	Ogden
Perry, Zada ed-F	Nephi	Rasmussen, Irma ed-F	Mantua
Peters, Laura SS	Pocatello, Ida.	Rasmussen, Victor a-F	Clarkston
Peterson, Ben c-F	Delta	Rawlins, Berness ed-F	Lewiston
Peterson, Dean F. SS	Delta	Rawlins, Mae ed-So	Lewiston
Peterson, Dean e-F	Logan	Raymond, George ed-F	Smithfield
Peterson, Don as-F	Logan	Reading, Clarence a-F	Logan
Peterson, Elwin as-So	Firth, Ida.	Reading, Harold a-S	Logan
Peterson, Francis c-V	Logan	Redford, Lloyd SS	Logan
Peterson, Francis M. as-So	Newton	Redford, Louisa SS	Logan
Peterson, Harold L. as-So	Logan	Redford, Marion c-J	Logan
Peterson, Harold M. ed-G-SS	Logan	Redman, Florence SS	Sherwood, N. D.
Peterson, Howard E. e-So	Brigham	Redner, Robert as-So	Driggs, Ida.
Peterson, Irene SS	Logan	Reeder, Edna ed-So	Corinne
Peterson, Irma SS	Ferron	Reeder, Evelyn as-So	Logan
Peterson, John D. as-S	Salina	Reeder, Hope as-S	Corinne
Peterson, John H. c-F	Pocatello, Ida.	Reeder, Wendell as-J	Hyde Park
Peterson, Lavern a-F	Hyrum	Rees, Doyle c-So	Benson
Peterson, Louise ed-F	Trenton	Reese, D. E. ed-J	Logan
Peterson, Marion ho-So	Ogden	Reese, E. N. ed-J	Logan
Petersen, Maurine ed-F	Newton	Reese, Ether SS	Logan
Peterson, Oneta ed-So	Hyde Park	Reese, Lerin a-So	Logan
Peterson, Ruth c-F	Logan	Reeves, Royle as-F	Brigham
Peterson, Ruth E. SS	Logan	Reeves, Vincent a-S	Brigham
Petersen, Thornton c-So	Hyrum	Reid, Edward a-F	Kamas
Peterson, Vadal SS	Salt Lake City	Reid, Phyllis ho-F	Nephi
Peterson, Waldo a-S	Brigham	Remund, Clive a-S	Midway
Phelps, Hazel ed-So	Logan	Remund, Grace ho-J	Midway
Phillips, Ben F. e-F	Layton	Renner, F. G. a-G	Ogden
Phillips, Erma as-J	Kaysville	Rice, James SS	Farmington
Phillips, J. L. c-So	Leadore, Ida.	Rice, Mahlon a-F	Logan
Pickford, Gerald a-G	Mason City, Iowa	Rice, Vernon a-J	Ten Sleep, Wyo.
Picot, George c-J	Logan	Rich, Lothaire c-J	Logan
Pierce, Nettie ed-So	Malad, Ida.	Rich, Lowell e-J	Brigham
Pitkin, Leola ed-F	Millville	Rich, Melvin a-F	Morgan
Pixton, Roscoe a-J	Logan	Rich, Ora c-F	Magna
Plastino, Felix SS	Pocatello, Ida.	Richards, Bert L., Jr. a-So	Logan
Plowman, Melba SS	Smithfield	Richards, Ivan a-F	Riverside
Plumb, Alma a-So	Logan		
Pocock, Marilyn ed-So	Sugar City, Ida.		



Riclards, Margaret a-So-SS.....	Logan	Schaub, Wesley SS.....	Morgan
Richards, Mathias a-J.....	Brigham	Schempf, F. J. SS.....	Watertown, Wis.
Richards, Ralph a-S.....	Logan	Schenk, Hilda c-So-SS.....	Logan
Richards, Spencer c-F.....	Fielding	Schlappay, Henry SS.....	St. George
Richardson, Rufus SS.....	Logan	Schoenfeld, Walter as-So.....	Provo
Richins, Dallas ed-S.....	Echo	Scholes, Francis c-V.....	Logan
Richins, Fay as-So.....	Wanship	Scholes, J. Fred a-So.....	Logan
Ricks, Louise ho-F.....	Smithfield	Schott, James D. a-So.....	Ogden
Ricks, O. Frank ed-J.....	Sugar City, Ida.	Schow, Idona c-F.....	Logan
Rider, John e-F.....	River Heights	Schow, Tom c-F.....	Milford
Rigby, Fonda ed-F.....	Logan	Scoffield, Golden a-F.....	Kaysville
Rigby, Hazel SS.....	Newton	Scott, Brigham e-F.....	Logan
Rigby, Lucile ed-J.....	Newton	Scott, James D. c-S.....	Logan
Rippon, Charles e-S.....	Coalville	Scott, Sarah B. as-F.....	Logan
Rippon, Frank e-So.....	Coalville	Seamons, Henry SS.....	Hyde Park
Ririe, Rebecca ed-So.....	Ogden	Seamons, James W., Jr. SS.....	Cornish
Riter, William a-G.....	Logan	Searle, Vernon SS.....	Helper
Robb, Wayne a-J.....	Idaho Falls, Ida.	Seely, A. E. ed-J.....	Willard
Robbins, Blanche SS.....	Moreland, Ida.	Seely, Hugh a-F.....	Castle Dale
Robbins, Margaret ed-So.....	Logan	Sewell, Isabelle c-So.....	Elko, Nev.
Robbins, Raymond ed-S.....	Weston, Ida.	Shaner, Grace SS.....	Green River
Robert, John F. SS.....	Windsor, Mo.	Shaw, K. W. SS.....	Hyrum
Roberts, Helen SS.....	Soda Springs, Ida.	Shaw, Morris e-F.....	Ogden
Roberts, Lyman a-G.....	Logan	Shaw, Seth a-J.....	Logan
Robertson, Joseph c-So.....	Fountain Green	Sheffield, Wayne c-So.....	Kaysville
Robertson, Von Hoyt as-S.....	Alton	Shelton, Joseph a-So.....	Lehi
Robins, Faye SS.....	Scipio	Shepard, Joe c-So.....	Logan
Robins, Mont a-F.....	Eden	Shepherd, Eugene c-J.....	Logan
Robinson, Clayton as-F.....	Laketown	Shepherd, Ruth ed-So.....	Logan
Roe, Lewis as-F.....	Preston, Ida.	Shields, E. Reed as-J.....	Tooele
Rogers, Carlyle as-F.....	Lewiston	Shields, Kenneth e-S.....	Tooele
Rohner, Herman a-So.....	Logan	Shiple, Fern ho-So.....	Logan
Roland, August c-So.....	Salt Lake City	Shoun, H. Maine SS.....	Jerome, Ida.
Rollins, C. Wallace a-J.....	Greenville	Shumway, Fredon ed-F.....	Trenton
Rollins, Dell a-J.....	Logan	Shumway, Jack as-F.....	Garland
Rollins, J. Clarence e-G.....	Greenville	Shumway, Nettie SS.....	Treasureton, Ida.
Rollins, Lee a-F.....	Peterson	Shurtz, Peter SS.....	Cedar City
Romney, George SS.....	Provo	Siegfried, Silvano ed-So.....	Brigham
Roper, Melvin e-So.....	Oak City	Sigman, Victor SS.....	Rapid City, S. D.
Rose, Virginia as-F.....	Logan	Sikka, Prabh D. aG-SS.....	Lyallpur, India
Rosengreen, Bernice ho-J-SS.....	Logan	Sill Milton a-So.....	Logan
Rosengreen, George SS.....	Logan	Simmons, Donald SS.....	Payson
Rosengreen, Ira as-So-SS.....	Logan	Simmons, Shirley SS.....	Burley, Ida.
Roskelley, Lowell a-F.....	Brigham	Simmons, Valeria SS.....	Burley, Ida.
Roskelly, Richard W. c-J.....	Smithfield	Simmons, W. Horland SS.....	Burley, Ida.
Ross, June ho-F.....	Logan	Simonsen, Elva ed-S.....	Brigham
Ross, Roy as-J.....	Richfield	Simper, Linnie SS.....	Vernal
Roundy, Kenneth e-F.....	Tremonton	Simpson, Ruth SS.....	Logan
Roundy, Zola a-J.....	Escalante	Sims, Archie ed-J-SS.....	Mantua
Rowe, Bert as-F.....	Logan	Singleton, Marie c-So.....	Vernal
Rowberry, Valene SS.....	Logan	Skidmore, William as-F.....	Logan
Rust, Alice ed-V.....	Logan	Skinner, Halver as-F.....	Logan
Ryan, Miller c-F.....	Logan	Skinner, Joseph SS.....	Spanish Fork
Ryberg, Eunice SS.....	Salt Lake City	Skinner, Marion a-F.....	Stafford, Ariz.
Ryberg, Gertruude SS.....	Salt Lake City	Skinner, Ruth ho-J.....	Salt Lake City
Sager, Charles SS.....	University City, Mo.	Slater, Donna as-S.....	Ogden
Saltem, Milliam SS.....	Logan	Slaugh, Kimball SS.....	Logan
Sandberg, Howard ed-S.....	Huntington	Smart, Arba M ed-S-SS.....	Logan
Sanders, Emma ho-F.....	Hurricane	Smart, Margaret ho-So.....	Logan
Sanford, Dorothy ed-J.....	Ogden	Smedley, Delbert as-S.....	Bountiful
Sant, Mabel as-J.....	Clifton, Ida.	Smedley, Gertie c-F.....	Bountiful
Sant, Paul a-So.....	Clifton, Ida.	Smith, Clarence SS.....	Garland
Sant, Sadie as-J.....	Clifton, Ia.	Smith, C. Elmo c-J.....	Salt Lake City
Schaub, Howard e-F.....	Logan	Smith DeWitt as-G-SS.....	Pleasant Grove
Schaub, Jessie c-F.....	Logan	Smith, Edith ed-J.....	Logan
Schaub, Leah c-So.....	Logan	Smith, Edna ho-J.....	Logan
		Smith, Gwen as-F.....	Logan

Smith, Helen ho-S	Pleasant Grove	Stephens, Elva ed-F	Ogden
Smith, Irene ed-F	Logan	Stephens, Florence ed-F	Ogden
Smith, Ivan c-J	Salt Lake City	Stephens, Melvin ed-G	Montpelier, Ida.
Smith, J. Rennell SS	Logan	Stephens, Nora ho-F	Ogden
Smith, Joanna SS	Thatcher, Ariz.	Stevens, Afton ho-So	Holden
Smith, Joseph A. SS	Providence	Stephens, Hazel J. as-J-SS	Logan
Smith, Julia ed-F	Ogden	Stevens, Justin M. as-S-SS	Randlett
Smith, Kate ed-S	Logan	Stevens, W. Herbert c-So	Montpelier, Ida.
Smith, Lena SS	Hyrum	Stewart, Genevieve ho-J	St. Anthony, Ida.
Smith, LeRoy a-F	North Logan	Stewart, Irl e-F	Ogden
Smith, Lewis C. ed-G	Smithfield	Stewart, Jennie C. as-S-SS	Montpelier, Ida.
Smith, Marvin e-F	Logan	Stewart, Kingsly c-S	Logan
Smith, Nona SS	Fielding	Stewart, Leonard as-J	Logan
Smith, Norma ed-So-SS	Mendon	Stewart, Miriam c-F	Logan
Smith, Norman as-So	Smithfield	Stewart, Rebecca as-F	Logan
Smith, Phoebe R. ed-So	Ogden	Stewart, Seth c-So	Kaysville
Smith, Ruth as-S	Logan	Stirland, Chris c-V	Logan
Smith, William SS	Richmond	Stitzer, Max as-F	Ogden
Smoot, Ruth ed-o	Salt Lake City	Stock, Eldon e-So	Logan
Smuin, Carma SS	Ogden	Stock, Arville a-So	Logan
Snow, Bessie ed-S-SS	Pine Valley	Stocking, Russell a-F	Riverton
Snow, Joseph SS	Salt Lake City	Stoker, Blair e-F	Syracuse
Sonne, Joseph c-F	Logan	Stoker, Golden a-J	Clearfield
Sonne, Richard c-F	Logan	Stoker, Wanda ho-So	Layton
Sordzen, Margaret SS	Lindsborg, Kansas	Stone, Nedra SS	Ioka
Sorensen, Alfarette ho-F	Paradise	Stott, Karl SS	Meadow
Sorensen, Harris as-J	Ephraim	Stout, Beulah SS	Logan
Sorensen, LuZelle c-So	Malad, Ida.	Stout, Eunice as-J	Logan
Sorensen, Mary E. SS	Logan	Stringham, Martha SS	Bountiful
Sorensen, Uarda ed-So	Mantua	Strong, Roy as-So	Springville
Sorensen, Veda ed-So-SS	Mendon	Stuart, Carl as-J-SS	Woodruff
Sorensen, Curtis H. e-So	Smithfield	Stucki, Alvin as-V	Logan
Sorensen, Stella as-G	Smithfield	Stucki, Joseph a-F	Logan
South, Agnes SS	Logan	Sutherland, Allene SS	Logan
Sowards, Hazel ho-J	Vernal	Sutton, David c-So	Logan
Spackman, A. C. a-J	Richmond	Sutton, Marjorie c-F	Logan
Spafford, Louise SS	Provo	Swainston, Harriet ed-So	Logan
Sparks, Alfred a-So-SS	Smithfield	Swainston, Wilma ed-So	Logan
Spaiser, Alfred SS	Del Norte, Colo.	Swalberg, Fred a-So	Marysvale
Spencer, Farrell c-F	Logan	Swapp, Addie ed-So	Logan
Spencer, G. Elwood a-So	Taylorsville	Swartzlow, Carl SS	Fair Water, Wis.
Spencer, Mondell c-V	Logan	Swendsen, Howard c-S	Logan
Spencer, Vivian ed-F	Logan	Swensen, Lorenzo SS	Montpelier, Ida.
Sperry, Mildred ed-So	Nephi	Swensen, Marriner a-S	Logan
Spillman, T. L. SS	Logan	Swenson, Anna as-F	Logan
Spongberg, Mary ho-So	Logan	Swenson, Dan A. SS	Logan
Spongberg, Ruth ed-F	Logan	Swenson, Edna as-F-SS	Logan
Stahle, Ralph a-So	Park City	Swenson, Leon a-F	Spanish Fork
Staker, Gordon a-J	Mt. Pleasant	Swenson, Margaret SS	Provo
Stallings, Chester e-So	Ogden	Swinyard, Ewart as-S	Logan
Stallings, Howard as-J	Eden	Symons, George a-V	Logan
Stallings, Maude SS	Eden		
Stanger, George a-F	Snowville	Taggart, Beulah ho-So	Lewiston
Stanger, Keith c-J	Idaho Falls, Ida.	Taggart, Nat a-So	Ogden
Stapley, Evelyn e-F	Delta	Taggart, Spencer as-So	Lewiston
Starr, Albert SS	Ogden	Tarbet, Dwain as-V	Smithfield
Starr, Courtland a-S	Springville	Tarbet, Ione c-So	Logan
Starr, Grace ho-So	St. George	Tarbet, Kenneth e-V	Smithfield
Starr, Inez c-So	Springville	Tasso, Eleonora ho-S	Clifton, Ida.
Starr, Warren as-So	Springville	Taylor, Allen a-F	Far West
Stauffer, Arlene c-F	Willard	Taylor, C. William c-F	Ogden
Stauffer, Clifford as-F	Mendon	Taylor, Dunn SS	Springville
Steed, Alvin a-J	Ogden	Taylor, Floyd ed-S	Ogden
Steele, Harmon e-F	Delta	Taylor, Glenn SS	Logan
Steele, J. Weldon e-So	Salt Lake City	Taylor, H. Warren ed-G-SS	Brigham
Steele, W. Wall SS	Kansas City, Mo.	Taylor, Helen ed-F	Logan
Steffenhagen, Violet c-V	Logan	Taylor, Hyde c-So	Salt Lake City

Taylor, William c-V.....	Alberta, Canada	Van Buren, Gordon a-So.....	Ogden
Taysom, Leah SS.....	Afton, Wyo.	Van der Smissen, H. R. SS.....	Ely, Nev.
Teuscher, Alvin as-So.....	Raymond, Ida.	Van Kampen, Rudolph a-F.....	Clinton
Thain, Afton as-S-SS.....	Logan	Van Orden, June ho-F.....	Ogden
Thatcher, Henry as-F.....	Thatcher, Ida.	Vernon, Marjorie c-So.....	Logan
Thatcher, Lionel SS.....	Logan	Vietti, Norrine ho-F.....	Bingham
Thatcher, Lynn e-So.....	Logan	Voigtlander, Curtis SS.....	Kansas City, Mo.
Thatcher, Max c-F.....	Logan	Voigtlander, Katherine SS.....	Logan
Thatcher, Reid a-F.....	Logan		Kansas City, Mo.
Thatcher, Theodore as-So.....	Logan	Vote, Ralph as-F.....	Ogden
Theurer, Barbara as-F.....	Bear River	Vranes, John c-So.....	Lark
Theurer, Clark c-F.....	Providence		
Theurer, Reed c-F.....	Providence	Wacker, Eva ed-F.....	Ogden
Thomas, Florence as-F.....	Downey, Ida.	Wadsworth, Carrol e-F.....	Idaho Falls, Ida.
Thomas, Howard as-J.....	Lorenzo, Ida.	Wadsworth, Harold SS.....	Logan
Thomas, Joseph SS.....	Preston, Ida.	Wadsworth, James a-So.....	Logan
Thomas, Luella SS.....	Ogden	Wagoner, Jeff SS.....	Fort Collins, Colo.
Thomas, Wylie as-J.....	Lorenzo, Ida.	Wagstaff, Annie ho-V.....	Ogden
Thompson, Ethel SS.....	Pocatello, Ida.	Wagstaff, Edna c-F.....	Ogden
Thompson, Evan as-So.....	Ephraim	Wagstaff, Evangeline SS.....	Mt. Pleasant
Thompson, Jesse L. c-J.....	Clarkston	Wahlstrom, Ruby ed-F.....	Laketown
Thompson, Odell as-So.....	Garland	Waite, Ariel a-F.....	Hyde Park
Thompson, Rose SS.....	Cedar City	Wakley, Dorothy SS.....	Logan
Thompson, Reed a-So.....	Salt Lake City	Wallace, Barbara ho-So.....	Salt Lake City
Thornley, Heber ed-S.....	Smithfield	Wallace, Bruce SS.....	Preston, Ida.
Thornley, James SS.....	Smithfield	Wallis, Idaho as-V.....	St. George
Thorson, Clifford c-So.....	Bear River	Waldron, Jay a-F.....	Morgan
Thorson, DeLoris ed-F.....	Bear River	Waldron, Reed c-So.....	Tremonton
Thornock, Clarence a-F.....	Logan	Walker, Afton ho-So.....	Logan
Thornock, Fay a-F.....	Logan	Walker, Rulon as-S.....	Logan
Thornock, Royal a-F.....	Logan	Walker, Vernon a-F.....	Salt Lake City
Thorpe, Derie SS.....	Logan	Walter, Glen SS.....	Salt Lake City
Thorpe, Everett as-V.....	Providence	Walters, LeRoy e-J.....	Logan
Thorpe, Paul c-S.....	Providence	Walther, Louise SS.....	Elko, Nev.
Thurber, Albert SS.....	Logan	Wangsgard, Vivian ho-F.....	Logan
Thurston, Byron e-F.....	Springfield, Ida.	Wanlass, Ralph c-So.....	Logan
Tingey, Mae ed-So.....	Brigham	Ward, Edward ed-G.....	Willard
Tingey, Mary ed-So.....	Brigham	Ward, Elmoyno ed-F.....	Logan
Tingey, Max e-F.....	Brigham	Ward, Platt a-F.....	Preston, Ida.
Tippetts, Abbie ed-F.....	Logan	Ward, Reuben a-S.....	Brigham
Tippetts, George e-So.....	Logan	Ward, William c-F.....	Logan
Tippetts, Hugh M. ed-So-SS.....	Logan	Wardell, Irma ho-J.....	Logan
Tippetts, Ruth ed-F.....	Logan	Warren, Rex a-S.....	Price
Tobler, Donald SS.....	Bunkerville	Washburn, Newel a-S-SS.....	Monroe
Todd, Alice ho-So.....	Salt Lake City	Watkins, Eddis SS.....	Brigham
Todd, Ansta ho-J.....	Salt Lake City	Watkins, DeLos a-J.....	Vernal
Todd, Dean a-So.....	Heber	Watkins, Margaret as-F.....	Logan
Tolman, Bion a-J.....	Salt Lake City	Watson, Marshall SS.....	Knoxville, Iowa
Tolman, Jay as-F.....	American Falls, Ida.	Watt, Leland e-So.....	Layton
Toone, Dean a-F.....	Devils Slide	Waugh, William as-F.....	Selma, Ala.
Torbensen, Elden as-So.....	Logan	Webb, Delmar as-G.....	Richmond
Torgenson, George c-F.....	Logan	Webb, Ruth c-F.....	Richmond
Torgenson, Richard a-F.....	Soda Spgs. Ida.	Weed, Leonard as-F.....	Brigham
Tripp, Lewis SS.....	Murray	Welch, Wilford ed-G.....	Logan
Trimble, Cuthart SS.....	Oak City	Welker, Lola SS.....	St. Anthony, Ida.
Trowbridge, Raymond SS.....	Columbia, Mo.	West, Allan e-So.....	Logan
Tucker, Bert a-F.....	Salt Lake City	West, Chester e-F.....	Roy
Tucker, Ralph a-F.....	Murray	West, Roy A. c-G.....	Richmond
Tueller, Lamont a-S-SS.....	Logan	Westenskow, Elden SS.....	Manti
Turley, Louis a-F.....	Logan	Westenskow, Owen a-S.....	Manti
Turner, Eleanor ho-S.....	Ogden	Weston, Milton a-J.....	Laketown
Tweedie, David SS.....	Hurricane	Weston, Ramona as-S.....	Laketown
Tyson, Ross c-F.....	Logan	Whitcott, Clemouth SS.....	Logan
Tyson, Virginia e-S.....	Logan	Wheatley, LaRene ed-F.....	Brigham
		Wheeler, Bessie SS.....	Lewiston
Urie, John SS.....	Cedar City	Wheeler, Clyde as-So.....	Preston, Ida.
Urie, Mary SS.....	Cedar City	Wheeler, Fontella SS.....	Lewiston

Wheeler, Thora as-S.....	Lewiston	Wiser, Ruth ed-So.....	Logan
Whitaker, Bruce as-So.....	Kaysville	Witbeck, Inez SS.....	Salt Lake City
White, Doril ed-F.....	Willard	Witney, Daniel SS.....	Springville
White, June as-J.....	Paradise	Wixom, Earl as-So.....	Logan
White, Lucille SS.....	Logan	Wood, Gerald c-F.....	Driggs, Ida.
Whiting, Fred a-J.....	Wallsburg	Wood, June ed-So.....	Holden
Whornham, George a-G.....	Beaver	Wood, Lucile as-S.....	Cedar City
Wight, Francessa ed-So.....	Tremonton	Woods, Lowell a-F.....	Ogden
Wight, Raymond a-F.....	Brigham	Woodhouse, Alden a-J.....	Beaver
Wilcox, Elton ed-F.....	Kaysville	Woodland, William c-So.....	Logan
Wilhite, Ada SS.....	Fiber, Ida.	Woodward, Hyrum e-So.....	Wellsville
Williams, Beatrice as-J.....	Clifton, Ida.	Worley, E. Max as-So.....	Preston, Ida.
Williams, Glenn c-F.....	Logan	Worthington, Thomas SS.....	Nephi
Williams, Leo ed-J.....	Logan	Wright, Adrain c-So.....	Logan
Williams, Pearl ho-F.....	Nyssa, Ore.	Wright, Hyrum SS.....	Morgan
Williams, Wesley c-So.....	Logan	Wright, Leah SS.....	Thayne, Wyo.
Wilkins, Delmer as-So.....	Hinckley	Wright, Lucille ho-J.....	Hyrum
Willes, Mabel SS.....	Salt Lake City	Wright, Milton a-F.....	Logan
Wiley, Armenia ho-J.....	Bountiful	Wright, Vesta ho-So.....	Salt Lake City
Willmore, Howard SS.....	Logan	Wrigley, Robert L., Jr. as-F.....	Logan
Wilson, Elda ho-J.....	Ogden	Wursten, Luther a-J.....	Logan
Wilson, John c-V.....	Logan	Yates, LaRue a-J.....	Brigham
Wilson, LeMoyné a-G.....	Logan	Yates, Thomas a-So.....	Brigham
Wilson, Kathryn ho-So.....	Payson	Yeates, Alexander e-S.....	Logan
Wilson, Sara SS.....	Bishop, Calif.	Yeates, Lulu ed-So.....	Logan
Wilson, Stanley SS.....	Payson	Young, Clarice as-J.....	Brigham
Wilson, Tyra ed-So.....	Logan	Young, Delbert as-S.....	Firth, Ida.
Wilson, Verla ed-S-SS.....	Logan	Young, George a-J.....	Springville
Wingfield, Hazel SS.....	Tularosa, N. M.	Young, Joseph e-F.....	Richfield
Wingfield, Mary SS.....	Tularosa, N. M.	Young, Stella SS.....	Brigham
Winkelman, Jay W. as-F.....	Mt. Pleasant	Youngs, Anna SS.....	Pocatello, Ida.
Winkler, Ariel a-J.....	Mt. Pleasant	Zbinden, Hulda ho-F.....	Logan
Winkler, Orval a-J.....	Ogden	Zobell, Ira a-G.....	Price
Winkler, Ella ed-J.....	Ogden	Zollinger, Louise c-F.....	Logan
Winn, Jack as-S.....	Nephi		
Wintle, Eldon e-F.....	Honeyville		
Winward, Effie ed-So.....	Logan		

# INDEX

	Page
Accounting .....	165
Admission .....	63
Advanced Degrees, Requirements for.....	71
Advanced Standing .....	64
Agricultural College of Utah, State.....	23
Advertising .....	169
Agriculture and Forestry, Courses in.....	85
Agricultural Economics and Marketing .....	85, 160
Agricultural Engineering .....	186
Agricultural Experiment Station .....	58
Agronomy and Soils .....	90
Animal Industry .....	93
Animal Husbandry .....	93
Applied Mechanics and Design .....	182
Arts and Science and Education, Courses in.....	118
Art .....	118
Auto Mechanics .....	188
Aviation .....	192
Awards and Scholarships .....	74
Awards, Special .....	217
Bachelor's Degree—	
Requirements for .....	67
With Honors .....	70
With Professional High School Certificate.....	32, 37, 42, 46, 55
With High School Teacher's Recommendation.....	32, 37, 41, 44, 54
Bacteriology and Biochemistry .....	122
Band, R. O. T. C. ....	199
Biochemistry .....	122
Blacksmithing .....	193
Board of Trustees .....	7, 25
Botany .....	105
Budget Committee .....	26
Buildings .....	77
Business Administration .....	164, 166
Business English .....	170
Cafeteria .....	73
Calendar, 1931-32 .....	5
Calendar, 1932-33 .....	6
Campus and Farms .....	80
Certificates in Administration and Supervision .....	45
Chemistry .....	124
Child Development and Parental Education.....	203
Civil Engineering .....	182
Class Standing .....	64
Clothing (See Textiles) .....	207

	Page
College Council .....	26
College Faculty .....	8, 26
Commencement, 1930-31, Thirty-eighth Annual.....	210
Commerce, Courses in .....	160
Committees, Standing—	
Of the Board .....	7
Of the Faculty .....	13
Correspondence Study .....	62
Courses Related to Health .....	148, 151, 154, 202
Courses of Instruction .....	85
Dairy Husbandry .....	99
Dairy Manufacturing .....	100
Deans and Directors' Council .....	25
Departments of Instruction .....	84
Divisions of the College .....	27
Economics .....	172
Education, Courses in .....	126
Engineering, Courses in .....	182
English .....	130
Entomology .....	157
Entrance Fees .....	72
Entrance Requirements .....	63
Equipment .....	78
Eugenics .....	158
Expenses of Students .....	72
Experiment Station Staff .....	15, 26
Extension Service Staff .....	18
Extension Service, The .....	26, 61
Faculty, College .....	8, 26
Farm Shop Courses .....	188-9, 193
Fathers and Mothers' Day (see College Calendar).....	5
Foods and Nutrition .....	205
Forestry and Range .....	108
Forging and General Blacksmithing .....	193
French .....	141
Genetics .....	158
Geology .....	136
German .....	142
Government of the College .....	25
Graduates, 1930-31 .....	210
Graduation, Requirements for .....	67
Consult also 29, 35, 40, 41, 44, 48, 52, 56.	
Graduation at Close of Summer Session.....	71
Graduation with Honors .....	70
Group Requirements .....	65
Health, Courses Related to .....	148, 151, 154, 202, 206

## INDEX

237

	Page
Health, Public .....	154
Highways .....	183
History of the College .....	24
History, Courses in .....	138
Holidays (See College Calendars) .....	5, 6
Home Economics, Courses in .....	202
Honors, 1930-31 .....	216
Horticulture .....	113
Ignition, Starting and Lighting .....	190
Irrigation and Drainage .....	184
Junior College, The .....	65
Laboratories (See Equipment) .....	78
Latin .....	142
List of Students, 1930-31 .....	220
Machine Work .....	194
Marketing .....	160, 161
Major Subject .....	66
Master's Degree, Requirements for .....	71
Mathematics .....	139
Mechanical Drawing .....	185
Mechanic Arts, Division of .....	52
Mechanic Arts, Courses in .....	188
Merchandising .....	168
Military Science Regulations .....	68
Military Science and Tactics .....	196
Millinery .....	208
Minor Subjects .....	66
Modern Languages and Latin .....	141
Music .....	143
Normal Certificate, Two-Year .....	43, 46
Normal Training School Staff .....	14
Nutrition .....	205
Officers of the Board .....	7
Officers of Administration .....	8
Officers of Instruction .....	8
Oxy-Acetylene Welding .....	192
Physical Education .....	147
For Men .....	148
For Women .....	148
Professional Courses in .....	149
Physics .....	152
Physical Chemistry .....	153
Physiology and Public Health .....	154
Policy of the College .....	23
Political Science .....	176
Poultry Husbandry .....	103

	Page
Practice Teaching .....	127, 128
Pre-Medical Course .....	38
Prescribed Courses in Engineering .....	49, 51
Private Instructional Courses .....	146
Psychology .....	155
Public Health .....	154
Quarter Hours and Course Numbers .....	64
Radio Construction and Service .....	191
Range Management and Plans .....	111
Recitation Table .....	84
Registration .....	64
Required Work for Graduation .....	67, 71
Requirement for Bachelor's Degree .....	67
Requirements for Master's Degree .....	71
Requirement in Military Science .....	197
Reserve Officer's Training Corps .....	197
Schedule of Courses in Agricultural Economics and Marketing ....	89
Scholarship Honors, 1930-31 .....	216
Scholarships and Awards .....	74
School of Agriculture and Forestry .....	28
School of Arts and Science .....	35
School of Commerce .....	40
School of Education .....	43
School of Engineering .....	48
School of Home Economics .....	53
Secretarial Work .....	169
Self Help .....	73
Senior College .....	65
Service Courses in Home Economics .....	202
Shop Work .....	188-195
Smith-Hughes Courses .....	32, 55, 193, 196
Sociology .....	178
Soils .....	91
Spanish .....	142
Special Awards .....	217
Speech, Courses in .....	133
Stadium .....	80
Standing Committees of the Board .....	7
Standing Committees of the Faculty .....	13
Stenography .....	170
Student Body Officers, 1930-31 .....	218
Student Employment (See Self Help) .....	73
Student Body Organization .....	80
Student Clubs .....	81
Student Expenses .....	72
Students, 1930-31, List of .....	220



	Page
Student Publications .....	81
Suggested Outline of Courses—	
Agricultural Economics .....	88, 163
Animal Husbandry .....	97
Forestry and Range .....	111
Dairy Manufacturing .....	101
Pre-Medical .....	38
Home Economics .....	55
Short Secretarial Course .....	164
Summer Session, The .....	57
Summary of Attendance, 1930-31 .....	219
Surveying .....	185
Table of Contents .....	3
Teacher's Certificates .....	32, 37, 42, 43, 46, 55
Teacher Training .....	43
Textiles and Clothing .....	207
Thermodynamics .....	153
Training School, Whittier .....	43
Trustees, Board of .....	7, 25
Typewriting .....	171
Utah State Agricultural College .....	23
Veterinary Science .....	104
Vocational Agriculture .....	32
Vocational Students .....	63
Woodwork .....	195
Zoology and Entomology .....	156

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