

**ANNUAL COMMENCEMENT**

**CLASS OF 1905**



**Iowa State College**

**of Agriculture and Mechanic Arts**

**College Campus, Ames, Iowa**

**June 8    ::    ::    10:30 A. M.**

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## **Program**

Music - - - - - College Band

Invocation - - - - - Dr. O. H. Cessna

Music - - - - - In charge of Prof. F. J. Resler

Commencement Address—"The Contributions of the West to American Democracy," by Professor Frederick J. Turner, Ph. D., of the University of Wisconsin.

Music

Promotion of Juniors, by Hon. J. B. Hungerford, President of the Board of Trustees.

Response in behalf of the Juniors - Mr. Paul Miller

Music

Conferring of Degrees - President A. B. Storms

Music - - - - - College Band

Eight P. M., Reception at the House of the President, for the Alumni, Faculty and Friends



## CANDIDATES FOR CERTIFICATES IN THE TWO-YEAR DOMESTIC SCIENCE COURSE

STELLA ANDERSON  
MARY CLYDE  
LILLYAN GRAHAM  
PEARL LEWIS

BESS BLACKBURN  
EDITH ENTWHISTLE  
ADA HARRINGTON  
NELLIE NASH

## Candidates for Degrees with Subjects of Theses

### DIVISION OF AGRICULTURE

#### DEGREE—BACHELOR OF SCIENTIFIC AGRICULTURE

##### AGRONOMY COURSE

- CUTLER, G. C.—A Comparative Study of Two Routes for the Proposed New Road Between the City of Ames and the Iowa State College.
- EPLEY, A. C.—Economic Use and Management of Farmyard Manure.
- FRECHTLING, CARL H.—A Fertility Investigation of Ridge Soils in Ringgold County.
- GREENE, Jr., MERRITT—A Study of the Fertility of Marshall County Soils.
- NASH, C. W.—A Fertility Study of the Missouri Bottoms, Missouri Loess and Wisconsin Drift Soils.
- NELSON, F. O.—Tile Drainage in Iowa.
- REINBOTT, CHAS. } —The Variation in the Composition and Vitality  
MOSHER, M. L. } of Corn as Harvested at Different Stages of Maturity.
- STEVENSON, W. H.—Soil Treatment for the Peaty Swamp Lands of Iowa.
- WATSON, E. B.—A Fertility Study of Some of the Most Productive Soils of Iowa.

##### DAIRY COURSE

- BOTHELL, F. H.—A Study of the Composition of Cheese Found on the Des Moines Market.
- DEAN, HARRY G.—The Loss of Water in Printing Butter.
- ELLIS, J. A.—Dairy Bacteriology.
- GUTHRIE, E. S.—The Effect of Different Qualities of Milk on Starters.
- OPPENHEIM, RAMSEY—A Determination of the Best Method of Handling Starters When Churning Every Other Day.
- PETERSON, A. L. } —The Relation of the Amount of Inoculation to  
RASMUSSEN, F. } the Quality of a Starter.



## ANIMAL HUSBANDRY COURSE

- ASHEY, J. B. }  
STINSON, R. S. } —The Hog Industry of Iowa.
- CASSIDY, G. R.—Market Classes and Grades of Beef Cattle.
- CURTIS, ROBERT S.—The Pure Bred Sheep Industry in Iowa.
- GAY, CARL W.—Heredity and Environment.
- GILLETTE, R. U.—The Feed, Care and Management of the Fat Hog Under Northwestern Iowa Conditions.
- GRUBB, V. H.—Breeding, Feeding and Management of the Draft Horse.
- HOWARD, C. E. }  
BOWMAN, M. L. } —A Study of Beef Production.
- LYNCH, W. J. } —Crops Used for Ensilage; Methods of Putting Up,  
CUTLER, J. L. } and Their Relative Value for Feeding Purposes.
- JARNAGIN, M. P.—The Hog Industry in Tennessee.
- KNICKERBOCKER, C. H.—Market Classes of Horses.
- MAHARG, EARL—Sheep Feeding in Iowa.
- MCLEAN, J. A.—The Utility of Blue-Grays.
- MCCULLOCH, M. E.—Cottonseed Poisoning.
- THOMAS, E. B.—Influence of Parents on Birthweight of Lambs, also  
a Study of the Growth and Development of Lambs.
- NESS, H. }  
ELENBERGER, H. B. } —The Comparative Profits to the Stockman of  
Husking His Corn from the Field, Cutting  
and Feeding from the Shock, and Cutting  
and Feeding in the Shredded Form.
- PORTER, B. E.—The Horse Industry of Iowa.
- STOUT, E. A. } —The Influence of Pure-bred and Grade Galloway  
SCOTT, C. R. } Females Upon Their Offspring.
- TENER, W. A. } —Breeding, Feeding and Management of the Cham-  
BLISS, R. K. } pion Herd of Poland China Swine at the World's  
Fair at St. Louis in 1904.
- WESTERN, C. A.—The Value of Color Markings in Shorthorn Cattle.

## HORTICULTURAL COURSE

- CLAYBAUGH, W. C.—A Study of Ornamental Hedge Plants.
- SECOR, A. J.—A Study of Native Forest Trees in Story County, Iowa.

## DIVISION OF VETERINARY SCIENCE

### DEGREE—DOCTOR OF VETERINARY MEDICINE.

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|------------------|--------------------|
| ANSTEY, JOHN A.  | DYKSTRA, R. R.     |
| FREDERICK, H. J. | GILCHRIST, W. D.   |
| GORDON, W. M.    | HUNT, W. S.        |
| MADSON, W. E.    | MIDDLETON, W. G.   |
| PAXTON, I. B.    | STILLWELL, JOHN D. |
| STOUDER, K. W.   | TREMAN, A. J.      |



**DIVISION OF ENGINEERING**  
**MECHANICAL ENGINEERING COURSE**

DEGREE—BACHELOR OF MECHANICAL ENGINEERING.

AVEY, H. T. } —Economy of Steam Engines Under Varying Loads  
WOOD, FRED } of Pressure.

BULLOCK, C. F. }  
SMITH, I. R. } —Mechanical Stokers with Iowa Coals.  
RICKER, F. H. }  
SCOTT, R. S. }

CAUGHEY, J. W.—A Study of Tin-lead Alloys as Solders.

CAMMACK, A. } —Economy Test of Steam Pipe Covering for Differ-  
WOODMAN, F. E. } ent Sizes of Pipe.

DESHLER, W. E.—Test for Determination of Distribution of Temper-  
ature and Gases Over Blue Sheet of a Fire-Tube Boiler.

DANIELS, P. H. }  
FENSTERMAKER, S. E. } —The Development of the Engine Anglemeter.

HOOKE, J. W. }  
LABBERTON, G. P. } —The Shop Systems of Iowa.

JONES, EDWARD—Smoke Prevention.

KNESCHE, J. A.—Tests of a Ferguson-Blast-Oil-Heating Furnace.

NICHOLS, S. S.—Design of Gas Plant.

PAGE, M. L.—American Fuel Oils.

WOODARD, C. W.—Statistics of Mechanical Stoker Tests.

TAYLOR, F. F. }  
ZANKE, G. J. } —Peat Fuel in Iowa.

**CIVIL ENGINEERING COURSE**

DEGREE—BACHELOR OF CIVIL ENGINEERING.

ANTHONY, H. F. }  
LEEFEERS, O. L. } —Investigation of Iowa Highway Bridges.

BARRETT, D. C. } —Design of Highway Bridge Across Iowa River  
ADAMSON, G. J. } Iowa Falls, Iowa.

CESSNA, F. W. }  
FAIR, D. H. } —The Design of a Three-Hinged Plate Girder Arch.

COX, R. L. } —Determination of Quantities of Materials as Used  
WARDEN, M. I. } in Concrete of Various Proportions.

CRAWFORD, C. J. }  
BUELL, J. A. } —Good Roads Investigations.

CURRIE, C. H. }  
JACOBSEN, B. C. } —Water Power from Des Moines River at Boone.

DODGE, M. V. }  
COOPER, R. D. } —Design of a Two-hinged Steel Girder Arch.

FLYNN, J. P. }  
TRUMAN, W. D. } —Design of Cantiliver Bridge.

FORREST, JAMES }  
MORRIS, CHAS. C. } —Investigation of Highway Bridges.

GALLEY, J. H.—Location of an Electric Railway Line from Cherokee  
to the State Hospital for the Insane.



- GARVER, N. B. } —Types and Details of Railway Bridge Trusses.  
 BOUDINOT, A. R. }
- LEWIS, O. E.—Estimates New Sharon Sewers, Trenching and Refilling.
- MCCAMPBELL, A. K. } —Construction of Interurban Railway from Os-  
 CLYDE, R. W. } kaloosa, Iowa to Hocking, Iowa.
- PATTON, T. J. } —Standardization of the Freezing and Thawing Test of  
 BENSON, J. M. } Building Materials.
- REINHART, M. J. } —A Determination of the Effect of Clay or Loam in  
 FEGLES, D. B. } Sand on the Tensile Strength of Cement Mortar.
- WALLACE, B. R. } —Types and Details of Ordinary Highway Bridges.  
 PETERSON, G. C. }
- WILLIAMS, M. B.—Test of Mason City White Lime.

#### ELECTRICAL ENGINEERING COURSE

DEGREE—BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING.

- AGG, T. R. } —Design of Electrical Equipment for the Iowa Val-  
 PENDRAY, E. E. } ley Interurban R. R.
- BOTSFORD, W. C.—The Design of an Electro-Metallurgical Generator.
- COATES, A. B.—The Design of a 5000 K. W. 3-Phase Alternator.
- WALTON, PERCE J.—The Design, Construction and Test of a 4 K.  
 W. 2-Phase to 3-Phase Transformer.
- GILLESPIE, L. R. } —Strowager Automatic Telephone.  
 WOODARD, D. C. }
- HASELTON, W. R.—Specifications and Estimate of Cost for an Electric  
 Lighting System for Glidden, Iowa.
- HOFFMAN, A. H.—Modern Practice in the Design of Direct Current  
 Generators.
- HORN, A. R. } —Determination of the Electrical Equipment of the  
 CURTIS, J. F. } Davenport and Suburban Railway.
- MCCAIN, P. L. } —A Determination of the Cost of Power in an Isolated  
 COOK, A. L. } Plant.
- MAHANKE, C. A. } —Selection of Motor Equipment by Means of Speed-  
 PLUMLEY, H. } time Curves.
- PRATHER, C. M.—A Study and Tests of Induction Wattmeters.
- READ, G. C.—Plant Test of D. C. Lighting Plant at Shell Rock,  
 Iowa.
- ROY, F. V. } —An Accuracy Test of the Matthews Inte-  
 SCHWARTING, W. W. } grating Photo-meter.
- RUSH, HARRY S.—A Table of Constants for Determining Strains at  
 Centers of Long Spans of Wire.

#### MINING ENGINEERING COURSE

DEGREE—BACHELOR OF SCIENCE IN MINING ENGINEERING.

- COFFEY, R. C.—The Loss of Silver in Cupelling.
- JORGENSEN, F. F.—A Cyanide Process Applied to Ores from Squaw  
 Creek Mine, South Dakota.
- SCOTT, A. B.—The Cyanide Treatment of Stamped Mill Tailings from  
 the Homestake Mines South Dakota.



## DIVISION OF SCIENCE AS RELATED TO THE INDUSTRIES

### SCIENCE COURSE

#### DEGREE—BACHLOR OF SCIENCE

- ANDERSON, KEO } —History and Solution of Higher Equations.  
MOSHER, AGNES }
- BUDGE, BEN—Some Studies of the Water Supplies of Ida County.
- CHAMBERS, VIOLA—A Pedagogical Study of Algebra and Geometry.
- COLLETTE, R. L. } —Mutual Insurance, Other than Life, in Iowa.  
HOFACRE, F. F. }
- COLE, MILDRED—Histology of the Cerebral Cortex of the Cat's Brain.
- FAWCETT, H. S.—The Viability of Weed Seeds under Different Conditions of Treatment, and a Study of Their Dormant Periods.
- FOLGER, L. H.—The Rural Telephones of Iowa.
- GABRILSEN, CAROLYN—Tendencies of the Size of Farms and Estates in Chickasaw County, Iowa.
- GILLETTE, OPAL—Taxation of Forests in the United States.
- OVERHOLSER, PEARL—The Optic Tracts of the Frog.
- STEPHENS, LOLA—A Study of the Chemical Composition of Coffee with Special Reference to Caffein and Caffetanic Acid and their Percentage in the Barrington Hall Coffee.
- WELCH, IRA. J.—The Employment and Superintendence of Labor on Some Large Farms in Iowa.
- WILEY, ERMA—Consolidation of Rural Schools of Iowa.

#### GENERAL AND DOMESTIC SCIENCE COURSE

#### DEGREE—BACHELOR OF DOMESTIC SCIENCE

- BARTHOLOMEW, JEANNETTE—Analysis of Some Food Preservatives.
- BRANDT, Iva—The Florentine School of Art.
- CAMPBELL, MABEL—Loss of Proteids in Boiling Beef.
- DAVIDSON, JESSIE—A Practical Demonstration of Domestic Science Methods.
- DAVIDSON, MARY—A Comparison of the Methods of Character Portrayal of Four New England Writers of the Short Story.
- FRASER, JESSIE—Industrial Legislation in Iowa.
- GOBLE, ROSE—The Hemi-Products of the Gastric Digestion of Myosin.
- GRIFFITH, ZAIDEE—Comparative Study of Various Forms of Discourse Selected from the Writings of George William Curtis.
- HIBBARD, STELLA—Women Wage Earners in Ames.
- KENNEDY, MAY—The Rural Churches of Iowa.
- MCKINLEY, ETHEL—A Comparative Study of the use of Analytic and Synthetic Methods of Character Delineation in the Short Story, Based upon the Writings of Four Modern Authors.
- MORRISON, MARGARET—The Growth of Department Stores in Iowa Towns.



- PETTINGER, CELESTINE—Ecclesiastical Architecture, Forms and Something of the Conditions that Produced them.
- PROUTY, HELEN—National Characteristics as Exemplified in Art.
- STEVENS, IMOGENE—Wagner's Drama of the Ring of the Niebelung.
- RUEDA, GRACE—The Biology of *Pseudomonas janthina* Zopf.
- THOMPSON, WINIFRED—Juvenile Literature; a Study of Certain Modern Writers.
- WOODMAN, LOIS—The Effect of the Potato Scab Upon the Nutritive and Other Values of the Potato.
- WOODRUFF, THERESA—The Variation of the Ray Flower of Some Compositae.

## **Post Graduate Courses**

### **DIVISION OF AGRICULTURE**

#### **AGRONOMY COURSE**

- HUNT, THOMAS S., B. S. A.—The Storing of Seed Corn. M. S. A.
- KLINCK, L. S., B. S. A.—The Improvement of Iowa's Corn Crop Through Seed Selection. M. S. A.
- LAUDER, ANDREW GILBERT, B. S. A.—The Commercial Grading of Corn. M. S. A.

#### **ANIMAL HUSBANDRY COURSE**

- RUEDA, REMIGEO, B. S. A.—A Study of the Comparative Feeding Value of Corn, Alfalfa and Bran in the Production of Milk. M. S. A.
- CAIN, JOHN THOMAS, B. S. A.—A Study in the Development and Correlation of the Different Parts of the Beef Animal. M. S. A.

### **ADVANCED DEGREES IN ENGINEERING**

#### **MECHANICAL ENGINEERING COURSE**

- DYER, R. M., B. M. E.—Factory Organization and Management. M. E.

#### **CIVIL ENGINEERING COURSE**

- FRENCH, FRANK C., B. C. E.—Railroad Taxation. C. E.
- SAMPLE, J. C., B. C. E.—Properties of Steel Sections. C. E.

### **HONOR STUDENTS**

One from each course, in the order of their standings:

- CAROLYN GABRILSEN, Science Course.
- FRED WOOD, Mechanical Engineering.
- P. L. MCCAIN, Electrical Engineering.
- W. A. TENER, Animal Husbandry.
- ROSE GOBLE, General and Domestic Science.
- C. J. CRAWFORD, Civil Engineering.
- M. L. MOSHER, Agronomy.
- R. R. DYKSTRA, Veterinary.
- F. F. JORGENSEN, Mining Engineering.
- A. L. PETERSON, Dairy.
- A. J. SECOR, Horticulture.



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Iowa State College Library

The Trustees and Faculty

of the

Iowa State College of

Agriculture and the Mechanic Arts

invite you to be present at the

Thirty-fourth Annual Commencement

June first to eighth,

1905



# COMMENCEMENT WEEK.

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## PROGRAM

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THURSDAY, JUNE 1

7:30 P. M. Peace Pipe.

FRIDAY, JUNE 2

8:00 P. M. Society Graduation.

SATURDAY, JUNE 3

8:00 P. M. Term Music Recital.

SUNDAY, JUNE 4

10:30 A. M. Baccalaureate Address.

MONDAY, JUNE 5

1:30 P. M. Cardinal Guild.

3:15 P. M. Base Ball.

8:00 P. M. Junior Class Play.



TUESDAY, JUNE 6

- 10:00 A. M. Contest Debate.  
2:00 P. M. Class Day Program.  
8:00 P. M. Grand Concert.

WEDNESDAY, JUNE 7

Senior Breakfast, "Sun Up"

- 2:00 P. M. Alumni Business Meeting.  
Promenade Concert, "Twilight."  
8:00 P. M. Alumni Informal Reception,  
Dr. Stanton's.

THURSDAY, JUNE 8

- 10:30 A. M. Graduating Exercises: Commence-  
ment Address, "The Contributions of  
the West to American Democracy,"  
by Professor Frederick J. Turner,  
Ph. D., of the University of Wis-  
consin.  
1:00 P. M. Alumni Dinner.  
8:00 P. M. President's Reception.