

REGISTER
OF THE
OFFICERS AND STUDENTS
OF
THE STATE AGRICULTURAL COLLEGE

FORT COLLINS, COLORADO.

COURSES OF STUDY.



1891-1892.

FORT COLLINS, COLORADO.
THE EXPRESS PUBLISHING COMPANY.
1892.

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JAMES W. LAWRENCE, B. S.,
Professor of Mechanics and Drawing.

MAUD BELL,
Professor of History, Literature, and Languages.

DAVID O'BRINE, E. M., D. SC., M. D.,
Professor of Chemistry and Geology.

LOUIS G. CARPENTER, M. S.,
Professor of Physics and Irrigation Engineering.

CHARLES S. CRANDALL, M. S.,
Professor of Botany and Horticulture.

JOHN C. DENT, CAPT., 20TH INFANTRY, U. S. ARMY,
Professor of Military Science and Tactics.

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Professor of Zoology and Entomology.

WALTER J. QUICK, B. S.,
Professor of Agriculture.

GRACE ESPY PATTON, B. S.,
Professor of English and Stenography.

WILLIAM J. MEYERS, B. S.,
Professor of Mathematics.

FRANK J. ANNIS, M. S.,
Secretary of Faculty.

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J. D. STANNARD, B. S., *Physics and Engineering.*

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CHARLES F. BAKER, B. S., - - ENTOMOLOGY

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San Luis Valley Station, Monte Vista, Colorado.

REGISTER OF STUDENTS.

1891-1892.

POST GRADUATES.

Bell, Lucy, B. S.....	Fort Collins,	Colo.
Duncan, Charles A., B. S.....	Timnath,	"
McLain, Genevieve, B. S.....	Denver,	"
McLain, Minnie E., B. S.....	Fort Collins,	"
Thoman, Cora B., B. S.....	" "	"

SENIOR CLASS.

Beach, Charles W.....	Fort Collins;	Colo.
Beach, Frank	" "	"
Bell, Alice	" "	"
Bell, Samuel.....	" "	"
Carpenter, Don A.....	" "	"
DeVotie, Frank D.....	Greeley,	"
Preston, Porter J.....	Longmont,	"
Sedgwick, Albert J.....	South Bend, Indiana.	
Stimson, Lewis L.....	North Platte,	Neb.
Thompson, Frank H.....	Castle Rock,	Colo.

JUNIOR CLASS.

Bloomfield, John	Meeker,	Colo.
Boothroyd, Samuel L.....	Arkins,	"
Gilkison, Charles J.....	La Porte,	"
Harrington, Minnie F.....	Fort Collins,	"
Lewis, Ida M.....	Timnath,	"
Ralph, William J.....	Fort Collins,	"
Walter, Raymond.....	" "	"
Willard, William W.....	Aspen,	"
Williams, Harry F.....	Greenland,	"

SOPHOMORE CLASS.

Black, Herbert A.....	Fort Collins,	"
Blinn, Philo K.....	Berthoud,	"
Brooks, Lulu A.....	Portland, Michigan.	
Cowen, Jacob H.....	Hotchkiss,	"
Dimmick, Frank M.....	Denver,	Colo.
Fairfield, William H.....	Berthoud,	"
Garrett, William B.....	Fort Collins,	"
Garrett, George E.....	" "	"
Kendall, Herbert S.....	" "	"
Mead, Edgar A.....	Greeley,	"
Plummer, Charles S.....	Fort Robinson, Neb.	
Prendergast, Stephen.....	Fort Collins,	Colo.
Strohl, Clara E.....	Greeley,	"
Walsh, John P.....	Delta,	Colo.
Wright, Paul M.....	Fort Collins,	"

FRESHMAN CLASS.

Alford, Fred.....	Fort Collins,	Colo.
Beckley, James E.....	Telluride,	"
Boothroyd, Florence J.....	Arkins,	"
Boothroyd, Edith G.....	"	"
Brandis, Kate L.....	Fort Collins,	"
Brandis, Walter M.....	" "	"
Calkins, Henry A.....	Harris,	"
Carsrud, Nicol.....	Fort Collins,	"
Culver, Fred.....	Longmont,	"
Cushing, Eva H.....	Fort Collins,	"
Davis, Joseph S.....	Denver,	"
Edwards, Irene C.....	Fort Collins,	"
Garrett, Milton.....	" "	"
Giddings, Mabel.....	" "	"
Gilkison, William F.....	La Porte,	"
Goldsborough, Ella.....	Fort Collins,	"
Herrick, Selden F.....	Denver,	"

Ingersoll, Nina M.....	Lincoln,	Neb.
Ish, Lizzie E.....	Fort Collins,	Colo.
Lambert, Ella.....	" "	"
Laverty, Clarence P.....	" "	"
Lewis, Seth C.....	Timnath,	"
Maxfield, Richard A.....	Parachute,	"
McAnelly, Emmett.....	Fort Collins,	"
Metcalf, Ralph E.....	" "	"
Miller, Guy.....	Longmont,	"
Moore, Carrie L.....	Fort Collins,	"
Nelson, George W.....	Denver,	"
Newton, Clifton.....	"	"
Norman, Grafton S.....	Hamilton,	Ohio.
Patterson, Ida O.....	Fort Collins,	Colo.
Reed, Olin G.....	" "	"
Schelt, Fannie C.....	" "	"
Shonerd, Marshall.....	Parachute,	"
Silcott, Nora.....	Manhattan,	"
Silcott, Alice E.....	"	"
Taylor, Everett W.....	Winona,	"
Walker, Lee H.....	Fort Collins,	"
Walter, Edith.....	" "	"
Warren, Nathan C.....	" "	"
Watson, Ray C.....	Greeley,	"
Whipple, Hoyt D.....	Berthoud,	"
Wilson, Cora.....	Columbus,	Indiana.

PREPARATORY CLASS.

Ames, Mabel.....	Fort Collins,	Colo.
Bates, Grace A.....	" "	"
Bruhn, Herman.....	Santa Fe,	N. M.
Culver, Albert.....	Longmont,	Colo.
Denslow, Albert C.....	Fort Collins,	"
Ferguson, Arthur S.....	Denver,	"
Ficht, Ralph O.....	"	"

Fullerton, Alex. W.....	Fort Collins,	"
Fullerton, Harry B.....	" "	"
Gage, Bertram A.....	" "	"
Hottel, Charles M.....	" "	"
Hoover, Leslie F.....	Denver,	"
Marsh, Charles W.....	Greeley,	"
McCain, Ray.....	Fort Collins,	"
McGinley, Homer F.....	Timnath,	"
Moore, Walter D.....	Denver,	"
Moore, Jessie.....	Fort Collins,	"
Patton, Webb A.....	" "	"
Piatt, Frank	" "	"
Prendergast, Mary.....	" "	"
Stewart, Sprague.....	" "	"
Sutherland, Elmer A.....	Boulder,	"
Tannar, Hiram H.....	Raymer,	"
Wilcox, Frank M.....	Lyons,	"
Zoll, Malcolm	Manhattan,	"

SPECIAL STUDENTS.

Aldrich, Milly O.....	Fort Collins,	Colo
Barnes, William.....	" "	"
Clemens, William	" "	"
Cornell, Myrtle.....	" "	"
DuBois, Mrs. James E.....	" "	"
Dwigans, William C.....	" "	"
Jones, Fred L.....	" "	"
Livingston, Howard J.....	" "	"
McCabe, H. B.....	" "	"
McHugh, P. J., M. D.....	" "	"
Morger, James C.....	" "	"
Parker, Prof. Charles V.....	" "	"
Petersen, Peter.....	Denver,	"
Reed, William G.....	Fort Collins,	"
Roucolle, Adrienne J.....	" "	"

Ryan, Charles J.....	Loveland	"
Saxton, Cora A.....	Livermore,	"
Shafer, Etta M.....	Sardinia,	Indiana.
Snow, Elsie.....	Fort Collins,	Colo.
Southworth, Celia May.....	Denver,	"
Varney, Prof. Edgar D.....	Fort Collins,	"
Watrous, Margaret.....	Milwaukee,	Wis.
Wills, Lena.....	Fort Collins,	Colo.
Wills, Anna.....	"	"

IRREGULAR.

Canfield, Carl B.....	Florence,	Colo.
Carlisle, Mollie.....	Fayetteville,	Ark.
Clough, Charles E.....	Fort Laramie,	Wyo.
Evans, Nettie.....	Fort Collins,	Colo.
Lansing, Jno. B.....	Pueblo,	"
McClung, Henry F.....	Fayette,	Missouri.
McEwen, Walter M.....	Victoria,	B. C.
Miner, Duane F.....	Fort Collins,	Colo.
Rosenow, Albert J.....	"	"
Sadler, Carrie E.....	Beebe,	Ark.
Scribner, Gertrude.....	Fort Collins,	Colo.
Stephenson, Ross C.....	"	"
Voegeli, Henry E.....	Cincinnati,	Ohio.
Warren, Charles B.....	Fort Collins,	Colo.
Weldon, Robert S.....	Arkins,	"

SUMMARY.

Post Graduates.....	5
Seniors.....	10
Juniors.....	9
Sophomores.....	15
Freshmen.....	43
Preparatory Students.....	25
Special Students.....	24
Irregular Students.....	15
Total.....	146

GRADUATES.

1884.

George H. Glover, B. S., D. V. M., Veterinary Surgeon. Denver, Colo.
Elizabeth Lawrence, B. S., *nee* Coy, at Home. . . . Fort Collins, Colo.
Leonidas Loomis, B. S., Stockman. Green River, Wyoming

1885.

Cora B. Blinn, B. S., at Home. Berthoud, Colo.
Edna Hice, B. S., at Home. Fort Collins, Colo.
Lelia Robertson, B. S., *nee* Loomis, at Home. . . . Fort Collins Colo.
Grace Espy Patton, B. S., Professor of English and Stenography, State Agricultural College. Fort Collins, Colo.
Robert E. Trimble, B. S., Assistant to Meteorologist, State Experiment Station. Fort Collins, Colo.
Helen Rigden, B. S., *nee* White, at Home. Fort Collins, Colo.

1886.

Wilbert J. Sickman, B. S., Fort Collins, Colo.

1887.

Eleanor F. Gill, B. S. at Home. Fort Collins, Colo.
Daisy E. Stratton, B. S., Stenographer. Tallapoosa, Georgia.
Lerah McHugh, B. S., *nee* Stratton, at Home. . . . Fort Collins, Colo.
Edwin G. Nettleton, B. S., Assistant Engineer, Bear River Canal. Utah.

1888.

Lewis A. Coffin, B. S., Farmer. Boise City, Idaho.
Harvey H. Griffin, B. S., Assistant Agriculturist, Agricultural College. Las Cruces, New Mexico.

Josephine Lee, B. S., Teacher, City Schools..... Fort Collins, Colo.
 Genevieve E. McLain, B. S., Teacher of German, City Schools,
 Denver, Colo.

1899.

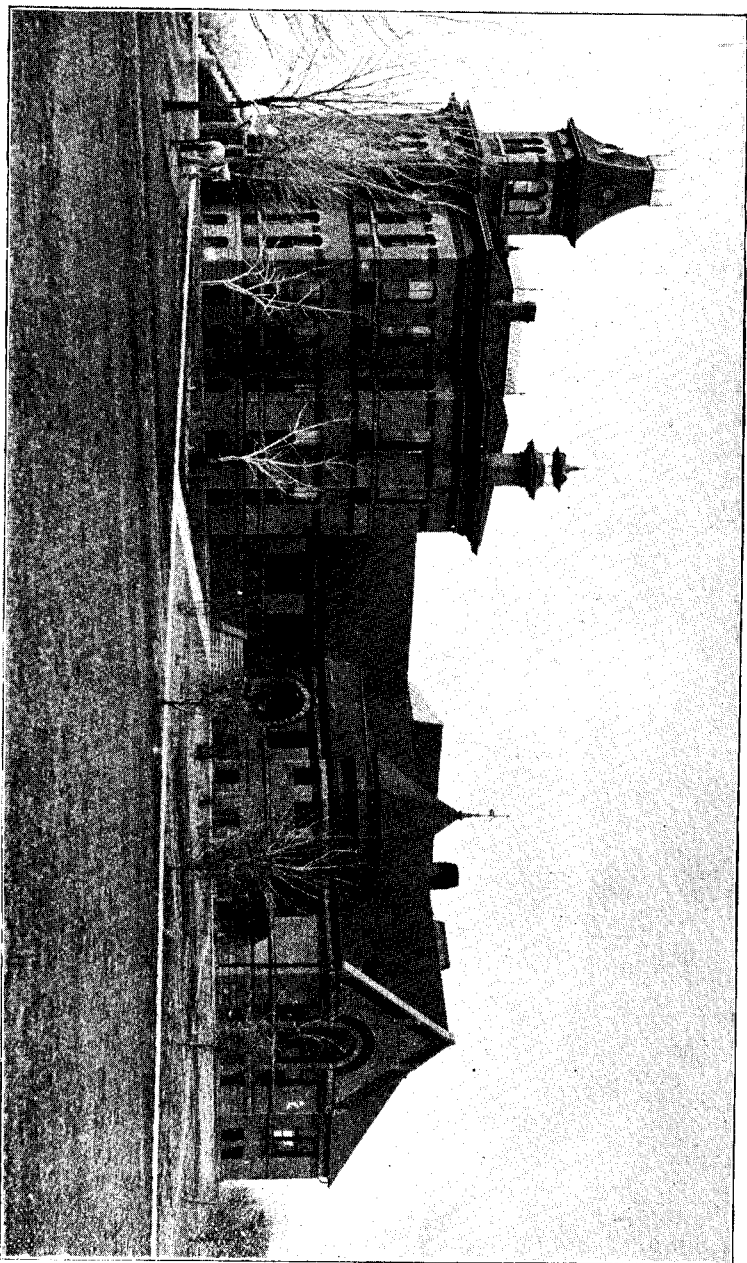
Lucy Bell, B. S., at Home..... Fort Collins, Colo.
 Arthur L. Davis, B. S., Medical Student..... Denver, Colo.

1890.

Clarence V. Benson, B. S., Student, State University.....
 Ann Arbor, Mich.
 Velma V. Beebe, B. S., *nee* Benson, at Home..... Loveland, Colo.
 Burt C. Buffum, B. S., Professor of Botany and Horticulture
 State University..... Laramie, Wyo.
 Charles A. Duncan, Post Graduate Work, State Agricultural
 College..... Fort Collins, Colo.
 Newton C. Garbutt, B. S., Clerk of County Court.. Fort Collins, Colo.
 Helen E. Lunn, B. S., at Home..... Fort Collins, Colo.
 Harry R. Temple, B. S., Stenographer..... Fort Collins, Colo.
 Cora B. Thoman, B. S., Instructor, State Agricultural College,
 Fort Collins, Colo.
 Mary L. Weaver, B. S., Ph. B., at Home..... Fort Collins, Colo.

1891.

Charles R. Evans, B. S., Merchant..... Fort Collins, Colo.
 Minnie E. McLain, B. S., Teacher..... Fort Collins, Colo.



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SECRETARY,	- - - - -	LERAH STRATTON McHUGH
TREASURER,	- - - - -	WILBERT J. SICKMAN

EXECUTIVE COMMITTEE:

GRACE ESPY PATTON, President. WILBERT J. SICKMAN, Vice-President

LERAH STRATTON McHUGH, Secretary.

ELIZABETH LAWRENCE, HELEN RIGDEN, CHARLES R EVANS.

COURSES OF STUDY.

PREPARATORY YEAR.

FIRST TERM.

Arithmetic.....	Wentworth
United States History.....	Johnston
English Analysis and Composition.....	
.....	Reed and Kellogg
Drawing.....	Free Hand
Labor, two hours, farm.	

SECOND TERM.

Arithmetic.....	Wentworth
United States History.....	Johnston
English Analysis and Composition.....	
.....	Reed and Kellogg
Drawing.....	Free Hand
Labor, two hours, shop.	

THIRD TERM.

Arithmetic.....	Wentworth
Physical Geography.....	Houston
Word Analysis and Composition.....	Swinton
Drawing.....	Free Hand
Labor, two hours, garden.	
Military drill, daily.	
Rhetorical work, each term.	

FRESHMAN YEAR.

FIRST TERM.

Algebra Wentworth
 Botany Gray's Lessons
 Composition and Rhetoric Lockwood
 Drawing Geometric
 Labor, two hours, garden.

SECOND TERM.

Algebra Wentworth
 History and Literature Sheldon and Kellogg
 Book-keeping Meservey
 Agriculture Lectures
 Labor, two hours, shop.

THIRD TERM.

Algebra Wentworth
 History and Literature Sheldon and Kellogg
 Botany Gray, with Coulter's Flora
 Agriculture, Breeds of Stock Lectures
 Labor, two hours, farm.
 Military drill, daily,
 Rhetorical work, each term.

SOPHOMORE YEAR.

FIRST TERM.

Geometry.....Wentworth
 Chemistry.....Norton
 History and Literature.....Sheldon and Kellogg
 Drawing.....

Laboratory work, two hours, Chemistry and
 Physiology.

SECOND TERM.

Geometry.....Wentworth
 Chemistry.....Norton
 Physiology.....Martin
 Rhetoric.....Hill

Laboratory work, two hours, Chemistry and
 Physiology.

THIRD TERM.

Trigonometry.....Wentworth
 Surveying.....Hodgman
 Physiology.....Martin
 Chemistry.....Norton

Laboratory or } Chemistry, one-half term.
 Field Work, two hours: } Surveying, one-half term.
 Military drill, daily.

Rhetorical work, each term.

The Course from this point is separated into:

1. The Agricultural Course.
2. The Mechanical Course.
3. The Irrigation Engineering Course.
4. The Ladies' Course.

All leading to the degree of Bachelor of
 Science.

AGRICULTURAL COURSE.

JUNIOR YEAR.

FIRST TERM.

Agriculture.....	Lectures
Horticulture.....	Lectures
Physics.....	Deschanel
Zoology.....	Colton's Manual and Lectures
Labor, two hours:	{ Physics, two-fifths term.
	{ Horticulture, two-fifths term.
	{ Zoology, one-fifth term.

SECOND TERM.

Agricultural Chemistry.....	Storer
Geology.....	LeConte
Physics.....	Deschanel
Analytic Geometry.....	Wentworth
Labor, two hours:	{ Physics, two-fifths term.
	{ Chemistry, three-fifths term.

THIRD TERM.

Agricultural Chemistry.....	Storer
Geology.....	LeConte
Physics.....	Deschanel
Entomology.....	Lectures
Labor, two hours:	{ Physics, two-fifths term.
	{ Chemistry, two-fifths term.
	{ Entomology, one-fifth term.

SENIOR YEAR.

FIRST TERM.

Agriculture (Soil, Irrigation, Feeding) . . .	Lectures
Landscape Gardening, one-half term, {	... Lectures
Meteorology, one-half term, }	
Astronomy	Young
Psychology	Hill
Labor, two hours, farm.	

SECOND TERM.

Agriculture (Drainage, Cereals, Cross-Fertilization)	Lectures
Horticulture	Lectures
Logic	Gregory
Physiological Botany	Strasburger
Labor, two hours, garden.	

THIRD TERM.

Agriculture (Stock Breeding)	Lectures
Irrigation Hydraulics	Lectures
Political Economy	Mill
Thesis Work	
Labor, two hours, { Farm, one-half term.	
{ Garden, one-half term.	
Military drill, daily, throughout the course.	

MECHANICAL COURSE.

JUNIOR YEAR.

FIRST TERM.

Drawing.....	
Higher Algebra.....	Wentworth
Physics.....	Deschanel
Zoology.....	Colton's Manual and Lectures
Labor, two hours,	{ Physics, two-fifths term.
	{ Mechanics, two-fifths term.
	{ Zoology, one-fifth term.

SECOND TERM.

Drawing.....	
Analytic Geometry.....	Wentworth
Physics.....	Deschanel
Geology.....	LeConte
Labor, two hours,	{ Physics, two-fifths term.
	{ Mechanics, three-fifths term.

THIRD TERM.

Drawing.....	
Descriptive Geometry.....	Church
Physics.....	Deschanel
Geology.....	LeConte
Labor, two hours,	{ Physics, two-fifths term.
	{ Mechanics, three-fifths term.

SENIOR YEAR.**FIRST TERM.**

The Steam Engine.....	Lectures
Differential Calculus.....	Taylor
Astronomy.....	Young
Psychology.....	Hill
Labor, two hours, Mechanics.	

SECOND TERM.

Transmission of Power.....	Lectures
Integral Calculus.....	Taylor
Logic.....	Gregory
Thesis Work.....	
Labor, two hours, Mechanics.	

THIRD TERM.

Study of Special Machines.....	Lectures
Special Chemistry.....	Lectures
Political Economy.....	Mill
Thesis Work.....	
Labor, two hours, Mechanics.	
Military drill, daily, throughout the course.	

IRRIGATION ENGINEERING COURSE.

JUNIOR YEAR.

FIRST TERM.

Hydraulics.....	Lectures
Higher Algebra.....	Wentworth
Physics	Deschanel
Zoology.....	Colton's Manual and Lectures
Labor, two hours, {	Physics, two-fifths term.
	Field Work, Irrigation, two-fifths term.
	Zoology, one-fifth term.

SECOND TERM.

Drawing.....	
Analytic Geometry.....	Wentworth
Physics.....	Deschanel
Geology.....	LeConte
Labor, two hours, {	Physics, two-fifths term.
	Geology, three-fifths term.

THIRD TERM.

Irrigation Engineering.....	Lectures
Descriptive Geometry.....	Church
Physics.....	Deschanel
Geology	LeConte
Labor, two hours {	Physics, two-fifths term.
	Field Engineering, three-fifths term.

SENIOR YEAR.

FIRST TERM.

Hydraulics, Canals, and Canal Work..... Lectures
 Horticulture..... Lectures
 Differential Calculus..... Taylor
 Astronomy..... Young
 Labor, two hours, field work in Engineering.

SECOND TERM.

Drawing.....
 Strength of Materials..... Lectures
 Integral Calculus..... Taylor
 Logic..... Gregory
 Labor, two hours, Mechanics.

THIRD TERM.

Hydraulics..... Lectures
 Special Chemistry..... Lectures
 Political Economy..... Mill
 Thesis Work.....
 Labor, two hours, field work in Irrigation.
 Military drill, daily, throughout the course.

LADIES' COURSE.

JUNIOR.

FIRST TERM.

Drawing.....	
German	
Physics.....	Deschanel
Zoology	Colton's Manual and Lectures
Laboratory work in Physics and Zoology.	

SECOND TERM.

Stenography and Type-writing.....	
German.....	
Physics.....	Deschanel
Geology.....	LeConte
Laboratory work in Physics and Geology.	

THIRD TERM.

Drawing.....	
German.....	
Physics.....	Deschanel
Geology.....	LeConte
Laboratory work in Physics and Geology.	

SENIOR YEAR.

FIRST TERM.

German.....	Schiller
Landscape Gardening, one-half term, {	...Lectures
Meteorology, one-half term, }	
Astronomy.....	Young
Psychology.....	Hill

SECOND TERM.

German.....	Schiller
Drawing.....	
Horticulture.....	Lectures
Logic.....	Gregory

THIRD TERM.

Scientific German.....	
Drawing.....	
Political Economy.....	Mill
Thesis Work.....	

RECITATION SCHEME---FALL TERM.

TIME.	PREPARATORY.	FRESHMAN.	SOPHOMORE.	JUNIOR.	SENIOR.
7:55 a. m.	General Assembly of Students for Chapel Exercises.				
8:10 a. m.	Arithmetic.	Algebra.	Drawing.	Hydraulics. Horticulture. Drawing.	Psychology. Horticulture.
9 a. m.	Freehand Drawing.	Composition and Rhetoric.	History and Literature.	Physics.	Landscape Gardening $\frac{1}{2}$. Meteorology $\frac{1}{2}$. Calculus.
9:50 a. m.	Word Analysis and Composition.	Botany.	Chemistry.	German. Higher Algebra. Agriculture.	German. Hydraulics, Canals, etc. The Steam Engine. Agriculture.
10:40 a. m.	U. S. History.	Drawing.	Geometry.	Zoology.	Astronomy.
11:30 a. m. to 12:20 p. m.	Military Drill.	Freehand Drawing. Military Drill.	Freehand Drawing. Military Drill.	Freehand Drawing. Military Drill.	Freehand Drawing. Military Drill.
1:30 p. m. to 3:30 p. m.	Farm.	Garden.	Chemistry.	Zoology 1-5. Physics 2-5. Field Work 2-5. Mechanics 2-5.	Mechanics 1. Engineering 1. Farm 1.

RECITATION SCHEME---WINTER TERM.					
TIME.	PREPARATORY.	FRESHMAN.	SOPHOMORE.	JUNIOR.	SENIOR.
7:55 a. m.	General Assembly of Students for Chapel Exercises.				
8:10 a. m.	U. S. History.	Book-keeping.	Geometry.	Geology.	Horticulture. Transmission of Power. Strength of Material.
9 a. m.	English Analysis and Composition.	History and Literature.	Physiology.	Physics.	Calculus. Phy. Botany.
9:50 a. m.	Arithmetic.	Algebra.	Rhetoric.	Agricultural Chemistry. Drawing. German.	Agriculture. Drawing. Thesis Work. German.
10:40 a. m.	Drawing.	Agriculture.	Chemistry.	Analytic Geometry. Stenography, Typewrit'g.	Logic.
11:30 a. m. to 12:20 p. m.	Military Drill.	Military Drill.	Military Drill.	Military Drill.	Freehand Drawing. Military Drill.
1:30 p. m. to 5:30 p. m.	Mechanics. Two Divisions.	Mechanics. Two Divisions.	Chemistry 4-5. Physiology 1-5.	Physics 2-5. Chemistry 3-5. Geology. 3-5 Mechanics. 3-5.	Mechanics. 1. 4-5. Testing Materials 1-5. Horticulture, 1.

RECITATION SCHEME---SPRING TERM.

TIME.	PREPARATORY.	FRESHMAN.	SOPHOMORE.	JUNIOR.	SENIOR.
7:55 a. m.	General Assembly of Students for Chapel Exercises.				
8:10 a. m.	Arithmetic.	Botany.	Physiology.	Agricultural Chemistry. Drawing. Irrigation Engineering.	Political Economy.
9 a. m.	Freehand Drawing.	Algebra.	Chemistry.	Physics.	Irrigation Hydraulics. Thesis Work.
9:30 a. m.	Physical Geography.	History and Literature.	Trigonometry.	Geology.	Irrigation Engineering Special Machines. Agriculture.
10:40 a. m.	English Analysis and Composition.	Agriculture.	Surveying.	Descriptive Geometry. Entomology. German.	Thesis Work. Special Chemistry. German.
11:30 a. m. to 12:20 p. m.	Military Drill.	Freehand Drawing. Military Drill.	Military Drill.	Freehand Drawing. Military Drill.	Freehand Drawing. Military Drill.
1:30 p. m. to 3:30 p. m.	Garden.	Farm.	Physiology 1-10. Chemistry 2-5. Surveying 1-2.	Physics 2-5. Geology 3-5. Entomology 1-5. Chemistry 2-5. Mechanics 3-5. Field Engineering 3-5.	Mechanics 1. Farm 1-2. Horticulture 1-2. Hydraulics 1.

DEPARTMENTS OF INSTRUCTION AND LABOR.

AGRICULTURE.

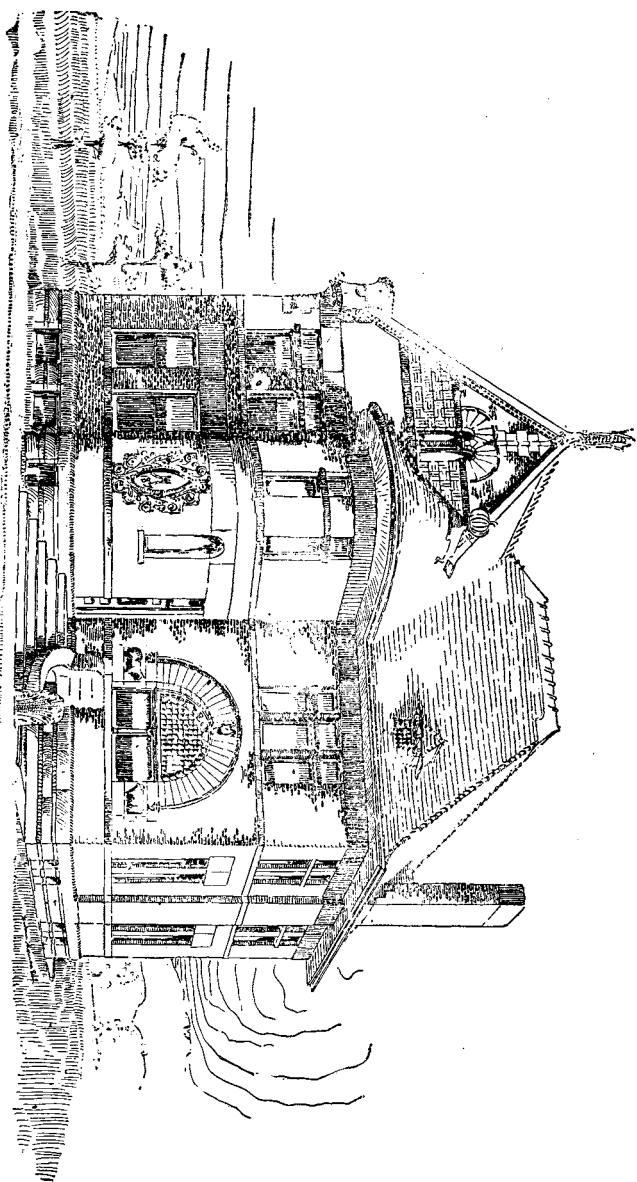
By means of intelligent experimental work, conducted on the College Farm and at the Experiment Station, in which student labor is given a prominent place, a very practical training is given.

A greater effort than ever before is being made by the authorities to give special attention to the course of instruction in the School of Agriculture, designing especially to educate the students for agricultural pursuits and scientific investigations. To this end a brief but thoroughly practical

WINTER COURSE

of lectures has been instituted. This course is valuable to farmers as well as their sons. The lectures continue four weeks and, in addition to those on Agriculture, include a lecture daily on Agricultural Chemistry, Botany, Horticulture, and Entomology. Special lectures are also solicited from experts in certain lines. For those desiring more knowledge in Agriculture and kindred subjects than is offered in the Winter lectures a

AGRICULTURAL HALL.



SHORT COURSE IN AGRICULTURE.

or two years is provided, with practical and instructive farm and garden labor, two hours daily, or laboratory or experimental work, and military drill during the entire course. The instruction consists of lectures, principally, sometimes text-book lessons supplemented by lectures on the elements, history, origin, and development of, and the general principles underlying, Agriculture; breeds of live stock, their adaptation to this country and modifications produced by climate, food, and treatment; the dairy in its many forms, together with the breeds for dairy purposes. Soils, preparation for seeding, harvesting, storing, and marketing, with which, those who desire this course, are more or less well-acquainted practically, will be considered but briefly.

THE REGULAR AGRICULTURAL COURSE.

The four-year course begins with the College year and in the Freshman Class. Agriculture is taught, beginning with the Winter term and continuing through the year. The instruction consists of the lectures of the Short Course above, the students of the two classes coming together to receive it.

In the Junior year, Fall term, the instruction in Agriculture begins with lectures on the history of Agriculture, fertilizing, and farm buildings. The breeds of live stock receive attention much of the year.

In the Senior year, first term, there is further instruction in regard to soils, and practical irrigation; and special instruction in the principles of stock-feeding. In the second term, the subjects of drainage, cereals, and cross-fertilization are treated.

In the third term, the subject of improved stock breeding and dairying, with practical work, is very thoroughly treated in a course of lectures and by text-book instruction.

The whole course will be supplemented by the labor on the farm, laboratory and experimental work, at the times noted in the schedule of exercises.

SHORT COURSE IN AGRICULTURE.

FIRST YEAR.

First term—1. Agriculture. 2. Botany. 3. Zoology. 4. Composition and Rhetoric. Labor, garden.

Second term—1. Agriculture. 2. Book-keeping. 3. Physics (elementary). 4. Drawing. Labor, shop.

Third term—1. Agriculture. 2. Botany. 3. Drawing. 4. Entomology. Labor, farm.

SECOND YEAR.

First term—1. Agriculture. 2. Horticulture. 3. Chemistry. 4. Drawing. Labor, chemical laboratory.

Second term—1. Agriculture. 2. Horticulture. 3. Chemistry. 4. Physiology. Labor, chemical laboratory.

Third term—1. Agriculture. 2. Agricultural Chemistry. 3. Physiology. 4. Irrigation Hydraulics. Labor, chemical laboratory. Military drill throughout the course.

PHYSIOLOGY

is taken during the second and third terms of the Sophomore year, Martin's Human Body being used as a text-book. Aside from the daily recita-

tions, students spend two hours, one day in the week, in the laboratory, to study human and comparative osteology and to dissect anæsthetized animals, for the purpose of examining the tissues and organs *in situ*.

The laboratory is especially well-equipped, possessing, among other things, a fine series of mounted skeletons, an expensive manikin (a life-sized model of the human body so dissected as to show nearly every tissue and organ that can be seen in an actual dissection), enlarged papier mache models of the eye, ear, brain, and other important parts, compound and dissecting microscopes, microtomes, and dissecting instruments.

ZOOLOGY

is taken the first term of the Junior year. This branch of natural science is taught by means of lectures and actual demonstrations in the laboratory, Colton's Practical Zoology being used as a guide. Each student is furnished with typical forms of the different branches of the animal kingdom, which he studies carefully, making drawings and taking notes. In this manner, the student acquires a practical knowledge of the structure and classification of animals, that he cannot obtain by a mere study of books.

Microscopes, dissecting tools, and all necessary equipment for laboratory work are furnished free, each student being required to care for his own instruments.

ENTOMOLOGY

is taken in the third term of the Junior year in the Agricultural Course, and is taught by lectures and laboratory work. Each student gets together and

classifies a collection of insects representing all of the orders, and traces at least one species through all its transformations, taking notes and making drawings and descriptions.

Particular attention is given to the economic features of this study. Those insects known to be injurious are given special attention, and the students are made familiar with their habits and natural history. Students also prepare the principal insecticide substances and apply them for the destruction of insects.

In connection with this department are a good apiary and honey house, thoroughly equipped with the most modern appliances, and students so desiring are taught and allowed to put into practice all the manipulations of the apiary.

Students taking this study are required to purchase Packard's Entomology for Beginners.

BOTANY.

The study of Botany begins with the Freshman year. The Fall term is devoted mainly to Structural Botany. The plant as an individual is studied as to its part, or organs—the relation each part bears to the whole—the variations in the parts, and the uses they serve. Roots, branches, buds, leaves, flowers, and fruits are placed in the students' hands, and the technical descriptive terms are learned by applying them directly to the plants.

Gray's Lessons is used as text to supplement the instruction from the plants themselves. A few lectures on classification and the relations of plants to each other are given toward the close of this term.

The Spring term of the same year is devoted to Systematic Botany. Dissecting microscopes and necessary tools are furnished and plants are each day supplied for analysis. Students are taught the application of the principles learned during the first term, so that they may understand the methods of determining the names of plants. The great variety of plants at hand enables the student to become familiar with all the leading natural orders. Written descriptions of the plants analyzed are required. Coulter's Manual of Rocky Mountain Botany is the text-book used.

PHYSIOLOGICAL BOTANY.

In the Winter term of the Senior year, the Agricultural students study vegetable physiology and the minute structure of plants, using as a text book Strasburger's Practical Botany.

Compound microscopes are supplied and the Botanical laboratory is open to members of the class two hours each afternoon.

An herbarium of native and foreign plants and the greenhouse furnish material for study.

A portion of this term is devoted to Cryptogamic Botany, special attention being given to rusts, smuts, and mildews, injurious to plants.

The laboratory is well-equipped with books of reference and with all necessary apparatus and reagents.

HORTICULTURE.

Instruction in Horticulture is given by lectures. The first course of thirteen weeks, in the Fall term of the Junior year, deals mainly with methods. Under the general head of Vegetable-gardening

the principle topics considered are—the best soil and situation for a garden; manner of laying out a garden; irrigation of garden crops; rotation of crops; methods of planting and management; composts and commercial fertilizers; care of tools; construction, management, and uses of hot-beds and cold frames; harvesting, marketing, and storing vegetables.

Brief historical notes, and full cultural directions, are given concerning all of the vegetable plants commonly grown in gardens.

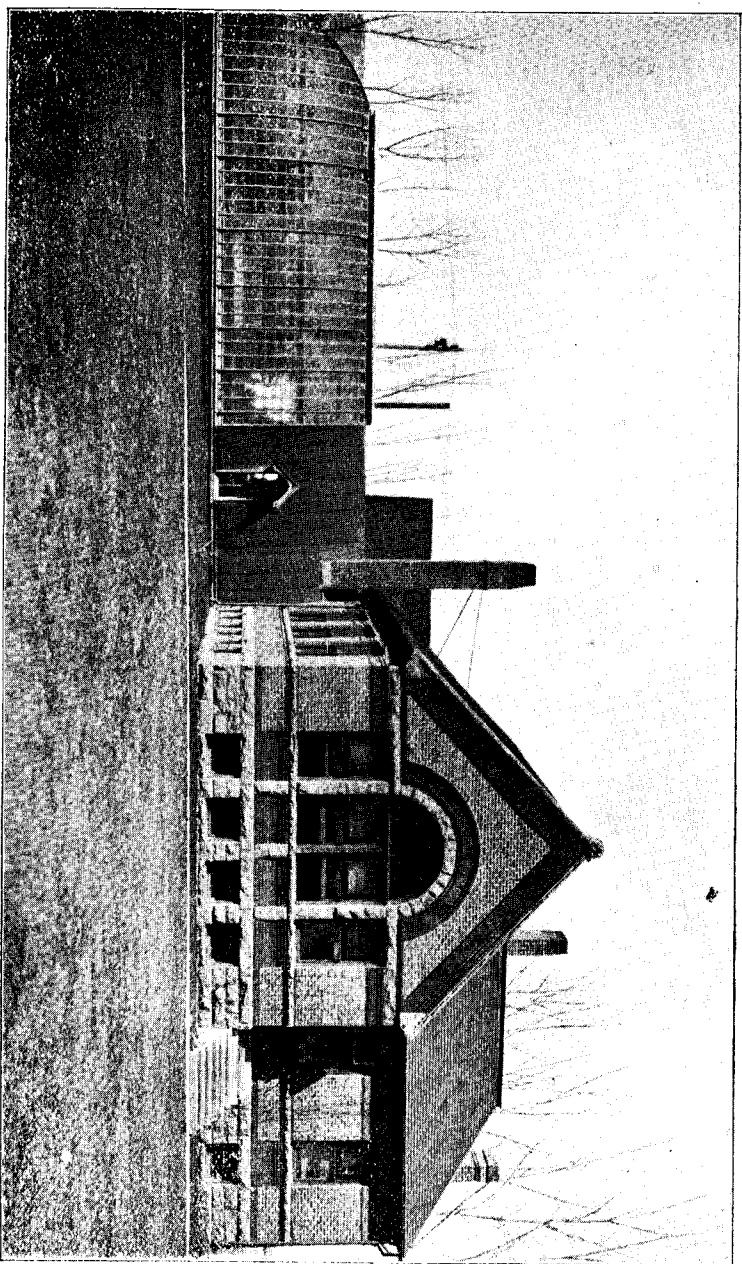
Small fruit culture is next taken up; each kind is considered in detail as to its history, propagation, cultivation, harvesting, marketing, the best varieties, and the diseases to which it is subject.

Then follows a series of lectures upon methods of plant propagation, including a thorough discussion of budding and grafting.

Plants, tools, and other appliances are provided for class-room use in giving practical illustrations of the subject treated.

A portion of this term is devoted to Forestry. Lectures are given on the gathering and preservation of forest-tree seed, the planting of seed, and the care of seedlings; on the value of trees for timber and ornament, for hedges, screens, and shelter belts.

A second course of lectures during the Winter term of the Senior year treats of the theory of Horticulture, and considers in detail the underlying principles of garden practice; lectures are given upon the history of cultivated plants, variation of plants under cultivation, as influenced by climate, latitude, altitude, and general surroundings; cross-



HORTICULTURAL HALL AND CONSERVATORY.

fertilization and hybridization. Pomology is then taken up, and the theory and practice of orchard management considered in detail.

Floriculture is also treated on such topics as the construction, heating, and management of green-houses, the propagation, cultivation, and management of green-house plants for commercial or private purposes.

LANDSCAPE GARDENING.

One-half of the Fall term of the Senior year is allotted to this study. The general principles of the art are taught by lectures and practical instruction given in the selection and laying out of city and country places. The principal topics are, the selection of a place, the location of buildings, drives, and walks, what to plant and how to plant. The works of Downing and Kemp are used as books of reference.

CHEMISTRY.

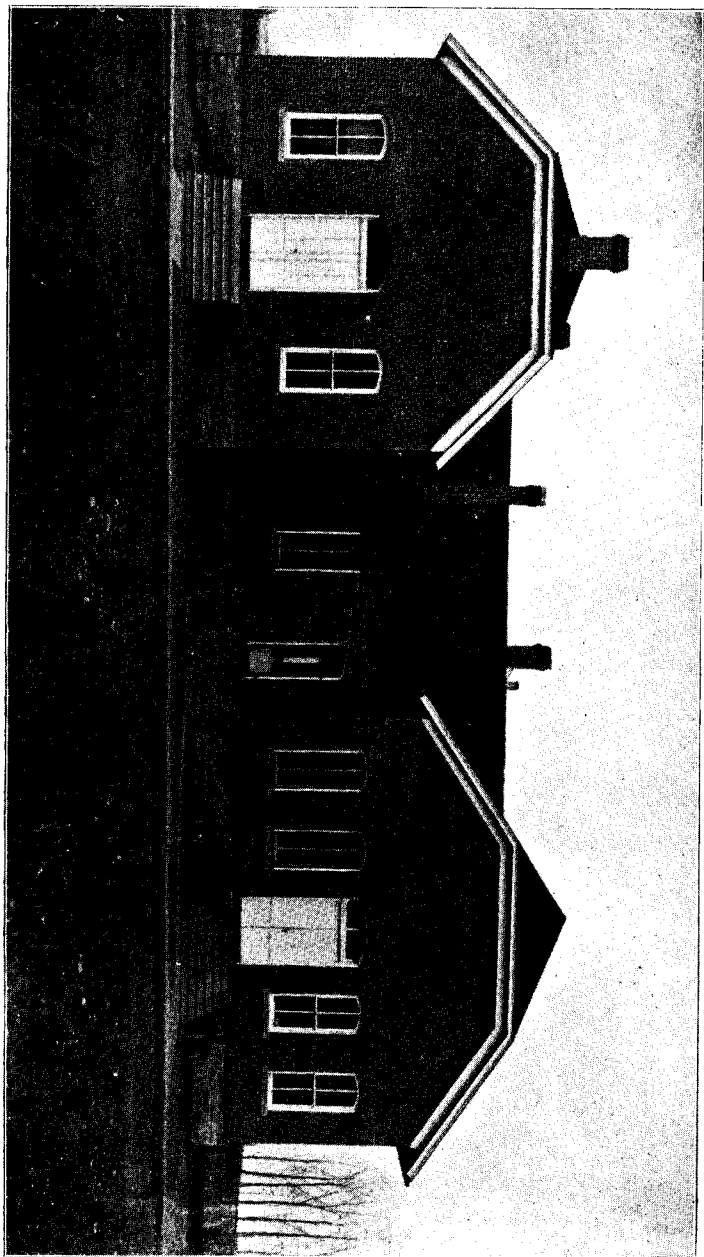
It is the object of this department to give the student an opportunity to acquire a thorough mastery of the elementary principles of chemical science. To attain this object, theory and practice are made to go hand in hand. In the first term of the Sophomore year, the class listens to a series of lectures, accompanied by text-book work, upon the general theory of the science, its history and development. In this course of lectures are discussed the subjects of acids, bases and salts, and the principles of chemical philosophy. The natural history, chemical and physical properties of each of the elements are discussed in detail, the whole being illustrated by experiments. While taking

this course, the student spends two hours each day in the chemical laboratory, repeating the experiments shown in the class room, and making others which may be suggested, thus familiarizing him with the various forms of compounds, the marked distinctions between the different classes of salts, the use of chemical nomenclature and the manipulation of apparatus. Practice in the use of the blow pipe accompanies this work, and an insight into determinative mineralogy is thus acquired. The use and application of the spectroscope are also taught. The students in the laboratory, at the end of the first term, are examined in the text-book (O'Brine's Laboratory Guide) and by analysis of *unknown bodies* in the dry way.

In the second term of the Sophomore year, the Inorganic Chemistry is finished and Organic Chemistry is taken up. The laboratory work continues four-fifths of the term, and the student takes up the tests for the bases and their separation; also, the tests for the acids and their separation. The students are examined at the close of the second term by unknown bodies, composed of mixtures of the several groups of bases and acids.

In the third term of the Sophomore year the class completes Organic Chemistry, with some practice in Chemical Physics and Stoichiometry. In the laboratory, the separation of the bases and acids is reviewed, tests for the poisons are made, their separation from organic mixtures is worked out, and the analysis of organic compounds is carried on.

In the Agricultural course, in the second and third terms of the Junior year, the students listen to a course of lectures upon Agricultural Chemistry,



CHEMICAL LABORATORY.

in which are discussed such subjects as the following: Relation of Chemistry to Agriculture, the literature of Agricultural Chemistry, elements of plant growth, their relative abundance and importance, the atmosphere, the soil, fertilizers, etc. Storer's Agriculture, Johnson's "How Crops Grow" and "How Crops Feed" are used as reference books. Laboratory work accompanies the lectures and work in the text-books. The study of quantitative analysis begins in the gravimetric way, and, after some little practice, students will be directed in any line of special work they may desire.

In the third term of the Senior year of the Mechanical course, the students study the chemistry of alloys, iron, steel, and fuel, and in the laboratory they are taught the analysis of these bodies, including furnace gases. Students have the use of all the apparatus described in Winkler and Lunge's "Technical Gas Analysis."

In the third term of the Senior year of the Irrigation course, the students study the chemistry of building materials, using Wagner's Chemical Technology as a guide. In the laboratory they have the analysis of soils and water. Students who desire it, will have an opportunity to see, in the Station laboratory, the analysis of food, blood, poisons, urine, water, coal, minerals, soils; also assaying and gas analysis. Keeping in mind the object for which our college is founded, we have so planned our Chemical course as to prepare the student for the general application of Chemistry to the industrial arts, while seeking thoroughly to ground him in the application of science to agriculture. A chemical laboratory, fitted up with modern appliances, balance-room, foul-gas room,

and desks for thirty-six students, is ready for the classes.

Students have access to the following current chemical literature: *Chemical News*, *Analyst*, *Journal of the Chemical Society*, *Journal fur Landwirthschaft*, *Journal of Analytic Chemistry*, and a complete set of "Fresenius Zeitschrift fur Anaylt. Chemie."; also the following works of reference: Watt's Dictionary of Chemistry, the works of Roscoe, Schorlemmer, Bloxam, Tidy, Miller, Stricker, Pinney, Fowne, Wagner; in analysis, the works of Fresenius, Wills, Classen, Prescott, Thorpe, Wohler, Crooke's Select Methods, Allen's Organic Analysis, Hart, Sutton, Blythe, etc. A three-horse power water-motor is used to run an exhaust fan to ventilate the laboratory and to do other work.

GEOLOGY.

Recognizing the fact that Chemistry and Geology are the foundations of agricultural science, the subject of Geology receives corresponding attention. The second term of the Junior year, Le-Conte's Elements of Geology is taken up and continued during the year. The students work two hours, three days per week, in the laboratory. Lectures on Economic Geology are also given, William's Manual being the guide. Frequent visits to the mountains and quarries illustrate the practical application of dip, strike, fault, formations, stratifications, and elevations by barometer, thermometer, and level, whenever field work is practicable. At the end of the third term the students are required to identify and describe twenty-five rocks or mineral specimens.

The following works of reference are accessible to the students: Croll, Bischof, Lyell, Dana, Nicholson, Geikie, Van Cotta, Platner, Brush, Elderhorst, and the geological reports of other states. Contributions to this department will be thankfully received and due credit will be given.

HISTORY, LITERATURE, AND LANGUAGE.

HISTORY AND LITERATURE.

During the last two terms of the Freshman year and the first term of the Sophomore year, Sheldon's History and Kellogg's Literature are studied together, so that each historic period and the authors connected with it may be taken at the same time. The work is supplemented by lectures.

The study of English Literature includes critical readings of selected authors, and special attention to the writings of the five great English poets and to the works of some great author, for special reading during each term. A careful oversight of all outside reading is attempted and every effort is made to promote a taste for good literature.

GERMAN.

German is studied during the Junior and Senior years. The great increase of the German population in America during the last thirty years has made a practical knowledge of the German language a business commodity as well as an elegant accomplishment. A course of two years in German is not sufficient to give a mastery of the language, but the limited time of study is occupied in giving, as far as possible, power to converse in every-day life. The recitations are conducted in

the language studied, and much stress is placed on the ability to converse, as the most certain way to read and use German effectively. It is thought that the study of some language besides our own is of great assistance to the student as a means of mental growth. During the Junior year, Worman's First and Second German books are used, and Andersen's Selected Fairy Tales is used as a basis for conversation. During the last year, the time is equally divided between technical and literary German. A play from Schiller and a selection from Faust are read, with practice in reading at sight, and the study of some German scientific work is pursued. The German periodical, *Die Gartenlaube*, is placed in the library for the benefit of those students who are studying German.

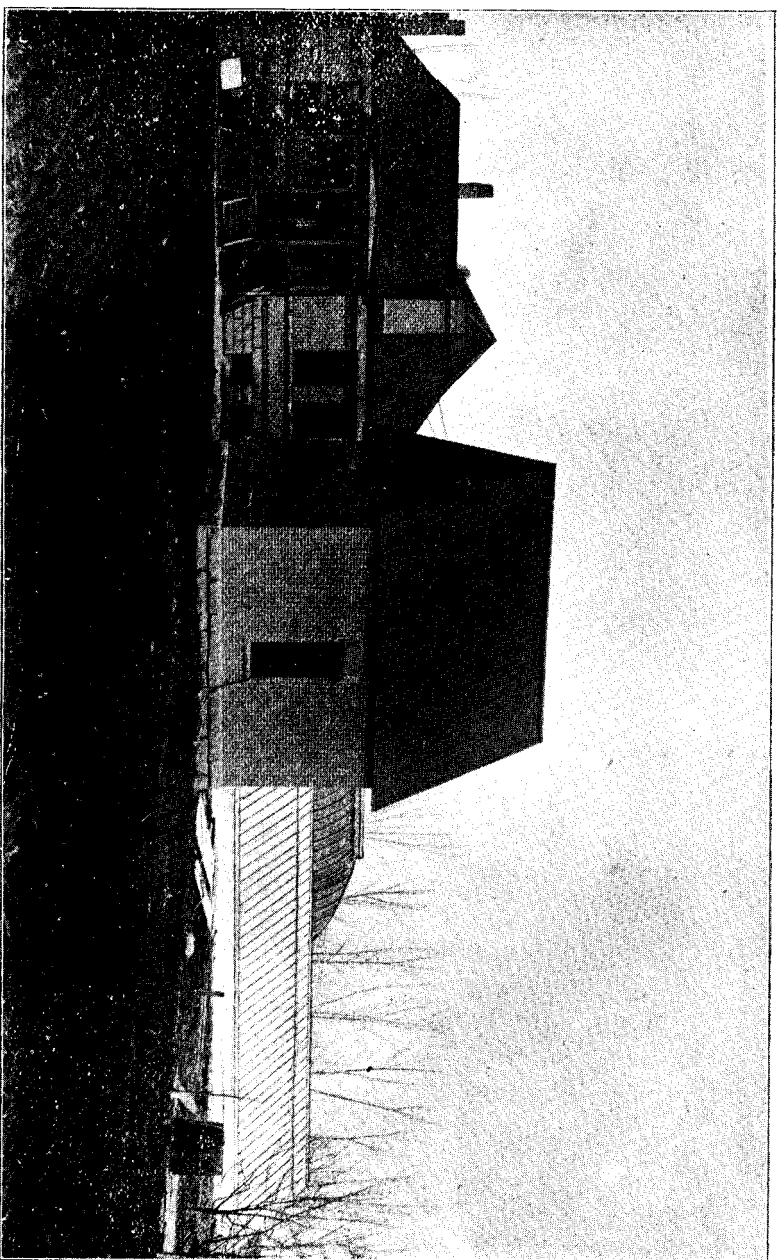
ENGLISH AND STENOGRAPHY.

ENGLISH.

The study of English Analysis is pursued during the Fall and Winter terms of the Preparatory course, followed by Word Analysis during the Spring term.

The subject of Composition is continued throughout the Preparatory year, the subjects of punctuation, capitalization, structure and arrangement of sentences, and the fundamental principles of style receiving special attention.

During the Fall term of the Freshman year, the subject of Composition and Rhetoric is continued, with Lockwood's Lessons in English for a textbook. It is the object of this work to enable the student to acquire skill in the logical arrangement of his thoughts, and to express them in a clear and effective manner.



FORCING HOUSE, HORTICULTURAL DEPARTMENT.

Advanced work in Rhetoric is required of the Sophomore class during the Winter term. The laws of mind and language as related to effected discourse, is a subject which receives special consideration.

Composition writing—essays, orations, etc.,—forms an important feature of the entire course in English.

Public rhetorical exercises are required of each student.

STENOGRAPHY.

The subjects of Stenography and Typewriting are pursued during the Winter term of the Junior year.

The object of this course is to impress upon the mind of the student the importance of a knowledge of the English language and a correct use of it in business life, as well as to enable him to become an efficient stenographer and type-writer.

MATHEMATICS.

The instruction offered by this department is designed to conform to the general aim and purpose of the institution; accordingly, only those branches of pure mathematics are taught which bear directly upon the curriculum and which are a necessity in the every-day life and business of the well-rounded business man.

Withal, the course as pursued is very nearly equal, by subjects, to that pursued in the ordinary classical course of other colleges, but is less in detail, while the attention given to applied mathematics, including surveying and irrigation canal engineering, is much greater.

ARITHMETIC.

Students pursue, throughout the Preparatory year, the subject of Arithmetic, the first and second terms being devoted exclusively to decimal notation and analysis, the third term to the shorter practical methods of commercial operations.

ALGEBRA.

The study of Algebra is begun in the first term of the Freshman year and continued through that year. The first term is devoted mainly to the fundamental principles and operations governing the literal notation and factoring, the endeavor being so thoroughly to ground the student that the succeeding operations may be more of and unfolding process than a task.

The second and third terms' work is devoted to the study of Algebra proper, the Quadratic Equations, and so much more as the ability of the average class will allow.

GEOMETRY.

Geometry is placed in the first and second terms, Sophomore. Problems in Mensuration and original exercises will be added to the text-book work, giving the student frequent practice in the application of principles already acquired and fixing firmly the knowledge gained.

TRIGONOMETRY.

occupies the third term, Sophomore. Plane Trigonometry, occupying a more practical place in the general run of business, is the only part taught.

Higher Algebra is taken up by the Juniors of the Mechanical and Irrigation Engineering courses, in their first term. Reviewing Quadratics and the

Calculus of Radicals, the term's work will cover the theory of Equations, the theory and use of Logarithms, etc., as complete a purely Algebraic course as will fit the student for the intelligent study and use of Algebraic forms and terms in his subsequent work.

Following Algebra, in the second term, Junior, so much of Analytic Geometry as is necessary in Physics, Astronomy, and Hydraulic Formulæ, will be given in daily recitations.

Descriptive Geometry, Orthographic Projection, Linear Perspective, Shades and Shadows, etc., will occupy the third term.

Astronomy occupies the first term, Senior. Owing to the want of astronomical instruments, Descriptive Astronomy alone is taught.

The Calculus—Differential and Integral—will take the first and second terms respectively of the Senior year. The subject will be taught by the infinitesimal method rather than by the theory of limits, which is more adapted to the scholar than to the college student, and will be sufficiently full to enable him to solve, discuss, and use the Calculus of any ordinary work on strains used in the average technical course.

PRACTICAL MECHANICS.

This department has for its object a systematic and progressive education in the use of tools and materials, combined with as much theoretical knowledge as may be deemed necessary to explain the principles involved. It does not teach special trades, or manufacture salable articles; to do so would require that the student be kept on the kind

of work that he could do best, and thus prevent him from acquiring broad and liberal ideas of other methods. So, without teaching any one complete trade, the mechanical principles of many are gained. This does not necessarily mean that the student becomes sufficiently expert, to compete with the skilled mechanic, but that a knowledge of *how* a tool or machine should be used and the *manner of laying outwork* for it are thoroughly taught.

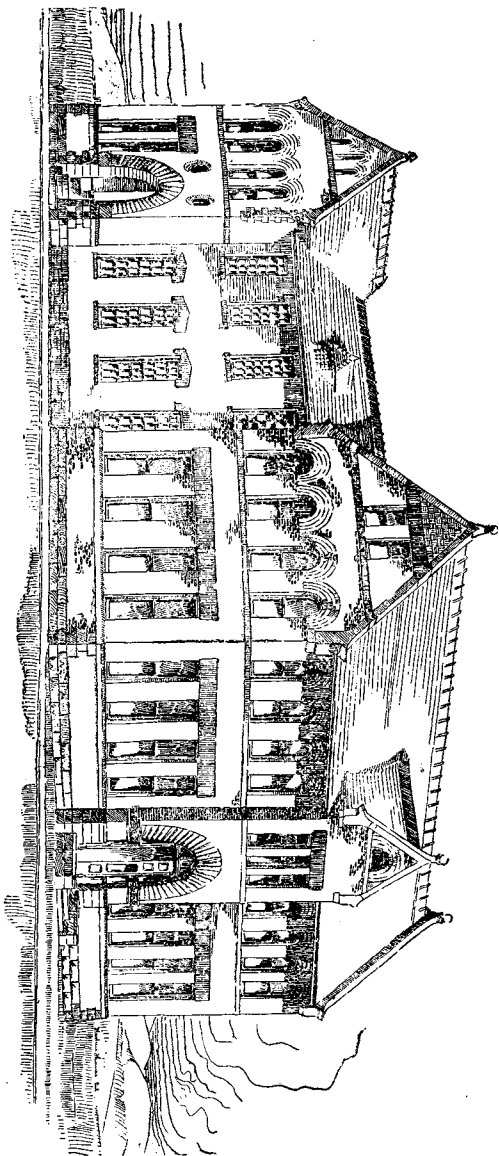
Should circumstances be such as to cause the student to enter manufacturing, his ideas have been broadened by this training and he will the more readily grasp anything new that may come up in his business, or, should he take up farming, he will with greater ease be able to understand the mechanical principles and workings of his machinery, and know how to keep it and his buildings in proper repair.

The shop instruction is divided into courses as follows, and in each course will be given, in connection with the work, an explanation of the construction of each tool and its manner of acting on the material, the methods of determining how to select materials best suited to different kinds of work, the manner of laying out work, cutting speed of tools, etc.:

COURSE OF LABOR.

Bench work in wood	13	weeks
Wood turning.....	12	"
Pattern making.....	12	"
Molding and casting.....	12	"
Iron and steel forging.....	13	"
Machine work in metals.....	12	"
Vise work in metals.....	12	"

MECHANIC ARTS HALL.



This course consists of exercises with the different wood-working bench tools, so arranged in a graded series as to embrace the manipulation of the tools in their various applications.

First—The use of planes in joining, smoothing and getting the piece out of wind, lining off and the use of saws in cutting across and with the grain and keeping to line.

Then follow exercises in making a halved splice, splayed splice, keyed splice, open dovetail mortise and tenon joint, mortise and tenon joint, open dovetail joint, blind dovetail joint, lap joint, dowel joint, small newel post and hand-worked rail, panel door, roof truss, box, carpenter's trestle.

MACHINE WORK IN WOOD.

In connection with this course, with the use of tools, will be given the most rapid and economical method of selecting and preparing the wood for the machine. There will be given examples of straight turning; cutting in and squaring off; concave, convex, and compound curves; handles for chisels and other tools; examples in chuck work in separate and combined pieces; how to turn a ball.

PATTERN MAKING AND FOUNDRY WORK.

After becoming familiar with bench and machine work in wood, an application of both is made, by constructing patterns with due regard to shrinkage, draft, and the best method of constructing the pattern so that it causes the least amount of trouble in the foundry. There will be given examples of plain work; core work; pulley work; pipe work; gear work; core boxes, their use and construction.

After the patterns and core boxes have been constructed, they are taken to the foundry room by the students, where molds and cores are made, and castings are made in iron or brass.

In the foundry the students are taught how to charge and manage the cupola, each student pouring for himself the hot metal for the molds he has made.

The management of the brass furnace and core oven is also taught.

MACHINE WORK IN METAL.

The care and management of the tools, their construction, etc.

Cutting speed of tools and proper angle of cutting edge for different purposes and different metals. Centering and straightening work; straight turning and squaring; boring; making and fitting joints; chuck work; screw cutting, inside and outside; drilling, tapping, and reaming; boring with boring bar and use of center rest; polishing and finishing; hand tool work.

DRAWING.

Free-hand copy and dictation; free-hand model and object drawing; light and shade; geometric problems; orthographic and isometric projections and projection of shadows; developement and intersection of surfaces; wood carving, diaper, incised and relief.

Persons having parts of machines, patterns, small models, or working drawings, may, if they choose, donate the same to the department, and thereby will confer a great favor upon the College, and especially upon the department.

MILITARY SCIENCE.

For instruction in Military Tactics, the students are formed into companies. The system of instruction being that in use in the United States Army, is calculated to form the habit of prompt obedience, foster the natural martial instinct and prepare the students, should necessity arise, to organize a company or battalion of our National militia.

The drill includes the school of the soldier, company and battalion, in infantry tactics, supplemented by lectures on the art and science of war.

Instruction in Artillery embraces such portions of the United States drill regulations as pertain to the formation of detachments, manual of the piece, mechanical maneuvers, aiming drill, etc. For use in drill, the department has two three-inch rifled field pieces, from the Rock Island Arsenal, and seventy cadet rifles with accoutrements.

Military drill is required of each male student, unless excused for physical disability or by special vote of the Faculty for good and satisfactory reasons. Each cadet is required to purchase a copy of the standard United States Infantry Tactics, for study and reference. He is also to provide himself with a uniform, modeled somewhat after the uniform of the regular army. It is neat and durable, consists of blouse, pantaloons cap, and gloves, and costs about twenty dollars.

In the Fall and Spring terms, a period of forty-five minutes daily is devoted to outdoor maneuvers. During the winter, the new armory is used, and a portion of the time is devoted to recitations in Tactics and to lectures. When possible, an encamp-

ment will be held at the close of the Spring term for practical instruction in guard and field duty.

PHYSICS.

Instruction in Physics is given by text-book, supplemented by lectures where necessary. The study continues throughout the Junior year, and takes up the important sciences of Mechanics, Heat, Light, Sound, and Electricity, especial attention being given to the latter in view of its modern applications. Besides the instruction in the class-room, each student is required to take a course in laboratory work, four hours weekly, extending throughout the year. This course is intended to give the student an opportunity to perform many of the experiments himself, as well as to teach him the methods of determining physical constants and to give him skill in experimentation. A good collection of physical instruments, including copies of the principal standards in length, weight, mass, and electricity, gives the student the necessary means for making the course a profitable one.

METEOROLOGY.

Instruction in Meteorology is given in a course of lectures extending through six weeks in the Senior year. The course includes a discussion of Practical Meteorology, including an explanation of the instruments used, the laws of storms, the characteristics of climate, and the elements of Agricultural Meteorology.

SURVEYING.

Surveying, which is taught in the last term of the Sophomore year, includes the theory, use, and adjustments of the instruments used in surveying;

the methods of the United States Surveyors; the location of lost corners; field work and mapping. For one-half of the term the class has practical work in the field which makes the students accustomed to the use of instruments and the methods of work. There is also acquired such elementary knowledge of the measurement and laws of water as is useful to every citizen in an irrigated country and as is expected of every surveyor.

AGRICULTURAL HYDRAULICS.

In the last term of the Senior year, for the students of the Agricultural course, a course in Agricultural Hydraulics is offered. This includes a discussion of the general principles of irrigation; the methods of irrigation; construction of canals and structures for irrigation; flumes, reservoirs, etc. The course is intended to be a general one, covering the general principles and methods of irrigation, and useful to those directly connected with agriculture.

The course as given in the second year of the Short course in Agriculture, and in the Winter course, will be essentially the same with such modifications as may be necessary because of the special purpose of the course and the preparation of the students.

IRRIGATION ENGINEERING.

Those who desire to fit themselves for water commissioners, superintendents, canal superintendents, or who may desire to secure a basis for work as Irrigation Engineers may enter the course of Irrigation Engineering in the last two years of the College course. It is the object of the course to give the student as thorough ground work as

circumstances will allow in the theoretical and practical knowledge of hydraulics, and of engineering as applicable to the special circumstances of irrigation. The course in the Junior and Senior years is planned with this end in view. The special instruction in Civil and Irrigation Engineering extends through five terms of these two years, and covers by a course of instruction, principally in lectures, the principles of ditch and canal engineering; reservoir and reservoir construction; fluming; canal structures, as headgates, drops, siphons, etc.; theoretical and practical hydraulics; bridge building; trusses, etc. The whole course is accompanied with field work sufficient in amount to make the student familiar with the instruments and their use. Many of them have practical work in the surveying of reservoirs, canal lines, gauging of streams, and other similar work. Where this work is approved by the Professor of Engineering it is accepted in place of assigned exercises.

The Department has accessible in its own collection and that of the Professor of Engineering a large collection of photographs and plans of irrigation structures of this and other countries. In the present condition of Irrigation Engineering, and the lack of text-books, the collection is especially useful. There is also available one of the best collection of publications on irrigation in the United States, covering American, French, Italian, Egyptian, Spanish, and Australian practice.

Besides the engineering instruments, the Department possesses current meters and an experimental apparatus for measuring the discharge through openings of considerable size. This is

supplied with water from a canal passing through the College grounds.

STRENGTH OF MATERIALS.

One term is given especially to the study of the Strength of Materials, including the theoretical and experimental study of the materials used in engineering. The Department has a machine for the testing of cements, and a large testing-machine whose capacity is 50,000 pounds, which are used in connection with this course.

ELOCUTION AND ORATORY

is required in the Preparatory, Freshman, Sophomore, Junior, and Senior years. The work is devoted to voice production, articulation and pronunciation, analytic and expressive reading, gesture, debates, platform criticisms, and oratorical drill.

As a matter of health, the study of elocution is invaluable, as it teaches, through voice production, the proper use of the organs for breathing. It will make one a better business man, it will fit one better in every way for the different walks of life, it will teach him to study his fellow men, and it will lead him to find the best of himself and impress it upon them.

The study of Elocution and Oratory is, through the aid of the world's great minds, continued long after the student has said farewell to his Alma Mater—it is health-giving and refining.

PHYSICAL CULTURE

is not required, but many avail themselves of the instruction offered in the Gymnasium. The young men are instructed by the Professor of Military Tactics, while the young women are under the care of the special instructor of elocution.

The Armory has been fitted up for the present with such useful apparatus as oval chest-expander, pulleys, stretchers, clubs, dumb-bells, wands, pummeling bag, boxing gloves, foils, traveling rings, trapeze, rowing machine, stationary and teeter ladders, etc., with the promise of being more complete in time.

The course of Physical Culture for the young women will consist of the best of the Sargent School, Swedish Movement, and Delsarte System, from light work to more heavy work upon the apparatus, all taught from physiological laws; stooping shoulders are made straight, narrow chests made broad, the weak made strong, the strong made agile and graceful.

PSYCHOLOGY.

Hill's "Elements of Psychology" is the text-book in use.

The subject is taught principally by recitations, discussions, and lectures. Much oral work is done in connection with recitations based upon the text. Supplementary reading along the lines of recent investigations is encouraged. Contributions to the science, found on the pages of the best periodicals, supplement the text-book statements. The lives and writings of representative thinkers in the domain of metaphysics afford interesting topics for much oral instruction and library investigation. Something is done to point out the sources whence a knowledge of the history of psychology can be obtained. The relations of the subject to the work of the teacher are pointed out and made themes for study and discussion.

LOGIC.

This study is taught by recitations, discussions, and original exercises. Careful consideration is given to the principles of deductive reasoning. The syllogism is analyzed. The principles and methods underlying scientific investigation are made subjects of study, and the basis of class discussion and essay work. Practical application of what the student learns in the study of Logic is made in testing the validity of arguments and detecting fallacious reasoning.

The history of the science is considered and something learned of the writers whose works thereon have recognized merit. Gregory's "Practical Logic" is the text-book used.

POLITICAL ECONOMY.

The text-book in use is Mill's "Principles of Political Economy." Access is had to other standard works, such as Walker's "Science of Wealth," Bowen's "American Political Economy," Perry's "Elements of Political Economy," and Gregory's "Political Economy."

The important questions with which the subject deals are treated without attempt to uphold any narrow, one-sided view. Economic questions of particular importance to the people of the United States are given special prominence in the recitations, discussions, and lectures. These are considered from a historic and an impartial standpoint.

CIVIL GOVERNMENT.

The study of the Constitution of the United States and the State of Colorado both conjoin to broaden the mind of the student and better fit him

to take his place among the citizens of this state or other states. These, with other subjects relating to civics, will be given by a series of exercises in the Senior year.

PUBLIC RHETORICALS.

Each student enrolled shall render at least one public rhetorical exercise each College term, unless excused by Faculty vote. These exercises shall consist of declamations and recitations for the younger classes, and original exercises for the advanced students. The importance of these exercises to the student can scarcely be over-estimated, as every one should have a training which will enable him to present his views upon any question in public in an intelligent and a pleasing manner.

DEGREES.

Upon those who complete the work of any one of the four courses in a satisfactory manner, the State Board of Agriculture, upon recommendation of the Faculty of Instruction, confers the degree of Bachelor of Science.

The degree of Master of Science will be conferred upon all graduates of the College who pursue thoroughly some line of work after graduation, and who submit an acceptable thesis on the same.

THE STATE AGRICULTURAL EXPERIMENT STATION.

The Central Station is located at the College, Fort Collins, Colorado, Larimer County. Four Sub-Stations are provided for, three of which are in operation and doing satisfactory work. They are the San Luis Valley Station, at Monte Vista, Rio Grande County; the Arkansas Valley Station,

at Rocky Ford, Otero County; and the Divide Station, at Table Rock, El Paso County. The fourth, to be in Delta County, has not been put in operation yet, as it has not been located.

This department was created in acceptance of the conditions of the Hatch Act, and the work has been arranged in conformity with its provisions.

Bulletins are issued quarterly, or oftener, and reports annually, which are distributed to those who request them as long as the editions last. Address the Director, Fort Collins.

In connection with this work, the Secretary of the State Board annually distributes to applicants, seeds of such varieties as he may obtain from the Experiment Station or elsewhere. All cannot be supplied, but such seeds as we have will be sent where, in our judgment, they will do the most good. The only compensation asked or expected is a careful report of results, with notations on altitude and irrigation, kind and condition of soil, time of planting, and mode of cultivation.

EXPENSES.

The expense of a student attending the State Agricultural College is slight, as any student who can pay his traveling expenses and board, and in addition, can buy his clothes and books, can attend. All fees were abolished by the Board of Agriculture, January 1, 1891.

Rooms for young men may be had in the Dormitory in the order of application. The Dormitory building is heated by steam and lighted by electric lights. Each room contains a bedstead; all other furniture must be supplied by the students. In order that good care shall be exercised

over the property, each student is required to make a deposit of \$2.50 with the Secretary. At the end of the term, if no damage is done other than ordinary wear, the sum is returned to the depositor.

YEARLY EXPENSES.

Board (September 5 to June 8), 40 weeks.....	\$120.00
Heat, light, and room rent.....	14.00
Laundry expenses (approximately).....	20.00
Books (approximately).....	12.00
Total.....	<u>\$166.00</u>

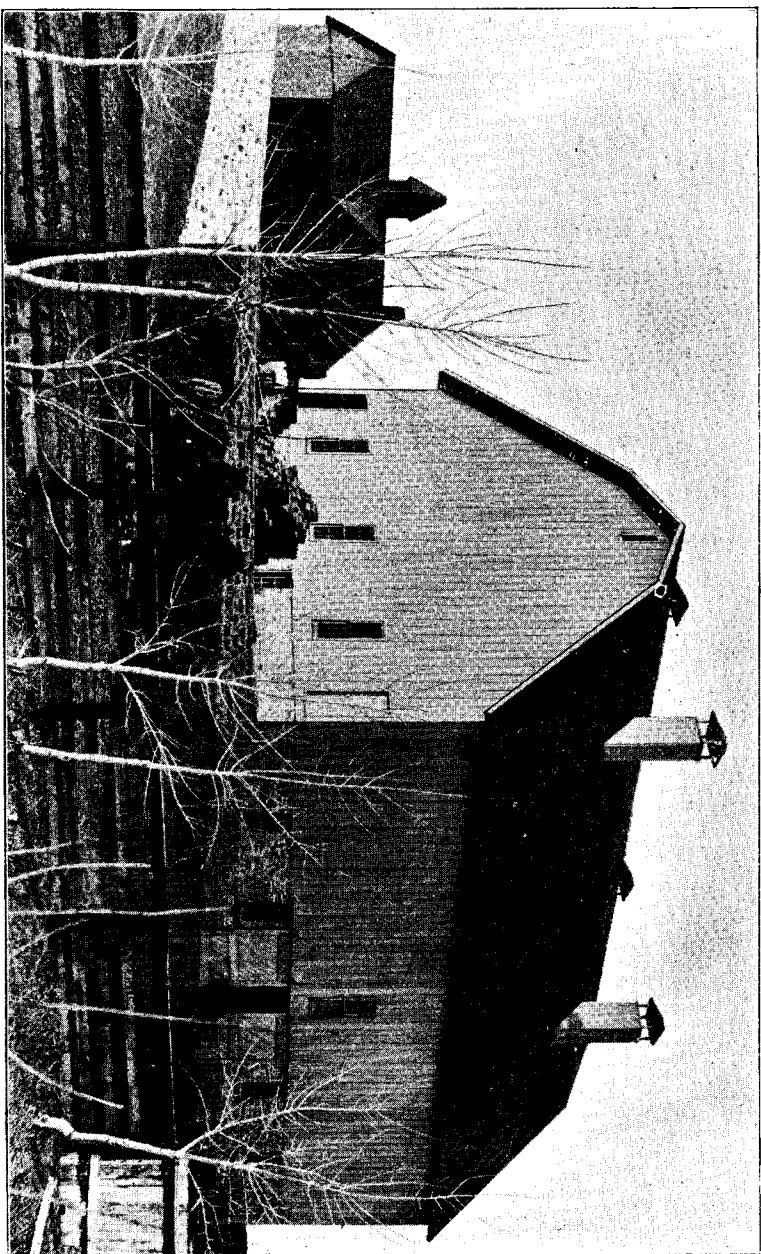
In this estimate, clothing and traveling expenses are not included. The wages of students, at 15 cents per hour, may be used to lessen the expenses, so that \$150.00, in addition to clothing and traveling expenses, will take one through the College year.

ADVANCE PAYMENTS.

Board must be paid to the Steward monthly in advance. Other expenses and the deposit must be paid to the Secretary in his office. No reduction is made unless for absence of a full week at one time. In such case a reduction of 50 per cent. is allowed. An enforced absence of two consecutive weeks entitles the absentee to full reduction of time. A student leaving at any time has any excess or balance to his credit refunded to him, on settlement.

Board and lodging in private houses can be had at prices varying from \$4 to \$5 per week, according to accommodations and location. It is possible for students to form clubs and board themselves, thereby materially reducing expenses.

The total cost, for each student, per year, need not exceed \$200. This sum does not cover the cost of clothing or the money paid in traveling



COLLEGE BARN.

expenses. Students reduce the total cost by money earned by labor performed under College regulations. Many students do not spend more than \$100 per year; and a few thoroughly-in-earnest ones pay their way through College with money of their own earning.

CONDITIONS OF ADMISSION.

The College admits students of both sexes, provided they pass a satisfactory examination in the common branches, viz.: Reading, Writing, Spelling, Grammar, Arithmetic, and Geography; and provided they are at least 15 years of age.

The work of the Preparatory year is, in part, a thorough review of Grammar and Arithmetic, with the additional subjects of United States History, Physical Geography, Elocution, Composition, Word Analysis, and Drawing.

Candidates for admission should appear for examination on the dates announced on the calendar of exercises, preferably at the opening of the College year. Those entering later, or proposing to take advanced work, must be prepared to take a more thorough and prolonged series of examinations.

EXAMINATIONS FOR ENTRANCE.

Examinations for admission to the Freshman class are as follows:

In *Reading*, candidates must be able to read understandingly, and with proper accent and emphasis.

In *Writing* and *Orthography*, they must be able to write from dictation, sentences from standard pieces of English literature, both prose and poetry, sufficient in number to test their qualifications in Penmanship and Orthography.

Candidates will also be required to pass examinations in *Arithmetic*, *Grammar*, and *Descriptive Geography*.

Candidates for advanced classes or work must be examined on all previous work, or bring certificates of standing from schools having an equivalent grade of work.

Those desiring to enter the Preparatory class must show some knowledge of Grammar, and be examined in Arithmetic, as far as interest, and in Descriptive Geography. They must show a general knowledge sufficient to enable them to take up the work.

Specimen questions follow, so that the candidates may gain an idea as to what will be required upon presenting themselves for entrance to the Freshman class.

Similarly thorough examinations will be made for admission to higher classes in all subjects completed by them:

ARITHMETIC.

1. A rectangular block 8.4 inches wide and 4.5 inches thick contains .267 $\frac{31}{32}$ cubic feet; how long is it?

2. What decimal—four places—of an acre is a lot 12 rods, $4\frac{1}{8}$ yards long and 8 rods, $2\frac{3}{4}$ yards wide?

3. Reduce $83\frac{5}{7} \div 61\frac{3}{4}$ times $29\frac{7}{8}$ to decimal form, correct to four places.

4. A man who owned $\frac{5}{7}$ of a mill sold $\frac{1}{4}$ of his share and divided the money he received among his 2 sons and 3 daughters so that each son received $3\frac{1}{3}$ times as much as each daughter. If each son received \$500, what was the mill worth?

5. What fraction of a mile is in $29\frac{1}{3}$ yards?

6. What is the value of a tract of land 24 rods, $2\frac{3}{4}$ yards long and 16 rods, $3\frac{2}{3}$ yards wide at \$64 an acre?

7. Multiply 1-16 of a million by 1-16 of a millionth, and divide the product by 25 hundred-millionths.

8. A gallon contains 231 cubic inches. How many hogsheads of water will fill a water-tank 65-12 feet long, $5\frac{1}{4}$ feet deep, and 3 feet wide?

9. A standard bushel of the United States contains 2,150.42 cubic inches. A grain bin 6 feet long and $5\frac{1}{2}$ feet wide contains 88.39285 bushels of wheat. How deep is the bin?

10. A jeweler marked watches that cost \$900 a dozen so that he could sell at $12\frac{1}{2}$ per cent. below the marked price and yet gain $16\frac{2}{3}$ per cent. What marked price was put upon each watch?

11. A broker sold 325 barrels of flour at \$4.80 a barrel, brokerage $1\frac{2}{3}$ per cent. and invested the net proceeds in pork worth \$7.50 a barrel, brokerage 24-15 per cent. How many barrels of pork were bought?

12. The interest of \$7,200 at 5 per cent. for a given time, was \$2,085. Find the time.

13. A note of \$720 bearing 6 per cent. interest and dated January 21, 1891, due in 9 months, was sold June 6, 1891, so that the buyer would make 9 per cent. on his money. For what sum was the note sold?

14. How much will a man gain by buying 25 shares, of \$100 each, at $12\frac{1}{2}$ per cent. advance and after receiving a 6 per cent. dividend, selling them at 5 per cent. less than they cost him, brokerage $\frac{1}{4}$ per cent. in both cases, interest not considered?

15. A rectangular block is 18 inches long, 14 inches wide, and contains 15-16 cubic feet. Find the length of its diagonal.

GRAMMAR.

1. In how many ways may a noun in the objective case be used? Give examples.

2. What properties have nouns and verbs in common? What parts of speech are compared?

3. How is the passive voice formed? Give the passive participals of the verb *see*.

4. Give a synopsis of the verb *go* in the active voice, indicative mode, third person, and plural number.

5. He tried *to give* the poor *man* such help *as* was most needed. Parse the words in italics,

6. Correct where necessary:—You and him will go with me and her.

She has went home to get dinner for him and I.

7. How can you tell when *that* is a relative pronoun? When *little* is an adverb?

8. Parse the words in italics:—I *knew it to be* *him*. The teacher told the *pupil to study* his lesson.

9. He gave me what I wanted. Parse *me* and *what*, and change the sentence to the passive form.

10. What are the nominative forms of *whose*? The singular forms of *they*?

SPELLING.

1. The dauntless *knight*, reining in his fleet steed drew his *weapon* and listened to the sound of the *racing* and *chasing* on the lee over the brake.

2. That *ancient* evergreen is a *yew-tree*.

3. The *nuptial* ring dropped from the fleshless finger of the *skeleton*.

4. The beauty and costliness of the *heir-loom*, her mother's *legacy*, were the favorite *theme* of every tongue.

5. As the Moorish *cavalcade* ascended the eminence, the boom of *artillery* and the sound of trumpets and *cymbals* broke from the citadel on the bank of the *crystal* river.

6. He tried to think in what lay the *source* of all his *wretchedness*.

7. The *lime* is a fruit *allied* to the lemon, but smaller and more intensely sour.

8. Gathering tears and *choking* sighs answered the echo of the *awful knell*.

9. The professor had been *preceded* by a clever, *talkative*, scientific lecturer whose egotism was *intense*.

10. A sober *silence* reigned throughout the turret-crowned *mansion* amid the elms.

11. The *guilty* soul sees with fear the painful course that forms the pathway to the *skies*.

12. His *colleagues* were not less *shrewd* than he.

13. Beyond the *picturesque* ruin were seen patches of *luxuriant* meadow, with here and there groups of *graceful* oaks and *sycamores*.

14. Being *fatigued* I ate my biscuit and then went to the *wharf* for a *draught* of water.

GEOGRAPHY.

1. When it is said that Washington is on the *left* bank of the Potomac River, what is meant? Locate Pittsburgh.

2. Over what waters would a boat have to pass in going from Chicago to Buffalo?

3. Why is standard or railroad time faster than Kansas City time?

4. How many persons represent Colorado in the Congress of the United States? Why?

5. What capital cities are found on or near the fortieth parallel of north latitude? On or near what parallel has the center of population in the United States kept?

6. What is the ruler of each of the following-named countries called: Russia, Austria, Turkey, Persia, and Egypt?

7. Where is Behring Sea? What grand divisions are connected by the Isthmus of Panama?

8. Between what parallels of latitude does the United States lie? How much further east is Maine than Colorado?

9. Over what waters would a vessel pass in going from London to Calcutta?

10. For what is each place noted: Dresden, Genoa, Strasbourg, Geneva, and Sheffield?

11. In what zone is the larger part of South America? What determines the width of the Torrid zone?

12. Switzerland—its location, its form of government, its lakes, its cities, and its inhabitants.

REGULAR AND SPECIAL COURSES.

Unless there are strong and excellent reasons for it, students will not be allowed to take a special course of study, and in case it is allowed, the student must show that he is well-qualified to pursue the studies selected, by passing such examinations as the Faculty may assign. No student will be allowed to change his course during the progress of a term, nor will he be allowed to drop a study, unless by permission of the Faculty.

All applications for special courses of study must be made to the Chairman of the Committee

on Examinations, by mail or otherwise, at least two days before the opening of the term. Except under unusual circumstances, it will be useless for any person to apply for a special course of study involving less work than is required of the students in the regular courses.

LEAVING COLLEGE.

A student will not be allowed to leave College in term time without leave of absence granted by the President or the Faculty, otherwise the student will be liable to *Suspension* or *Expulsion*. Temporary leave of absence can be granted by the President, or the officer in charge during his absence. Final separation from the College must be acted upon by the Faculty.

LABOR.

Labor, two hours each school day, is required of all students not excused for physical disability. This Labor (see Course of Study) is performed on the farm, or in the garden, in shops and laboratories, in field work, in irrigation, and in surveying and engineering.

DISCIPLINE.

The discipline of the College is administered by the Faculty according to a system of demerits.

Misconduct, in or out of classes, unexcused absences from any required College exercises, meddling with College property, etc., receive one or more demerits, as the case may seem to require. Parents of students who receive ten demerits will be notified of the students' misconduct by the President; twelve demerits suspend, while fifteen expel the student from the College.

Study hours begin at 7 P. M. and continue until 10 P. M. At 10:15 P. M. lights are extinguished.

GRADES IN WORK AND STUDY.

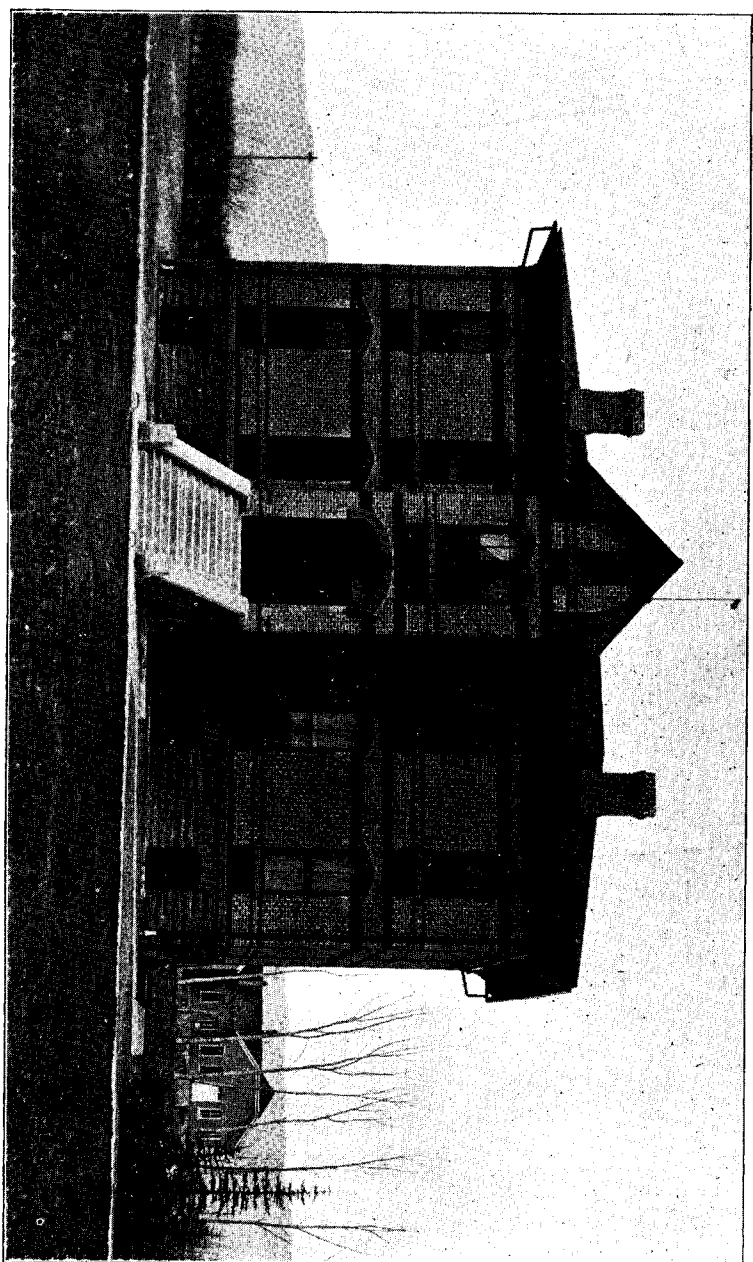
Each student is expected to maintain a grade of 65, on a scale with 100 as perfect. A student is graded as passed in any study or branch of manual practice when the average of his daily progress and his term examination equals 65, on a scale of 100 as perfect.

Failure may be made up, and tested by special examination, or the study must be again taken up with a subsequent class.

MEANS FOR INSTRUCTION AND ILLUSTRATION.

The College hall, with its new addition, contains large recitation rooms for the following-named departments: Mathematics, Mechanics and Drawing, English and Stenography, Physics and Irrigation Engineering, History, Literature, and Language; also, commodious Library and Reading rooms, Museum, Zoological Laboratory and recitation room, with work room; also, offices for officers of the College, rooms for Board of Agriculture, Faculty, etc. Finally, there is a large and well-arranged Assembly room, with opera chairs for seating 300 persons, stage, retiring rooms, cloak rooms, etc., attached, for the convenience and comfort of the school and the public. The whole is heated by steam and admirably lighted by electric lights from the works of the Fort Collins Electric Light Company. The basement is heated and lighted, and contains an Armory, 40x72 feet, for purposes of drill and gymnasium, the heating plant, bath rooms, rooms for janitor, storage, etc.

The Chemical Laboratory has a lecture-room for forty students; a work or analytic room, with desks for twenty-four students, each desk being



COLLEGE DORMITORY.

supplied with water and gas for the use of each student, and convenient hoods for ventilation; and a Station Laboratory, with balance room, distillation room, etc.

The Botanical and Horticultural Laboratory, completed in May, 1890, has fine rooms for instruction and laboratory work, office, tool room, seed room, grafting room, and ample basement room for storage. The conservatory attached, 20x50 feet, contains about 200 species, or 1,000 plants representing many interesting and rare botanical families; and is heated by improved hot-water apparatus.

The orchards and grounds are carefully laid out, and planted to ornamental shrubs and trees. Here we see the plantation of forest trees, the kitchen garden, with its many varieties of vegetables and small fruits, hot beds, and cold frames.

The new Agricultural Hall is now completed, and is ready for occupancy. It is a very attractive building, constructed of red stone and brick. The entire upper floor is devoted to a spacious hall for class-room work. The first floor is divided into a hallway and four large, comfortable rooms. Here will be the office of the Professor of Agriculture, and Director of the Experiment Station, laboratory, agricultural museum, and seed room. The basement has four apartments which will be used for heating apparatus, temporary dairy department, and storage.

The farm of 240 acres, nearly all under cultivation, includes the experimental ground of about 20 acres, containing three plots, A. B. and C., the first consisting of fifty smaller plots, the second of

thirty-three, ranging in size from 1-40 to 1-5 of an acre, and the third of sixteen, containing 1-4 acre each. All are permanently laid with drives and walks, and have iron stakes lettered and numbered to designate the corners. These permanent corner stakes are four feet long, of which three and one-half feet are driven into the earth. In addition, there are several plats of one acre each, for larger experiments on the farm.

The live stock consists of Clydesdale and Percheron grade draft horses, Short-Horn Durham cattle, Shropshire Down and Merino sheep. A selection of registered hogs, representing the Chester White, Poland China, and Berkshire breeds has been made. Other representative breeds of stock will be added as rapidly as means and accommodations will admit.

The Mechanic Arts Hall includes a large main building two stories in height, and an ell portion one story high.

The machine shop occupies the first floor in the north end of the building; it is supplied with a fine assortment of apparatus for working the metals. Around the room are benches, with iron vises fitted for the work in filing and chipping; and connected to the main line-shaft are the following high-grade machines: A Gray 6-foot planer, a Brown & Sharp Universal milling machine, with gear cutting attachments, a Gould & Eberhardt 15-inch shaper, a 14-inch and a 17-inch engine lathe, and a speed lathe, a Bickford 20-inch drill, a grindstone, and an emery wheel. In addition, there is supplied a good assortment of gauges, reamers, taps, dies, and other small tools.

At the east end of the machine room is the office of the Professor in charge and the tool room. In the tool room are kept such tools as are not in general use, but which are necessary for special work, or such tools as would become injured or lost if scattered around. By an order from the Professor, any tool in the tool room can be obtained and used by the students. In the west end of the machine room a space is set off, by an iron railing, for the experimental work in the testing of materials, valve setting, testing by brakes, etc. This testing laboratoy is supplied with a 50,000-pound Riehle testing machine, a 12-horse power Hendey & Meyer engine fitted with a Prony Brake, a Blake steam pump, gauges, thermometers, indicators, etc.

Opening off the machine room is the engine room, which is separated from the hall by glass partitions. In this room is the 50-horse power Harris-Corliss engine for running the shops. This engine is supplied with indicator attachment, and the student will be given a chance to take and work up indicator cards. For this purpose the department has a pair of Crosby indicators with extra springs. A dead-weight gauge tester affords a means of correcting steam gauges.

Opposite the engine-room is the wash-room, with lockers for one hundred students.

Adjoining the wash-room is the boiler-room, containing the large boiler used to furnish the engines with steam and heat the building.

The Department of Engineering and Physics has the class-room fitted with water, electric light from its own dynamo, and curtains for darkening

the room for the use of the solar-lantern and stereopticon.

In Physics it has a collection of apparatus both for illustration and experimentation, which is at the use of the student when he is prepared for it. This collection includes a set of U. S. Standard Weights and Measures, furnished by the Government; micrometers; balances; air pumps; induction coil; standard ohm; standard cell; galvanometers; electrometers; voltmeters; ammeters; dynamo; resistance coils, etc., with work rooms, dark room, and rooms for laboratory practice.

For use in engineering it has several current meters of various patterns, including one electrical registering meter; a Darcy-Pitot tube; a number of Nilometers of various patterns which are used for experimentation; an apparatus for the measurement of the flow of water through orifices and over weirs; pressure gauges; photographs and plans; and a collection of slides for the lantern made from negatives taken by the Professor of Engineering.

It has five transits, two with solar attachment; as many levels; two compasses; plane table; rods, chains, and tapes of various patterns; odometer, planimeter, photographic apparatus, etc.

It possesses a cement tester and has a complete set of meteorological instruments, many of them self-registering, giving means for the study of meteorology.

The Military department has seventy cadet rifles and two 3-inch rifled field-pieces from the War Department. Each year there is issued a supply of ammunition for both branches of service,

in order to give training in infantry skirmish drill, target practice, and artillery firing.

The Scientific department is supplied with a fine cabinet of specimens, illustrating Botany, Entomology, Geology and Mineralogy, Zoology, and Comparative Anatomy.

LOCATION.

The State Agricultural College is located in Fort Collins, Colorado, the county seat of Larimer County, which is one of the most prosperous agricultural counties in the State. The town contains 2,500 inhabitants, and is beautifully situated about five miles from the foothills, and in full view of Long's Peak and many miles of the Snowy Range. Its supply of water is derived from the melting snows of the mountains; its streets and buildings are finely lighted by an excellent electric light plant; and its sidewalks are exclusively made of excellent flagstone, which is found in large quarries almost at its doors.

The College is at the south side of town; on either side of the Colorado Central Railroad are its buildings and the farm. Visitors are always welcome, and they find the town accessible by six trains, which arrive and depart daily for Denver and other points. With the advantages of pure water, a beautiful location, electric lights and steam heat, not much is left to be desired. All the surroundings of the College are favorable to the carrying on of the work which it is its mission to perform.

HISTORY.

The State Agricultural College of Colorado—in common with those of other States—had its origin in an act of Congress, passed July 2, 1862,

which granted 90,000 acres of land as an endowment fund for a college, "where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the *liberal* and *practical* education of the industrial classes in the *several pursuits* and *professions* of life."

No benefit was received from this grant until an act of Congress, passed April 24, 1884, confirmed it to the State. The land is now located, a part is sold, and the proceeds will form a perpetual endowment fund.

The State has supported the College by the passage of an act (1883), levying a tax of one-fifth of a mill annually on each dollar of valuation. In 1891 this tax was changed to one-sixth of a mill.

The College was incorporated by the act of 1870, and the act was amended in 1872, and again in 1874, but no steps were taken toward the erection of a College building by the Board in charge. In 1877, by the death of the President of the Board, and removal of other members from the State, an emergency was declared to exist and a new law was passed, which was given immediate effect. To the State Board of Agriculture, as thus reorganized, was intrusted the work of building a College.

The town of Fort Collins was selected as its site, and at a meeting held February 27, 1878, it was determined to erect a building suited to College purposes. The corner stone was laid July 29, 1878, and in the same year the first building was completed. The College was not opened for the

reception of students until September 1, 1879. The Dormitory was erected in 1881, and the Chemical Laboratory in 1882, but it was not thoroughly fitted for work until May, 1883. It was enlarged for Station work in 1888.

A small propagating house was built in 1882, for the purpose of aiding Horticulture. The present Greenhouse, with all modern appliances, was completed September 1, 1883. On the same day the Mechanic Shop was completed, its machinery put in order for work. A handsome addition to this building is now under way.

On June 1, 1890, were completed the large addition to the main building, and the new Botanical and Horticultural Laboratory, thus giving largely increased facilities for work.

Within the school-year just closed, many valuable permanent improvements have been made on the College farm. These include the Agricultural Hall, the farm-house, the tool-house, the sheep-fold, long lines of fencing, facilities for increased water supply, and the like.

The College now comprises the following distinct departments: Agriculture; Botany and Horticulture; Chemistry and Geology; History, Literature, and Modern Language; Mathematics; Mechanics and Drawing; Military Science; Physics and Engineering; Zoology and Entomology; English and Stenography; and the Experiment Station.

CALENDAR.

1892-1893.

SEPTEMBER.

S	M	T	W	T	F	S
..	..	..	..	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	..

OCTOBER.

S	M	T	W	T	F	S
..	..	..	..	..	1	..
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31

NOVEMBER.

S	M	T	W	T	F	S
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DECEMBER.

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JANUARY.

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FEBRUARY.

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MARCH.

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APRIL.

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MAY.

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JUNE.

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JULY.

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AUGUST.

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27	28	29	30	31

CALENDAR OF EXERCISES.

1892-1893.

Entrance Examinations, Monday, September 5, 1892
 Fall Term begins.....Tuesday, September 6, 1892
 Fall Term closes.....Friday, December 2, 1892
 Winter Term begins....Monday, December 5, 1892
 Holiday Recess begins..Friday, December 23, 1892
 Holiday Recess closes....Monday, January 2, 1893
 Winter Term closes.....Friday, March 10, 1893
 Spring Term begins.....Tuesday, March 21, 1893
 Baccalaureate Address.....Sunday, June 4, 1893
 State Board of Agriculture meets.....
Wednesday, June 7, 1893
 Commencement Exercises, Thursday, June 8, 1893

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