

The Bulletin *of the University of* **Minnesota**

*The College of Agriculture, Forestry,
and Home Economics*

Program for the Winter Quarter
1920-1921



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COLLEGE OF AGRICULTURE, FORESTRY, AND
HOME ECONOMICS

PROGRAM, WINTER QUARTER, 1920-1921

SPECIAL ANNOUNCEMENT

Revised Hour Schedule

	University Farm	Minneapolis Campus
I Hr	8:15- 9:05	8:30- 9:20
II Hr	9:15-10:05	9:30-10:20
III Hr	10:15-11:05	10:30-11:20
IV Hr	11:15-12:05	11:30-12:20
V Hr	1:30- 2:20	1:30- 2:20
VI Hr	2:30- 3:20	2:30- 3:20
VII Hr	3:30- 4:20	3:30- 4:20
VIII Hr	4:30- 5:20	4:30- 5:20

Convocation—Thursdays, IV Hour, University Armory
College Assembly—Thursdays, III Hour, Assembly Hall,
Ad, University Farm

Revised credit value.—One credit is equivalent to (1) one lecture or recitation period requiring two hours of preparation, (2) two periods of laboratory work requiring one hour of preparation, or (3) three hours of laboratory work requiring no preparation, each week for one quarter.

Close of registration.—All except new students must indicate their registration not later than December 21. New students may register and all students may pay fees up to and including January 3.

Classes begin.—Winter quarter classes will begin January 4. All classes scheduled for Tuesday will meet for the full time assigned.

Registration changes.—Necessary changes in registration may be made without fee up to and including January 5. The secretary's office closes at noon on that day (Wednesday).

Discontinuance of sections.—In general, sections of undergraduate courses will not be continued for less than six students. Exceptions to this rule may be made by the dean.

Time for removal of incompletes.—Incompletes received for work of the last quarter attended may be removed on or before February 4. After that date they automatically become conditions.

Condition examinations.—Conditions in work of the fall quarter may be removed by examination from the seventh to the tenth week inclusive. Arrangements must be made with the instructors concerned not later than the sixth week of the quarter (February 11).

In case of conflict between two examinations consult the instructors concerned to make special arrangements, in advance of examination week.

Examination permits must be obtained from the secretary's office BEFORE reporting for the examination.

Quarter closes.—The winter quarter will close March 24.

Final examinations.—Final examinations will be given during the last four days of the quarter. A detailed schedule will be published in the *Official Daily Bulletin*.

CLASS SCHEDULE

Other schools and colleges.—For programs of classes given in other schools and colleges of the University, not listed below, send to the registrar, University of Minnesota, Minneapolis.

Abbreviations.—The following abbreviations are used to indicate names of buildings, those marked with an asterisk (*) are located on the Minneapolis campus; all others are at University Farm.

A, *Armory	HE, Home Economics
AB, *Animal Biology	Hr, Horticulture
Ad, Administration	IA, *Institute of Anatomy
BB, Beef Barn	MA, *Mechanic Arts
C, *Chemistry	ME, *Main Engineering
CB, *Christian Bible School	MH, *Millard Hall
Ch, Agricultural Chemistry	MS, Meat Shop
DB, Dairy Barn	Mu, *Music
DH, Dairy Hall	P, *Pillsbury Hall
DiH, Dining Hall	Ph, *Physics
Ed, *Education	PHP, *Public Health and Pathology
En, Agricultural Engineering	PP, Plant Pathology
FH, Farm House	Psy, *Psychology
F, *Folwell Hall	SS, Soil Survey
G, *Greenhouse	St, Stock Pavilion
Gy, Gymnasium	Ve, Veterinary
HB, Horse Barn	WGm, *Woman's Gymnasium

Explanation of course numbers.—All undergraduate courses are numbered from 1 to 100. All courses open to undergraduates and graduates are numbered from 100 to 200. The letters f (fall), w (winter), and su (summer), indicate the quarters in which the course is offered. For example: 5f,w,s indicates that Course 5 is a one-quarter course given in the fall and repeated in the winter and again in the spring; 10f-11w-12s indicates that Course 10-11-12 is a three-quarter course running through three quarters; 25f,w-26w,s indicates a two-quarter course given in the fall and winter quarters and repeated in the winter and spring quarters.

Explanation of program statements.—The program statements below offer the following information for each course: (1) course number (for description of the course see corresponding number under the same division or department in the bulletin), (2) descriptive name of course, (3) name of instructor in parentheses, (4) number of credits, (5) classes of students to whom the course is open and the prerequisites, (6) hours offered, (7) days offered, (8) room assignment, and (9) building.

For example: under the home economics division, "17f,w,s. Advanced Clothing Construction (Weller, Carlotta Brown), 3 cred.; jr., sr., H.E. 13, 52, 53, each section limited to 20; sect. 1 V, VI, VII TTh, 305 HE; sect. 2 V, VI MWF, 305 HE," indicates that the course is a one-quarter course offered in the fall, winter, and spring; is taught by the instructors whose names appear in the parentheses; is a three-credit course; is open to juniors and seniors who have completed Home Economics Courses 13, 52, and 53; that each section is limited to twenty students; that one section is offered the fifth, sixth, and seventh hours on Tuesdays and Thursdays in Room 305, Home Economics Building, and that the other section is offered the fifth and sixth hours on Mondays, Wednesdays, and Fridays in Room 305, Home Economics Building.

When lectures, laboratory, quiz, or recitations are scheduled separately they are indicated by (lect.), (lab.), (quiz), and (rec.), respectively.

AGRICULTURAL BIOCHEMISTRY

2w	Quantitative Methods (Willaman) 5 cred.; jr., sr., Chem. 10 cred.; V, VI, VII, VIII MWF, 7 Ch
3f,w,su	Types of Carbon Compounds (Anderson) 6 cred.; soph., jr., sr., Chem. 10 cred.; I MTWThFS, 201 Ch
7f-8w	General Agricultural Biochemistry (Dutcher, Anderson) 10 cred.; soph., jr., sr., Chem. 10 cred.; (lect.) II TThS, 201 Ch (lab.) Sect. 1, V, VI, VII MW; Sect. 2, V, VI, VII TTh, 203 Ch
7w-8s	General Agricultural Biochemistry (Dutcher, Anderson) 10 cred.; soph., jr., sr., Chem. 10 cred.; (lect.) III TThS, 201 Ch (lab.) V, VI, VII TTh, 203 Ch
101f,su-102w,su	Agricultural Quantitative Analysis (Morrow), 6 cred.; jr., sr., Agr. Biochem. 7-8; V, VI, VII MWF, 105 Ch
111f,su-112w,su	Phytochemistry (Morrow), 6 cred.; sr., Biol. 10 cred., Org. Chem.; III MWF, 201 Ch
113f,su-114w,su	Biochemical Laboratory Methods (Morrow, Sharp), 4 cred.; sr., Quant. Anal., parallel Agr. Biochem. 111-112; V, VI, VII TTh, 7 Ch
116f,w,s,su	Chemistry of "Vitamines" and Deficiency Diseases (Dutcher), 3 or 5 cred.; sr., Agr. Biochem. 111-112, 113-114, or 7-8 and 15, or Physiol. 101-102; Ar
118f,w,s,su	Laboratory Problems in Biochemistry (Gortner, Bailey, Dutcher, Morrow, Palmer, Willaman), 3 or 5 cred.; sr., Agr. Biochem. 111-112, 113-114, or 103 or 110; Ar

AGRICULTURAL ECONOMICS

See Economics

AGRICULTURAL EDUCATION

21f,w	Vocational Education (Mayne) 3 cred.; jr., sr., preparing to teach; I TThS, 317 Ad
41f,w,s	Teaching I (Field) 2 cred.; jr., sr., preparing to teach; Agr. Ed. 11, 131; Sect. 1, I MWF, 317 Ad; Sect. 2, II MWF, 317 Ad; Sect. 3, V MWF, 317 Ad; Sect. 4, V MTWThF, 317 Ad (4 to 6 weeks in U. H. S.)
42f,w s	Teaching II (Field) 3 cred.; sr., preparing to teach; Agr. Ed. 41, 131, Agron. 121, 122, 123; I MWF, 317 Ad; II MWF or IV MWF, 317 Ad

- 63f-64w-65s General Agriculture (†) 9 cred.; All, Agr. Ed. 11, Ar
 75w,s Visual Presentation (†) 3 cred.; jr., sr., Ar
 121w Teachers' Course in Home and School Garden Supervision (†)
 2 cred.; approval of division; Ar
 131w,s,su Methods in Teaching High School Agriculture (Field) 5 cred.; jr., sr.,
 preparing to teach, open to jr. only on approval of div., Agr. Ed.
 11; III MTWFS, 317 Ad
 161f-162w-163s Fundamentals of Agriculture (Storm) 9 cred.; jr., sr., preparing to
 teach, Ar
 164w,su Fundamentals of Agriculture (†) 3 cred.; jr., sr., in consol. school
 princ. course, Ar
 171f,w Extension Work (Storm) 3 cred.; sr., Ar
 173f,w,s History of Agriculture (†) 3 cred.; soph., jr., sr., VI TThS, 317 Ad
 191f-192w-193s Seminar in Agricultural Education (Storm, Field) 2-6 cred.; sr.,
 preparing to teach, Ar

AGRONOMY AND FARM MANAGEMENT

- 1f,w,s,su Farm Crops (Steinmetz) 3 cred.; All, Soils 2, III, IV MWF, 2 Ad
 102f,w,su Farm Management II: Organization (Garey, Boss) 3 cred.; sr.,
 Agron. 1, Econ. 6, An. Husb. 6 or 8, Soils 3, I MWF, 24 Ad
 103w,s Farm Management II: Operation (Garey, Boss) 3 cred.; sr., Agron.
 102, II MWF, 24 Ad
 122w Corn and Potato Crops (Arny, McGinnis) 3 cred.; jr., sr., Agron. 1,
 Bot. 10 cred.; I, II MWF, 2 Ad

AMERICANIZATION TRAINING AND ANTHROPOLOGY

- *1f,w,s Introduction to Anthropology (Jenks, Grace, Jtnek) 5 cred.; 3rd gr.
 fr., soph., jr., sr., Sect. 1, I TWThFS, 15 F; Sect. 2, II
 MWThFS, 15 F; Sect. 3, V MTWThF, 15 F
 *2f,w,s General Anthropology (Jenks, Grace) 3 cred.; soph., jr., sr., Amer.
 Tr. 1; II MWF, 25 F
 *5f,w,s General Immigration (Grace) 3 cred.; soph., jr., sr., Amer. Tr. 1;
 III TThS, 15 F
 *114w The American People: Newer Immigrants (Jenks) 3 cred.; jr., sr.,
 3 courses in Amer. Tr.; III MWF, 25 F

For additional courses see the program of the College of Science, Literature,
 and the Arts.

ANIMAL BIOLOGY

- *1f s-2w su General Zoology (†), 10 cred.; full course must be completed; All;
 Sect. 1, (lect.) III, IV T and III ThS, 313 AB, (lab.) III, IV
 MWF, 101 AB
 Sect. 2, (lect.) V MW and V, VI F, 313 AB, (lab.) V, VI,
 VII TTh, 101 AB
 Sect. 3, (lect.) V, VI TTh, 313 AB, (lab.) V, VI MWF,
 101 AB
 *1w-2s General Zoology (†), 10 cred.; full course must be completed; All;
 (lect.) I, II T, and II ThS, 313 AB, (lab.) I, II MWF,
 101 AB
 *9f-10w Histology (Downey), 10 cred., full course must be completed; soph.,
 jr., sr., An. Biol. 1-2; III, IV MTWThF, 201, 211 AB
 *17f-18w General Physiology (Lund), 10 cred., full course must be completed;
 soph., jr., sr., An. Biol. 15 cred., or 10 cred. and Chem. or Phys.
 10 cred.; V, VI, VII MW and V, VI, VII, VIII F, 10 AB
 *37f-38w-39s General Entomology (Oestlund), 9 cred.; full course must be com-
 pleted; soph., jr., sr., An. Biol. 1-2; I, II MWF, 208, 10 AB

For additional courses see the program of the College of Science, Literature,
 and the Arts.

† Instructor to be assigned.

* Offered on Minneapolis campus.

ANIMAL HUSBANDRY

1f,w	Types and Breeds of Livestock (Carnes) 5 cred.; All, I, II MTWFS, Center Arena, St
3f-4w	Market Classes of Livestock (Ferrin) 6 cred.; soph., jr., sr., An. Husb. 2 I M, and I, II WF, West Arena, St
5w	Livestock Breeding (Peters) 3 cred.; sr., Vet. Med. 6, Agron. 131, IV MWF, 3 St
6w	Livestock Feeding (Ferrin) 5 cred.; sr., Agr. Biochem. 15, III MTWFS, 3 St
106w	Advanced Meats (P. A. Anderson) 3 cred.; sr., An. Husb. 7, V, VI, VII WF, MS

ART EDUCATION

*29f-30w-31s	Fundamental Principles of Design (Raymond), 9 cred.; All; (lect.) III TThS, (lab.) II or IV TThS, 303 MA
*32f-33w-34s	Freehand Drawing and Composition (Small, Raymond), 9 cred.; All; (Comp.) II W, (Sketch) III F, (lab.) I or IV MWF, 302 MA
*40f-41w-42s	Principles of Harmony in Form and Color (Raymond), 9 cred.; soph., jr., sr., Art Educ. 29-30-31; (lect.) II TThS, (lab.) I or III TThS, 303 MA

For additional courses see the program of the College of Education.

BACTERIOLOGY AND IMMUNOLOGY

*1f,w,s,su	General Bacteriology (†), 5 cred.; soph., jr., sr., chem. 1 yr., V, VI, VII MWF, MH
*103w	Special Bacteriology for Students of Agriculture, (†), 4 cred.; jr., sr., Bact. 1; I, II TThS, MH

BEE CULTURE

2f,w	Elements of Beekeeping II (Jager, Matthews), 3 cred.; jr., sr., Sect. 1, (lect.) III TThS, (lab.) 1 hr. Ar; Sect. 2, (lect.) IV TS, (lab.) 2 hr. Ar; Sect. 3, (lect.) I MWF, (lab.) 1 hr. Ar, FH
3w-4s	Advanced Beekeeping (Jager), 6 cred., jr., sr., Bee Cult. 1 or 2, V TTh. (lab.) Ar, FH

BOTANY

*1f,s-2w,f	General Botany (†), 10 cred., full course must be completed; All; Sect. 1, (lect.) II TThS, 210 P, (quiz) I T, 212-214-220 P, (lab.) I, II MWF, 212, 214, 220 P; Sect. 2, (lect.) III, IV S, III T, 210 P, (quiz) III Th, (lab.) III, IV MWF, 212, 214, 220 P; Sect. 3, (lect.) V, VI T and VI Th, 210 P, (quiz) V Th, (lab.) V, VI MWF, 212, 214, 220 P.
*15w	Anatomy of Vascular Plants (Butters), 5 cred.; soph., jr., sr., Bot. 2; III, IV MTWFS, 202 AB
20w	Forest Ecology (Cooper), 3 cred., soph., jr., sr., Bot., 15 cred., Ar
*53w	Botany of Economic Plants (Knight), 5 cred.; jr., sr., Bot. 15 cred. III, IV MTWFS, G
*62w	Bryophytes and Pteridophytes (Huff), 5 cred.; jr., sr., Bot., 15 cred. I, II TWThFS, 202 AB
*113f-114w-115s	Advanced Taxonomy (Rosendahl), 9 cred.; jr., sr., Bot. 7; V, VI MWF, 202 AB

† Instructor to be assigned.

* Offered on Minneapolis campus.

- *118w-119s Cytology (Rosendahl), 6 cred.; jr., sr., Bot. 51; I, II MWF, 202 AB
- *142w Plant Metabolism & Growth (Knight), 5 cred.; sr., Bot. 52, Org. Chem.; I, II TWThFS, G

For additional courses see the program of the College of Science, Literature, and the Arts.

CHEMISTRY

- *1f-2w-3s General Inorganic Chemistry (Reyerson) 12 cred.; for those without high school chemistry; (lect.) VI MWF, 100 C, (lab.) VII, VIII MW, 210 C
- *9f-10w Advanced Inorganic Chemistry (†) 10 cred.; for those with high school chemistry; (lect.) VI MWF, 100 C, (lab.) VII, VIII MWF, 210 C
- *20w Quantitative Analysis (Sidener, Geiger) 5 cred.; soph., jr., sr., Chem. 12-13, (lect.) V M, 325 C, (rec.) V F, 315 C., (lab.) VI-VIII MF and V-VIII W, 310 C
- *35f-36w Organic Chemistry (Hunter) 10 cred.; jr., sr., Chem. 15 cred.; (lect.) III MWF, 100 C, (lab.) V, VI, VII WF or TTh, 10 C
- *140f-141w-142s Physical Chemistry (MacDougall) 9, 12 or 15 cred.; jr., sr., Chem. 2 yr. Phys. 1 yr. (lect.) IV MWF, 225 C, (rec.) III S, 115 C, (lab.) V, VI, VII F, 117 C

For additional courses see the program of the School of Chemistry.

DAIRY HUSBANDRY

- 1f,w,s Elements of Dairying (Keithley, Dahle), 5 cred.; All; (lect.) III MWF, 39 DH, (lab.) III, IV TS, Dairy Lab. limited to 50.
- 2w Dairy Bacteriology (Macy), 5 cred.; soph., jr., sr., Bact. 1; limited to 12; (lect.) IV TS, 40 DH, (lab.) V, VI MWF
- 103w Dairy Stock Feeding (Eckles), 3 cred.; sr., Dy. Husb. 101; Agr. Biochem. 15; IV MWF, 39 DH
- 106w Seminar (Eckles), 1 cred.; sr., 3 courses in Dy. Husb.; II S, 30 DH

ECONOMICS

- 5f.w General Economics (Wertz), 5 cred.; soph., jr., sr., Sect. 1, I MWThFS, 215 En; Sect. 2, III MTWFS, 106 En
- 6f,w,s Agricultural Economics (Working), 3 cred.; soph., jr., sr., Econ. 3-4 or 5; Sect. 1, I TThS, 106 En; Sect. 2, II TThS, 215 En
- 7w,s Principles of Economics (Anderson), 5 cred.; II MTWThF, 106 HE
- 13w Agricultural Statistics (Black), 5 cred.; soph., jr., sr., (lect.) IV MWF, 106 En, (lab.) Ar
- 20w-21s Economic History and Geography of Agriculture (Holmes), 10 cred.; All, IV MTWFS, 106 En
- *23w Principles of Organization and Management (Pelz), 5 cred.; soph., jr., sr., Econ. 5 and 6, (lect.) IV MWF, Lit.Th, Sect. 1, I MW, 102 MA, Sect. 2, II MW, 109 MA, Sect. 3, III MW, Sect. 4, I TTh, 102 MA, Sect. 5, II TTh, Sect. 6, III TTh, Sect. 7, V MW, Sect. 8, VI MW, Sect. 9, V TTh, 202 MA, Sect. 10, VI TTh, 202 MA
- *25f-26w Principles of Accounting (Noble and others), 8 cred.; soph., jr., sr., (lect.) Sect. 1, I MWF, 301 MA; Sect. 2, II MWF, 301 MA; Sect. 3, III MWF, 301 MA; Sect. 4, IV MWF, 301 MA; Sect. 5, V MWF, 303 MA; Sect. 6, I TThS, 301 MA; Sect. 7, III, TThS, 109 MA; Sect. 8, VII TThS, 109 MA; (lab.) Sect. 1, V, VI M, 301 MA; Sect. 2, VI, VII M, 303 MA;

† Instructor to be assigned.

* Offered on Minneapolis campus.

- Sect. 3, III, IV T, 303 MA; Sect. 4, V, VI T, 301 MA; Sect. 5, VI, VII T, 303 MA; Sect. 6, VII, VIII T, 301 MA; Sect. 7, V, VI W, 301 MA; Sect. 8, II, III Th, 301 MA; Sect. 9, V, VI Th, 301 MA; Sect. 10, VII, VIII Th, 301 MA; Sect. 11, VII, VIII F, 301 MA; Sect. 12, III, IV S, 303 MA.
- *73w Railway Traffic and Rates (Cummings), 3 cred.; jr., sr., Econ. 3-4 or 5 and 6, V MWF, 202 MA
- *85f-86w Marketing of Manufactured Products (Pelz), 6 cred.; jr., sr., Econ. 3-4 or 5 and 6, and 9 other credits; Sect. 1, I TThS, 202 MA; Sect. 2, VI MWF, 202 MA
- *103f-104w Value and Distribution (Garver), 6 cred.; jr., sr., Econ. 3-4 or 5 and 6, VII MWF, 102 MA
- 108w Farm Marketing Problems (Black, Anderson), 3 cred.; sr., grad., Econ. 89, VI, VII T, 323 Ad
- 116w Economics of Agricultural Productions (Holmes), 3 cred.; jr., sr., Econ. 18, II TThS, 105 En
- *143f-144w Money and Banking (Dowrie, Stehman, Ebersole), 10 cred.; jr., sr., Econ. 3-4 or 5 and 6, (lect.) IV TS, 209 MA; Sect. 1, II TThS, 209 MA; Sect. 2, III MWF, 209 MA; Sect. 3, IV MWF, 209 MA; Sect. 4, VII MTW, 209 MA; Sect. 5, V MWF, 209 MA; Sect. 6, VI MWF, 209 MA
- *191f-192w Public Finance (Blakey), 6 cred.; jr., sr., Econ. 3-4 and 5 and 6, III MWF, 109 MA

EDUCATION

- *1f,w,s Brief Course in the History of Education (Alexander), 5 cred.; jr., sr., Psychol. 1-2 and 4-5 (1-2-3); II MTWThF, 205 Ed
- *3f,w,s Educational Sociology (Finney), 3 cred.; jr., sr., Psychol. 1-2 and 4-5 (1-2-3) III MWF, 205 Ed
- *11f,w,s Technic of Teaching (Miller), 3 cred.; jr., sr., Psychol. 1-2-3; I MWF, 102 Ed
- *55f,w,s Elementary Educational Psychology (Dealey), 3 cred.; jr., sr., Psychol. 6 cred., I MWF, Psy

For additional courses see the program of the College of Education.

ENGLISH

- *1f-2w-3s General Survey of English literature (†), 9 cred.; soph., jr., sr., Rhet. 1-2-3 or 4-5-6; VI MWF, 301 F
- *6f,w Chaucer (Brown), 4 cred.; soph., jr., sr., Engl. 1-2-3 or parallel, II TWFS, 204 F
- *8f,w Shakespeare (Stoll), 4 cred.; soph., jr., sr., Engl. 1-2-3 or parallel, I MTFs, 204 F

ENTOMOLOGY AND ECONOMIC ZOOLOGY

- 2w,su Economic Entomology (Ruggles), 5 cred.; soph., jr., sr., Ent. 1, Ar
6w Insects of Forest Products (Graham), 3 cred.; soph., jr., sr., Ent. 5, Ar
- 12w Forest Zoology (Washburn), 3 cred.; jr., sr., An. Biol. 10 cred., Ar
- *37f-38w-39s General Entomology (Oestlund), 9 cred.; soph., jr., sr., An. Biol. 10 cred.; I, II MWF, 208-10 AB
- *117f-118w-119s General Ecology of Insects (Chapman), 9 cred.; jr., sr., Ent. 1-2 or 37-38-39; V, VI, VII TTh, 208-10 AB
- *125f-126w-127s Advanced General Entomology (Oestlund), 9 cred.; jr., sr., Ent. 1-2 or 37-38-39; III, IV TThS, 208-10 AB

* Offered on Minneapolis campus.

† Instructor to be assigned.

- *130w Biology and Taxonomy of the Aphididae (Oestlund), 5 cred.; sr.,
Ent. 1-2 or 37-38-39, Ar
- *139f-140w Histology and Development of Insects (Riley), 6 cred.; jr., sr.,
Ent. 1-2, 37-38-39; III, IV MWF, 208-10 AB
- *144f-145w-146s Animal Parasites and Parasitism (Riley), 9 cred.; jr., sr., Ent. 1-2
and 37-38-39, V, VI, VII WF, Ar
- 197f,w,s,su Introduction to Research (Entomology Staff), 5 or more cred.; sr.,
Ent. 1-2 or 37-38-39 or 144-145-146 and other work prescribed
by the division, Ar

FARM ENGINEERING

- 4w Blacksmithing (Johnston), 3 cred.; All, III, IV MWF, 20 En
- 7w Farm Structures (White), 3 cred., jr., sr., F. Eng. 3, IV TS, and
VI, VII, VIII M, 305 En
- 8f,w Farm Engineering (Boss), 5 cred.; All, I MTWFS, 107 En
- 11f,w Applied Mathematics (Roe), 5 cred.; for those who have not had
high school higher algebra; III MTWFS, 215 En
- 21f-22w Agricultural Physics (†), 10 cred.; for those without high school
physics, II MWThFS, 216 En
- 28w Land Clearing (†), 3 cred.; jr., sr., Ar

FORESTRY

- 4w Dendrology II (Wentling, DeFlon), 4 cred.; soph., jr., sr., For. 3,
(lect.) II TThS, (lab.) V, VI, VII M, Hr
- 10w Forest Mensuration (Hansen), 5 cred.; jr., sr., For. 4, IV MTWFS,
Hr
- 20w Grazing (Allison), 3 cred.; jr., sr., IV MWF, Hr
- 26f,w Tree Crops (Cheyney), 1 cred.; All, I Th, Hr
- 27w Groves and Windbreaks (Wiggin), 3 cred.; All, I MWF, Hr
- 28w Logging (Cheyney), 3 cred.; sr., For. 1, 4, III MWF, Hr
- 32w Lumber Distribution (Cheyney), 5 cred.; jr., sr., For. 33-34, II
MTWThF, Hr
- 33f-34w Wood Structure and Identification (Wentling), 6 cred.; jr., sr.,
For. 3, 4, Bot. 1-2, V, VI, VII TTh, Hr
- 35w Seeding and Planting (Kenety), 3 cred.; jr., sr., For. 41, III MWF,
Hr
- 36w Forest Policy and Administration (Allison), 5 cred.; sr., For. 43, 11,
28 parallel, I MTWThF, Hr
- 101w Advanced Dendrology (Wentling), 3 cred.; jr., sr., For. 4, Bot. 1-2,
Ar, Hr
- 106w Research Methods in Sylviculture (Kenety), 3 cred.; sr., For. 43; I
MWF, Hr
- 108w Uses of Wood II (Wentling), 3 cred.; sr., For. 33-34, IV MWF, Hr

GEOLOGY AND MINERALOGY

- *1f-2w General Geology (Tieje, Emmons), 10 cred.: full course must be
completed, 3rd qr. fr., soph., jr., sr., Chem., Sect. 1, I TWThFS,
210 P; Sect. 2, III MTThFS, 110 P; Sect. 3, VI MTWThF,
110 P
- *7f,s-8w,su Laboratory Work (Johnston), 2 cred.; full course must be com-
pleted, 3rd qr., fr., soph., jr., sr., supports 1-2, Ar, 112 P
- *11f-12w Introduction to Geology (Tieje), 8 cred.: full course must be com-
pleted, 3rd qr., fr., soph., jr., sr., VII MTWThF, 200a P

* Offered on Minneapolis campus.

† Instructor to be assigned.

- *21w-22s Essentials of Mineralogy (Broderick), 6 cred.; full course must be completed, soph., jr., sr., open to students taking Chemistry, (lect.) IV MWF, 210 P., (lab.) V, VI, VII, VIII F and III MWF, 100 P
- *34w Meteorology (Posey), 5 cred.; soph., jr., sr., III MTThFS, 210 P
- *51f-52w Economic Geology (Schwartz), 6 cred.; full course must be completed, jr., sr., Geol. 1-2, II MWF, 210 P

For additional courses see the program of the College of Science, Literature, and the Arts.

GERMAN

See the program of the College of Science, Literature, and the Arts.

HOME ECONOMICS

- 3f,w,s Textiles (Weller, Phelps), 5 cred.; limited to 20, Sect. 1, I, II TWThFS, 211, 305 HE; Sect. 2, limited to 20, III, IV MTWFS, 307, 211 HE
- 4f,w,s Textiles (Weller, Phelps), 3 cred.; S. L. and A. and Art Education students only, limited to 20, Sect. 1, V, VI MWF, 211, 307 HE; Sect. 2, II, III, IV S, open to teachers only
- 11f,w,s Garment Making (McDowell), 3 cred.; each section limited to 20, Sect. 1, V, VI, VII TTh, 304 HE; Sect. 2, V, VI MWF, 304 HE
- 13f,w,s Dressmaking (Patchin), 5 cred.; soph., jr., sr., H.E. 3, 11, 51, H. Pract. in Garment Making, limited to 20, III, IV MTWFS, 303 HE
- 17f,w,s,su Advanced Clothing Construction (Weller, Patchin, Carlotta Brown), 3 cred.; jr., sr., H.E. 13, 52, 53, limited to 20, III, IV MWF, 305 HE
- 18w,s Commercial Clothing Manufacture (Patchin), 4 cred.; sr., H.E. 17 or parallel, I, II, III, IV MWF, 304 HE
- 21f,w,s Foods and Cookery (Randall, Child), 5 cred.; soph., jr., sr., Chem. 5 cred. and Physiol. 3 parallel, limited to 40; Sect. 1, V, VI MTWThF, 209, 309 HE; Sect. 2, I, II MTWThF, 209, 309 HE
- 22f,w,s Food Economics (Child), 5 cred.; soph., jr., sr., H.E. 21, limited to 20; III, IV MTWFS, 313, 205, 207 HE
- 23f,w Nutrition I (Anderson), 5 cred.; jr., sr., H.E. 22, Agr. Biochem. 3, Bact. 1, limited to 25, V, VI, VII, VIII MWF, 211, 213 HE
- 25w Special Problems in Foods and Cookery (Child), 3 cred.; sr., H.E. 22, 108, V, VI MWF, limited to 12; 207 HE
- 34f,w,s,su Home Management: Operation and Maintenance, Lectures (Lindquist, Studley), 3 cred.; 3rd qr., jr., sr., H.E. 22, 35 parallel, Econ. 7 or parallel, VII MWF, 213 HE
- 35f,w,s,su Home Management: Operation and Maintenance, Laboratory (Lindquist, Studley), 6 cred.; 3rd qr., jr., sr., H.E. 22, H. Pract. in Foods and Cookery, 34 parallel, advanced arrangements with division, Ar
- 43w Organization and Methods for Related Art Teaching (V. Goldstein), 3 cred.; sr., H.E. 52, 53, 131; IV MWF, 309 HE
- 45w Home Economics Survey (Weigley), 2 cred.; sr.; IV TS, 209 HE
- 46f,w,s Observation and Teaching: Related Art (Goldstein, Bacon), 8 cred.; sr., H.E. 13, 42, 52, 53; Ed. 55 or Agr. Ed. 11, special scholarship requirement see bul.; VIII TTh, 213 HE, (teaching), Ar
- 47f,w,s Observation and Teaching: Foods and Home Management (Miller, Dorsey, Lombard), 8 cred.; sr., H.E. 42, Ed. 55 or Agr. Ed. 11, special scholarship requirement see bul.; VIII TTh, 213 HE, (teaching), Ar

* Offered on Minneapolis campus

- 48f,w,s Observation and Teaching: Textiles and Clothing (Clara Brown, Bacon, MacComber), 8 cred.; sr., H.E. 42, Ed. 55 or Agr. Ed. 11, special scholarship requirement see bul.; VIII TTh, 213 HE, (teaching), Ar
- 49f,w,s Observation and Teaching: General Home Economics (Miller, Clara Brown), 8 cred.; sr., H.E. 42, Ed. 55 or Agr. Ed. 11, special scholarship requirement see bul.; (lect.) VIII TTh, 213 HE (teaching), Ar
- 51f,w,s Drawing and Design (V. Goldstein, N. McEwen), 3 cred.; limited to 20, All; Sect. 1, V, VI, VII TTh, 400 HE; Sect. 2, V, VI MWF, 400 HE
- 52f,w,s Art History and Appreciation (H. Goldstein, V. Goldstein), 3 cred.; jr., sr., H.E. 51, limited to 20; Sect. 1, II MWF, 309 HE; Sect. 2, VII MWF 309 HE
- 53f,w,s Advanced Design (H. Goldstein, V. Goldstein), 4 cred.; jr., sr., H.E. 51, limited to 20, I, II MWThF, 400 HE
- 57w Weaving and Other Crafts (Morse), 3 cred.; jr., sr., H.E. 3, 51, 53, V, VI, VII TTh, 401 HE
- 61f,w,s Large Quantity Cookery and Marketing (Richards, Farmer), 4 cred.; jr., sr., H.E. 22, limited to 10, (lect.) I M, 309 HE, (lab.) I, II, III WF, DiH
- 63f,w Institutional Experience (Treat, Richards), 3 cred.; jr., sr., H.E. 22, (lect.) I T, 309 HE, (lab.), Ar
- 67w Institutional Management (Treat, Richards), 4 cred.; sr., H.E. 61, 63, III MTWF, 313 HE
- 71w Elementary Dietetics for Social Workers (Mumford), 3 cred.; 3rd qr., soph., jr., sr., H.E. 70, Physiol. 3 or parallel, not open to H.E. students except by permission of head of division; V, VI MWF, 107 HE
- 103f,w,s Dietetics (Biester, Mumford), 5 cred.; sr., H.E. 108, limited to 20, V, VI MTWThF, 107, 203 HE
- 108f,w,s,su Nutrition II (Anderson), 5 cred.; jr., sr., H.E. 23, limited to 25, III, IV MTWFS, 211, 213 HE
- 122f,w Advanced Textiles (Phelps), 3 cred.; jr., sr., H.E. 3, 51, Quant. Chem., limited to 16, V, VI, VII TTh, 211, 307 HE
- 123f,w,s Clothing Economics (Weller), 2 cred.; jr., sr., H.E. 13, 52, 53, Econ. 7, IV MW, 313 HE
- 131f,w,s Home Management: House Planning and Equipment (Morse), 5 cred.; sr., H.E. 52, 53, I, II MTWThF, 401 HE

HORTICULTURE

- 21w Small Fruit Culture (Brierley), 3 cred.; soph., jr., sr., Hort. 90, Bot. 10 cred.; IV MWF, 20 Hr
- 33w Vegetable Forcing (Tapley), 3 cred.; soph., jr., sr., Hort. 90, Bot. 10 cred.; I TTh, and V, VI F, 11 Hr
- 35w Potato Production (Tapley, Krantz), 3 cred.; soph., jr., sr., Hort. 90, Bot. 10 cred., Ar
- 71w,s Landscape Gardening (Cady), 3 cred.; All; II TThS, 20 Hr
- 108w Fruit Handling (Brierley), 3 cred.; jr., sr., Hort. 90, Ar
- 110w Horticultural Crop Breeding (Dorsey), 3 cred.; jr., sr., Hort. 109; I TThS, 20 Hr
- 133w Commercial Truck Growing (Tapley), 3 cred.; jr., sr., Hort. 90, Ar
- 191w-192s Special Problems (Alderman), 6 cred.; jr., sr., special permission, Hort. 107 or 131, Ar
- 193f-194w-195s Horticulture Seminar (Hort. staff), 3 cred.; jr., sr., 9 credits in Hort. excl. of 90 and 94, Ar

MILITARY SCIENCE AND TACTICS

*Freshman, no credit, V MWF, A

*Sophomore, no credit, I MWF, A

*Advanced courses, jr., sr., 2 yr. Mil. Drill, Ar

MUSIC

- *1f-2w-3s Harmony (Scott), 9 cred.; full course must be completed; fr. music; Sect. 1, II MWF, Mu.; Sect. 2, V MWF, Mu
- *14f-15w-16s History of Music (Ferguson), 9 cred.; full course must be completed; jr., sr.; II MWF, Mu
- *17f-18w-19s Appreciation of Music (Reeves), 3 cred.; full course must be completed; jr., sr.; V M, Mu
- *39f-40w-41s First Year Pianoforte (Scott, Ferguson), 6 or 12 cred.; fr. music, see statement in course description in bul.; Ar
- *51f-52w-53s First Year Violin (Pepinsky), 6 or 12 cred.; fr. music; Ar
- *91f-92w-93s Orchestra (Pepinsky), 3 cred.; jr., sr., 7:30 W, Ar
- *91f-98w-99s Choir (†) 3 cred.; jr., sr., consent of department; VIII M, Mu

For additional courses see the program of the College of Science, Literature, and the Arts.

PHYSICAL EDUCATION FOR MEN

- *1f,w,s Personal Hygiene (Cooke), 1 cred.; required of all new students; VI TTh, A
- 3w Gymnasium and Swimming (Mitchell), no cred.; VI TTh, Gy
- *3f,w,s Advanced Leaders (Foster, Roemer), 2 cred.; soph., jr., sr., instructor's permission, Ar TThS, A
- *4f,w,s Corrective Gymnastics (Brown), no cred.; All; Ar, A
- *5f,w,s Wrestling (Gilman), no cred.; instructor's permission, All; Ar
- *6f,w,s Intermediate Swimming (Glidden), no cred.; instructor's permission, Ar, A
- *7f,w,s Advanced Swimming (Foster, Glidden), no cred.; instructor's permission, Ar, A
- *8f,w,s Boxing (Goldie), no cred.; fr., instructor's permission, Ar, A
- *9f,w,s Intramural Athletics (Foster), no cred.; instructor's permission, Ar, A

PHYSICAL EDUCATION FOR WOMEN

- *1f-2w-3s Elementary Physical Training (†), no cred.; required of all new students; Sect. 1, IV MWF; Sect. 2, VI MWF; Sect. 3, VII MWF; Sect. 4, III TThS; Sect. 5, V MWF, 3, 151, 153, WGm
- *13w Personal Hygiene (Norris), 3 cred.; soph., jr., sr., An. Biol. 1-2; II MWF, 201 WGm
- *19f-20w-21s Rhythmic Expression (Ladd), no cred.; fr., jr., sr.; II MW, 153 WGm
- *22f-23w-24s Sophomore Rhythmic Expression (Ladd), no cred.; soph., Phys. Ed. 1-2-3; Sect. 1, IV TS; Sect. 2, VII TTh; Sect. 3, VIII TTh, 151 WGm
- *25f-26w-27s Sophomore Physical Training (Shill), no cred.; soph., Phys. Ed. 1-2-3; Sect. 1, III WF; Sect. 2, IV TS; Sect. 3, V TTh, 3, 153 WGm
- *31f-32w-33s Folk Dancing and Organized Games (Kissock), no cred.; fr., jr., sr.; V TTh, 151 WGm
- *34f-35w-36s Hockey, Basket-ball, and Baseball (†), no cred.; fr., jr., sr., permission of director; VIII TTh, 151 WGm

† Instructor to be assigned.

* Offered on Minneapolis campus.

- *38w Sophomore Folk Dancing (Barr), no cred.; soph., Phys. Ed. 1-2-3; II TTh, 151 WGm
- *49f,w,s Sophomore Major Sports (Kissock), no cred.; soph., Phys. Ed. 1-2-3; VIII MW, 151 WGm
- *43f,w,s Sophomore Elementary Swimming (Barr), no cred.; soph., required of all sophomores who failed to pass swimming test in freshman year; Sect. 1, IV MW; Sect. 2, VI MW; Sect. 3, IV TS; Sect. 4, VI TTh, 51 WGm
- *44f,w,s Sophomore Advanced Swimming (Barr), no cred.; Phys. Ed. 1-2-3; Sect. 1, VII MW; Sect. 2, VII TTh, WGm
- *45f,w,s General Swimming (†), no cred.; fr., jr., sr., without instruction; VIII MTWThF, WGm
- *54f-55w-56s Intermediate Physical Training (†), 4½ cred.; jr., sr., Phys. Ed. 1-2-3 or equivalent, 25-26-27, permission of director; VI TTh and Ar, 153 WGm
- *57f-58w-59s Advanced Physical Training (Skill), 4½ cred.; jr., sr., Phys. Ed. 54-55-56, permission of director; VII TTh and Ar, 153 WGm

PHYSICS

- *1f,w,s Elements of Mechanics (Erikson), 3 cred.; Trigonometry; (lect.) VII MWF, 30 Ph; (quiz) VII or V Th, 30 Ph
- *2f,w,s Elements of Mechanics Laboratory (Erikson), 1 cred.; Phys. 1 or parallel; Sect. 1, V, VI T; Sect. 2, VII, VIII T; Sect. 3, V, VI Th; Sect. 4, VII, VIII Th, 16 Ph

For additional courses see the program of the College of Science, Literature, and the Afts.

PHYSIOLOGY

- *4f,w,s Human Physiology (Greisheimer), 5 cred.; All, Chem. 10 cred.; Biol. 10 cred.; (lect., rec.) I MTWThF, 301 MH; (lab.) I, II, III S, 315 MH
- *100f-101w, 100s-101su Physiologic Chemistry (Pettibone, Kingsbury), 12 cred.; jr., sr., Organic Chem.; I, II, III TThS, 310 MH
- *104w,su Physiology of the Nervous System and Special Senses (Scott, McClendon), 8 cred.; jr., sr., Organic Chem., An. Biol., IV, V, VI, VII MWF, 301 MH
- *111w Mineral Metabolism (McClendon), 3 cred.; jr., sr., Physiol. 110; V, VI, VII TTh, 303 MH
- *153f,w,s,su Advanced Physiologic Chemistry (Pettibone, Kingsbury), cred., Ar., jr., sr., Physiol. 100-101; Ar, 310 MH

For additional courses see the program of the Medical School.

PLANT PATHOLOGY AND BOTANY

- 7w Weeds and Grasses I (Larson), 3 cred.; soph., jr., sr., Bot. 10 cred.; V, VI, VII WF, 3 PP
- 12w Seed Problems (Larson), 3 cred.; jr., sr., Pl. Path. 9, Ar
- 105f-106w-107s Mycology (Stakman, Freeman, Dosdall), 9 cred.; jr., sr., Bot. 7, 11 or equivalent; III, IV MWF, Sem. PP
- 108f-109w Methods (Stakman, Leach), 6 cred.; jr., sr., Pl. Path. 1, Bact. 1, Ar
- 111w,su Diseases of Field Crops (Stakman), 3 cred.; jr., sr., Pl. Path. 1; V, VI MWF, 1, 2 PP

POLITICAL SCIENCE

- *1f,w,s American Government (†), 5 cred.; soph., jr., sr., fr. with 10 cred. in Hist.; II MWThFS, Ar

† Instructor to be assigned.

* Offered on Minneapolis campus.

*7f,w State and Local Government (Cushman), 5 cred.; soph., jr., sr.,
 Pol. Sci. 1; VI MTWThF, 209 MA
 For additional courses see the program of the College of Science, Literature,
 and the Arts.

POULTRY HUSBANDRY

1f,w Poultry (Smith), 3 cred.; All; V MWF, 104 Ve
 2w Poultry Judging (Smith), 3 cred.; All, Poul. Husb. 1. Ar

PSYCHOLOGY

*1f-2w-3s General Psychology (Elliott, Foster), 9 cred. (6 cred. allowed for
 first two quarters); soph., jr., sr.; (lect.) I or VII MW, Little
 Theater; Sect. 1, (rec.) I Th, F or S; Sect. 2, (rec.) II Th,
 F or S; Sect. 3 (rec.) III Th, F or S; Sect. 4, (rec.) IV F;
 Sect. 5 (rec.) V Th or F; Sect. 6 (rec.) VII Th or F, Psy
 *4f-5w-6s Introductory Laboratory Psychology (Foster et al), 3 cred. (2 cred.
 allowed for first two quarters); soph., jr., sr., An. Biol. 10 cred.
 In 1920-21 physics, bot. or chem. may be substituted. Sect. 1,
 I, II T, 211 Psy; Sect. 2, III, IV T, 211 Psy; Sect. 3, V, VI
 T, 211 Psy; Sect. 4, VII, VIII T, 211 Psy
 *101f-102w-103s Experimental Psychology (Fernald et al), 9 cred.; entire course must
 be completed, jr., sr., Psych. 1-2-3, 4-5-6; VI MWF, VII WF,
 116 Psy
 *108w-109s Advanced General Psychology (†), 6 cred.; sr., grad., Psych. 101-
 102-103 or by permission; II MWF, 109 Psy. Entire course
 must be completed.
 *114w-115s Human Behavior (Elliott), 6 cred.; jr., sr., Psych. 1-2-3, 4-5-6, An.
 Biol. 10 cred.; II TThS, Psy. Entire course must be completed.
 *119f-120w Animal Behavior (Lashley), 6 cred.; jr., sr., Psych. 1-2-3, 4-5-6,
 An. Biol. 10 cred.; VI MWF and VII WF, 109 Psy. Entire
 course must be completed.
 *125f-126w Differential Psychology (Fernald), 6 cred.; jr., sr., Psych. 1-2-3, 4-5-6;
 III MWF, 109 Psy. Entire course must be completed.
 *127w-128s Social Psychology (†), 6 cred.; jr., sr., Psych. 1-2-3, 4-5-6; III TThS,
 115 Psy. Entire course must be completed.
 *131f-132w Child Mind (Lowell), 6 cred.; jr., sr., Psych. 1-2-3, 4-5-6; III TThS,
 109 Psy. Entire course must be completed.
 *144f-145w Abnormal Psychology (Lashley), 6 cred.; jr., sr., Psych. 1-2-3, 4-5-6;
 IV MWF, 109 Psy. Entire course must be completed.
 *156w Psychology of Advertising (Morgan), 3 cred.; jr., sr., Psych. 1-2, 8,
 Econ. 23; IV MWF, 115 Psy

For additional courses see the program of the College of Science, Literature,
 and the Arts.

PUBLICATIONS AND RURAL JOURNALISM

10f-11w-12s Agricultural Journalism (Kirkwood), 9 cred.; jr., sr., Journalism
 13-14-15, 16-17; V MWF, 2 Ad

For additional courses see the program of the College of Science, Literature,
 and the Arts.

RHETORIC

1f,w,s Rhetoric I (Jenkins), 3 cred.; All; IV MWF, 310 En
 2f,w,s Rhetoric II (Clausen, Jenkins), 3 cred.; All, Rhet. 1; Sect. 1, II
 MWF, 310 En; Sect. 2, III MWF, 217 En; Sect. 3, IV MWF,
 216 En; Sect. 4, I TThS, 310 En; Sect. 5, II TThS, 310 En
 3f,w,s Rhetoric III (Clausen, Jenkins), 3 cred.; All, Rhet. 2; Sect. 1, II
 MWF, 307 En; Sect. 2, III MWF, 310 En

† Instructor to be assigned.

* Offered on Minneapolis campus.

- 4f,w,s Elementary Rhetoric (†). 3 cred.; All, Ar
 11f,w,s Argumentation (Lansing). 5 cred.; soph., jr., sr., Rhet. 3; Sect. 1,
 I MWThFS, 311 En; Sect. 2, II MWThFS, 217 En.
 22f,w,s Public Speaking (Burtis). 5 cred.; soph., jr., sr., Rhet. 3; Sect. 1,
 II MWThFS; Sect. 2, III MTWFS; Sect. 3, IV, MTWFS.
 311 En

ROMANCE LANGUAGES

See program of the College of Science, Literature, and the Arts

SOCIOLOGY AND SOCIAL WORK

- *1f,w,s Introduction to Sociology (Wray, Lively, Boettiger, Finney). 5 cred.:
 3rd qr. fr., soph., jr., sr.; Sect. 1, IV MTWFS, 5 F; Sect. 2,
 V MTWThF, 9 F; Sect. 3, VI MTWThF, 9 F; Sect. 4, VII
 MTWThF, 5 F
 *6f,w,s Modern Social Reform Movements (Lively, Boettiger, Elmer), 3 cred.;
 soph., jr., sr., Sociol. 1; Sect. 1, III MWF, 9 F; Sect. 2, V
 MWF, 5 F; Sect. 3, VI MWF, 5 F
 14f,w,s Rural Sociology (Lundquist, Bernard), 3 cred.; soph., jr., sr.,
 Sociol. 1, no prereq. for seniors; Sect. 1, IV MWF, 105 En;
 Sect. 2, I TThS 9 F
 *52w Treatment of Dependents and Defectives (Bruno), 3 cred.; jr., sr.,
 Sociol. 51, I TThS, 107 F
 *110w Rural Community Organization, etc. (Bernard), 2 cred.; jr., sr., two
 courses in Sociol., VII, VIII Th. 9 F
 *119w The Family (Elmer), 3 cred.; jr., sr., three courses in Sociol. or
 two in Sociol. with one in Home Economics, Econ., Pol. Sci.,
 Amer. and Anthropol. or Law; III TThS, 9 F

For additional courses see the program of the College of Science, Literature,
 and the Arts.

SOILS

- 2f,w Elementary Soils (Rost), 2 cred.; All; III TS, 251 Ch
 102f,w,s Special Problems in Soils (Alway), cred. according to amount of
 work; sr., Soils 101, 103, Ar
 103f,w Mechanical Analysis of Soils (McMiller), 3 cred.; jr., sr., Soils 3, Ar
 105w Minnesota Soils (Alway), 3 cred.; sr., Soils 3, Ar

VETERINARY MEDICINE

- 3w-4s Comparative Physiology (Hewitt), 6 cred.; soph., jr., sr., Vet. Med. 2;
 I MWF, 2 Ve
 12w Infectious Diseases (Fitch), 3 cred.; jr., sr., Vet. Med. 3-4, Bact. 1;
 I TThS, 2 Ve
 101w-102s Advanced Anatomy of Domestic Animals (Kernkamp), 6 cred.; jr., sr.,
 Vet. Med. 2 or equivalent, Ar
 103f-104w Advanced Comparative Physiology (Hewitt), 6 cred.; jr., sr., Vet.
 Med. 3-4 or equivalent; (lect.) II TTh, (lab) V, VI Th, 2 Ve

* Offered on Minneapolis campus.

† Instructor to be assigned.