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Accounting (Acct)

Acct 1803f,s. Directed Studies. (1-3 cr; max 6 cr; SP-Instructor consent) Current topics not covered in regularly offered courses.

Acct 2101f,s. Principles of Accounting I. (3 cr; QP–Math 1001 or Math 1111; SP–Math 1021 or Math 1131) Concepts of accounting cycle, cash, accounts receivable, inventories, plant assets, payroll, partnerships.

Acct 2102f,s. Principles of Accounting II. (3 cr; QP–1020; SP–2101) Modern accounting concepts, including cash flow statement and consolidated statements. Introduction to management accounting topics, including cost-volume-profit relationships, costing methods, and variance analysis.


Acct 3302s. Cost Accounting II. (3 cr; QP–3120; SP–3301) Relfinement of cost accounting information systems, including management control systems, cost allocation refinements, capital budgeting, and performance measurement.

Acct 3804f,s. Individual Studies. (1-3 cr [max 6 cr]; SP-Jr, instructor consent) Topic related to student’s major but not covered in regularly offered courses. The following are accounting B.S. program requirements. This program is a shared major and cooperative degree with Bemidji State University, which offers these courses.

Acct 3100f. Introduction to Professional Accounting (BSU). (2 cr; QP–1040; SP–2102, concurrent registration in 3201) Emphasizes accounting theory upon which financial accounting is based. Fundamental interrelationships within financial statements.

Acct 3110s. Accounting Systems (BSU). (3 cr; QP–BUAD 2280 [BSU]; SP–BUAD 2280) Theory/methodology of analyzing, designing, implementing accounting information systems. Emphasizes integrated data processing, managerial aspects of systems design.

Acct 3301f. Government Accounting (BSU). (2 cr; QP–1040; SP–2102) Budget preparation, appropriations, conformity to laws, integrity of special funds, preparation of reports/statements.


Acct 3322s. Business Law II (BSU). (3 cr; QP–3150; SP–3321) Negotiable instruments, bank deposits/collection, bankruptcy, suretyship, partnerships, corporations, federal securities law, accountant’s legal liability, property, insurance, trust, estates.


Acct 3405s. Income Tax II (BSU). (2 cr; QP–3060; SP–3404) Federal income tax laws/regulations concerning taxable income and computation of tax as they affect corporations, estates, trusts.


Acct 4210f. Auditing I (BSU). (3 cr; QP–3030, 3130, composition; SP–3202, 3302, composition) Duties/responsibilities of auditor, kinds of audits, audit programs. Preparation of audit working papers, compilation of audit data.


Acct 4307. Seminar in Management Accounting (BSU). (3 cr; QP–Sr, instructor consent; SP–Sr, instructor consent) Integrates economics, business finance, organization, behavior. Ethical considerations, public reporting standards, auditing/taxes, periodic reporting for internal/external purposes, decision analysis. Modeling, information systems.

Acct 4310s. Auditing II (BSU). (3 cr; QP–3210; SP–4210) Auditor’s responsibility/liability, ethics, standards of professional conduct, auditing electronic data systems, applying statistical audit techniques.


Acct 4510. Specialized Accounting Problems (BSU). (2 cr; QP–3030, 3130; SP–3202, 3302) Managerial/financial accounting problems adapted to business conditions.

Acct 4970. Internship (BSU). (2-12 cr; QP–3030, 3130; SP–3202, 3302) Internship in accounting.

Aerospace Studies (AS)


AS 1110f. The Air Force Today I (NDSU). (1 cr; A-F only) Introduction to the United States Air Force: its characteristics, missions, organization.


AS 2100f,s. Leadership Laboratory (NDSU). (1 cr [max 4 cr]; S-N only) Introduction to/application of Air Force customs/courtesies, drill/ceremonies, military commands. Air Force environment. Opportunities for commissioned officers.

AS 2110f. Evolution of USAF Air and Space Power I (NDSU). (1 cr; A-F only) Introduction to Air Force heritage/leaders, Quality Air Force concepts, ethics/values, leadership problems. Applying communication skills.

AS 2120s. Evolution of USAF Air and Space Power II (NDSU). (1 cr; A-F only) Introduction to Air Force heritage/leaders, Quality Air Force concepts, ethics/values, leadership problems. Applying communication skills. Prepares cadets for field training. Continuation of 2110.

AS 3210f. Air Force Leadership/Management I (NDSU). (3 cr; A-F only) Introduction to management within USAF. Communication skills (oral/written Air Force formats), interpersonal skills, Quality Air Force concepts.

AS 3220s. Air Force Leadership/Management II (NDSU). (3 cr; A-F only) Study of leadership from military perspective. Situational leadership. Contemporary issues, including change management, professional ethics. Officer professional development topics. Case studies. Continuation of 3210.
Agricultural Aviation (AgAv)

Courses designated as (UND) are delivered by the University of North Dakota.

AgAv 1102f. Introduction to Aviation. (5 cr; A-F only)
Preparation for FAA private pilot written/flight examination. FAA regulations, weather, air/radio navigation, flight safety, emergency procedures. Students must demonstrate adequate progress on flight lessons or complete private pilot test course.

AgAv 1221s. Basic Attitude Instrument Flying. (3 cr; SP–1102; A-F only)
Operation, interpretation, and practical use of VOR, ADF, DME, RNAV, RMI, HSI, and GPS systems. Instrument charts required for IFR flight. Students must demonstrate adequate progress on flight lessons.

AgAv 1222s. IFR Regulations and Procedures. (3 cr; SP–1102; A-F only)
Detailed study of regulations, procedures, publications for operating IFR in national airspace system. Terminal/en route procedures. Students must demonstrate adequate progress on flight lessons.

AgAv 1396f.s. Conventional Aircraft Operations (UND). (1 cr; SP–1102; A-F only)
Ground school, dual flight instruction for endorsement for operation of tail wheel airplanes on ground, in flight.

AgAv 1803f,s.su. Directed Studies. (1-3 cr [max 6 cr]; SP–instructor consent)
Current topics not covered in regularly offered courses.

AgAv 3323f. Airplane Aerodynamics. (3 cr; SP–1221, 1222; A-F only)
Aerodynamics, performance, stability, control, weight/balance, special flight conditions as appropriate for commercial pilots. Commercial maneuvers, flight computers, commercial regulations. Students must demonstrate adequate progress on flight lessons.

AgAv 3324f. Aircraft Systems and Instruments. (3 cr; SP–1221, 1222; A-F only)
In-depth study of flight instruments, reciprocating engines. Propeller, electrical, environmental, hydraulic, pneumatic, fuel, ignition, lubrication, and pressurization systems. Commercial regulations including FAR5 part 61, 91, 121, and 135.

AgAv 3355f. Multiengine Systems and Procedures (UND). (2 cr; SP–3353, 3354; A-F only)

AgAv 3396s. Advanced Conventional Aircraft Operations (UND). (1 cr; SP–1396; A-F only)
Ground school, dual flight instruction for advanced pilot maneuvering, flight applications of tail wheel airplanes. Students must complete flight lessons.

AgAv 3414f. CFI Certification. (5 cr; SP–3353, 3354; A-F only)
Flight instructor responsibilities and teaching concerns. Effective teaching methods, the learning process, flight training syllabi, effective evaluations. Analysis of flight maneuvers associated with private pilot, commercial pilot, and flight instructor certificates. Practical teaching experience. Students must complete CFI certificate.

AgAv 3415f or s. Instrument CFI Certification. (4 cr; SP–3414; A-F only)
Instrument flight instructor responsibilities and techniques. Additional study of instrument flight, ATC system, charts, publications, and rules of IFR environment as they pertain to teaching. Practical teaching experience. Students must complete the instrument rating for a flight instructor certificate.

AgAv 3416f or s. Multiengine CFI Certification. (2 cr; SP–3414, 3415; A-F only)
Teaching in a multiengine airplane. Multiengine aerodynamics and performance, analysis of multiengine operations, engine-out operations and procedures, flight instructor responsibilities, flight safety concerns, and instrument flight maneuvers. Students must obtain a multiengine airplane rating for CFI certification.
Agricultural Business (AgBu)

AgBu 1005s. Global Food Systems. (3 cr)
Historical preferences, consumer trends in diverse geographic regions. How global/national policies affect food trade.

AgBu 3011f. Manufacturing Operations and Logistics. (3 cr; SP–Biol 1020, Math 1031, Phys 1012)
Flow/handling of material through storage/production. Processing lines, equipment characteristics, sanitary design.

AgBu 3050f. Cereal Processing. (3 cr)

AgBu 3052s. Meat and Dairy Processing. (3 cr)

AgBu 3053s. Products and Markets. (3 cr; SP–Instructor consent)
Product formulation, ingredient interaction, packaging, analysis, consumer testing, results, data interpretation. Dynamics between new product development, sales, marketing, production.

AgBu 4034f. Quality Standards. (3 cr)

Agricultural Economics (AgEc)

AgEc 1000f. Introduction to Rural and Economic Development. (2 cr)
Introduction to programs/policies to facilitate local economic development strategies. Focuses on business retention/expansion, job creation, planning, financing, marketing, management of development opportunities.

AgEc 1803f,ss. Directed Studies. (1-3 cr; max 6 cr; SP–Instructor consent)
Current topics not covered in regularly offered courses.

AgEc 2530f. Professional Agriselling. (3 cr; A-F only)
Use of technical and agronomic knowledge in agricultural sales. Need-satisfaction approach to selling. Planning and conducting informational meetings, exhibiting at farm and trade shows, importance of service and timeliness in agriselling, and practice in making agrisales presentations.

AgEc 3050s. Economics for Agribusiness Management. (5 cr; SP–Econ 1101, Econ 1102, SP–Econ 2101, Econ 2102, A-F only)

AgEc 3430f.s. Agricultural Commodity Marketing. (3 cr; SP–Econ 2101, A-F only)

AgEc 3540f. Farm Business Management. (4 cr; SP–Econ 2101, ITM 1010; A-F only)
Principles of farm accounting. Financial statements, income statements, cash flow statements, depreciation methods, farm income tax, enterprise analysis, farm management decision making, budgeting, and planning, computer analysis of farm business.

AgEc 3575s. Community Economic Development Planning. (3 cr; SP–[AgEc 1000, Mgmt 3200, Mktg 3300] or instructor consent)
Identify needs and potential opportunities within a community. Creating effective programs that relate economic analysis to policies and practices designed to build stronger more effective communities.

AgEc 3640s. Agricultural Finance and Valuation. (4 cr; SP–3580, Acct 2101, Econ 2101, ITM 1010; A-F only)
Analysis of investment strategies and financing policies for farm and agribusiness firms and their effect on liquidity, solvency, and profitability. Financial documents, legal aspects of credit, financial intermediaries serving agriculture, property valuation, estate planning.

AgEc 3804f,ss. Individual Studies. (1-3 cr; max 6 cr; SP–Instructor consent)
Topic related to student’s major not covered in regularly offered courses.

AgEc 4460su. International Marketing Problems and Practices. (4 cr; SP–Instructor consent)
Problem/practices facing companies in international trade. Import/export regulations, exchange rates, business practices/policies.

AgEc 4750f. Agribusiness Marketing. (3 cr; QP–1584; SP–2530)
Role of marketing in agribusiness. Marketing systems/strategies for competitiveness in a rapidly changing marketplace. Identifying strengths/opportunities to create competitive advantage.

AgEc 4760s. Agribusiness Marketing Practicum. (2 cr; QP–3784; SP–4750)
Students work with agribusiness firm to assess current situation, future challenges/opportunities. Student teams conduct research, analyze results, formulate marketing plan findings/recommendations are presented to the business. Capstone course.

AgEc 4800s. Rural Economic Development Practicum. (3 cr; SP–Instructor consent)
Students develop strategies/program to promote economic development for a real rural community, including implementation/financing plans.

Agricultural Systems Management (ASM)

ASM 1021f. Introduction to Agriculture and Food Systems. (1 cr)
Overview of agricultural mechanization systems (engines, machinery, structures, processes).

ASM 1034f.s. Facilities Maintenance and Safety. (3 cr)
Safe operation, working environment for power equipment, structures, utilities, metal fabrication.

ASM 1044s. Computer-Aided Drafting (CAD). (3 cr; A-F only)
Sketching/dimensioning architectural/landscape projects. Use of CAD program to develop plan views, floor plans, elevations, pictorials, mechanical drawings.

ASM 1333f. Agricultural Building Construction. (3 cr)
Agronomy (Agro)

Agro 1030s. Crop and Weed Identification. (3 cr; A-F only) Morphological characteristics used in mature plant, seedling, and seed identification. Identifying economically important crops and weeds throughout the United States in all stages of growth.

Agro 1540s. Seed Conditioning and Technology. (4 cr; SP–PIM 1030; A-F only) Seed laws and certification standards, purity analysis, germination tests, vigor tests, principles of seed conditioning, and handling equipment. Tours of facilities processing small grains, sunflowers, grasses, and legumes.

Agro 2640s. Grain and Seed Evaluation. (4 cr; SP–1063; A-F only) Analytical techniques, procedures, and practices used in interpreting official U.S. grain standards. Identifying seeds of crops, weeds, and diseases. Lab practice in grading grain according to the U.S. Standards for Grain. Lab practice in determining grain quality.

Agro 3130f (every other yr). Forages. (3 cr; QP–1184; A-F only) Characteristics, distribution, preservation, and uses of forage crops for pasture, silage, hay, and soil improvement. Cultural practices, disease and insect control, seed production, forage storage. Interrelationships between animals and plants as they relate to selection, production, and utilization of forage crops.

Agro 3441s. Topics in Specialty Crop Production. (1-3 cr [max 3 cr]; SP–3444, PIM 1030; A-F only) Lecture and discussion on one economically important or emerging specialty crop such as potato or sugar beet. Specific crop varies. Land selection, soil fertility, pest control, harvest, storage, quality, and marketing.

Animal Science (AnSc)

AnSc 1004s. Introduction to Animal Science. (4 cr; A-F only) Survey of the meat animal, dairy, and equine industries. Emphasis on general management principles, health care, breeding, behavior, feeding, and care of dairy cattle, beef cattle, horses, sheep, and swine.

AnSc 1101f. Animal Evaluation. (1 cr [max 3 cr]) Conformation, breed characteristics, type, and their importance in evaluation. Techniques of evaluation and interpretation of evaluation data.

AnSc 1201s. Advanced Animal Evaluation. (1 cr [max 3 cr]; SP–1141; SP–3101) Advanced techniques in evaluating and selecting dairy or beef cattle, sheep, and swine. Preparing and delivering oral reasons.

AnSc 1203s. Animal Production Techniques. (1-3 cr; QP–1014; SP–1004) Skills necessary for successful and economical livestock production.

AnSc 1803f,s,su. Directed Studies. (1-3 cr [max 6 cr]; SP–Instructor consent) Current topics not covered in regularly offered courses.

AnSc 2104f. Feeds and Feeding. (4 cr; QP–High school chem or Chem 1001; SP–1004, high school chem or Chem 1001) Identification and use of feed grains, forages, supplemental feeds, and additives. Bushel weights, price, and cost per unit calculations. Moisture content calculations. Factors influencing feed quality, feed value, price, and storage. Digestion, ration formulation, and feed processing methods.


AnSc 3203f. Animal Anatomy and Physiology. (3 cr; QP–Biol 1009; SP–Biol 1009)
Anatomy and physiology of cattle, sheep, swine, and horses. Organization of body from cells into tissues and organs; identification, comparison, and contrast of the different species; growth development and function of selected bodily systems; pathological conditions that can be anticipated in each.

AnSc 3204f. Dairy Production. (4 cr; QP–1014, 3004 or instructor consent; SP–1004, 2104 or instructor consent; A-F only)
Growth and development of dairy cattle. Genetics and breeding, dairy nutrition, growth and development of the heifer to first calving, getting cows into production and their subsequent management, including milking management skills.

AnSc 3205su. Dairy Management Practicum. (3 cr; SP–Sr or instructor consent)
Management and clinical skills, including those unique to large dairy herds.

AnSc 3303f. Beef Production. (3 cr; SP–1203, 2104; A-F only)
Application of technology and information to systems of managing beef operations. Incorporation of economics, farm management, records, and production science in management plans. Computer applications in management.

AnSc 3304s. Reproduction, AI, and Lactation. (4 cr; QP–3454; SP–3203)
Functions of reproductive organs, fertilization, the estrous cycle and its endocrine control, reproductive efficiency and problems, principles of artificial insemination. Anatomy, physiology, and biochemistry of the mammary gland; mammary growth; initiation of and maintenance of lactation. Milk synthesis and factors influencing the lactation curve.

AnSc 3441s. Current Topics in Animal Science. (1 cr; SP–1203, 2104; A-F only)
Focus on one economically important or emerging topic in animal science (e.g., swine, sheep, companion animal). Lecture/discussion.

AnSc 3503s. Animal Health and Disease. (3 cr; QP–3454; SP–3203)
Concepts of health and disease with emphasis on prevention through health plans and enhancing immunity. Influence of environment and other stressors on health and disease.

AnSc 3804f,s,su. Individual Studies. (1-3 cr; max 6 cr; QP–Jr, instructor consent)
Topic related to student’s major not covered in regularly offered courses.

AnSc 4101f. Animal Science Seminar. (1 cr; QP–Sr standing or instructor consent; SP–Sr standing or instructor consent)
Survey of current literature; preparation and oral delivery of special topics. Preparation of abstracts, outlines, and visual aids as appropriate. Evaluation of seminars. Using library and other resources, including computerized search. Course delivery includes use of newer technologies.

AnSc 4204s. Animal Systems Management. (4 cr; QP–3604, AgEc 3554; SP–1203, 3204 or instructor consent; A-F only)
Planning, budgeting (cash, feed, machinery, etc.), and implementing programs, facilities, labor force, and other factors required for successful operation of modern animal operations. Field trips and planning for existing operations.

AnSc 4205f. Animal Production. (4 cr; QP–3604, AgEc 3554; SP–1203, 3204 or instructor consent; A-F only)
Practical application/calculations of mass balance, heat/mass transfer, fluid flow, and pressure.

AplS 3001f,s. Individual Program Development. (5 cr; QP–Acceptance into applied studies degree program; SP–Acceptance into applied studies degree program)
Developing degree outcomes relevant to career objectives and designing an individual program of study for the Applied Studies baccalaureate degree.

AplS 3804f,s,su. Individual Studies. (1-3 cr; max 6 cr; QP–Jr, instructor consent; SP–Jr, instructor consent)
Topic related to student’s major not covered in regularly offered courses.

AplS 3900f,s,su. Internship/Field Experience. (1-3 cr; max 3 cr; QP–Consent of adviser; SP–Consent of adviser)
Supervised professional work experience in selected sites. Reports and consultation with faculty adviser and employer.

AplS 4652f. Applied Studies Seminar. (1.5 cr; QP–Within 18 credits of degree completion, adviser consent; SP–Within 15 credits of degree completion, adviser consent)
Capstone course in which students present projects demonstrating integration of coursework, application of technology, and senior-level competence in selected areas of study.

Art (Art)
Art 1152f. Drawing and Design. (1-3 cr)
Introduces foundations of drawing/design. Offered as 1-credit art appreciation lecture or as 3-credit studio lab/lecture. Lecture studies concepts/history of drawing/design. Studio work is practical application.

Art 1252s. Color and Design. (1-3 cr)
Introduces foundations of color (painting) and design. Offered as 1-credit art appreciation lecture or as 3-credit studio lab/lecture. Lecture studies concepts/history of drawing/design. Studio work is practical application.

Art 1352f. Art Design and Techniques. (1-3 cr)
Introduces foundations of art techniques (3-dimensional) and design. Offered as 1-credit art appreciation lecture or as 3-credit studio lab/lecture. Lecture studies concepts/history of drawing/design. Studio work is practical application.
BM 3020s. Industrial Safety. (3 cr; QP–PMTC 2800 [Northwest Technical College]; SP–PMTC 2800 [Northwest Technical College]; A–F only) Comprehensive approach to safety problems in the workplace, including OSHA standards, attitude development, safety auditing, and hazard analysis.

BM 3804s,m,su. Individual Studies. (1-3 cr; [max 6 cr]; QP–Jr instructor consent; SP–Jr instructor consent; A–F only) Topic related to student’s major not covered in regularly offered courses.

BM 3900s,m,su. Internship. (1-3 cr; QP–Jr; SP–Jr; A–F only) Supervised professional work experience in manufacturing plant situations to help students gain an in-depth understanding of their field of study. Reports and consultations with faculty advisers and employers.

BM 4034s. Quality Standards. (3 cr) Responsibilities of QC department. Attributes, color, viscosity, texture/mouth feel, flavor, development of grades/standards of quality, acceptance sampling/inspection, recording, reporting, use of control charts.

**Biology (Biol)**

Biol 1009s.f. General Biology. (3 cr) Introduction to ecology, evolution, population dynamics, genetics, cell biology, photosynthesis, respiration, and human biology.

Biol 1020f. Microbiology. (3 cr; QP–1009; SP–High school biology) Morphology, classification, growth requirements, transmission, control, and culturing of bacteria and other microorganisms of economic importance.

Biol 1103s,f. General Botany. (3 cr; QP–1009; SP–1009) Introduction to protist, fungal, monera, and plant structure, development, reproduction, and physiology.

Biol 1106s. General Zoology. (3 cr; QP–1009; SP–1009) Survey of animal phyla, emphasizing structure, function, behavior, adaptation, and evolutionary relationships.

Biol 1464f. Human Anatomy and Physiology I. (3 cr) Systems approach to basic anatomical and/or physiological terminology and concepts at the chemical, cellular, tissue, and organ levels. Emphasis on normal placement, structures, and functions within the integumentary, skeletal, muscular, circulatory, lymphatic, and respiratory systems.

Biol 1474s. Human Anatomy and Physiology II. (3 cr; QP–1464; SP–1464) Systems approach to basic anatomical and/or physiological terminology and concepts at the chemical, cellular, tissue, and organ levels. Emphasis on structures and processes associated with the nervous and endocrine systems, the digestive system, metabolism and nutrition, the urinary and reproductive systems, and basic genetic concepts.

Biol 3022s.f.s. Principles of Genetics. (3 cr; QP–1009, Chem 1001; SP–1009,[Chem 1004 or 1401],[Math 1031 or 1131 or 1150]) Basic principles of Mendelian, molecular, and population genetics. Computer simulations/models used to study aberrations and their implications.


Biol 3464f. Mammalogy. (3 cr; QP–1106; SP–1106) Classification, reproduction, physiology, behavior, ecological adaptations, zoogeography of mammals. Emphasizes techniques used in field/laboratory studies.

Biol 3466s. Ornithology. (3 cr; QP–1106; SP–1106) Classification, reproduction, physiology, behavior, ecological adaptations, zoogeography of birds. Emphasizes techniques used in field/laboratory studies.

Biol 3722s (even yrs). Limnology. (3 cr; QP–1009, Chem 1004; SP–1103, Chem 1001, Phys 1012,[Math 1031 or 1131 or 1150]) Description/analysis of events in lakes, streams, and ponds, beginning with their origins and progressing through their physics, chemistry, and biology. These parameters interrelated with population of aquatic environment.

**Chemistry (Chem)**

Chem 0992f. Basic Chemistry. (3 cr; QP–High school algebra; SP–High school algebra; A–F only) Measurements and metric system. Atomic and molecular structure, nomenclature, balancing chemical equations.

Chem 1001f.s. Introductory Chemistry. (4 cr; QP–High school algebra, high school chem; SP–High school algebra, high school chem) For students who do not need professional-level general chemistry. Atomic and molecular structure, inorganic nomenclature, chemical equations, quantitative relationships, behavior of gases, phases of matter, solution chemistry, chemical dynamics, acid/base chemistry, oxidation-reduction process, nuclear processes, introduction to organic and biochemistry.

Chem 1004f,s. General Principles of Chemistry I. (4 cr; QP–2 yrs high school algebra, 1 yr high school chem; high school phys and college algebra recommended; SP–2 yrs high school algebra, 1 yr high school chem; high school phys and college algebra recommended) Concepts of inorganic chemistry, atomic theory and structure, periodicity of elements, basic rules of oxidation and chemical combination, molecular structure (hybridization and molecular orbitals), thermochemistry, gases and solution process and coligative properties.

Chem 1005s. General Principles of Chemistry II. (4 cr; QP–1004; SP–1004) Behavior of gases, thermodynamics, properties of solutions, solution equilibria, and oxidation/reduction reactions. This rigorous course develops the chemical foundations required in some agriculture, environmental, and pre-professional programs.

Chem 1401f.s. Elementary Biochemistry. (4 cr; QP–1001 or 1005; SP–1001 or 1005) Begins with an introduction to organic chemistry as it is applied to important biochemical molecules. For students who require a general, nonintensive introduction to biochemistry.

**Composition (Comp)**

Comp 1000f.s. College Writing Laboratory. (1 cr; SP–Concurrent registration in 1011) Supplemental instruction in writing. Small group activities, individual conferencing.

Comp 1011f.s. Composition I. (3 cr; A–F only) Process of clear, concrete, and convincing writing. Generation and discovery of subjects, revisions, editing.

Comp 1013s.f. Composition II. (3 cr; QP–1011; SP–1011; A–F only) Writing summaries, writing to synthesize material from several sources, evaluating readings and other materials, research writing.


Comp 3303f.s. Writing in Your Profession. (3 cr; QP–1011, 1013; SP–1011, 1013; A–F only) Writing about subjects related to students’ academic disciplines and future professions; developing persuasive writing skills for academic, personal, and professional purposes. Effective communication principles, audiences, formats, and technologies.

Comp 3313s. Advanced Technical Writing: Software Documentation. (3 cr; QP–1011,1013; SP–1011, 1013; A–F only) Designing software documentation and help modules. Emphasizes user needs, using long-document software.
Continuing Education (CnEd)

Special classes in general, adult, and continuing education offered in response to student and community needs and interests.

CnEd 1000-1999. Selected Topics. (Cr vary)

Criminal Justice (CrJs)

The following are natural resources law enforcement requirements. These courses are delivered by the criminal justice department at Bemidji State University.

CrJs 1120s. Criminal Justice and Society (BSU). (4 cr; A-F only)
Introduction to philosophies, principles, social aspects that underlie formulation of law and administration of justice in the United States. Overview of agencies that constitute criminal justice system.

CrJs 3304f. Police Process (BSU). (4 cr; A-F only)
Function of law enforcement, roles of police, in modern society. Police organizations, police officers, police work. Critical police-problems.

CrJs 3305s. Judicial Process (BSU). (3 cr; A-F only)
Criminal justice judicial process. Judicial involvement: from pre-arrest warrant issuance to appellate court review. Role/behavior of prosecutors, defense attorneys, judges.

CrJs 3315s. Criminology (BSU). (3 cr; A-F only)

CrJs 3334f. Criminal Justice Planning (BSU). (4 cr; A-F only)
Overview of crime prevention. Presented within a framework of a planned, proactive response to crime by all components of the criminal justice system. Principles of planning, research, and evaluation as applied to crime prevention.

CrJs 3358f. Criminal Law (BSU). (3 cr; A-F only)
Basic concepts of criminal law and of elements of criminal offenses in Minnesota in particular. Crimes against persons, against property, against administration of justice. Case method is used to define contours of judicial interpretation of criminal law.

CrJs 3359f. Criminal Investigation (BSU). (3 cr; A-F only)

CrJs 3360s. Criminal Procedure (BSU). (3 cr; A-F only)
Rights of criminally accused, primarily those in pre-trial stages of criminal process. Bill of Rights as it pertains to criminally accused.

CrJs 4480s. Policing People (BSU). (3 cr; SP–1120, 3304; intended primarily for those entering the police profession; A-F only)
Addresses several Minnesota Board of Police Officer Standards and Training learning objectives: victimization, dealing with the mentally disturbed, police/minority relations, police/community relations.

Early Childhood Education (ECE)

ECE 1803f,s. Directed Studies. (1-3 cr; max 6 cr; OP–Instructor consent; SP–Instructor consent)
Topics not covered in regularly offered courses.

ECE 2100f. Child Development and Learning. (3 cr)
Child development/learning from prenatal through eight years of age. Emphasizes major developmental domains/learning: physical (including health practice), cognitive, language, emotional, social (including cultural), and creative. Assessment of development/learning. Field experiences in child observation/assessment.

The following courses (3xxx) are restricted to students who have been admitted to and retained in the teacher education licensure program embedded within the early childhood education degree program. In this collaborative degree and licensure program with Bemidji State University (BSU), the courses are offered by UMC faculty and typically are delivered through ITV for BSU students.

ECE 3410s. Learning Environments for Infants and Toddlers. (3 cr; SP–2100, A-F only)
Designing, organizing, maintaining learning environment. Arrangement of physical setting, provision of materials, construction of curriculum, implementation of learning experiences. Assessment of child’s learning and of teaching/learning environment. Team teaching.

ECE 3420s. Nurturing and Collaborative Relationships for Infants and Toddlers. (2 cr; SP–2100, concurrent registration in 3430; A-F only)
Understanding/applying practices to promote emotional/social development in infancy/toddlerhood. Principles of caregiving. Relationship to teaching/learning environment. Developmentally appropriate guidance, collaborative parent/staff relationships, respecting family/cultural values/experiences. Field experiences.

ECE 3430s. Teaching Practicum: Infants and Toddlers. (3 cr; SP–2100, concurrent registration in 3420; A-F only)
Students plan/implement curriculum, provide guidance, and work on teaching team in infant or toddler classroom. Supervised placement in campus Early Childhood Development Center. Weekly seminars.

ECE 3440s.s. Infant and Toddler Student Teaching. (3 cr; SP–2100, 3420, 3430; A-F only)
Students integrate theory/practice as member of teaching team with placement in infant or toddler classroom. Portfolio-based student-teaching experience. Focuses on selected INTASC/BOT indicators. Weekly seminars. University approved placement.

ECE 3500f. Young Children With Special Needs. (3 cr; SP–2100; A-F only)
Introduction to teaching young children with special needs. Important aspects of teaching in special-education/inclusive settings. Students interrelate experiences working with children with developing an educational philosophy.

ECE 3804f,s. Individual Studies. (1-3 cr [max 6 cr]; SP–Jr, instructor consent; A-F only)
Topic related to student’s major and not covered in regularly offered courses.

ECE 4700f. Developmentally Appropriate Preprimary Education. (3 cr; SP–2100, Ed 3670; A-F only)

ECE 4710s (even yrs). Child Guidance Theories and Practice. (3 cr; SP–Ed 3677; A-F only)

ECE 4720f. Teaching Practicum: Preprimary. (3 cr; SP–2100, Ed 3670; A-F only)
Students plan/implement curriculum, provide guidance, and work on teaching team in preprimary/preschool classroom. Supervised placement in campus Early Childhood Development Center. Weekly seminars.

ECE 4730f. Understanding and Supporting Parenting. (3 cr; SP–2100, [jr or sr]; A-F only)
Parent-child relationships, adult development, family systems theory, parental authority, child compliance, developmental interaction during child rearing years. Parenting in diverse family configurations, in diverse cultures/lifestyles, and in high-risk families. Emphasizes knowledge of research for application.

ECE 4750s. Family, School, and Community Relations. (3 cr; SP–3410, 3420, 4700, Ed 3670, Ed 3677; A-F only)
Emphasizes family involvement as essential to successful education. Patterns in family-school relations, trends,
Education (Ed)

The following courses are restricted to students who have been admitted to and retained in the teacher education licensure program embedded within the early childhood education degree program. The courses are offered by Bemidji State University (BSU) faculty in this collaborative degree and licensure program and typically are delivered through ITV for UMTC students.

Ed 3100f. Introduction to the Foundations of Education (BSU). (3 cr; SP–Pre-Professional Skills Test (PPST); A-F only)

Ed 3110f. Educational Psychology (BSU). (3 cr; SP–3100; A-F only)
Teaching/learning process: (1) planning/effective instruction; (2) behavioral/cognitive views. Emphasizes how learning is affected by development, individual differences, motivation.

Ed 3140. Human Relations in Education (BSU). (2 cr; SP–3670, Pre-Professional Skills Test (PPST), GPA of at least 2.50; A-F only)
Causes and psychological dynamics of racism, sexism, other forms of human oppression.

Ed 3207f. Reading in Primary Grades (BSU). (3 cr; SP–3670; A-F only)
Approaches, methods, materials for teaching for literacy development in primary grades. Home-family literacy connection, writing into reading, whole language. Emphasizes phonemic, semantic, graphemic cueing systems.

Ed 3301f. Creative Expression in Elementary Education (BSU). (3 cr; SP–3670; A-F only)
Children’s literature as vehicle for teaching primary-grade learners confidence/competence in expressive arts. Emphasizes theme-oriented literature-extension approach. Listening, speaking, reading/writing, aesthetic expression in visual art, music, movement, creative drama. Field experiences.

Ed 3670f. Foundations of Early Childhood Education (BSU). (3 cr; SP–Pre-Professional Skills Test (PPST), GPA of at least 2.50; A-F only)
Philosophical, historical, pedagogical, societal, institutional foundations of infant/toddler, preprimary, primary grade education. Efforts of modern programs to adapt instruction to developmental levels and experience backgrounds of young children and to work in partnership with parents. Field experiences.

Ed 3677. Relations and Management in Early Childhood Education (BSU). (3 cr; SP–3670, Pre-Professional Skills Test (PPST), GPA of at least 2.50; A-F only)
Students study, gain skills in relations with young children, parents, coworkers. Guidance, group management techniques for working effectively with prekindergarten and young school-age children. Experience in early childhood classrooms.

Ed 3870s. Mathematics in the Primary Grades (BSU). (3 cr; SP–3670; A-F only)
Mathematical background including teaching aids, games, projects, activities that relate to K-3 level. Set theory, numeration, systems of whole/rational numbers. Basic mathematical operations presented from concrete standpoint.

Education and Human Development (EdHD)

The following courses are required for the undergraduate agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers these courses via ITV.

EdHD 5001s. Learning, Cognition, and Assessment in the Schools (UMTC). (3 cr; A-F only)

EdHD 5005s. School and Society (UMTC). (2 cr; A-F only)
Readings in history, philosophy, social sciences, law that reveal diverse educational values in a pluralistic society. Multiple expectations of schools. Civil liberties, rights, community. Varying cultural backgrounds of students, family circumstances, exceptional needs.

EdHD 5007f. Technology for Teaching and Learning (UMTC). (1.5 cr; A-F only)
Diverse educational technology in K-12 classrooms. Effective use of technology. Computer technologies to stimulate personal productivity/communication, enhance teaching/learning processes.

EdHD 5009s. Human Relations: Applied Skills for School and Society (UMTC). (1 cr; A-F only)
Issues of prejudice/discrimination in terms of history, power, social perception. Knowledge/skills acquisition in cooperative learning, multicultural education, group dynamics, social influence, leadership, judgment/decision making, prejudice reduction, conflict resolution, teaching in diverse educational settings.
Educational Policy and Administration (EdPA)

The following course is required for the undergraduate agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers this course via ITV.

EdPA 5341su. American Middle School (UMTC). (3 cr)
Uniqueness of the early adolescent. Appropriate learning situations for educators working with middle-level students.

Equine Science (EqSc)

EqSc 1000fs. Light Horse Driving. (2 cr)
Types of driving vehicles and harness, including fine harness, heavy harness, and competitive driving. Hitching and driving the fine harness horse. Techniques for training the fine harness horse to drive. Negotiating obstacles while driving.

EqSc 1100fs. Western Equitation. (3 cr)
Grooming, handling, safety, identification of equipment, saddling, mounting, correct body position (equitation), cues and their proper use, various riding techniques. Focus on developing proper equitation skills and techniques for riding and showing.

EqSc 1200fs. Hunt Seat and Dressage Equitation. (3 cr)
Developing hunt seat skills and techniques, including how to ride a course of jumps. “Centered riding” techniques. Basic dressage maneuvers and riding lower-level dressage tests.

EqSc 1202fs. Equine Evaluation. (2 cr)
Conformation, breed characteristics, and type and their importance in evaluation. Performance evaluation, criteria, and scoring methods. Preparation and delivery of oral reasons.

EqSc 1300fs. Saddle Seat Equitation. (3 cr; SP–1100 or 1200 or instructor consent)
Saddling, mounting, seat/hands, other saddle seat techniques. Developing equitation skills for saddle seat riding/showing.

EqSc 1803fs, ss. Directed Studies. (1-3 cr; SP–1123 or 1151 or 1164)
Current topics not covered in regularly offered courses.

EqSc 2102f. Horse Production. (4 cr; QP–AnSc 1014; SP–AnSc 1004)

EqSc 2112f (even yrs). Riding Instructor Training. (2 cr; QP–Two from [1113, 1213, 1313]; SP–Two from [1100, 1200, 1300])
Formulating lesson plans. Teaching methods for individuals or groups. Safety, insurance, liability, management. Student’s teaching methods are evaluated.

EqSc 3303s. Equine Reproductive Techniques. (3 cr; QP–3624, AnSc 3322, AnSc 3454 recommended; SP–2102, AnSc 3203, AnSc 3304)
Breeding management practices/techniques, including gestation, fetal development, endocrinology, estrus manipulation, artificial insemination, embryo transfer, cooled and cryopreservation of semen, teasing, and foaling. Lab emphasis on skills required in equine industry. Lecture emphasis on reproductive theory.

EqSc 3403s. Equine Exercise Physiology. (3 cr; QP–AnSc 3454; SP–2101, AnSc 3203)
Skeletal, muscular, cardiovascular, and regulatory systems of the horse. Effect of work-related stress (mental and physical) using physiological measures and how the systems relate to one another; how various types of conditioning can affect the systems separately and as a whole.

EqSc 3412. Equine Behavior and Training. (1 cr; SP–Two equitation courses; A-F only)
Equine behavior, learning, and stimulus-response mechanisms. Students experience how horses respond to different training methods.

EqSc 3413fs. Horse Training and Showing. (3 cr; max 6 cr; SP–6 crs of equitation courses: from [1100, 1200, 1300, 3441, 3442, 3443], [3412 or concurrent registration in 3412])
Work with untrained young horse or older show horse to correct problems or maintain the horse.

EqSc 3441f (even yrs). Topics in Advanced Western Equitation. (1 cr; SP–instructor consent; A-F only)
Experience in reining maneuvers. Students refine skills.

EqSc 3442f (even yrs). Topics in Advanced Dressage Equitation. (1 cr; SP–instructor consent; A-F only)
Experience in riding first, second, and (possibly) third level dressage tests.

EqSc 3443f (even yrs). Topics in Advanced Equitation Over Fences. (1 cr; SP–instructor consent; A-F only)
Experience in riding more challenging course of jumps.

EqSc 3804fs, ss. Individual Studies. (1-3 cr; QP–Jr, instructor consent)
Topic related to student’s major not covered in regularly offered courses.

EqSc 4102s. Equine Management. (3 cr; QP–Econ 1101; SP–Econ 2101)
Fundamentals of horse management. Record keeping (traditional, computer based). Marketing, sales techniques. Legal aspects (e.g., contracts, zoning, liability, insurance). Management project that involves establishing, maintaining, improving an equine business.

Food Science and Nutrition (FScN)

FScN 1123f. Fundamentals of Nutrition. (3 cr)
Fundamentals of nutrition and metabolism, including the nutrients: carbohydrates, proteins, fats, minerals, vitamins, and water. Assessment of health risks, health promotion, and disease prevention.

FScN 1273f. Medical Nutrition Therapy. (4 cr; SP–1123, [Biol 1464 or concurrent registration in Biol 1464], HSM 1010)
Modifying diet in disease. Calculating diets for common conditions (e.g., hypertension, obesity, diabetes, diverticular disease). Measuring/calculating body composition.

FScN 1313s. Life Cycle Nutrition. (3 cr; SP–1123)
Influence of age, growth, and normal development on nutritional requirements.

FScN 1654s. Nutritional Care: Practices and Procedures. (3 cr)
Application of nutritional practices and procedures in health care facilities, including medical terminology, medical charting, and diet histories. State and federal guidelines and regulations.

FScN 1803fs, ss. Directed Studies. (1-3 cr; max 6 cr; QP–1123; SP–instructor consent)
Current topics not covered in regularly offered courses.

FScN 1999fs, ss. Dietetic Practicum. (1-3 cr; max 6 cr)
Supervised experience in various health care and nutrition settings. Application of classroom theories to actual operations.

FScN 2302f. Community Nutrition. (3 cr; SP–1123; SP–1123)
Nutrition program and services to the community, including those served in various settings, children, and the elderly. Sociocultural and ethnic food consumption issues. Instructional methods for individuals and groups.

FScN 3211s. Professional Issues in Dietetics. (1 cr)
Food nutrition laws and policies and current issues in health care legislation. Students review research in dietetics and make presentations to groups.

FScN 3310s. Elements of Food Science. (3 cr)
Food properties and changes caused by heat, cold, and mechanical and chemical processes used in food preparation. Composition of food and effects of cooking on food. Functions of specific ingredients in recipes.

FScN 3494f or s. Food Systems Management. (3 cr)
Comprehensive overview of food management within institutional setting. Menu planning, equipment, food purchasing, food distribution/delivery systems, personnel, finance, regulatory agencies.
General Education (GnEd)

GnEd 1000f.s. Seminar for New Students. (1 cr)
Skills for adjusting to college-level academics.

GnEd 1001f. Effective Reading for a Changing World. (2 cr)
Developing comprehension/study strategies for reading college texts and related materials.

GnEd 1803f,s.su. Directed Studies. (1-3 cr; max 6 cr;)
QP–Instructor consent; SP–Instructor consent
Current topics not covered in regularly offered courses.

GnEd 1900f.s. Chancellor’s Academic Success Seminar. (5 cr;)
QP–Student on academic contract; SP–Student on academic contract
Comprehensive study program to help strengthen learning skills. Includes some monitoring of contract requirements.

GnEd 3804f,s.su. Individual Studies. (1-3 cr; max 6 cr;)
QP–Jr; instructor consent; SP–Jr, instructor consent
Topic related to student’s major not covered in regularly offered courses.

Geography (Geog)

Geog 1104f.s. World Regional Geography. (3 cr)
Theme of socioeconomic development, broadly defined, used to organize and present a variety of geographic concepts in relationship to selected major regions of the world. By using a geographic perspective in the study of cultures, development, and human-environment interaction, the course concerns itself with what has what, where, and how.

Geology (Geol)

Geol 1001s. Introductory Geology. (3 cr; A-F only)
Survey of Earth, including its composition, structure, and dynamics; internal and surface processes related to theories of sea floor and continental movement; summary of geological history and development of life.

Golf Facilities and Turf Systems (GFTS)

GFTS 3072s. Principles of Turf Management. (3 cr; QP–Soil 1294, SP–Bioi 1103, PIM 1030, PIM 1032, Soil 1293)
Species identification. Cultural requirements/principles for establishing, producing, and maintaining turf. Golf course turf care/maintenance.

GFTS 3074s. Turfgrass Pest Management. (3 cr; SP–3072, PIM 3072)
Identification/control of turfgrass diseases, weeds, and insects. Emphasizes integrated cultural/chemical management methods.

GFTS 3076f. Turfgrass Management Systems. (3 cr; SP–3074)

GFTS 3077m. Turf and Landscape Irrigation Design and Installation. (2 cr; A-F only)
Basic irrigation design, including pipe sizing/selection, pressure loss, sprinkler types/selection. Installation equipment, techniques, Lab.

Health (Hlth)

Hlth 1062f.s. First Aid and CPR. (2 cr)
American Red Cross course that follows guidelines set by the ARC and UMC for certification and grading. Prepares students to carry out the Emergency Action Principles and grants certification in Responding to Emergencies (an inclusive first aid and CPR course) if the ARC standards are successfully met.

General Agriculture (GnAg)

GnAg 1803f,s. Directed Studies. (1-3 cr; max 6 cr;)
QP–Instructor consent; SP–Instructor consent
Current topics not covered in regularly offered courses.

GnAg 2899f. Pre-Internship Seminar. (5 cr; A-F only)
Expectations/responsibilities of internships. Preparing for a job search. Presentations about internship experiences by those who have recently completed 3900. Discussions between students, staff, and invited guests.

GnAg 3203m. Agricultural Products and Processing. (3 cr; QP–Jr; SP–Jr; S-N only)
Survey of raw agricultural products produced in the Upper Midwest, transport, processing, packaging, wholesale and retail distribution and sales. Quality factors, food laws and regulations, sanitation, food safety, and environmental concerns.

GnAg 3652f.s. Agriculture and Natural Resources Seminar. (1 cr; QP–Jr or sr; SP–Jr or sr)
Current issues in agriculture and natural resources. Oral presentations and discussions by students, faculty, and/or invited guests.

GnAg 3804f,s,su. Individual Studies. (1-3 cr; max 6 cr;)
QP–Jr, instructor consent; SP–Jr, instructor consent
Topic related to student’s major not covered in regularly offered courses.

GnAg 3900f,s,su. Internship. (1-3 cr; max 6 cr;)
QP–Instructor consent; SP–Instructor consent
Supervised professional work experience at selected sites. Reports/consultation with faculty adviser/employer.

GnEd 1803f,s,su. Directed Studies. (1-3 cr; max 6 cr;)
QP–Instructor consent; SP–Instructor consent
Topic related to student’s major not covered in regularly offered courses.

GnEd 1000f.s. Seminar for New Students. (1 cr)
Skills for adjusting to college-level academics.

GnEd 1001f. Effective Reading for a Changing World. (2 cr)
Developing comprehension/study strategies for reading college texts and related materials.

GnEd 1803f,s.su. Directed Studies. (1-3 cr; max 6 cr;)
QP–Instructor consent; SP–Instructor consent
Current topics not covered in regularly offered courses.

GnEd 1900f.s. Chancellor’s Academic Success Seminar. (5 cr;)
QP–Student on academic contract; SP–Student on academic contract
Comprehensive study program to help strengthen learning skills. Includes some monitoring of contract requirements.

GnEd 3804f,s.su. Individual Studies. (1-3 cr; max 6 cr;)
QP–Jr; instructor consent; SP–Jr, instructor consent
Topic related to student’s major not covered in regularly offered courses.

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Health (Hlth)

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American Red Cross course that follows guidelines set by the ARC and UMC for certification and grading. Prepares students to carry out the Emergency Action Principles and grants certification in Responding to Emergencies (an inclusive first aid and CPR course) if the ARC standards are successfully met.
HSM 1010s. Medical Terminology. (2 cr)
Prefixes, suffixes, and roots used to compose medical terms. Pronouncing and defining terminology related to body structure, disease, diagnosis, and treatment.

HSM 1803f,s,m,su. Directed Studies. (1-3 cr [max 6 cr];QP–Instructor consent;SP–Instructor consent)
Current topics not covered in regularly offered courses.

HSM 2010f. Introduction to Health Services Organizations. (2 cr; A-F only)

HSM 3020s (even yrs). Quality Improvement and Risk Management. (3 cr;SP–3100, 3200)
Quality assessment activities in health care facilities. Emphasizes case management, utilization review, patient care evaluation, risk management activities. Methodologies/strategies, including quantitative/qualitative analysis of data. Students generate or update a quality assurance plan.

HSM 3030s (odd yrs). Health Care and Medical Needs. (2 cr; SP–1010, Biol 1464)
Common health conditions, diseases, disabilities. Intervention/treatment issues. Health care and medical needs across age continuum. Medical/pharmacologic terminology.

HSM 3100f (even yrs). Essentials of Managed Care. (3 cr; SP–2010)
Major economic forces affecting U.S. health care delivery system. Methods for addressing access, cost, and quality. Types of managed care organizations, management control and governance structures, closed and open panels, contracting and reimbursement, carve outs, special market segments; Medicaid, Medicare; rural, urban populations.

HSM 3130s. Health Management Information Systems. (3 cr; SP–ITM 1010)
Data accumulation, storage, integration, manipulation, and presentation. Strategic uses of data. Information access/security, their relation to patient confidentiality.

HSM 3200f. Management, Leadership, and Health Planning. (3 cr; SP–2010)
Organizational management characteristics for modern health care settings. Management process and managerial roles addressing resource allocation, delivery of clinical services, governance, patient satisfaction, and outcome evaluation.

HSM 3230f (odd yrs). Administration of Continuum Care Facilities. (3 cr)
Programs/services to meet the needs of an aging population. Physical, social, and psychological aspects of aging. Role, organization, function, and management characteristics of long-term health care facilities. Administrative structures, staffing, and changing work force. Governance, operations oversight.

HSM 3240f (odd yrs). Health Care Policy and Comparative Systems. (3 cr)
Analysis/comparison of world health problems and delivery systems. Geographic, political, and economic relationships.

HSM 3804f,s,m,su. Individual Studies. (1-3 cr [max 6 cr];QP–Jr, instructor consent;SP–Jr, instructor consent)
Topic related to student’s major not covered in regularly offered courses.

HSM 3900f,s,su. Internship. (1-3 cr [max 3 cr];QP–3200, 3230, 3310;SP–3200, 3230, 4210, 4212)
Ten-week field experience under direction of a faculty member in a health care organization or agency. Internship plan must be coordinated with and approved in advance by HSM program director. Students complete agency/organization assessment and major project. May be repeated in different health care setting.

HSM 4100f (even yrs). Health Care Finance. (3 cr; SP–Acct 2101, Act 2102)

HSM 4210s. Health Care Law and Biomedical Ethics. (3 cr; SP–3200)

HSM 4212s. Regulatory Management. (3 cr;QP–Acct 1020, Acct 1030, Acct 1040;SP–3200, Acct 2102)
Health care funding/reimbursement processes. Compliance/regulatory mechanisms. Federal/state surveys.

Hist 1021f (odd yrs). World Civilization I. (3 cr)
Ancient Near East, Greece, Egypt, Rome, and Medieval Europe.

Hist 1022s (even yrs). World Civilization II. (3 cr)
Renaissance and Modern Europe from Reformation to present.

Hist 1301f (even yrs). American History I. (3 cr)
Colonial era and early national period from the Revolution through the Civil War and Reconstruction.

Hist 1302s (odd yrs). American History II. (3 cr)
Gilded Age to present with emphasis on foreign involvements and wars, New Deal, civil rights, and economic developments.

Hist 3054f. Topics in History. (3 cr [max 6 cr])
Topics of regional, national, or international importance, such as Minnesota history, U.S. Civil War, Japanese history.

Hort 1021f. Woody Plant Materials. (4 cr;SP–PIM 1032 or consent of instructor;A-F only)
Identification, ecology, and use of deciduous and evergreen trees, shrubs, and vines.

Hort 1030s. Residential Landscape Design. (3 cr;QP–1010;SP–PIM 1030;A-F only)
Planning and developing formal and informal landscape sites for residential uses.

Hort 1031f. Herbaceous Perennial Plant Materials. (2 cr;SP–PIM 1032 or consent of instructor;A-F only)
Identification, classification, ecology, and landscape uses of perennial flowers, bulbs, ground covers, and wildflowers.

Hort 1081f. Floral Design and Foliage Plants. (2 cr;SP–PIM 1030 or consent of instructor)
Principles of design related to floral arrangement. Identification, use, and culture primarily of foliage plants used in interior decoration. Reference reading and field trips.

Hort 1082s. Floral Design and Florist Operations. (2 cr;SP–1081, PIM 1030)
Advanced principles of flower arrangement and design. Management problems and decisions in retail florist operations.

Hort 3033f. Commercial Floriculture Crops: Fall. (4 cr;QP–1010;SP–PIM 1030 with Hort lab)
Identification and culture of holiday pot plants and major cut flower crops. Soil preparation, artificial mixes, soil testing, applying soil test results; greenhouse pests, life cycle, control and management.
Hort 3034s. Commercial Floriculture Crops: Spring. (4 cr; QP–1010; SP–1010) Fundamentals of greenhouse structure and management. Heating and cooling requirements, lighting photoperiod control, soil sterilization, production of winter grown greenhouse crops such as mums, azaleas, cineraria. Identification and culture of annual bedding plants. Wholesale production, use of annual flowers in residential and commercial landscape design.

Hort 3036s. Plant Propagation. (4 cr; QP–1010; Biol 1009; SP–Biol 1103, PIM 1030) Plant propagation techniques for the commercial and home propagator. Mist system construction and operation. Propagation of plants by tissue culture, seed, cutting, layering, grafting, and division.


Hotel, Restaurant, and Institutional Management (HRI)

HRI 1111f or s. Introduction to Food Preparation. (3 cr) Fundamentals of food preparation and equipment use. Culinary vocabulary, cooking methods, and recipe development. Stocks, soups, sauces, seafood, poultry, meats, vegetables, salads, baking, and desserts.

HRI 1112s. Sanitation and Safety. (2 cr) Introduction to sanitation and safety concerns in a food service establishment and to Hazard Analysis Critical Control Points (HACCP). Can lead to Serve Safe certification from the National Restaurant Association.

HRI 1121f or s. Principles of Quantity Food Production. (3 cr; QP–1112; SP–1111) Supervising and managing quantity food production in UMC’s Dining Services. Applying principles of menu planning, food preparation, staffing, purchasing, storage, sanitation, safety, and equipment operation in on-the-job setting.

HRI 1211f. Rooms Division Management. (3 cr) Professional hotel and resort rooms management and relevant operational procedures. Emphasis on issues related to management of front office and housekeeping operations.

HRI 1231f. Menu Design and Analysis. (3 cr; SP–1111) Principles of menu design, pricing, and analysis. Menus for varied establishments of the hospitality industry.

HRI 1803s, m, su. Directed Studies. (1-3 cr [max 6 cr]; SP–Instructor consent) Current topics not covered in regularly offered courses.

HRI 3241s. Hospitality Selection and Procurement. (3 cr; SP–1111) Purchasing, receiving, storing, and issuing of products. Formulating specifications, judging quality, selecting products to meet specific needs, and developing security measures.

HRI 3311f. Restaurant Operational Management. (3 cr; QP–1113, 1211, 1251, 3221; SP–1111, 1121) Compare and contrast types of service (e.g., modified American, French, Russian); develop and apply menu planning techniques, cost controls, and personnel organization. Gueridon preparation and service with product merchandising.

HRI 3321s. Food, Beverage, and Labor Control. (3 cr; SP–3241, Acct 2101, ITM 1010) Food service operations cost calculations. Relationship between cost volume and profit. Management processes used in food service to keep costs at realistic levels and achieve desired goals. Implementing electronic spreadsheets to track profit/loss.

HRI 3331f. Global Tourism. (3 cr; QP–Econ 1101; SP–Econ 2101) Tourism as a product and its effect on the local economy. Developing tourism plan and strategy; their impact on the community. Travel trends, motivations, handler profile. Issues related to international tourism, travel sales distribution systems, and regulations governing travel agencies.

HRI 3341f. Hospitality Marketing and Sales. (3 cr) Issues related to strategic marketing, market analysis, and market segmentation. Developing a hotel marketing plan. Processes involved in pre-opening marketing of a new hotel. Emphasis on considerations for hospitality products and services marketing.

HRI 3411s. Facility Layout and Design. (3 cr; QP–1211, 1251; SP–1121, 1231) Impact of feasibility studies, customer profile emphasized. Students design a food service facility and hotel guest room using interior design concepts. Emphasis on equipment and furnishing selection, tabletop design product, and/or guest flow concepts. Students encouraged to attend UPS show in Minneapolis.

HRI 3421f. Hospitality Law. (3 cr; SP–Sr) Laws and cases applicable to operation of hotels, restaurants, motels, and other hospitality establishments.


HRI 3441s. Catering On and Off Premise. (3 cr; QP–1112, 1221, 1231, 1251, 3231, 3331; SP–1111, 1121, 1231, 3311) Theory and application of operational and managerial principles for off- and on-premise catering for banquets, buffets, weddings, ceremonies, teas, and other special events. Working with tallow and other selected products.

HRI 3451s. Cases and Trends in Hospitality Management. (3 cr; SP–Sr) Hospitality topics explored using a critical incident approach, which encourages thorough analysis of a prominent issue rather than superficial analysis of a complicated case. UPS show attendance required.

HRI 3804f, s, m, su. Individual Studies. (1-3 cr [max 6 cr]; SP–Jr, Instructor consent) Topic related to student’s major not covered in regularly offered courses.

HRI 3900f, s, su. Internship. (1-3 cr [max 6 cr]; QP–Instructor consent; SP–Instructor consent) Supervised professional work experience at selected sites. Reporter/consultation with faculty adviser/employer.

Humanities (Hum)

Hum 1301f. s. Introduction to Humanities. (3 cr) The arts as a reflection of our search for understanding of the human condition. Beliefs and attitudes presented through creative expressions from around the world.

Hum 3310f. Culture and Technology. (3 cr) Analysis of historical and cultural factors shaping technology. Synthesis of integrated relationships among technology, the arts, societal practices, and values.

Information Technology Management (ITM)

ITM 1010f. s. Introduction to Information Technology. (3 cr; A-F only) Handling and care of a computer; basic computer terminology; electronic mail; accessing the Internet; word processing, presentation, spreadsheet and database software applications.

ITM 1020f. Electronic Spreadsheets. (3 cr; QP–1010, [Math 1111 or Math 1001]; SP–1010) Personal/presentation use of spreadsheets that include formulas, functions, what-if analysis, and charts.
ITM 1803f,s,m,su. Directed Studies. (1-3 cr; max 6 cr; QP–Acct 2101, Econ 2102) Hands-on course.

ITM 2100s,f. Introduction to Analysis and Design of Information Systems. (3 cr; QP–Acct 2101, Econ 2102, Math 1150; SP–Acct 2101, Econ 2102, Math 1150; A-F only) Basic concepts of computer interface and graphic design as it relates to visual communication. Use of computer graphics programs to enhance communications. Projects result in hard copy and Internet products.

ITM 3100s. Scheduling and Workload Planning. (3 cr; SP–1010, 3100, 3120, 4010) Unified messaging types such as electronic mail, fax, and voice. Server software such as Microsoft Exchange, Lotus Notes, and Novell Groupwise. Internet standards for messaging.


ITM 3150s,f. WYSIWYG Web Site, Graphics, and Interface Design. (3 cr; SP–1060, 3040, 3145; A-F only) Basic concepts of computer interface and graphic design as it relates to visual communication. Use of computer graphics programs to enhance communications. Projects result in hard copy and Internet products.

ITM 3160s. Digital Audio and Video Production. (3 cr; SP–3150; A-F only) Students learn the basics and create projects applicable to the Internet and other technologies, such as desktop video conferencing.


ITM 3190s. Application Development Platforms. (3 cr; SP–1010, 3040, 3100, 3145) How to build Web applications with Cold Fusion and Visual InterDev development tools.


ITM 3215f. Applied Hacking and Systems Security. (3 cr; SP–1060, 3100, 3110, 3120, 4010) Principles of programming with C++/Java. Data types, expressions, statements, input/output operations, abstract container types, class definitions, arrays, strings, interfaces, applets.

ITM 3210f. Introduction to Analysis and Design of Information Systems. (3 cr; QP–Acct 2101, Econ 2102, Math 1150; SP–Acct 2101, Econ 2102, Math 1150; A-F only) Principles of programming with C++/Java. Data types, expressions, statements, input/output operations, abstract container types, class definitions, arrays, strings, interfaces, applets.

ITM 3210f. Managing Local Area Networks. (3 cr; QP–3080; SP–3110; A-F only) Design, implementation, and management of an enterprise local area network. Introduces the building blocks of network design such as servers, routers, bridges, gateways, transmission media, communications protocols, network security, and performance tuning.

ITM 3215f. Applied Hacking and Systems Security. (3 cr; SP–1060, 3110, 3120, 4010) Overview of computer connectivity through the Internet. Internetworking hardware and software, system design considerations, protocols, security, and management.

Literature (Lit)

Lit 1005f. Form and Idea in Literature. (3 cr; A-F only) Major forms of literature from various cultures and historical periods. Developing an informed, personal response to literature and interpretive skills required for an appreciation of literature.

Lit 1016s. Readings in American Life. (3 cr; A-F only) Relevant historical contexts and social movements. Developing an informed, personal response to that literature. Major concerns of American writers in different eras. Introduction to interpretive skills required for an appreciation of literature.

Lit 3001s. World Literature. (3 cr; A-F only) Representative works from various cultures from around the globe. Relevant historical contexts and social movements. Intensified interpretive skills for the appreciation of diverse genres.

Management (Mgmt)

Mgmt 1803s,f. Directed Studies. (1-3 cr; max 6 cr; SP–Instructor consent) Current topics not covered in regularly offered courses.

Mgmt 3100s. Managerial Finance. (3 cr; QP–Acct 1030, Econ 1102, Math 1150; SP–Acct 2101, Econ 2102, Math 1150; A-F only) Principle financial considerations and ratio analysis of a business. Cost of capital, asset management, capital structure planning, financial statement analysis, working capital management, short-term financing, budgeting. Integrates theory and applications.

Mgmt 3200s. Principles of Management. (3 cr; QP–Acct 1101, Psy 1001, Econ [1101 or 1102]) Principles of management and management of an organization. Developing an informed, personal response to that literature. Major concerns of American writers in different eras. Introduction to interpretive skills required for an appreciation of literature.

Mgmt 3210s. Supervision and Leadership. (3 cr; A-F only) Principles of management and management of an organization. Developing an informed, personal response to that literature. Major concerns of American writers in different eras. Introduction to interpretive skills required for an appreciation of literature.

Mgmt 3210s. Supervision and Leadership. (3 cr; A-F only) Principles of management and management of an organization. Developing an informed, personal response to that literature. Major concerns of American writers in different eras. Introduction to interpretive skills required for an appreciation of literature.
Internet sites of interest to entrepreneurs; group projects entrepreneurs and small business managers. Exploration of perspectives on creation and evolution of entrepreneurial economical, cultural, political, sociological, and psychological employers required.

Students are employed as interns in a business firm, Mgmt 3900f,s,m,su. Internship. offered courses.

Top topic related to student's major not covered in regularly offered courses. (3 cr; QP–Jr, instructor consent; SP–Jr, instructor consent; A-F only)

Examination of emerging trends in business theory/ applications. Introduction to major trends and exploration of their implications.


Acquaints students with small business management, entrepreneurship, and problems of organizing and operating a small business. Students develop a business plan for a new venture or acquisition of an existing business. Plan must be of a quality acceptable to a capital supplier and will be evaluated on both form and substance.

Specialized studies/cases covering management situations faced by businesses. Facilitates student research, analysis, and decisions in different business situations. Students work individually and as a management team member in making decisions.

Procedures, team leadership skills, and resource management using computer software. Application/evaluation involving identifying a project and carrying out all steps necessary to achieve satisfactory completion in a team environment.

Capstone, integrative course for senior business management, management emphasis students. Students chart future direction of organizations by formulating, implementing, evaluating strategies. Individual/group creative problem-solving exercises. Students make objective strategic decisions and justify them through oral/written communication.

Topics related to student's major not covered in regularly offered courses.

Students are employed as interns in a business firm, internship, or agency to gain an in-depth understanding of their field of study. Reports and consultations with faculty and employers required.

Economical, cultural, political, sociological, psychological perspectives on creation and evolution of entrepreneurial ventures. Students assess personal fitness for a career as entrepreneurs and small business managers. Exploration of Internet sites of interest to entrepreneurs; group projects outside classroom. Presentation(s) by off-campus speaker(s).

Current topics not covered in regularly offered courses.

Introduction to selling principles and processes, industrial vs. ultimate consumer selling, persuasive communication, selling vs. buying process, and time management of the sales professional. Emphasis on developing long-term buying and selling relationships.

Principles involved in developing and managing advertising, personal selling, public relations, and sales promotion programs. Introduction to promotional strategies through studying the promotional mix, marketing communications, theory, research, and marketing management. Students develop and present a promotional campaign for an actual company.

Introduction to marketing and the strategic marketing process. Team development of a marketing plan that implements product, pricing, distribution, and promotional strategies.

Fundamentals of buyer behavior. Behavior of individuals and groups; social and environmental factors that influence a buyer’s purchase decision. Group projects outside the classroom.

The research process from a marketing perspective. Problem formulation, scientific research methods, analysis and interpretation of marketing data, research report writing, and decision-making process derived from market research.

Factors affecting marketing of goods and services and managing the organization in the international environment. Students complete a team marketing plan for a product being marketed internationally.

Topics related to student’s major not covered in regularly offered courses.

Operations on whole numbers, fractions, mixed numbers, decimals, order of operations, problem solving, calculator use, formulas, real numbers, exponents, scientific notation, linear equations, applications, introduction to geometry. (institutional credit; not for transfer.)

Signed numbers, first-degree equations/inequalities, fractional equations, exponents, polynomials, factoring, rational expressions, radical expressions, graphing, systems of equations, functions.

Review of elementary algebra, polynomials, factoring, rational expressions, radical expressions, graphing systems of equations. Introduction to functions.

Signed numbers, calculator use, percentage problems, graphing, exponents, formulas, area/volume, solving linear equations, unit conversions, agriculture/business examples.
Math 1004 (on demand). Trigonometry. (1 cr; QP–0980; SP–0992 or 1001) Angle measurement; review of equation solving; basic right angle trigonometry, including use of sine, cosine, and tangent functions.

Math 1011f or s. Mathematics for Elementary School Teachers (BSU). (3 cr; SP–Education major or instructor consent) Background for education majors before enrollment in Ed 3770. Emphasizes use of mathematics manipulatives for modeling basic operations. Set theory, numeration. Systems of whole numbers, integers, rational numbers, real numbers.

Math 1031f.s. College Algebra and Analytical Geometry. (3 cr; QP–0995; SP–0991 or 0992) Basic algebraic operations, linear and quadratic equations and inequalities, variation, functions and their graphs, theory of equations, exponential and logarithmic functions, systems of equations, matrices and determinants.

Math 1131 (on demand). Finite Mathematics. (3 cr; QP–0995; SP–0991 or 0992) Linear equations (graphing and modeling), systems of linear equations and matrices, linear programming, sets, counting techniques, probability, mathematics of finance.


Math 1150f.s. Elementary Statistics. (3 cr; QP–0995 or 2 yrs high school algebra; SP–0991, 0992 or 2 yrs high school algebra) Descriptive statistics, elementary probability, normal distribution, binomial distribution, confidence intervals, tests of hypotheses, correlation, regression, chi-square, ANOVA.

Music (Mus)

Mus 1011f.s. University Singers. (1 cr; max 6 cr; SP–Choral music experience or ability to sing “in pitch”; students may be asked to take 1041 if voice development necessary) Performing group provides experience in many areas of choral music.

Mus 1021f. Introduction to Music. (3 cr) Music from Renaissance to present. Styles, forms, expressions. Some examples of music from various cultures compared with western art music.

Mus 1041f.s. Private Music Instruction. (1 cr; max 6 cr) Individual music lessons in voice or instruments. One-half hour lesson per week.

Mus 1042f.s. Private Instruction: Class Piano. (1 cr; max 6 cr; SP–Beginning or intermediate piano student) Study of piano technique/musicianship in classroom setting using multiple electronic keyboards. Musical concepts, including melody, harmony, rhythm, repertoire.

Mus 1051f.s. Band/Pep Band. (1 cr; max 6 cr) Ensemble of musicians play brass, woodwind, percussion instruments at concerts on/off campus and at selected UMC athletic events.

Mus 1071s. Musical Theatre. (1 cr; max 6 cr) Involvement in a musical theatre presentation. May include musical accompaniment, acting, singing, technical support.

Mus 1111f (odd yrs). Music Theory I: Foundations of Tonal Music. (3 cr) Theory and notation, two-part counterpoint; consonance and dissonance; melodic contours; music fundamentals (key signatures, scales, rhythms, chordal construction). Writing and analyzing basic diatonic tonal structures.


Mus 3011f.s. University Singers. (1 cr; max 6 cr; SP–1011, audition demonstrating skill in [sight-reading, accuracy of pitch, basic musicianship]) Performing group that provides experience in many areas of choral music. Students serve as section leaders, are required to review music to be rehearsed by ensemble before the music is “handed out.”

Mus 3029s (odd yrs). Music of the 20th Century. (3 cr; QP–1021 or instructor consent; SP–1021 or instructor consent) Compares various styles of 20th-century music to develop an understanding of human expression; compares musical forms and trends.

Mus 3041f.s. Private Instruction. (1 cr; max 6 cr; SP–Music minor, instructor consent; A-F only) Advanced music instruction.

Mus 3051f.s. Band/Pep Band. (1 cr; max 6 cr; SP–Audition) Students serve as section leaders, are required to review music to be rehearsed by ensemble before the music is “handed out.”

Mus 3091 (on demand). Instrumental and Choral Conducting. (2 cr; QP–[1011 or 1051], instructor consent; SP–1011 or 1051, instructor consent) Conduct UMC ensembles to develop score reading skills, conducting techniques.

Mus 3604f. Music Methods and Materials for Children. (3 cr) Current curriculum, methodologies, techniques, materials, instruments appropriate for teaching music in pre-kindergarten through 10 years. Orff, Kodaly, Dalcroze, eclectic music education, vocal techniques, lesson planning, effective communication, evaluation. Emphasizes integrating diverse curriculum/music learning for children with varying disabilities.

Natural Resources (NatR)

NatR 1233f. Introduction to Natural Resources. (3 cr; A-F only) Survey of our natural resource heritage with emphasis on North America. Various fields within natural resources examined in terms of conservation practices, employment opportunities, and importance to sustainable societies.

NatR 1244s. Elements of Forestry. (4 cr; QP–1223; SP–1233; A-F only) Forest management: ecology, silviculture, protection, and multiple-use decision-making processes. Woody forest plants: identification, growth requirements, and management techniques. Compass use and map reading. Survey of the lake states forest products industry.

NatR 1663s. Principles of Fisheries Management. (3 cr; QP–1223, Biol 1009; SP–1233; A-F only) Fisheries management and fish species of Minnesota: identification, population assessment, application of appropriate management techniques.

NatR 1803f.s.su. Directed Studies. (1–3 cr; max 6 cr; SP–Instructor consent) Current topics not covered in regularly offered courses.

NatR 2573f. Entomology. (3 cr; QP–Biol 1009; SP–PIM 1030; A-F only) Insect taxonomy, anatomy, and physiology: Emphasis on insects of economic importance, especially in the Upper Midwest.

NatR 3203s. Park and Recreation Management. (3 cr; SP–1233; A-F only) Survey of park and recreational area management. The recreationist: federal and state legislation; the roles of federal, state, local, and private sector recreation managers; and management techniques as they affect the private and public recreational area manager.

NatR 3344s. Land Use Planning. (4 cr; QP–5r or instructor consent; SP–5r or instructor consent; A-F only) Ecological, economic, and legal principles applied to land use planning in relation to agricultural, industrial, residential, wild land, forestry, recreational, and transportation needs. Legislative, agency, and citizen involvement in environmental law formulation and enforcement. Case studies.

NatR 3364s. Plant Taxonomy. (3 cr; QP–Biol 1103 or instructor consent; SP–Biol 1103 or instructor consent; A-F only) Principles of plant taxonomy with emphasis on higher vascular plants of the Upper Midwest: family characteristics, floral structure, ecology, evolutionary relationships, values to human life, and importance as wildlife food and cover. Methods of field study and collection.
Phil 3850 (on demand). Directed Research. (3 cr; SP–3804, 2.50 overall GPA, 3.00 GPA in minor) Project that applies descriptive, analytic, and evaluative understanding of “applied ethics” to issue/problem in broader community. Foundation for honors paper.

Phil 4652 (on demand). Honors Paper. (3 cr; SP–3850, 2.50 overall GPA, 3.00 GPA in minor) Capstone experience of applied ethics minor. Directed application to case or problem examined in research project. Students synthesize, evaluate, and resolve ethical dilemma or conflict.

Physical Education and Recreation (PER)

PER 1151 (on demand). Golf. (1 cr) Introduction to and practice of the fundamentals of golf.

PER 1201f. Dance (Folk, Social, Modern, Western). (1 cr) An alternative for aerobic activity. Acquaints students with dance and dance variety. Recreational dance course.

PER 1321f. Net Activities (Volleyball, Earthball, Cageball, Volleyball). (1 cr) Introduces the fundamental skills, rules, and strategies of volleyball, earthball, cageball, and volleyball through class participation. On-line research into each of these activities.

PER 1331s. Racquet Activities (Tennis, Badminton, Racquetball, Pickleball). (1 cr) Introduces tennis, pickleball, racquetball, and badminton. Rules, fundamentals, and skills; helps students progress toward their optimum abilities.

PER 1451f or s. Fitness for Better Health. (1 cr [max 2 cr]) Individualized approach to designing and following through with a personalized fitness program. Exercise programs and activities in the fitness area. A form of wellness program, with emphasis on fitness.

PER 1461f,s. Physical Training and Conditioning. (1 cr) Promotion and development of lifetime fitness through weight training and conditioning.

PER 1471s. Olympic Weight Training. (1 cr; SP–1461; A-F only) Techniques for advanced strengthening/conditioning.

PER 1481f or s. Aerobic Exercise. (1 cr [max 4 cr]) Promotes overall fitness. Incorporates aerobic movement for cardiovascular workout plus light weight training for strength and endurance. Stretching, flexibility, and relaxation.

PER 1601s. Aquatic Activities (Volleyball, Earthball, Cageball, Earthball Wall). (1 cr) An alternative for aerobic activity. Acquaints students with swimming; swimmer; lifeguard training/WSI; aqua aerobics).

PER 1701f. Varsity Sports: Football. (1 cr) To study, practice, and participate in all individual and team skills of football.


PER 1712s. Varsity Sports: Tennis (W). (1 cr) For students who wish to participate at the intercollegiate level.


PER 1731s. Varsity Sports: Basketball (W). (1 cr; A-F only) Varsity collegiate basketball experience.

PER 1741s. Varsity Sports: Basketball (M). (1 cr; A-F only) Varsity collegiate basketball experience.
PER 1751s. Varsity Sports: Hockey. (1 cr; A-F only)
Basic principles and participation, helps students progress toward optimum ability.

PER 1781s. Varsity Sports: Softball (W). (1 cr)
For athletes who wish to compete at the intercollegiate level.

PER 1791s. Varsity Sports: Baseball (M). (1 cr)
To practice, study, and participate in all individual and team skills of baseball.

Physics (Phys)

Phys 1001 (on demand). Elementary Physics. (3 cr; QP–Math 1111; SP–Math 1031; A-F only)
Fundamental laws of mechanics, fluids, temperature, gas laws, electricity, wave motion, origins of modern physics, relativity.

Phys 1012f,s. Introductory Physics. (4 cr; QP–Math 1111; SP–Math 1031)
Motion, forces, torque, energy, heat, sound, light, electricity, magnetism. Emphasizes applications.

Plant Industries Management (PIM)

PIM 1030f,s. Introduction to Plant Science. (2 cr; SP–Concurrent registration in 1031 or 1032; A-F only)
Principles and cultural practices used in growing agronomic and horticultural crops.

PIM 1031f,s. Introduction to Agronomy Laboratory. (1 cr; SP–1030 or concurrent registration in 1030; A-F only)
Identification of agronomic crops and the principles and cultural practices used in growing them.

PIM 1032f,s. Introduction to Horticulture Laboratory. (1 cr; SP–1030 or concurrent registration in 1030; A-F only)
Identification of horticulture crops and the principles and cultural practices used in growing them.

PIM 1803f,s,s,su. Directed Studies. (1-3 cr; max 6 cr; SP–Instructor consent)
Current topics not covered in regularly offered courses.

PIM 2573f. Entomology. (3 cr; QP–Biol 1009; SP–1030; A-F only)
Insect taxonomy, anatomy, and physiology. Emphasis on insects of economic importance, especially in the Upper Midwest. Control methods, including integrated pest management.

PIM 2640f,s. Weed Science. (4 cr; QP–Biol 1009, Soil 1294; SP–Biol 1009, Soil 1293; A-F only)
Mechanical, cultural, biological, and chemical weed control practices. Factors affecting control. Classification and modes of action of herbicides, insecticides, fungicides, and plant growth regulators.

PIM 3023f. Plant Breeding. (3 cr; QP–Biol 3022; SP–Concurrent registration in Biol 3022; A-F only)

PIM 3030s. Research Techniques. (3 cr; QP–Jr or sr; SP–Jr or sr; A-F only)
Experimental design and methodology in plant science research. Basic philosophy, data interpretation and analysis, and application of research information to practical management situations.

PIM 3230f. Introduction to Plant Pathology. (3 cr; QP–[Agro 1184 or Hort 1101], Biol 1009; SP–1003, Biol 1009; A-F only)
Nature, diagnosis, and management of plant diseases. Identification, control, and life cycles of representative plant diseases significant in the Upper Midwest that illustrate plant pathology principles.

PIM 3630s. Integrated Crop Management. (3 cr; SP–1030, 1530, 2640, 3020, 3030, 3230, Soil 3414; A-F only)
Capstone course. Students investigate, research, and study problems of agronomic crops and make recommendations. Students individually and in teams solve problems using scientific methods.

PIM 3800f,s,su. Individual Studies. (1-3 cr; max 6 cr; SP–Jr, instructor consent)
Topic related to student’s major not covered in regularly offered courses.

PIM 4630f,s. Senior Seminar in Horticulture and Agronomy. (1 cr; SP–Sr; SP–Sr; A-F only)
Individual and team preparation, presentation, and discussion of current topics. Students polish and demonstrate research, problem-solving, technology, and presentation skills.

Political Science (Pol)

Pol 1001f,s. American Government. (3 cr)
American government and political institutions at national, state, and local levels. Emphasis on the Constitutional basis of the American system, its history and authority, and the evolution of the system due to governmental and societal changes.

Pol 1054 (on demand). Comparative Government. (3 cr)
Government systems of the United States, Soviet Union, Great Britain, Japan, and France. Third World and Middle Eastern countries’ political and social impacts studied through current events.

Psychology (Psy)

Psy 1001f,s. General Psychology. (3 cr)
Overview of psychology as scientific study of human/animal behavior. Emphasizes goals of psychology: to describe, understand, predict, and control behavior. Biological, cognitive, affective, and social perspectives.

Psy 1093 (on demand). Developmental Psychology. (3 cr)
Human life-span perspective integrating developmental principles through research of social issues. Theories of major developmental theorists, as well as recent changes from stages in society and family interrelationships. Total environmental issues and progress in genetics and medicines toward a better understanding of human development.

Psy 3604f. Abnormal Psychology. (3 cr; QP–1001; SP–1001)
Comprehensive study of abnormal behavior. Focuses on causal factors, treatment, and outcome of maladaptive behavior. Systematic study of biological, behavioral, and psychosocial therapies as modes of treatment and prevention of disorders. Lectures, case studies, videos, group discussions, oral presentations, term paper.

Public Health (PubH)

The following course is required for the undergraduate agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers this course via ITV.

PubH 5003s. Fundamentals of Alcohol and Drug Abuse (U姆TC). (1.5 cr)
Scientific, sociocultural, attitudinal aspects of alcohol, other drug abuse problems. Emphasizes incidence, high risk populations, prevention, intervention. Lecture, discussion, special readings.

Rhetoric (Rhet)

The following courses are scientific and technical communication (STC) requirements and/or offerings. The STC major is a cooperative degree with the University of Minnesota, Twin Cities (Department of Rhetoric), which offers these courses via ITV and Internet.

Rhet 1001f. Introduction to the Major of Scientific and Technical Communication (UМTC). (1 cr; S-N only)
History of technical communication. Definitions. Introduction to topics. Applications in health science, computer science, agriculture, engineering. Employment (marketing) portfolio, student/professional organizations, trade/scholarly journals.
Rhett 3221f. Theories of Human Communication (UMTC). (4 cr; QP–Spch 1101, Spch 1101) Theories/practices of interpersonal, small group, organizational, scientific, technical, communication. Lecture, discussion, simulations, small-group work.

Rhett 3257f. Scientific and Technical Presentations (UMTC). (3 cr; QP–Spch 1101; Spch 1101) Oral presentation skills specific to scientific or technical topics. Techniques for visual communication, audience analysis, organizing a presentation, presenting complex material. Emphasizes use of computers.

Rhett 3266. Group Process, Team Building, and Leadership (UMTC). (3 cr; A-F only) Group processes and team building for managers/leaders. Role of communication techniques in small group decision-making. Small group communication theory, case studies in team leadership. Students complete a demonstration project.

Rhett 3671f. Principles and Application of Project Management and Design I (UMTC). (3 cr; SP–STC major; A-F only) Design principles. Displaying data, managing publications (e.g., newsletters, brochures, scientific posters). Relevant computer software.

Rhett 3672s. Principles and Application of Project Management and Design II (UMTC). (3 cr; SP–3671; A-F only) Introduction to design principles, visual display of data, management of various publications (newsletters, brochures, scientific posters). Computer software to aid in these tasks.

Rhett 4105f or s. Corporate Video for Technical Communicators (UMTC). (3 cr; QP–Comp 1011, Comp 1013, Comp 1334; SP–Comp 1011, Comp 1013, Comp 2334; A-F only) Introduction to products, professionals, processes of corporate video. Students submit proposal, treatment, script for video; maintain journal; complete interactive unit on production; conduct research on video-related topic of their choice.

Rhett 4505s. Usability and Human Factors in Technical Communication (UMTC). (3 cr; A-F only) Students practice text-based, expert-based, reader-based, and prototype-based forms of user testing. Developing test objectives, criteria, and measures. Conducting tests in lab, field, and virtual environments. Using software programs to analyze data.


Rhett 4573s. Writing and Managing Projects and Proposals (UMTC). (3 cr; A-F only) Research funding sources, interpreting an RFP or program announcement, letters of intent, grant preparation following the guidelines of an RFP or program announcement. Proposals for nonprofit or research or business. Using Microsoft Project.

Rhett 5562f. Theory and Practice in International Business Communication (UMTC). (3 cr; A-F only) International/intercultural scientific, technical, and business communication. Cultural metaphors and research studies. Students interview nationals from other cultures and international business managers, and review case studies.

Soil and Water Management (SWM)

SWM 3009s. Hydrology and Water Quality. (4 cr; QP–Math 1111, Soil 1294; SP–Chem 1004, Math 1031, Soil 1293; jr or instructor consent) Principles and theory of surface water and ground water quality, including, but not limited to, water budget, hydrologic cycle, water quantities, Darcy’s Law, water quality units and flow rates, hydraulic conductivity and permeability, and laboratory tests for and maintenance of water quality.

SWM 3103s. Meteorology and Climatology. (2 cr; QP–Phys 1001; SP–Phys 1012; A-F only) Fundamentals of weather and climate. Energy balance, weather chart analysis, composition and circulation patterns of the atmosphere, climates of the continents.

SWM 3224f. Soil and Water Conservation. (4 cr; QP–Soil 1294; SP–Soil 1293; jr or instructor consent) Management principles and practices used to increase productivity and conserve soil and water resources for agricultural crops. Maintaining wildland and environmental quality through use of shelterbelts.


Sociology (Soc)

Soc 1001f,s. Introduction to Sociology. (3 cr) Culture, social institutions, socialization, groups, social class, race and ethnicity, collective behavior, and social deviance.

Soc 1102 (on demand). Cultural Anthropology. (3 cr) Human culture from advent of agriculture to present. Methods used in cultural anthropology; linguistics; general theories of culture; functions of religion, law, kinship, systems, and other major influences in selected cultures.

Soc 3007 (on demand). Family Relationships. (3 cr) Evolution and developmental stages of the family as an institution in American society. Emphasis on functions of the family, interaction among members, and psychological and cultural forces affecting the family.

Soc 3937f. Social Gerontology: Elders in American Society. (3 cr) Survey of characteristics and concerns of older persons, including physical, social, psychological, and cultural factors associated with aging. Individual outside work with an older person.
Soil Science (Soil)

Soil 1293f,s. Soil Science. (3 cr; QP–Chem 1000 or equiv; SP–Chem 1001)
Formation, classification, and composition of soils, with emphasis on environmental quality, chemical and physical properties affecting growth and nutrition of plants, management principles and practices used to increase productivity and conserve soil and water resources for agronomic crops.

Soil 3414f (every other year).s. Soil Fertility and Plant Nutrition. (4 cr; QP–1294; SP–1293, soph or consent of instructor)
Soil fertility management and its effect on crop growth. Uptake and use of specific important nutrients; use of fertilizers, their composition and characteristics; importance of residue management to maintain high productivity; environmental impact of certain agronomic practices.

Spanish (Span)

Span 1104f. Beginning Spanish I. (4 cr; A-F only)
Conversational Spanish centered on day-to-day experiences. Emphasis on verb conjugation, rules of grammar, and vocabulary building. Cultural awareness and appreciation.

Span 1204s. Beginning Spanish II. (4 cr; QP–1104 or 2 yrs high school Spanish; SP–1104 or 2 yrs high school Spanish; A-F only)
Emphasis on verb conjugation with the addition of compound tenses, indicative and subjunctive moods. Vocabulary building; dialogue concerning sports, travel, service information. Cultural and political dimensions of Spanish-speaking countries.

Speech (Spch)

Spch 1101f,s. Public Speaking. (3 cr; A-F only)
Topic selection, research, organization, rehearsal, and extemporaneous delivery of informative and persuasive speeches.

Spch 3001f. Communication in Human Relationships. (3 cr)
Theory, research, and application of interpersonal communication in face-to-face, familial, intimate, cross-cultural, and colleague relationships.

Spch 3431s. Persuasion. (3 cr; QP–1101; SP–1101)
Persuasion in interpersonal, organizational, intracultural and intercultural relationships. Contemporary persuasion with historical segments. Focuses on becoming aware of argumentative claims, learning to analyze them, and responding coherently to them...

Sport and Recreation Management (SRM)

SRM 1803f,s,m,su. Directed Studies. (1-3 cr; max 6 cr; SP–Instructor consent)
Current topics not covered in regularly offered courses.

SRM 3000f,s. Foundations of Sport and Recreation Management. (3 cr; QP–Mgmt 3200)
Overview of scope and extent of sport and recreation management, including accounting, career opportunities, composition, computer applications, facility and equipment management, fundraising, grant writing, health and wellness, human communication, law, multilevel scheduling, management principles, marketing, and promotions.

SRM 3001s. Sports Nutrition. (3 cr; QP–Biol 1009 or Chem 1001 or FScN 1123; SP–Biol 1009 or Chem 1001 or FScN 1123)
Nutrition principles applied to fitness and sport. The six nutrients, body composition, training and conditioning, weight maintenance, nutrition in competitive sports.
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