College of Continuing Education

66 General Information
66 Advising
66 Admission
66 CCE Scholastic Committee
66 Degrees
67 Honors
67 Certificates
68 Special Learning Opportunities and Resources
68 Scholarships and Grants
68 Directory
69 Degree Programs and Minors
  69 Construction Management B.A.Sc.
  69 Construction Management Minor
  70 Information Technology Infrastructure B.A.Sc.
  71 Inter-College Program B.A.
  72 Inter-College Program B.S.
  72 Joint Military Science Leadership Minor
  73 Manufacturing Technology B.A.Sc.
  74 Program for Individualized Learning B.A.
  74 Program for Individualized Learning B.S.
  75 Radiation Therapy B.A.Sc.
  76 Respiratory Care B.A.Sc.
College of
CONTINUING EDUCATION

General Information

The College of Continuing Education (CCE) provides high-quality continuing education and lifelong learning opportunities for professional development, personal enrichment, career transition, and academic growth. Established in 1913, CCE has one of the most comprehensive continuing education units in the country and serves as the University’s main access point for nontraditional students, particularly adult and part-time learners.

CCE offers a variety of degrees, certificates, and continuing professional education opportunities. With programs and services that cross the usual boundaries of time, place, mode of delivery, and academic discipline, CCE provides the knowledge and skills required in an information-based world and workplace. And, through CCE, nonadmitted students can access University courses.

Advising

CCE Information Center and Advising—The CCE Information Center offers academic and financial aid advising to all students interested in CCE degrees and certificates. Advisers can help students select programs of study, determine prerequisites, interpret degree requirements, discuss transcripts of previous college work, and choose courses.

Students seeking a college degree through registration in CCE classes should consult an adviser early in their planning. For more information, contact the CCE Information Center at cceinfo@umn.edu or 612-624-4000.

Admission

Admission to CCE Degree and Certificate Programs—All CCE degree programs have their own admission policies and procedures and admit at the upper division only. For general questions about admission to CCE degree or certificate programs, contact the CCE Information Center at 612-624-4000. For more information, go to the CCE Web site at www.cce.umn.edu and select the program of interest.

Liberal Education Requirements—Within CCE, the Inter-College Program (ICP) and the Program for Individualized Learning (PIL) follow the University’s standardized set of liberal education requirements. The Bachelor of Applied Science (BAS) Program has liberal education requirements unique to each major. See the BAS Web site at www.cce.umn.edu/bas or contact the Information Center for requirement information.

CCE Scholastic Committee

The CCE Scholastic Committee is charged with interpreting and enforcing College and University regulations relating to academic affairs for students admitted to CCE credit certificate and degree programs and nonadmitted students assigned to CCE. The Committee handles registration exception requests to policies and procedures. The Committee seeks to maintain the spirit of the University’s regulations and is empowered to make exceptions in extenuating circumstances. CCE nonadmitted and admitted degree and credit certificate students should contact a CCE adviser at 612-624-4000.

Degrees

Students have two broad options for earning baccalaureate degrees through CCE—an individualized degree or applied degree. For more information about these options, call 612-624-4000, or visit the CCE Web site at www.cce.umn.edu.

Individualized Degree Programs

Individualized degree programs open up educational opportunities for highly motivated students who need flexibility to earn their bachelor of arts (B.A.) or bachelor of science (B.S.) degrees. Students develop degree programs tailored to their interests and talents.

CCE links the rich resources of the University’s faculty and staff with the individual undergraduate. Students, faculty, and staff work together to take responsibility for the integrity of each degree program and the maintenance of high academic standards. As a result, our graduates gain a strong sense of ownership of their education and confidence in how that education is related to their lives.

CCE’s individualized programs serve students by offering educational alternatives; the programs serve faculty by allowing them to develop and test innovative approaches to undergraduate education. Working together, the two groups help diversify learning experiences at the University.

Inter-College Program (ICP), founded in 1930, offers students a credit-based, individualized baccalaureate degree program drawing on the curricular offerings and other educational resources of the entire University community.

This program provides an alternative to an already established major by giving students the flexibility to incorporate both day school and evening coursework from more than one college to achieve their educational goals. Call 612-624-4000 for more information or see www.cce.umn.edu/icp on the Web.

Program for Individualized Learning (PIL), founded in 1971, serves independent learners who wish to design and complete individualized study that incorporates a variety of learning resources and strategies, such as independent learning projects. PIL students work collaboratively with academic advisers and faculty throughout the University.

The program primarily serves students who live in the Twin Cities area, but also considers qualified students who can commute to campus for some learning activities. For more information, call 612-624-4000, or see www.cce.umn.edu/pil on the Web.

Bachelor of Applied Science (BAS) Degree Program

The Bachelor of Applied Science (BAS) program offers the opportunity for niche-focused professional growth in specializations tied to key economic drivers. Working adults and full-time students may augment credentials or begin career study. Courses combine theory and application and are taught by industry professionals. Students may select an entire BAS major and receive a B.A.Sc. degree, incorporate BAS courses or a BAS minor into an existing degree program, elect a certificate in certain BAS areas, or enroll in individual courses. For more information about any of these opportunities, visit the BAS Web site at www.cce.umn.edu/bas.
The B.A.Sc. with a major in construction management is offered in close collaboration with the construction industry. The program combines building design and engineering with management and business studies. Students graduate with a strong applied knowledge base, prepared to deliver projects on time and within budget. The experience and education provided by this major can lead directly to a professional management career in high demand areas in the construction industry. A minor in construction management is also available to students who are currently enrolled in an undergraduate degree program at the University of Minnesota.

The B.A.Sc. with a major in information technology infrastructure combines a strong foundation in computer systems and communication networks with essential applied business courses and project management emphasis. Students may focus on network and systems administration, database administration, or a blend of both. Students learn to analyze business and technology requirements, understand business objectives, and design, construct, and manage technology operations. The curriculum prepares graduates to work as network engineers, data administrators, systems administrators, business analysts, and in related IT professions, filling critical roles in the rapidly evolving enterprises of today’s global economy.

The B.A.Sc. with a major in manufacturing technology provides essential tools and knowledge for professional growth in the emerging global manufacturing enterprise, with its constant demand for innovation. This course of study includes manufacturing processes and technologies, quality engineering and process improvement, supply chain management, regulatory affairs, project management, business, and finance. Graduates are prepared to work as production supervisors, project managers, process engineers, materials managers, lead technicians, order process analysts, facilities engineers, and business analysts.

A minor in manufacturing technology (proposed) is also available to students who are currently enrolled in an undergraduate degree program at the University of Minnesota.

The B.A.Sc. with a major in radiation therapy provides leading-edge medical and technical courses and clinical experience in a top-ranking radiation oncology department. Radiation therapy graduates are prepared to meet the changing demands of new technologies and advancements in treatment techniques. Didactic and clinical experiences will sharpen critical thinking and problem solving skills, and provide the knowledge base in management and education that is crucial to future advancement. Graduates are ready to meet national certification requirements.

The major is currently offered in partnership with the School of Radiation Therapy at the University of Minnesota Medical Center (UMMCC), Fairview.

**Note:** Admission through the College of Continuing Education is available only through fall 2008 for students admitted to the UMMCC, Fairview Radiation Therapy Certificate. Students interested in admission for the 2009–10 academic year should contact Patricia Fountinelle, director, Radiation Therapy Programs, UMMCC, Fairview, Minneapolis (612-273-5107), or visit www.fairview.org/recruitment/Education_and_Training/c_318619.asp

The B.A.Sc. with a major in respiratory care prepares students to become respiratory care practitioners with advanced-level clinical and professional skills. This program, offered in partnership with Mayo School of Health Sciences in Rochester, combines professional, medical, and technical courses. Classes and clinical experiences, with options for specialized clinical study, are offered at Mayo Clinic and other facilities within the Mayo Health System. Graduates will be ready to meet national certification requirements. Advanced practitioner respiratory therapists are prepared to serve as consultants to physicians and other medical staff.

**Note:** This major is available only through fall 2008 for students applying to the College of Continuing Education.

**Honors**

All CCE degree programs recognize outstanding academic achievement by offering an honors and/or distinction option for graduating students. Beginning in fall 2008, the University Honors Program (UHP) will offer rigorous and interdisciplinary curricula along with other honors experiences designed for highly qualified and motivated students. Honors courses, available only to honors students, offer small class sizes, close interaction with world-class faculty, and an engaging learning atmosphere. The University Honors Program serves honors students in all colleges. See the University Honors Program section at the front of this catalog for more information, or visit the University Honors Program Web site at [www.honors.umn.edu](http://www.honors.umn.edu).

Students admitted before fall 2008 will continue to follow the honors requirements outlined at the time they entered their college honors program. All students admitted to honors as of fall 2008 will follow the requirements of the new University Honors Program. Students admitted to a college honors program before fall 2008 and who change colleges must apply to the UHP if they want to participate in Honors. If admitted, they will be held to the new UHP requirements. See the University Honors Program section of this catalog for further instructions on how to apply.

**Certificates**

In addition to baccalaureate degrees, certificate programs offered through CCE provide an educational option for working adults. Certificates are short-term, focused college credentials that can supplement a student’s experience and previously earned degree, or serve as a stepping stone to a degree. Certificates provide concentrated coursework related to occupational areas or general background to prepare students for further college work.

Coursework may be completed with evening classes, Independent and Distance Learning, day classes, summer session classes, or any combination of these. For more information, call the CCE Information Center at 612-624-4000 or e-mail [ccinfo@umn.edu](mailto:ccinfo@umn.edu).

**College of Continuing Education Certificates**

For information regarding the following certificates see [www.cce.umn.edu/certificates](http://www.cce.umn.edu/certificates).

- Accounting I
- Accounting II
- Addiction studies (undergraduate- and graduate-level)
- Applied business
- Computer science
- Construction management
- Direct marketing
- Housing studies (graduate-level)
- Industrial relations
- Information technology infrastructure
- Innovation studies (graduate-level)
- Interpreting
- Nonprofit management (graduate-level)
- Ophthalmology technician
- Organizational and professional communication (undergraduate- and graduate-level)
- Policy issues on work and pay (graduate-level)
- Technical communication (graduate-level)
- Transportation studies (graduate-level)
Special Learning Opportunities and Resources

Independent and Distance Learning (IDL) courses use electronic technologies and mail to meet the needs of students who cannot or choose not to take courses on campus. No classroom meetings are required. Most courses are self-paced and give students up to nine months to complete the coursework. Other courses fit into the regular semester schedule. Credits are recorded on students’ transcripts and can be used toward fulfilling distribution requirements in most undergraduate programs. IDL courses can also satisfy residency requirements, with approval from the student’s college. Check with an adviser about using these course credits toward a specific program.

Students register for IDL courses the same way as regular day and evening courses. Courses are either extended-term (to be completed in up to nine months) or term-based (to be completed within one semester term). Credits for IDL courses qualify for any tuition caps that may be available for undergraduate, professional, or graduate tuition plans. For students receiving financial aid administered by the Office of Student Finance (OSF), term-based online courses are automatically counted. Extended-term courses (both online and correspondence) are not eligible for OSF-administered aid, with one exception. If students are eligible for a Minnesota State Grant, OSF counts all IDL courses enrolled in by the end of the second week of the semester. This includes both extended-term and term-based courses.

For detailed course descriptions, policies, and how to register, visit www.cce.umn.edu/idl or request an Independent and Distance Learning Catalog. Contact CCE at 612-624-4000 or 800-234-6564, or e-mail cceinfo@umn.edu.

Independent Study (ICP 3075)—CCE allows undergraduates, regardless of college affiliation, to pursue projects beyond the scope of a single department or college. Projects are interdisciplinary or are completed in departments that do not offer an appropriate independent study course. Students may take 3–5 credits of ICP 3075—Independent Study. For more information, contact ICP at 612-624-4000.

Scholarships and Grants

The CCE Information Center provides information about CCE scholarships and other financial aid options for students admitted to CCE degree certificate programs, nonadmitted students enrolled through CCE, and students taking CCE noncredit courses and programs. The Financial Resources Wizard, http://frw.cce.umn.edu/frwizard, is an interactive Web tool that helps students identify financial aid and other resources that are likely to match their individual situations. It contains links to in-depth information about each funding source.

Students admitted to degree and eligible certificate programs who complete the Free Application for Federal Student Aid (FAFSA) will be considered for aid administered by the Office of Student Finance. CCE scholarships and grants are available for noncredit, nonadmitted (nondegree), and degree and certificate admits. Most scholarships and grants require Minnesota residence, financial need, and a delay or interruption in education of two years or more. Additional scholarships are available for students admitted to the Inter-College Program (ICP), Program for Individualized Learning (PIL), and Bachelor of Applied Science (BAS) Program; requirements vary by scholarship fund. Scholarships are awarded on the basis of academic ability and a statement of personal, educational, and career goals. They are supported by donations from CCE alumni and friends. CCE awards 150–200 scholarships per year; individual awards generally range from $2,200 to $5,000.
Construction Management

B.A.Sc.

- Required credits to graduate with this degree: 120.
- Required credits within the major: 51.
- This program requires summer terms.

The bachelor of applied science (B.A.Sc.) degree with a major in construction management is offered in close collaboration with the construction industry. Construction management combines building design and engineering with management and business studies to equip students with the skills needed to deliver projects on time and within budget. The major offers experience and education leading directly to a professional management career in high demand areas in the construction industry. The construction management major was designed around the needs of working adults who are part-time students.

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.00 is preferred for the following:

- 2.50 for students already admitted to the degree-granting college.
- 2.50 for students transferring from another University of Minnesota college.
- 2.50 for students transferring from outside the University.

Either 45 credits completed (including construction plan reading, physics, and calculus) or the A.S. in construction management preferred before admission to the major.

For information about University of Minnesota admission requirements, visit http://admissions.tc.umn.edu.

Required Preparatory Coursework

Students may complete the preparatory coursework either through Option 1 (U of M coursework) or Option 2 (A.S. in Construction Management).

Students are required to complete one of the following course groups.

Option 1 (U of M Preparatory Courses)

Students complete construction plan reading, physics, and calculus before admission.

ACCT 2050—Introduction to Financial Reporting (4 cr)
CMGT 2019—AutoCAD for Construction Managers (2 cr)
CMGT 3001—Introduction to Construction (3 cr)
CMGT 3011—Construction Plan Reading (2 cr)
COMM 1101—Introduction to Public Speaking (3 cr)
or COMM 3402—Introduction to Interpersonal Communication, SSCI (3 cr)
or COMM 3605W—Persuasive Speaking and Speech Writing, WI (3 cr)
or PSLT 1461—Oral Communication in the Public Sphere, C/PE (3 cr)
PSTL 1211—People and Problems, CD, SSCI (4 cr)
or PSLT 1281—General Psychology, SSCI (4 cr)
or PSY 1001—Introduction to Psychology, SSCI (4 cr)
or SOC 1001—Introduction to Sociology, CD, SSCI (4 cr)
MATH 1142—Short Calculus, MATH (4 cr)
or MATH 1211—Calculus I, MATH (4 cr)
PHYS 1110W—Introductory College Physics I, PHYS SCI/L, WI (4 cr)
or PHYS 1107—Introductory Physics Online I, PHYS SCI/L (4 cr)
or PHYS 1111—Basic Physics I (3 cr)
or PHYS 1301W—Introductory Physics for Science and Engineering I, PHYS SCI/L, WI (4 cr)
APEC 1101—Principles of Microeconomics, SSCI (3 cr)
or ECON 1101—Principles of Microeconomics, IP, SSCI (4 cr)
BBE 3101—Introduction to Statics and Structures for Construction Management (3 cr)
or AEM 2011—Statics (3 cr)
or BBE 3001—Mechanics and Structural Design (4 cr)
ABUS 4023W—Communicating for Results, WI (3 cr)
or WRIT 3562W—Technical and Professional Writing, WI (4 cr)
ABUS 4022—Management in Organizations (3 cr)
or MGMT 3001—Fundamentals of Management (3 cr)

Option 2 (A.S. in Construction Management)

Students may satisfy the prerequisites for the major by earning an A.S. in construction management at North Hennepin Community College or Inver Hills Community College.

Program Requirements

Major Courses

ABUS 4101—Cost Accounting, Analysis, and Control in Organizations (3 cr)
ARCH 4552—Integrated Design Processes (3 cr)
CE 3202—Surveying and Mapping (2 cr)
CE 4101W—Project Management, WI (3 cr)
CMGT 4011—Construction Documents and Contracts (3 cr)
CMGT 4012—Risk Management, Bonds, and Insurance (2 cr)
CMGT 4013—Legal and Ethical Issues in Construction (3 cr)
CMGT 4021—Construction Planning and Scheduling (3 cr)
CMGT 4022—Construction Estimating (3 cr)
CMGT 4031—Construction Safety and Loss Control (3 cr)
CMGT 4041—Specifications and Technical Writing for Construction Professionals (3 cr)
CMGT 4051—Construction Materials for Managers (3 cr)
CMGT 4111—Construction Productivity Management (2 cr)
CMGT 4196—Construction Management Internship (1-4 cr)
CMGT 4201—Construction Accounting (3 cr)
CMGT 4572—Structural Frames and Building Design/Construction (3 cr)
CMGT 4542—Building Energy Systems (3 cr)
ABUS 4701—Introduction to Marketing (3 cr)

Construction Management Minor

- Required credits in this minor: 19.

A minor in construction management is available to students who are currently enrolled in an undergraduate degree program at the University of Minnesota.

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.00 is preferred for the following:

- 2.50 for students already admitted to the degree-granting college.
- 2.50 for students transferring from another University of Minnesota college.
- 2.50 for students transferring from outside the University.

For information about University of Minnesota admission requirements, visit http://admissions.tc.umn.edu.
Minor Requirements
Sixty percent of credits in the minor must be completed at the University of Minnesota-Twin Cities. CMGT 3011 or equivalent experience is prerequisite for certain courses in the minor.

Required Courses for the Minor
CE 4101W—Project Management, WI (3 cr)
CMGT 3001—Introduction to Construction (3 cr)
CMGT 4011—Construction Documents and Contracts (3 cr)
CMGT 4021—Construction Planning and Scheduling (3 cr)
CMGT 4022—Construction Estimating (3 cr)
CMGT 4031—Construction Safety and Loss Control (3 cr)
CMGT 3011—Construction Plan Reading (2 cr)
or Upper-division elective approved by the department

Information Technology Infrastructure B.A.Sc.
• Required credits to graduate with this degree: 120.
• Required credits within the major: 59.
• This program requires summer terms.
The B.A.Sc. with a major in information technology infrastructure combines information technology infrastructure, math, science, and business curricula. Graduates are prepared to design, construct, and manage technology operations.

Admission Requirements
Students must complete 45 credits before admission to the program.
A GPA above 2.00 is preferred for the following:
• 2.50 for students already admitted to the degree-granting college.
• 2.50 for students transferring from another University of Minnesota college.
• 2.50 for students transferring from outside the University.
Physics I and II, calculus, and computer science lower division coursework must be completed or in progress—see program foundation courses.
For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

Program Requirements
Foundation Courses
Students who complete a physics sequence that is not designated as writing-intensive must also complete a research/technical writing course.
Completing CSCI foundation courses at the U of M requires Calculus I and II.

Prerequisite Courses
Complete the following courses before admission to the major.
CSCI 1103—Introduction to Computer Programming in Java (4 cr)
CSCI 1901—Structure of Computer Programming 1 (4 cr)
CSCI 1902—Structure of Computer Programming 2 (4 cr)
CSCI 2011—Discrete Structures of Computer Science (4 cr)
CSCI 2021—Machine Architecture and Organization (4 cr)
PHYS 1101W—Introductory College Physics I, PHYS SCI/L, WI (4 cr)
PHYS 1102W—Introductory College Physics II, PHYS SCI/L, WI (4 cr)
MATH 1142—Short Calculus, MATH (4 cr)
or MATH 1271—Calculus I, MATH (4 cr)

Other Required Courses
ACCT 2050—Introduction to Financial Reporting (4 cr)
One course that meets the LE requirements for social sciences or historical perspectives.
One course that meets LE requirements in humanities or arts.
COMM 1101—Introduction to Public Speaking (3 cr)
or COMM 3402—Introduction to Interpersonal Communication, SSCI (3 cr)
or COMM 3605W—Persuasive Speaking and Speech Writing, WI (3 cr)
or PTRL 1461—Oral Communication in the Public Sphere, C/PE (3 cr)
PTRL 1004—Statistics, MATH (4 cr)
or OMS 2550—Business Statistics: Data Sources, Presentation, and Analysis (4 cr)
or STAT 1001—Introduction to the Ideas of Statistics, MATH (4 cr)
or STAT 3011—Introduction to Statistical Analysis, MATH (4 cr)
ECON 1101—Principles of Microeconomics, IP, SSCI (4 cr)
or APEC 1101—Principles of Microeconomics, SSCI (3 cr)

Core Courses
ABUS 4022—Management in Organizations (3 cr)
ABUS 4023W—Communicating for Results, WI (3 cr)
CSCI 4061—Introduction to Operating Systems (4 cr)
CSCI 4211—Introduction to Computer Networks (3 cr)
INET 4051—IT Infrastructure Operations (3 cr)
INET 4081—Introduction to Software Engineering (4 cr)
INET 4153—Policy and Regulation: Effects on Global IT Infrastructure (3 cr)

Required Tracks
Students are required to complete one of the following course groups.

Applied Business
ABUS 4043—Project Management in Practice (3 cr)
ABUS 4101—Cost Accounting, Analysis, and Control in Organizations (3 cr)
ABUS 4102—Operations in Manufacturing and Service Businesses (3 cr)
Cognate electives—CSCI, IDSC, ABUS or INET (9 cr)
MT 4201—Statistical Process Control (3 cr)
or ABUS 4032—Quantitative Skills for Decision Making (3 cr)

Construction Management
ABUS 4101—Cost Accounting, Analysis, and Control in Organizations (3 cr)
CE 4101W—Project Management, WI (3 cr)
CMGT 3001—Introduction to Construction (3 cr)
CMGT 4011—Construction Documents and Contracts (3 cr)
CMGT 4021—Construction Planning and Scheduling (3 cr)
CMGT 4022—Construction Estimating (3 cr)
MT 4201—Statistical Process Control (3 cr)
or ABUS 4032—Quantitative Skills for Decision Making (3 cr)

Health Systems Management
ABUS 4043—Project Management in Practice (3 cr)
ABUS 4102—Operations in Manufacturing and Service Businesses (3 cr)
HSM 3521—Health Care Delivery Systems (3 cr)
HSM 4541—Health Care Finance (3 cr)
HSM 4561—Health Care Administration and Management (3 cr)
PHAR 3800—Pharmacotherapy for the Health Professions (3 cr)

Manufacturing Technology
ABUS 4043—Project Management in Practice (3 cr)
ABUS 4102—Operations in Manufacturing and Service Businesses (3 cr)
MT 4001—Manufacturing Cost Accounting, Analysis, and Control (3 cr)
MT 4011—Design of Manufacturing Systems and Simulation (3 cr)
MT 4012—Manufacturing Processes (3 cr)
MT 4201—Quality Engineering and Process Improvement (3 cr)

Note: Programs listed in this catalog are current as of March 2008.
Program Sub-Plans
Students are required to complete one of the following sub-plans.

Database Administration Concentration
Required Courses
INET 4031—Systems Administration (4 cr)
INET 4061—Introduction to Data Warehousing (3 cr)
INET 4131—Advanced Database Design (3 cr)
INET 4193—Directed Study (1–4 cr)
CSCI 4707—Practice of Database Systems (3 cr)
or INET 4707—Practice of Database Systems (3 cr)

Network and Systems Administration Concentration
Required Courses
INET 4011—Network Administration (4 cr)
INET 4021—Network Programming (4 cr)
INET 4031—Systems Administration (4 cr)
INET 4041—Emerging Network Technologies and Applications (3 cr)

Inter-College Program B.A.
• Required credits to graduate with this degree: 120.
• Required credits within the major: 50.

Founded in 1930, the Inter-College Program (ICP) embodies the University’s commitment to individualized undergraduate education by providing cross-college, course/credit-based degree options. Drawing upon the curricular offerings of most of the University’s colleges and departments, students design either a bachelor of arts (B.A.) or a bachelor of science (B.S.) degree incorporating a significant amount of coursework from at least two different colleges within the University system.

ICP is most appropriate for self-directed students whose educational backgrounds and career and intellectual interests require both a clear personal focus and a flexible interdisciplinary approach.

Interested students should attend an information session held several times each week. Academic advisers provide a detailed introduction to the program and help students begin the planning process.

Admission Requirements
Students are considered for admission based on an individual review of their application for program match. Review includes key factors such as grade point average, grade trends, performance in coursework relevant to their proposed areas of study, and students’ demonstrated ability to meet both the curricular and developmental expectations of individualized undergraduate education. Students must have attended a program information session and initial degree planning appointments with an adviser.

Preferred benchmarks are a 2.50 GPA and 50 semester credits completed.

Students must develop a degree plan that includes:
• A description of academic and career goals
• An outline of courses proposed for the degree program
• Approval of the proposed degree plan from at least two designated faculty or departmental advisers

For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

Program Requirements
Students are required to take 2 semester(s) of any second language.

Second language requirement is 2 semesters, plus 8 credits of additional language or culture study.

ICP Program Options
Students are required to complete one of the following course groups.

Two Area Cross-College Program
This plan combines courses from two area cross-college programs, such as business and history, or educational psychology and French.

• Complete 20 approved credits of upper division coursework in one area of concentration.
• Complete 20 approved credits of upper division coursework in a second area of concentration.
• Complete 10 credits of elective upper division coursework.

Three Area Cross-College Program
This plan combines courses from three area cross-college program, such as applied business, speech communication, and psychology; or housing, child psychology, and public health.

In addition to completing 20 approved upper division credits in one area and 12 in each of the other two areas, students also take 6 upper division elective credits.

• Complete 20 approved credits of upper division coursework in one area of concentration.
• Complete 12 approved credits of upper division coursework in a second area of concentration.
• Complete 12 approved credits of upper division coursework in a third area of concentration.
• Complete 6 upper division elective credits.

Thematic Cross-College Program
A thematic cross-college program, such as aging studies, integrates coursework from several departments—sociology, public health, family education, and social work. Thematic programs are appropriate only when students’ objectives are clearly focused on one topic that cannot be pursued in a two- or three-area program.

• Complete 40 upper division credits on a theme.
• Complete 10 upper division elective credits.

Multidisciplinary Studies
Students who select this option follow the requirements for the multidisciplinary studies sub-plan.

Program Sub-Plans
A sub-plan is not required for this program.

Multidisciplinary Studies
Students complete courses in at least three of five defined areas.

To be admitted to this program, students must have at least a two-year gap since they were last enrolled in a college degree program.

Required Courses for the Sub-Plan
ICP 3001W—Introduction to Multidisciplinary Studies, WI (3 cr)
At least 15 upper division credits in each of the following five areas: arts and humanities, history and social sciences, communication, science and health science, and applied, technical and professional, to total 50 upper division credits.
Inter-College Program B.S.

- Required credits to graduate with this degree: 120.
- Required credits within the major: 50.

Founded in 1930, the Inter-College Program (ICP) embodies the University of Minnesota's commitment to individualized undergraduate education by providing cross-college, course/credit-based degree options. Drawing upon the curriculum offerings of most of the University's colleges and departments, students design either a bachelor of arts (B.A.) or a bachelor of science (B.S.) degree incorporating a significant amount of coursework from at least two different colleges within the University system.

ICP is most appropriate for self-directed students whose educational backgrounds and career and intellectual interests require both a clear personal focus and a flexible interdisciplinary approach.

Admission Requirements

Students are considered for admission based on an individual review of their application for program match. Review includes key factors such as grade point average, grade trends, performance in coursework relevant to their proposed areas of study, and students' demonstrated ability to meet both the curricular and developmental expectations of individualized undergraduate education. Students must have attended a program information session and initial degree planning appointments with an adviser.

Preferred benchmarks are a 2.50 GPA and 50 semester credits completed.

Students must develop a degree plan that includes:
- A description of academic and career goals
- An outline of courses proposed for the degree program
- Approval of the proposed degree plan from at least two designated faculty or departmental advisers

For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

Program Requirements

ICP Program Options

Students are required to complete one of the following course groups.

Two Area Cross-College Program

This plan combines courses from two area cross-college programs, such as business and history, or educational psychology and French.
- Complete 21 approved credits of upper division coursework in one area of concentration.
- Complete 21 approved credits of upper division coursework in a second area of concentration.
- Complete 8 supporting upper division credits.

Three Area Cross-College Program

This plan combines courses from three area cross-college programs, such as applied business, speech communication, and psychology; or housing, child psychology, and public health.
- Complete 20 credits of upper division coursework in one area of concentration.
- Complete 15 credits of upper division coursework in a second area of concentration.
- Complete 15 credits of upper division coursework in a third area of concentration.

Thematic Cross-College Program

The thematic cross-college program integrates coursework from several departments. Thematic programs are appropriate only when students' objectives are clearly focused on one topic that cannot be pursued in a two- or three-area program.
- Complete 50 upper division credits with no more than 15 credits in any one department.

Thematic Health and Wellness Program

The thematic health and wellness program integrates coursework from several departments for students with health-related interests.
- Complete a minimum of 50 upper division thematic credits in consultation with ICP adviser.

Multidisciplinary Studies

Students who select this option follow the requirements for the multidisciplinary studies sub-plan.

Program Sub-Plans

A sub-plan is not required for this program.

Multidisciplinary Studies

Students complete courses in at least three of five defined areas. To be admitted to this program, students must have at least a two-year gap since they were last enrolled in a college degree program.

Required Courses for the Sub-Plan

ICP 3001W—Introduction to Multidisciplinary Studies, WI (3 cr)
Upper Division Mathematical Thinking Course
At least 15 upper division credits in each of three of the following five areas: arts and humanities; history and social sciences; communication; science and health science; and applied, technical, and professional to total 50 upper division credits.

Joint Military Science Leadership Minor

Aerospace Studies, Military Science, Naval Science, CCE

- Required credits in this minor: 18 to 20.

This minor provides students with basic concepts and principles of military science and the art of leadership. Areas of study include citizenship, military history, values, ethics, integrity, honor, responsibility, management, and leadership skills. Students gain practical leadership experience, develop self-discipline, and gain confidence—all of which are valuable qualities when applied to service in a military or civilian career. In consultation with the ROTC programs, this minor is now distinct from participation in ROTC, is open to all qualified students, and does not require physical training.

Admission Requirements

Significant practical leadership experience.

For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

Minor Requirements

Students choose one of four program tracks: Aerospace Science, Military Science, Naval Science-Navy, or Naval Science-Marines.
Program Sub-Plans

Students are required to complete one of the following sub-plans.

Aerospace Science

Required Courses for the Sub-Plan

The history requirement can be satisfied by the completion of AIR 1204 or by the completion of Air Force ROTC Fiel training.

AIR 1204—History of Airpower and Communication Skills (1 cr)
AIR 1205—Quality Air Force, Group Leadership Problems, and Presentation Techniques (1 cr)
AIR 3301—Air Force Leadership, Quality, and Communication (3 cr)
AIR 3302—Air Force Officership, Quality, and Communication (3 cr)
AIR 3401—National Security Policy (3 cr)
AIR 3402—Preparation for Active Duty (3 cr)
Complete a 4-credit philosophy, rhetoric, or leadership course approved by the Professor of Aerospace/Chair of the Department of Aerospace Science.

Military Science

Required Courses for the Sub-Plan

MIL 3301—Adaptive Tactical Leadership (3 cr)
MIL 3302—Leadership in Changing Environments (3 cr)
MIL 3401—Developing Adaptive Leaders (3 cr)
MIL 3402—Leadership in a Complex World (3 cr)
MIL 3891 or 3970—American Military History (or equivalent) (3 cr)
Complete a 4-credit philosophy, rhetoric, or leadership course approved by the Professor of Military Science/Chair of the Department of Military Science.

Naval Science—Marines

Required Courses for the Sub-Plan

NAV 1102—Seapower and Maritime Affairs (3 cr)
NAV 3310—Evolution of Warfare (3 cr)
NAV 4401W—Leadership and Management I, WI (3 cr)
NAV 4402W—Leadership and Ethics, C/PE, WI (3 cr)
NAV 4410—Ambushierous Warfare (3 cr)
Complete a 4-credit philosophy, rhetoric, or leadership course approved by the Professor of Military/Chair of the Department of Naval Science.

Naval Science—Navy

Required Courses for the Sub-Plan

NAV 1102—Seapower and Maritime Affairs (3 cr)
NAV 2201—Ship Systems I, Naval Engineering (3 cr)
NAV 3301—Navigation I, Piloting and Celestial Navigation (3 cr)
NAV 4401W—Leadership and Management I, WI (3 cr)
NAV 4402W—Leadership and Ethics, C/PE, WI (3 cr)
Complete a 4-credit philosophy, rhetoric, or leadership course approved by the Professor of Military/Chair of the Department of Naval Science.

Manufacturing Technology B.A.Sc.

• Required credits to graduate with this degree: 120.
• Required credits within the major: 51.
• This program is 10 terms (5 years) long.

The bachelor of applied science (B.A.Sc.) degree with a major in manufacturing technology prepares students for career growth in the manufacturing industry. Students learn new skills in the areas of manufacturing systems and processes, computer technology, quality, operations, project management, business and finance, and interpersonal communication. Graduates are prepared to work as project managers, process engineers, materials managers, lead technicians, order process analysts, facilities engineers, and business analysts. The major in manufacturing technology was designed around the needs of working adults who are part-time students.

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.00 is preferred for the following:

• 2.50 for students already admitted to the degree-granting college.
• 2.50 for students transferring from another University of Minnesota college.
• 2.50 for students transferring from outside the University.

For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

Preparatory Courses

Students who complete a physics sequence that is not designated as writing-intensive must also complete a research/technical writing course.

CHEM 101—Introductory Chemistry: Lecture and Laboratory, PHYS SCI/L (4 cr)
or
PSTL 1166—Principles of Chemistry (3 cr)
ECON 1101—Principles of Microeconomics, IP, SSCI (4 cr)
or
ECON 1102—Principles of Macroeconomics, IP, SSCI (4 cr)
MATH 1031—College Algebra and Probability, MATH (3 cr)
or
MATH 1051—Precalculus I (3 cr)
MATH 1142—Short Calculus, MATH (4 cr)
or
MATH 1271—Calculus I, MATH (4 cr)
PHYS 1101W—Introductory College Physics I, PHYS SCI/L, WI (4 cr)
or
PHYS 1301W—Introductory Physics for Science and Engineering I, PHYS SCI/L, WI (4 cr)
PHYS 1102W—Introductory College Physics II, PHYS SCI/L, WI (4 cr)
or
PHYS 1302W—Introductory Physics for Science and Engineering II, PHYS SCI/L, WI (4 cr)
PSTL 1004—Statistics, MATH (4 cr)
or
OMS 2550—Business Statistics: Data Sources, Presentation, and Analysis (4 cr)
or
STAT 1001—Introduction to the Ideas of Statistics, MATH (4 cr)
or
STAT 3011—Introduction to Statistical Analysis, MATH (4 cr)

Program Requirements

Students are encouraged to complete an internship during their final year in the program.

Foundation Courses

ACCT 2050—Introduction to Financial Reporting (4 cr)
COMM 1101—Introduction to Public Speaking (3 cr)
or
COMM 3402—Introduction to Interpersonal Communication, SSCI (3 cr)
or
COMM 3605W—Persuasive Speaking and Speech Writing, WI (3 cr)
or
PSTL 1461—Oral Communication in the Public Sphere, C/PE (3 cr)
AEM 2011—Statics (3 cr)
or
BBE 3001—Mechanics and Structural Design (4 cr)
or
BBE 3101—Introductory Statics and Structures for Construction Management (3 cr)

Major Courses (Upper Division)

ABUS 4022—Management in Organizations (3 cr)
ABUS 4023W—Communicating for Results, WI (3 cr)
ABUS 4043—Project Management in Practice (3 cr)
ABUS 4102—Operations in Manufacturing and Service Businesses (3 cr)
MT 4001—Manufacturing Cost Accounting, Analysis, and Control (3 cr)
MT 4011—Design of Manufacturing Systems and Simulation (3 cr)
MT 4012—Manufacturing Processes (3 cr)
MT 4201—Quality Engineering and Process Improvement (3 cr)
MT 4501—Manufacturing Product/System Design I (3 cr)
College of Continuing Education

Electives
Department approved manufacturing technology or cognate electives. Take 18 or more credit(s) from the following:
ABUS 3xxx
ABUS 4xxx
MT 3xxx
MT 4xxx

Program for Individualized Learning B.A.

- Required credits to graduate with this degree: 120.
- Required credits within the major: 50 to 70.

This program challenges students to think alternatively and holistically about learning. A set of standards, called graduation criteria, describes the basic academic structure of the bachelor’s degree. These criteria, rather than number of credits, provide the framework for structuring the degree program and assessing its success.

Students use the graduation criteria to build their own degree programs. Students are encouraged to be creative and to use a variety of learning activities (courses and projects) to satisfy each criterion. Courses that have already been completed may be used to fulfill the graduation criteria; students can also demonstrate college-level learning achieved through work, experience, and independent study. New learning activities may explore untapped interests or build on prior learning. These activities may include independent projects, internships, work-based projects, and classroom and correspondence coursework.

A PIL degree requires achievement and excellence equal to other baccalaureate programs at the University of Minnesota. The graduation criteria require in-depth knowledge in an area of concentration (depth criteria) and broad learning in the liberal arts (breadth criteria). Regardless of the area of concentration, the B.A. emphasizes broader learning in the breadth criteria, while the B.S. emphasizes the student’s field of study.

Admission Requirements
Students must complete 30 semester credits before admission to the program.

To be considered for admission, students must submit an application that documents their ability to undertake a self-directed, individualized degree program. The program seeks students who know why they are seeking a bachelor’s degree and why PIL is a sound choice for them; can describe their proposed academic area of study; and write well in English.

For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

Program Requirements
The program serves students who want to develop an area of concentration with some or all of the following attributes:
- Focused on interdisciplinary or multidisciplinary studies, or a specialized study within a broader academic context
- Built on the academic strengths of the University
- Designed as a foundation for graduate or professional education
- Not readily available as a structured undergraduate degree program

The area of concentration, traditionally called a major, should reflect balance, depth, and quality in a field of study. The student’s area of concentration must fulfill the following criteria:

- Primary Area Studies: Through learning activities in their primary area of study, students acquire familiarity with the basic literature and vocabulary of their field, knowledge of its main theories and methods of investigation, ability to use the skills of the field, and an awareness of its relationship to contemporary and future society.
- Major Project: As a culmination of study in their area of concentration, students complete a major project that reflects substantive understanding of their field of study.
- Extended Studies in the Liberal Arts: Studies involve acquiring in-depth and advanced understanding of a focused liberal arts area; an interdisciplinary approach may also be proposed. Learning should include critical and theoretical understanding and upper division knowledge. This work goes beyond the basic requirements reflected in the LE requirements, as interpreted in the Breadth and Learning Matrix requirements in PIL.

Major Registrations
PIL is not credit-based, but it uses credits to ensure that registrations are recognized within the University system and that students qualify for residency and financial aid requirements. Tuition credits attached to registrations are not the same as conventional coursework credits and are not used to measure progress in the program or readiness to graduate, nor are they necessarily transferable to other programs or colleges. Additional registrations in PIL 3251 may be required.

- PIL 3211—Degree Planning (5 cr)
- PIL 3251—Project Registration (5 cr)
- PIL 3281—Major Project (5 cr)
- PIL 3291—Graduation Preparation (5 cr)
- PIL 3252—Program Active (1–5 cr)

Students may be required to register one or more times for the following.

PIL 3200—Continuing Studies (1–2 cr)

Program for Individualized Learning B.S.

- Required credits to graduate with this degree: 120.
- Required credits within the major: 50 to 70.

This program challenges students to think alternatively and holistically about learning. A set of standards, called graduation criteria, describes the basic academic structure of the bachelor’s degree. These criteria, rather than number of credits, provide the framework for structuring the degree program and assessing its success.

Students use the graduation criteria to build their own degree programs. Students are encouraged to be creative and to use a variety of learning activities (courses and projects) to satisfy each criterion. Courses that have already been completed may be used to fulfill the graduation criteria; students can also demonstrate college-level learning achieved through work, experience, and independent study. New learning activities may explore untapped interests or build on prior learning. These activities may include independent projects, internships, work-based projects, and classroom and correspondence coursework.

A PIL degree requires achievement and excellence equal to other baccalaureate programs at the University of Minnesota. The graduation criteria require in-depth knowledge in an area of concentration (depth criteria) and broad learning in the liberal arts (breadth criteria). Regardless of the area of concentration, the B.S. emphasizes the student’s field of study, while the B.A. emphasizes broader learning in the breadth criteria.

Note: Programs listed in this catalog are current as of March 2008.
Admission Requirements
Students must complete 30 semester credits before admission to the program.
To be considered for admission, students must submit an application that documents their ability to undertake a self-directed, individualized degree program. The program seeks students who know why they are seeking a bachelor’s degree and why PIL is a sound choice for them; can describe their proposed academic area of study; and write well in English. For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

Program Requirements
The program serves students who want to develop an area of concentration with some or all of the following attributes:
- Focused on interdisciplinary or multidisciplinary studies, or a specialized study within a broader academic context.
- Built on the academic strengths of the University.
- Designed as a foundation for graduate or professional education.
- Not readily available as a structured undergraduate degree program.

The area of concentration, traditionally called a major, should reflect balance, depth, and quality in a field of study. The student’s area of concentration must fulfill the following criteria:

- **Primary Area Studies**: Through learning activities in their primary area of study, students acquire familiarity with the basic literature and vocabulary of their field, knowledge of its main theories and methods of investigation, ability to use the skills of the field, and an awareness of its relationship to contemporary and future society.
- **Major Project**: As a culmination of study in their area of concentration, students complete a major project that reflects substantive understanding of their field of study.
- **Extended Studies in the Area of Concentration**: Students complete learning activities that bring a broader perspective to their area of concentration. These studies add knowledge that complements and expands on the primary area studies.

Students also complete the University’s liberal education requirements as reflected in the PIL Breadth and Learning Matrix requirements.

**Major Registrations**
PIL is not credit-based, but it uses credits to ensure that registrations are recognized within the University system and that students qualify for residency and financial aid requirements. Tuition credits attached to registrations are not the same as conventional coursework credits and are not used to measure progress in the program or readiness to graduate, nor are they necessarily transferable to other programs or colleges. Additional registrations in PIL 3251 may be required.

- PIL 3211—Degree Planning (5 cr)
- PIL 3251—Project Registration (5 cr)
- PIL 3281—Major Project (5 cr)
- PIL 3291—Graduation Preparation (5 cr)
- PIL 3200—Continuing Studies (1–2 cr)

**Radiation Therapy B.A.Sc. Bachelor of Applied Science**

**NOTE:** Admission through the College of Continuing Education is available only through fall 2008 for students admitted to the UMMC, Fairview Radiation Therapy Certificate. Students interested in admission for the 2009–10 academic year should contact Patricia Foutinelle, director, Radiation Therapy Programs, UMMC, Fairview, Minneapolis (612-273-5107), or visit [www.fairview.org/recruitment/Education_and_Training/c_318619.asp](http://www.fairview.org/recruitment/Education_and_Training/c_318619.asp).

- **Required credits to graduate with this degree:** 120.
- **Required credits within the major:** 69.
- **This program requires summer terms.**

The bachelor of applied science (B.A.Sc.) degree with a major in radiation therapy provides leading-edge medical and technical courses and clinical experience in top-ranking radiation oncology departments. Radiation therapy graduates are prepared to meet the changing demands of new technologies and advancements in treatment techniques and meet national certification requirements. Didactic and clinical experiences will sharpen critical thinking and problem solving skills, and provide the knowledge base in management and education that is crucial to future advancement. This program is offered in partnership with University of Minnesota Medical Center Fairview (UMMCF) School of Radiation Therapy. Classes are conducted at UMMCF with clinicals at UMMCF and other health care sites in the Twin Cities.

**Admission Requirements**
Students must complete 45 credits before admission to the program.
A GPA above 2.00 is preferred for the following:
- 2.50 for students already admitted to the degree-granting college.
- 2.50 for students transferring from another University of Minnesota college.
- 2.50 for students transferring from outside the University.

All general education and prerequisite coursework must be completed or in progress at the time of admittance, including general education and preparatory courses. For information about University of Minnesota admission requirements, visit [http://admissions.tc.umn.edu](http://admissions.tc.umn.edu).

**Preparatory Courses**
These courses are part of the general education and prerequisite courses. They must be completed or in progress at the time of application for admission.

- COMM 1101—Introduction to Public Speaking (3 cr)
- or COMM 3605W—Persuasive Speaking and Speech Writing, WI (3 cr)
- or PSTL 1461—Oral Communication in the Public Sphere, WI (3 cr)
- MATH 1031—College Algebra and Probability, MATH (3 cr)
- or MATH 1051—Precalculus I (3 cr)
- or MATH 1151—Precalculus II, MATH (3 cr)
- or MATH 1152—Precalculus II, MATH (3 cr)
- or MATH 1153—Precalculus II, MATH (3 cr)
- or MATH 1154—Precalculus II, MATH (3 cr)
- or MATH 1155—Precalculus II, MATH (3 cr)
- or MATH 1156—Precalculus II, MATH (3 cr)
- or MATH 1157—Precalculus II, MATH (3 cr)
- or PSY 1001—Introduction to Psychology, MATH (3 cr)
- or ANAT 3001—Human Anatomy (3 cr)
- or ANAT 3002—Principles of Human Anatomy Laboratory (2 cr)
- or PHSL 1001—Human Physiology (3 cr)
- or PHSL 3051—Human Physiology (4 cr)

**General Requirements**
The following are required for admission to this program:
- Proof of immunization (records reviewed by UMMC Employee Health)
- CPR certification

For the most up-to-date listing of program requirements, visit the [Online Catalog at www.catalogs.umn.edu/programs.html](http://www.catalogs.umn.edu/programs.html).
Program Requirements

Major Courses
ABUS 4041—Dynamics of Leadership (3 cr)
HSM 3521—Health Care Delivery Systems (3 cr)
HSM 4501—Writing for the Health Professions (3 cr)
HSM 4541—Health Care Finance (3 cr)
HSM 4561—Health Care Administration and Management (3 cr)
HSM 4581—Teaching in the Health Care Setting (3 cr)
PHAR 3800—Pharmacotherapy for the Health Professions (3 cr)
RTT 3120—Radiation Physics I (3 cr)
RTT 3121—Radiation Physics II (3 cr)
RTT 3140—Radiation Therapy: Radiobiology (2 cr)
RTT 3501—Introduction to Radiation Therapy (2 cr)
RTT 3521—Patient Care in Radiation Oncology (2 cr)
RTT 3541—Pathology (1 cr)
RTT 3561—Cross-Sectional Anatomy (2 cr)
RTT 3581—Principles and Practices of Radiation Therapy I (4 cr)
RTT 3596—Clinical Practicum I (3 cr)
RTT 3696—Clinical Practicum II (3 cr)
RTT 4511—Dosimetry and Treatment Planning (4 cr)
RTT 4581—Principles and Practices of Radiation Therapy II (4 cr)
RTT 4596—Clinical Practicum III (6 cr)
RTT 4601—Project (1 cr)
RTT 4696—Clinical Practicum IV (3 cr)
RTT 4796—Clinical Practicum V (3 cr)

Additional Required Courses
Students who have not earned a radiographer certificate may need to complete these courses, as determined by the UMMC program. Students should consult their University of Minnesota adviser. RTT 2001 and 2002 may be completed after admission to the major.

PHIL 1003W—Introduction to Ethics, OH, WI (4 cr)
PHIL 3305—Medical Ethics (4 cr)
PHIL 3365—Medical Ethics (4 cr)
PHIL 5201—Health Sciences Terminology (2 cr)
PHYS 1201W—Introductory Physics for Biology and Pre-medicine I, PHYS SCI/L, WI (4 cr)
PHYS 1202W—Introductory Physics for Biology and Pre-medicine I, PHYS SCI/L, WI (4 cr)
PHYS 1301W—Introductory Physics for Science and Engineering I, PHYS SCI/L, WI (4 cr)
RTT 2001—Radiation Therapy: Radiation Exposure, Imaging, Safety, and Basic Care (1 cr)
RTT 2002—Radiation Therapy: Radiation Exposure, Imaging, Safety, and Basic Care Lab (1 cr)

Note: Programs listed in this catalog are current as of March 2008.

Respiratory Care B.A.Sc.
Bachelor of Applied Science

Note: This major is available only through fall 2008 for students making application to the College of Continuing Education. After fall 2008, students should contact Vanessa King, director, Respiratory Care Program, Mayo School of Health Sciences, Rochester; 507-284-0174, king.vanessa@mayo.edu.

• Required credits to graduate with this degree: 120.
• Required credits within the major: 64.
• This program requires summer terms.

The bachelor of applied science (B.A.Sc.) degree in respiratory care prepares students to become respiratory care practitioners with advanced clinical and professional skills. This program, offered in partnership with Mayo School of Health Sciences in Rochester, combines professional, medical, and technical courses. Courses and clinical experiences, with options for specialized clinical study, are offered at Mayo Clinic and other facilities within the Mayo Health System. Graduates will be ready to meet national certification requirements. Advanced practitioner respiratory therapists are prepared to serve as consultants to physicians, and other medical staff.

Admission Requirements

Students must complete 9 courses before admission to the program.

A GPA above 2.00 is preferred for the following:

• 2.50 for students already admitted to the degree-granting college.
• 2.50 for students transferring from another University of Minnesota college.
• 2.50 for students transferring from outside the University.

A minimum of 20 hours of documented shadowing/observation in an approved radiation therapy department is required for admission to Mayo School of Health Sciences. The following items are required for admission to Mayo School of Health Sciences:

• No grade lower than C- in each preparatory course
• Overall GPA of 2.20 in all preparatory courses
• Proof of immunization (records reviewed by MSHS Employee Health)
• CPR certification
• Documentation of current health status and immunizations according to Mayo Clinic student policy
• Personal medical plan coverage
• Vulnerable Adults Act background check
• Complete the MSHS Respiratory Care application
• Interview with Admissions Committee
• Computer skills

For information about University of Minnesota admission requirements, visit http://admissions.tc.umn.edu.

Required Courses for Admission

Foundation Courses I

See program requirements for additional foundation courses to be completed before admission.

BIOC 1001—Elementary Biochemistry (3 cr)
CHEM 1011—Introductory Chemistry: Lecture and Laboratory, PHYS SCI/L (4 cr)
BIOL 2032—General Microbiology with Laboratory (4 cr)
or VBS 2032—General Microbiology With Laboratory (4 cr)
PHSL 1001—Human Physiology (3 cr)
or PHSL 3051—Human Physiology (4 cr)
Program Requirements

Foundation Courses II

These courses must also be completed before admission.

MATH 1031—College Algebra and Probability, MATH (3 cr)

PHIL 1003W—Introduction to Ethics, OH, WI (4 cr)

PHIL 1003V—Honors: Introduction to Ethics, OH, WI, H (4 cr)

PHIL 3305—Medical Ethics (4 cr)

COMM 1101—Introduction to Public Speaking (3 cr)

COMM 1101H—Honors: Introduction to Public Speaking, H (3 cr)

CNES 1046—Technical Terminology for the Health Professions (3 cr)

PHAR 1002—Health Sciences Terminology (2 cr)

PHAR 5201—Health Sciences Applied Terminology (2 cr)

Major Courses

ABUS 4041—Dynamics of Leadership (3 cr)

HSM 3521—Health Care Delivery Systems (3 cr)

HSM 4501—Writing for the Health Professions (3 cr)

HSM 4541—Health Care Finance (3 cr)

HSM 4561—Health Care Administration and Management (3 cr)

HSM 4581—Teaching in the Health Care Setting (3 cr)

PHAR 3800—Pharmacotherapy for the Health Professions (3 cr)

RC 2011—Foundations for Clinical Practice of Respiratory Care (2 cr)

RC 2021—Patient Care Techniques (2 cr)

RC 3101—Respiratory Care Modalities and Equipment I (4 cr)

RC 3102—Respiratory Care Modalities and Equipment II (4 cr)

RC 3201—Cardiopulmonary Patient Assessment (4 cr)

RC 3301—Clinical Practice I (4 cr)

RC 3302—Clinical Practice II (4 cr)

RC 3401—Seminar in Respiratory Care I: Case Reports and Fundamentals of Research (1 cr)

RC 3402—Seminar in Respiratory Care II: Case Reports and Fundamentals of Research (1 cr)

RC 3501—Advanced Cardiopulmonary Respiratory Physiology and Pathophysiology (3 cr)

RC 4111—Advanced Adult Respiratory Critical Care Techniques (3 cr)

RC 4301—Seminar: Research Project and Publication (2 cr)

RC 4496—Subspecialty Clinical Practicum in Advanced Respiratory Care I (3 cr)

RC 4596—Subspecialty Clinical Practicum in Advanced Respiratory Care II (3 cr)

Take exactly 2 course(s) from the following:

RC 4201—Subspecialization in Respiratory Care: Advanced Perinatal and Pediatric Respiratory Care (2 cr)

RC 4202—Subspecialization in Respiratory Care: Advanced Cardiopulmonary Diagnostics (2 cr)

RC 4203—Subspecialization in Respiratory Care: Cardiopulmonary Rehabilitation, Disease Prevention, Case Mgmt (2 cr)