

COLLEGE OF ENGINEERING

HONORS PROGRAM

The College of Engineering participates in the University of Arkansas Honors Program, which challenges superior students with a more in-depth academic program and research experience. The Honors program provides a structure for working more closely with faculty members and other students in a team environment. Participation in the Engineering Honors Program is highly recommended for individuals planning academic or research-related careers that require considerable critical and original independent thinking, but it is also quite useful for students wishing to explore career potential in a number of areas.

COLLEGE REQUIREMENTS

Admission requirements for the Engineering Honors Program are as follows:

- Entering freshmen must have at least a 3.50 high school GPA and at have at least a 28 composite score on the ACT;
- Entering transfer students must have a 3.50 GPA on their transfer work.
- Students not initially qualifying for the Engineering Honors Program are eligible after one year if they earn at least a 3.50 cumulative GPA.

Students must formally apply for admission to the Engineering Honors Program. Once accepted into the program, Honors students must:

1. Complete a minimum of 12 hours of Honors courses
 - A minimum of 6 of these 12 hours must be in Engineering. The available Engineering Honors courses are found in the Departmental Requirements section below.
 - For the Honors courses outside of Engineering, there are many options that will count toward your Engineering degree requirements. Many courses on the approved Humanistic/Social Science elective list also have Honors sections. Calculus and Physics Honors courses are also available.
2. Participate in an undergraduate research or design experience, and prepare an undergraduate thesis,
3. Fulfill any additional departmental requirements.

To retain status in the Engineering Honors Program, a student must maintain a minimum cumulative GPA of 3.50. If a student's cumulative GPA falls below 3.50, the student will receive a warning from the Dean's office. If the student's cumulative GPA falls below 3.50 for two consecutive semesters, the student will be dropped from the Honors College. The student may reapply once his/her cumulative GPA is 3.50 or above.

DEPARTMENTAL REQUIREMENTS

Biological Engineering

Biological Engineering offers an Honors Program for students affiliated with the Honors College. Graduation with Honors requires successful completion of the departmental Honors Program, which consists of:

1. Completion of BENG 451VH, Honors Thesis of at least 3 semester credit hours. This course offers the student an opportunity to engage in high-level undergraduate research under the direction of a faculty advisor, or a section of a design project approved by the faculty. A written thesis is required, and a defense of this thesis will be made to a faculty committee who will determine its acceptability. Presentation of the research results at College or University-level colloquia is also required. BENG 451H will qualify as a BENG technical elective.
2. Completion of BENG 4103H and BENG 4100LH, Instrumentation in Biological Engineering. This 3 credit hours course offers the student an opportunity to engage in high-level practice of applying biological engineering instrumentation to complex, real-world problems through an honors project that is an additional requirement to the standard version of the course. Honors students will not only be required to apply the knowledge gained from this course to an open-ended project, but will also be able to required to deploy their design for field-testing using actual subjects. This additional requirement will add social, political, safety, economic and communication factors to the design.
3. Fulfillment of other Honors graduation requirements as established by the College of Engineering and the Honors College.

The following Biological Engineering courses are offered for honors credit:

BENG 4103H – Honors Instrumentation in Biological Engineering
BENG 451VH – Honors Thesis

Chemical Engineering

A student must complete a minimum of 12 hours of Honors classes to graduate from the Engineering Honors Program, and *at least* 6 of the 12 hours must be taken from the list of Chemical Engineering courses shown below.

CHEG 3143H – Honors Heat Transport (Sp, Fa)
CHEG 3153H – Honors Non-equilibrium Mass Transfer (Sp, Su)
CHEG 3323H – Honors Thermodynamics of Multi-component Systems (Sp, Fa)
CHEG 3333H – Honors Chemical Engineering Reactor Design (Sp, Su)
CHEG 4163H – Honors Equilibrium Stage Mass Transfer (Fa)
CHEG 4413H – Honors Chemical Engineering Design I (Sp, Fa)
CHEG 4423H – Honors Automatic Process Control (Sp)
CHEG 4443H – Honors Chemical Engineering Design II (Sp, Fa)
CHEG 4813H – Honors Chemical Process Safety (Fa)

The Honors project and thesis is the distinguishing feature of the Honors program, and represents the culmination of the Honors experience. The Honors project requirement may be satisfied in one of the following ways:

- completion of the AIChE Design Problem as an individual, according to contest rules, as part of the requirements for CHEG 4443, Design II
- completion of a design contest problem as part of a team, such as the WERC or EPA-P³ competition in CHEG 4443, Design II
- completion of a research project through CHEG 488V, Special Problems, under the direction of a faculty mentor

Regardless of the type of Honors project, an Honors thesis and an oral presentation will be prepared by the student. The Honors thesis must be approved by the faculty mentor and the Department Honors Committee.

Computer Science and Computer Engineering

The Honors Program in Computer Science and Computer Engineering is designed for the superior student and is intended to help the student develop a more comprehensive view of Computer Science and Computer Engineering. The program provides a vehicle for the recognition of achievements of work beyond the usual course of study. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the candidate's whole program of honors studies.

The department considers the following requirements necessary for graduation with honors:

1. The candidate must satisfy the requirements set forth by the College of Engineering.
2. A student must obtain at least a 3.50 grade-point average in required Computer Engineering and/or Computer Science courses.
3. The student must complete 7 hours of Honors credit in the major, which includes 4 hours of Honors Thesis taken as two successive semesters of CSCE 4912H or CENG 4912H and 3 hours of non-thesis.

The following Computer Science and Computer Engineering courses are offered for honors credit:

CENG 1113H – Honors Introduction to Computers
CENG 1123H – Honors Introduction to Programming
CENG 4423H – Honors Computer Systems Analysis
CENG 4912H – Honors Thesis
CSCE 2143H – Data Structures
CSCE 4912H – Honors Thesis

Civil Engineering

Students enrolled in the Honors College who are to receive the Bachelor of Science in Civil Engineering must complete a minimum of 12 hours of honors credit. At least 6 hours must be completed within the Civil Engineering program including at least 3 hours

resulting in an Honors Thesis. The CVEG honors courses are acceptable as technical electives. The following Civil Engineering courses are offered for honors credit:

CVEG 491V H Honors Studies in Geotechnical Engineering (1-6)

The study of advanced topics in the geotechnical engineering field. May include participation in geotechnical engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisites CVEG 3133 and enrolled in the Honors College.

CVEG 492V H Honors Studies in Environmental Engineering (1-6)

The study of advanced topics in the environmental engineering field. May include participation in environmental engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisites CVEG 3243 and enrolled in the Honors College.

CVEG 493V H Honors Studies in Structural Engineering (1-6)

The study of advanced topics in the structural engineering field. May include participation in structural engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisites CVEG 3304 and enrolled in the Honors College.

CVEG 494V H Honors Studies in Transportation Engineering (1-6)

The study of advanced topics in the transportation engineering field. May include participation in transportation engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisites CVEG 3413 and enrolled in the Honors College.

CVEG 4983 H Undergraduate Honors Thesis

Prerequisites: enrolled in the Honors College.

Electrical Engineering

To graduate with Honors in Electrical Engineering students must be a member of the Honors College and complete a minimum of 12 hours of honors credit of which 6 hours must be Electrical Engineering courses and include the following courses:

ELEG 4061H – Honors Electrical Engineering Design I, 1 credit

ELEG 4073H – Honors Electrical Engineering Design II, 3 credits

ELEG 400VH – Honors Senior Thesis, a minimum of 1 credit hour

Students must also have a minimum cumulative GPA of 3.50 to graduate with Honors in Electrical Engineering. The following Electrical Engineering courses are offered for Honors credit:

ELEG 3XXXH:

All required 3000-level ELEG courses have an Honors section

ELEG 400VH – Honors Senior Thesis

ELEG 4061H: Electrical Engineering Design I

Design and application in electrical engineering.

ELEG 4073H: Electrical Engineering Design II

Design and application in electrical engineering.

ELEG 487VH: Honors Special Topics in Electrical Engineering

ELEG 488VH: Special Problems

Individual study and research on a topic mutually agreeable to the student and a faculty member.

ELEG 4XXXH:

Most 4000-level ELEG elective courses have an Honors section

ELEG 5XXX:

Any of the 5000-level ELEG elective courses can be taken as a technical elective for Honors credit

Industrial Engineering

To graduate from INEG “with honors”, an INEG undergraduate student must, upon completion of his/her degree (B.S.I.E.) requirements,

- be a member of the Honors College
- have a cumulative GPA of at least 3.5 on all courses attempted at the University of Arkansas
- have completed at least 12 hours of honors coursework with at least 6 of those hours being at the 3000-level or above in the College of Engineering
- have completed an honors thesis

Options for Upper-Level Coursework

1. The student may complete one or more INEG 410VH: Individual Study in Industrial Engineering, honors section. This is individual study and research on a topic mutually agreeable to the student and faculty member. The instructor must be a tenured or tenure-track member of the INEG faculty. The honors thesis may be the end result of INEG 410VH. One INEG 410VH can count as an INEG Technical Elective.
2. The student may take INEG 5000-level courses for honors hours. This is subject to the approval of the instructor. If instructors are willing to provide this option in

a certain class, an honors section will be listed in the INEG class schedule. Such courses may count as INEG Technical Electives.

3. The student may take any engineering honors course for honors hours. Such courses may count as INEG Technical Electives.

The Honors Thesis is a written document that summarizes the student's individual research effort conducted under the supervision of a tenured or tenure-track member of the INEG faculty. This research may or may not be funded by the faculty mentor. The written document and a corresponding oral presentation (defense) must be approved by the faculty mentor and a second, tenured or tenure-track member of the INEG faculty.

The following Industrial Engineering courses are offered for honors credit:

- INEG 2313H – Applied Probability and Statistics for Engineers I, honors section
- INEG 3623H – Simulation, honors section
- INEG 400VH – Honors Thesis
- INEG 410VH – Honors Special Problems
- INEG 4223H – Occupational Safety and Health Standards, honors section
- INEG 4423H – Advanced Engineering Economy, honors section
- INEG 4433H – Systems Engineering and Management, honors section
- INEG 4443H – Project Management, honors section

Mechanical Engineering

The Mechanical Engineering Department offers an Honors Program for students affiliated with the Honors College. Graduation with Honors requires successful completion of the departmental Honors Program, which consists of:

1. Completion of MEEG 4903H, Honors Research. This course offers the student an opportunity to engage in high-level undergraduate research under the direction of a faculty advisor. A written thesis is required, and a defense of this thesis will be made to a faculty committee who will determine its acceptability. Presentation of the research results at College or University-level colloquia is also required. MEEG 4903H qualifies as a MEEG technical elective.
2. Completion of at least one MEEG honors course in addition to MEEG 4903H. Honors sections are offered for selected 4000-level courses and are listed in the current University catalog. All MEEG 5000-level and higher courses may be taken for honors credit.
3. Fulfillment of other Honors graduation requirements as established by the College of Engineering and the Honors College.

The following Mechanical Engineering courses are offered for honors credit:

- MEEG 4103H – Honors Machine Element Design
- MEEG 4303H – Honors Materials Lab
- MEEG 4483H – Honors Thermal Systems Analysis and Design
- MEEG 4903H – Honors Research

HONORS DESIGNATION AT GRADUATION

Requirements to Graduate with Honors

Students who have demonstrated exceptional academic performance in baccalaureate degree programs will be recognized at graduation by the honors designation of *cum laude*, *magna cum laude* or *summa cum laude*. To earn this distinction, the student must meet the following criteria:

1. Must have completed at least one-half of his or her degree work at the University of Arkansas;
2. Must have at least a 3.50 GPA on University of Arkansas coursework, computed at graduation;
3. Must successfully complete the Engineering Honors Program, which includes a minimum of 12 hours of Honors courses (at least 6 of these hours in engineering), an undergraduate research/design experience and thesis, and any additional departmental requirements;
4. Research and thesis material shall be evaluated by each department;
5. For the student to earn the designation *cum laude*, the student must achieve a GPA of 3.50 or higher (departments may also place emphasis on research and thesis quality, which also affects the designation);
6. For the student to earn the designation *magna cum laude*, the student must achieve a GPA of 3.75 or higher;
7. For the student to earn the designation *summa cum laude*, the student must achieve a GPA of 3.90 or higher.

The criteria may be evaluated and changed periodically by the College of Engineering.

Requirements to Graduate with Distinction

Students who have not completed the Engineering Honors Program but have demonstrated excellent academic performance in baccalaureate degree programs will be recognized at graduation by the designation of “with distinction,” “with high distinction,” or “with highest distinction.” To earn these designations, the student must meet the following criteria on his or her University of Arkansas course work:

1. Must have completed at least one-half of his or her degree work at the University of Arkansas;
2. For the student to earn the designation “with distinction,” the student must achieve a GPA of 3.50 or higher;
3. For the student to earn the designation “with high distinction,” the student must achieve a GPA of 3.75 or higher;
4. For the student to earn the designation “with highest distinction,” the student must achieve a GPA of 3.90 or higher.

The criteria may be evaluated and changed periodically by the College of Engineering.

HONORS COURSES OF INTEREST FOR ENGINEERING STUDENTS

Engineering students typically will take honor courses from the following group:

ENGL 1013
ENGL 1023
MATH 2554H
MATH 2564H
MATH 2574H
PHYS 2054H
PHYS 2074H
HUMANISTIC/SOCIAL ELECTIVES

Below is the curriculum for each engineering major with courses highlighted that can be taken for honors credit. In addition, a more detailed list of honors course that engineering students should consider when selecting their honors courses is listed below.

BIOLOGICAL ENGINEERING PROGRAM

Freshman Year - First Semester

2 BENG 1012 Biological Engr Design Fundamentals
3 ENGL 1013 Composition I
3 CHEM 1103 University Chemistry I
4 MATH 2554 Calculus I
3 Humanities/Social Science Elective
15 semester hours

Second Semester

2 BENG 1022 Biological Engr Design Studio I
3 ENGL 1023 Technical Composition II
3 CHEM 1123 University Chemistry II
1 CHEM 1121L University Chemistry II Lab
4 MATH 2564 Calculus II
3 BIOL 1543 Principles of Biology
1 BIOL 1541L Principles of Biology Lab
17 semester hours

Sophomore Year - First Semester

2 BENG 2612 Biological Engr Design Studio II
4 PHYS 2054 University Physics I
4 MATH 2574 Calculus III
3 BIOL 2013 General Microbiology*
1 BIOL 2011L General Microbiology Lab
3 Humanities/Social Science Elective
17 semester hours

Second Semester

2 BENG 2622 Biological Engr Design Studio III
4 PHYS 2074 University Physics II
3 MEEG 2003 Statics
3 MEEG 2403 Thermodynamics, or
CHEG 2313 Thermodynamics of Single Component
Systems
3 CHEM 2613 Organic Physiological Chemistry*
1 CHEM 2611L Organic Physiological Chemistry Lab
16 semester hours

Junior Year - First Semester

2 BENG 3712 Engr Properties of Biol Materials
3 ELEG 2103 Electronic Circuits
1 ELEG 2101L Electronic Circuits Lab
3 MEEG 3013 Mechanics of Materials
3 CVEG 3213 Hydraulics, or
MEEG 3503 Mechanics of Fluids, or
CHEG 2113 Fluid Mechanics
3 CHEM 3813 Intro. to Biochemistry
15 semester hours

Second Semester

3 BENG 3723 Unit Operations in Biological Engr
3 BENG 3803 Mechanical Design in Biological Engr
3 BENG 4103 Instrumentation in Biological Engr
3 MEEG 2013 Dynamics
4 MATH 3404 Differential Equations
16 semester hours

Senior Year - First Semester

3 BENG 4813 Senior Biological Engr Design I
3 BENG 3733 Transport Phenomena in Biological
Systems
3 BENG Design elective
6 Humanities/Social Studies Elective
15 semester hours

Second Semester

2 BENG 4822 Senior Biological Engr Design II
3 BENG Design elective
6 Humanities/Social Science Elective
6 Technical elective
17 semester hours

128 Total hours required

*Students in the Pre-Medical focus area must see faculty adviser for alternate scheduling and elective course requirements.

CHEMICAL ENGINEERING PROGRAM

Freshman Year - First Semester

4 MATH 2554 Calculus I
3 CHEM 1123 University Chemistry II
1 CHEM 1121L University Chemistry II Lab
3 ENGL 1013 Composition I
3 CHEG 1113 Intro. to Chem Engr I
3 HIST 2003 Hist./American People to 1877
(HIST 2013 or PLSC 2003 may be substituted.)
17 semester hours

Second Semester

4 MATH 2564 Calculus II
3 CHEG 1123 Intro. to Chem Engr II
3 ENGL 1023 Composition II
2 CHEG 1212L Chemical Engr Lab I
3 Humanities/social science elective
15 semester hours

Sophomore Year - First Semester

4 MATH 2574 Calculus III
3 CHEM 3603 Organic Chemistry I
1 CHEM 3601L Organic Chemistry I Lab
3 PHYS 2054 University Physics I
1 PHYS 2050L University Physics Lab I
3 CHEG 2133 Fluid Mechanics
3 CHEG 2313 Thermodynamics of Single Component Systems
18 semester hours

Second Semester

4 MATH 3404 Differential Equations
3 CHEM 3613 Organic Chemistry II
1 CHEM 3611L Organic Chemistry II Lab
3 PHYS 2074 University Physics II
1 PHYS 2070L University Physics II Lab
1 CHEG 2221 Professional Practice Seminar
3 CHEG 3323 Thermodynamics of Multicomponent Systems
16 semester hours

Junior Year - First Semester

4 CHEM Elective
3 MEEG 2003 Statics
3 CHEG 3143 Heat Transport
2 CHEG 3232L Chemical Engr Lab II
3 CHEG 3253 Chem Engr Computer Methods
3 Humanities/social science Elective
18 semester hours

Second Semester

4 CHEM Elective
3 MEEG 3013 Mechanics of Materials
3 CHEG 3333 Chem Engr Reactor Design
3 CHEG 3153 Non-Equil Mass Transfer
3 ECON 2143 Basic Economics
(ECON 2013 Principles of Macro-economics may be substituted.)
16 semester hours

Senior Year - First Semester

3 CHEG 4163 Equil Stage Mass Transfer
3 CHEG 4413 Chem Engr Design I
3 CHEG 4813 Chemical Process Safety
3 Technical elective
3 Humanities/social science elective
15 semester hours

Second Semester

2 CHEG 4332L Chem Engr Lab III
3 CHEG 4443 Chem Engr Design II
3 ELEG 3903 Electric Circuits and Machines
3 CHEG 4423 Auto Process Control
3 Technical elective
3 Humanities/social science elective
17 semester hours

132 Total hours required

Computer Engineering Program

Freshman Year - First Semester

4 MATH 2554 Calculus I
3 CHEM 1103 General Chemistry
1 CHEM 1101L General Chemistry Lab
3 CSCE 1113 Programming Foundations I
1 CSCE 1111L Programming Foundations I Lab
3 ENGL 1013 English Composition
15 semester hours

Second Semester

4 MATH 2564 Calculus II
4 PHYS 2054 University Physics I
0 PHYS 2050L University Physics I Lab
3 CSCE 1123 Programming Foundations II
1 CSCE 1121L Programming Foundations II Lab
3 ENGL 1023 Composition II
3 MATH 2103 Discrete Math
18 semester hours

Sophomore Year - First Semester

4 MATH 2574 Calculus III
4 PHYS 2074 University Physics II
0 PHYS 2070L University Physics II Lab
3 CENG 2113 Digital Techniques I
0 CENG 2110L Digital Techniques I Lab
3 CSCE 2143 Data Structures
3 Humanities/social sciences elective
17 semester hours

Second Semester

4 MATH 3404 Differential Equations
3 ELEG 3933 Circuits and Electronics
3 CENG 2133 Assembly Language
3 CENG 2123 Digital Techniques II
0 CENG 2120L Digital Techniques II Lab
3 Basic science elective
16 semester hours

Junior Year - First Semester

Rising Junior Exam
3 CENG 3953 Logic Synthesis-VHDL
3 Technical Elective
3 CSCE 3313 Algorithms
3 History/Government requirement
3 Humanities/social sciences elective
15 semester hours

Second Semester

Advanced English Exam
3 Free Elective
3 PHIL 3103 Ethics and the Professions
3 Technical Elective
3 CENG 3213 Computer Organization
3 STAT 3013 Introduction to Probability and Statistics
(INEG 3313 may be substituted)
15 semester hours

Senior Year - First Semester

3 CSCE 4513 Software Engineering
1 CENG 4571 Senior Design Project I
3 CSCE 4413 Operating Systems
3 Technical electives/hardware
3 Technical electives/software
3 Humanities/social sciences elective
16 semester hours

Second Semester

3 CENG 4973 Senior Design Project II
3 CENG 4213 Intro. to Computer Architecture
3 Technical electives/hardware
3 Technical electives/software
3 Humanities/social sciences elective (3000+)
15 semester hours

127 Total hours required

Computer Science Program

Freshman Year - First Semester

4 MATH 2554 Calculus I
3 Science
1 Science lab
3 CSCE 1113 Programming Foundations I
1 CSCE1111L Programming Foundations I Lab
3 ENGL 1013 English Composition
15 semester hours

Second Semester

4 MATH 2564 Calculus II
3 Science I
1 Science I Lab
3 CSCE 1123 Programming Foundations II
1 CSCE 1121L Programming Foundations II Lab
3 ENGL 1023 Composition II
3 MATH 2103 Discrete Mathematics
18 semester hours

Sophomore Year - First Semester

3 MATH 3083 Linear Algebra
3 Science II
1 Science II Lab
3 CENG 2113 Digital Techniques I
0 CENG 2110L Digital Techniques I Lab
3 CSCE 2143 Data Structures
3 Humanities/Social sciences elective
16 semester hours

Second semester

3 MATH 3103, Combinatorics
3 Science elective
3 CENG 2133, Assembly Language
3 Humanities/social sciences elective
3 History/government requirement
15 semester hours

Junior Year - First semester

Rising Junior Exam
3 STAT 3013 Intro to Probability and Statistics
(INEG) 3313 can be substituted)
3 CENG 3213 Computer Organization
3 CSCE 3313 Algorithms
3 Humanities/social sciences elective
3 Humanities/social sciences elective
15 semester hours

Second semester

Advanced English Exam
3 CSCE 4413 Operating Systems
3 CSCE 4313 Programming Languages
3 Free elective
3 Free elective
3 PHIL 3103 Ethics & the Profession
15 semester hours

Senior Year - First semester

1 CSCE 4561 CS Capstone I
3 CSCE 4513 Software Engineering
3 CSCE 4523 Database Management
3 CSCE elective
3 Free elective
3 Humanities/social sciences elective
16 semester hours

Second semester

3 CSCE 4963 CS Capstone II
3 CSCE elective
3 CSCE 4323 Formal Languages
3 Free elective
3 Humanities/social sciences elective (3000+)
15 semester hours

125 Total hours required

CIVIL ENGINEERING PROGRAM

Freshman Year - First Semester

3 ENGL 1013 Composition I
4 MATH 2554 Calculus I
2 CVEG 1012 Civil Engr Fund
3 CHEM 1103 University Chemistry I
1 CHEM 1101L University Chemistry I Lab
3 Humanities/social science elective
16 semester hours

Second Semester

3 ENGL 1023 Technical Composition II
3 PHYS 2054 University Physics I
1 PHYS 2050L University Physics I Lab
3 CHEM 1123 University Chemistry II
1 CHEM 1121L University Chemistry II Lab
4 MATH 2564 Calculus II
2 GNEG 1122 Introduction CAD
17 semester hours

Sophomore Year - First Semester

4 MATH 2574 Calculus III
3 MEEG 2003 Statics
3 CVEG 1113 CE Computer Applications
3 Humanities/social science elective
3 CVEG 2053 Surveying Systems
1 CVEG 2051L Surveying Systems Lab
17 semester hours

Second Semester

3 CVEG 2113 Structural Materials
3 INEG 3313 Engineering Statistics
4 MATH 3404 Differential Equations
3 MEEG 3013 Mechanics of Materials
3 Humanities/social science elective
16 semester hours

Junior Year - First Semester

4 CVEG 3304 Structural Analysis
3 CVEG 3133 Soil Mechanics
3 CVEG 3213 Hydraulics
3 CVEG 3413 Transportation Engineering
2 GEOL 3002 Geology for Engineers
3 Humanities/social science elective
18 semester hours

Second Semester

2 CVEG 3022 Public Works Economics
3 CVEG 3223 Hydrology
3 CVEG 3243 Environmental Engineering
3 CVEG 4313 Structural Steel Design I
4 Science elective
3 Humanities/social science elective
18 semester hours

Senior Year - First Semester

3 CVEG 4143 Foundation Engineering
3 CVEG 4303 Reinforced Concrete Design I
3 CVEG 4433 Transportation Pavements & Materials
2 CVEG 4852 Professional Practice Issues
6 Engineering elective
1 Civil Engineering design elective
18 semester hours

Second Semester

3 CVEG 4243 Environmental Engr Design
3 CVEG 4513 Construction Mgmt
6 Engineering electives
1 Civil Engineering design elective
3 Humanities/social science elective
16 semester hours

136 Total hours required

ELECTRICAL ENGINEERING PROGRAM

Freshman Year - First Semester

1 ELEG 1001 Intro. to Electrical Engineering
3 ENGL 1013 Composition I
4 MATH 2554 Calculus I
4 PHYS 2054 University Physics I
3 History/Government Requirement
15 semester hours

Second Semester

1 ELEG 1011 Engineering Success and Ethics
3 ENGL 1023 Technical Composition II
4 MATH 2564 Calculus II
3 CHEM 1123 University Chemistry II
1 CHEM 1121L University Chemistry II Lab
4 PHYS 2074 University Physics II
16 semester hours

Sophomore Year - First Semester

3 CSCE 1113 Programming Foundations I
1 CSCE 1111L Programming Foundations I Lab
3 ELEG 2103 Electric Circuits I
1 ELEG 2101L Electric Circuits I Lab
3 ELEG 2903 Digital Design I
4 MATH 2574 Calculus III
3 Humanities/social science elective
18 semester hours

Second Semester

3 CENG 1123 Programming Foundations II
1 CENG 1121L Programming Foundations II Lab
3 ELEG 2113 Electric Circuits II
1 ELEG 2111L Electric Circuits II Lab
3 ELEG 2913 Digital Design II
4 MATH 3404 Differential Equations
15 semester hours

Junior Year - First Semester

3 ELEG 3123 Analog Signal Processing
1 ELEG 3121L Analog Signal Proc Lab
3 ELEG 3213 Electronics I
1 ELEG 3211L Electronics I Lab
3 ELEG 3703 Electromagnetics I
3 ELEG 3923 Microprocessor System Design
3 MEEG 2023 Introductory Mechanics
0 ENGL 2003 Advanced Composition
17 semester hours

Second Semester

3 ELEG 3133 Digital Signal Processing
1 ELEG 3131L Digital Signal Proc Lab
3 ELEG 3223 Electronics II
1 ELEG 3221L Electronics II Lab
3 ELEG 3303 Electromechanical Energy Conversion
1 ELEG 3301L Electromechanical Energy Conversion Lab
3 ELEG 3143 Stochastic Signal Processing
3 Humanities/social science elective
18 semester hours

Senior Year - First Semester

1 ELEG 4061 Electrical Engineering Design I
3 Electrical Eng Technical Elective
3 Technical Elective
3 Math/Science Elective
3 Humanities/social science elective
3 Upper-level humanities/social science elective
16 semester hours

Second Semester

1 ELEG 4071 Electrical Engineering Design II
6 Electrical Eng Technical Elective
3 Technical Elective
3 Upper-level humanities/social science elective
13 semester hours

128 Total hours required

INDUSTRIAL ENGINEERING PROGRAM

Freshman Year - First Semester

3 INEG 1103 Principles of Indust Engr
4 MATH 2554 Calculus I
3 ENGL 1013 Composition I
3 CHEM 1103 University Chemistry I
1 CHEM 1101L Univ Chemistry I Lab
14 semester hours

Second Semester

4 MATH 2564 Calculus II
3 INEG 1403 Industrial Cost Analysis
3 ENGL 1023 Technical Composition II
3 Science elective
13 semester hours

Sophomore Year - First Semester

4 MATH 2574 Calculus III
3 Computer Elective I
3 INEG 3313 Engineering Statistics
4 PHYS 2054 University Physics I
3 ECON 2143 Basic Economics
17 semester hours

Second Semester

4 MATH 3404 Differential Equations
3 Computer Elective II
4 PHYS 2074 University Physics II
3 INEG 3413 Eng Economic Analysis
3 INEG 4333 Industrial Statistics
17 semester hours

Junior Year - First Semester

3 INEG 3713 Methods and Standards
3 INEG 4623 Intro. to Simulation
3 Engineering Science Elective I
3 ELEG 3903 Electric Circuits and Machines
3 INEG 2513 Manuf System Design
3 (History or government requirement:
HIST 2003, HIST 2013, or PLSC 2003)
18 semester hours

Second Semester

3 INEG 3613 Intro. to Operations Research
3 Engineering Science Elective II
3 INEG 4523 Automated Production
3 Engineering Science Elective III
3 Humanities/social science electives
15 semester hours

Senior Year - First Semester

3 INEG Management Elective
(An upper-level ROTC course may be substituted.)
3 INEG 4543 Materials Handling
3 Technical elective
3 INEG 4723 Ergonomics
6 Humanities/social science electives
18 semester hours

Second Semester

3 INEG 4553 Production Planning/ Control
4 INEG 4904 I.E. Design
3 Humanities/social science elective
6 Technical electives
16 semester hours

128 Total hours required

MECHANICAL ENGINEERING PROGRAM

Freshman Year - First Semester

3 ENGL 1013 Composition I
3 CHEM 1103 University Chemistry I
1 CHEM 1101L University Chemistry I Lab
4 MATH 2554 Calculus I
2 GNEG 1122 Introduction CAD
3 MEEG 1103 Intro. to Mechanical Engineering
16 semester hours

Second Semester

3 CHEM 1123 University Chemistry II
1 CHEM 1121L University Chemistry II Lab
4 MATH 2564 Calculus II
4 PHYS 2054 University Physics I
0 PHYS 2050L University Physics I Lab
3 ENGL 1023 Technical Composition II
15 semester hours

Sophomore Year - First Semester

4 PHYS 2074 University Physics II
0 PHYS 2070L University Physics II Lab
4 MATH 2574 Calculus III
3 MEEG 2303 Intro. to Materials
3 MEEG 2003 Statics
14 semester hours

Second Semester

4 MATH 3404 Differential Equations
3 MEEG 2013 Dynamics
3 MEEG 2403 Thermodynamics
3 MEEG 2703 Computer Methods in Mechanical Engineering
3 ELEG 3903 Electric Circuits and Machines
16 semester hours

Junior Year - First Semester

3 MEEG 3013 Mechanics of Materials
3 MEEG 3113 Machine Dynamics & Control
2 MEEG 3202 Mechanical Engr Lab I
3 MEEG 3503 Mechanics of Fluids
3 ELEG 3913 Engineering Electronics
3 Humanities/social science elective
(History or Gov. Requirement)
17 semester hours

Second Semester

2 MEEG 3212 Mechanical Engr Lab II
3 MEEG 4413 Heat Transfer
3 MEEG 4103 Machine Element Design
3 ECON 2143 or ECON 2013
3 Humanities/social science elective (lower-level)
14 semester hours

Senior Year - First Semester

2 MEEG 4032 Professional Engineering Practice
1 MEEG 4131 Creative Project Design I
2 MEEG 4202 Mechanical Engr Lab III
3 MEEG 4483 Thermal Systems Analysis & Design
3 Technical/science elective
3 Technical/science elective
3 Humanities/social science elective (3000 - 4000 level)
17 semester hours

Second Semester

3 MEEG 4133 Creative Project Design II
3 Technical/science elective
3 Technical/science elective
3 Humanities/social science elective (lower level)
3 Humanities/social science elective (3000- 4000-level)
15 semester hours

124 Total hours required

Subject	Catalog	Long Title	Description
AIST	4003H	Honors Asian Studies Colloquium (Fa)	An interdepartmental colloquium with an annual change of subject, required of students in the Asian studies program. Prerequisite: sophomore standing.
ANTH	1023H	Honors Introduction to Cultural Anthropology (Fa)	Introduction to the nature of culture and its influence on human behavior and personality; comparative study of custom, social organization, and processes of change and integration of culture.
ANTH	3923H	Honors Colloquium (Irregular)	Covers a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in anthropology).
ARCH	1003H	Honors Basic Course in the Arts: Architecture Lecture (Sp, Su, Fa)	Introduction to architecture, emphasizing the origins and development of architecture and objective criteria for its evaluation. For the general student. May not be presented towards satisfaction of major requirements in either the B.Arch. or B.A. in architectural studies degrees.
ARHS	1003H	Honors Basic Course in the Arts: Art Lecture (Irregular)	A general introduction to the visual arts. Lectures on theory and criticism, demonstrations, films, slides. Three hours a week plus attendance at specified programs and exhibits. May not be presented toward satisfaction of the B.A. fine arts requirement by art majors.
ARHS	4843H	Honors Medieval Art (Sp, Su, Fa)	Study of Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic styles. Prerequisite: ARHS 2913.
ARHS	4863H	Honors Northern Renaissance Art (Sp, Su, Fa)	Study of Late Gothic and Renaissance styles in the Netherlands, Germany, and France. Prerequisite: ARHS 2923.
ARHS	4863H	Honors Northern Renaissance Art (Sp, Su, Fa)	Study of Late Gothic and Renaissance styles in the Netherlands, Germany, and France. Prerequisite: ARHS 2923.
ARHS	4873H	Honors Baroque Art (Sp, Su, Fa)	Study of art styles of the 17th and 18 centuries, primarily in Italy, Spain, France, Flanders, and the Netherlands. Prerequisite: ARHS 2923.
ARHS	4883H	Honors 19th Century European Art	Study of Neo-Classical, Romanticist, Realist, Impressionist, and Post-

		(Sp, Su, Fa)	Impressionist styles. Prerequisite: ARHS 2923.
ARHS	4893H	20 Century European Art (Sp, Su, Fa)	Study of the major styles and movements of the century, including Cubism, Fauvism, German Expressionism, and Surrealism. Prerequisite: ARHS 2923.
ARHS	4913H	Honors American Art to 1900 (Sp, Su, Fa)	The visual arts in the United States from their beginning in Colonial times through the nineteenth century. Prerequisite: ARHS 2923.
ARHS	4923H	HONORS AMERICAN ART SINCE 1900 (Fa, Sp, Su)	The visual arts in the United States from the turn of the century to the contemporary era. Prerequisite: ARHS 2923.
BENG	4103H	Honors Instrumentation in Biological Engineering (Sp)	Theory and advanced applications of analog circuits, digital circuits, and commercial instruments involving biological materials. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. Prerequisite: BENG 2103 (or ELEG 2103 or ELEG 3903).
BENG	451VH	Honors Thesis (Sp, Su, Fa)	Prerequisite: Honors candidacy.
BIOL	1543H	Honors Principles of Biology (Sp, Fa)	This course is designed for the well prepared student in Honors program. It focuses on the principles that unify the science of biology. Students will be exposed to how scientific principles have been used to demonstrate that all organisms are the products of evolution and are parts of interacting systems from the molecular to the ecosystem level. Corequisite: BIOL 1541M or BIOL 1541L.
BIOL	2013H	Honors General Microbiology (Sp, Su, Fa)	Basic concepts of microbiology including diversity, genetics, metabolism, growth, control of growth, pathogenesis, and immunology. Corequisite: BIOL 2011L or BIOL 2011M. Prerequisite: BIOL 1543 and BIOL 1541L and 2 semesters of general chemistry.
BIOL	3923H	Honors Colloquium (Irregular)	Covers a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in biological sciences).

BIOL	4404H	Honors Comparative Botany (Even years, Fa)	A comparative approach to organisms classically considered to be plants with emphasis on morphology, life history, development, and phylogeny. Three hours lecture, 4 hours lab per week.
CENG	1113H	Honors Introduction to Computers (Sp, Fa)	Introductory course for students majoring in computer science or computer engineering. Topics include Von Neumann architecture, data representation, high-level languages, looping, functions, and pointers.
CENG	4423H	Honors Computer Systems Analysis (Fa)	Basic concepts of problem analysis, model design, and simulation experiments. A simulation will be introduced and used in this course. Prerequisite: INEG 3313 or STAT 3013.
CENG	4912H	Honors Thesis (Sp, Fa)	To provide honors students with experience in presenting their research accomplishments to their peers and faculty. Prerequisite: honors standing.
CHEG	3143H	Honors Heat Transport (Sp, Fa)	Application of the principles of conduction, convection and radiation to the analysis and design of chemical processing heat transfer equipment and systems such as double-pipe and shell-and tube heat exchangers, multiple-effect evaporators, condensers, and boilers. Prerequisite: CHEG 2133 and CHEG 2313.
CHEG	3153H	Honors Non-Equil Mass Transfer (Sp, Su)	Fundamentals of chemical diffusional processes. Applications in chemical engineering design of stagewise and continuous separations. Prerequisite: CHEG 2133 and CHEG 3323.
CHEG	3323H	Honors Thermodynamics of Multi-Component Systems (Sp, Fa)	The use of the state principle and energy and entropy balance developed in CHEG 2313 is extended to allow processes. Physical and chemical equilibrium processes are considered in detail. Prerequisite: CHEG 2313 and MATH 2574.
CHEG	3333H	Honors Chemical Engineering Reactor Design (Sp, Su)	Principles of kinetics of homogeneous and heterogeneous reactions, catalysis, and reactor design with applications, drawn from industrial processes. Prerequisite: CHEG 3323.
CHEG	4163H	Honors Equil Stage Mass Transfer	Applications of chemical engineering design to stagewise and continuous

		(Fa)	separations in systems approaching equilibrium. Prerequisite: CHEG 3323.
CHEG	4423H	Honors Automatic Process Control (Sp)	Application of mathematical modeling methods to the description of transient phenomena of interest to process engineers. Modes of control and principles of feedback control are introduced with applications to process engineering problems. Prerequisite: MATH 3404 and CHEG 3143.
CHEG	4433H	Chemical Engineering Honors Thesis (Sp, Su, Fa)	
CHEG	4443H	Honors Chemical Engineering Design II (Sp, Fa)	Responsibility for decision making is placed on the students in the solution of a comprehensive, open ended problem based on an industrial process. Both formal oral and formal written presentation of results are required. Corequisite: lab component. Prerequisite: CHEG 4413 and CHEG 4163.
CHEG	4813H	Honors Chemical Process Safety (Fa)	Application of chemical engineering principles to the study of safety, health, and loss prevention. Fires and explosions, hygiene, toxicology, hazard identification, and risk assessment in the chemical process industries. Prerequisite: senior standing.
CHEG	4813H	Honors Chemical Process Safety (Fa)	Application of chemical engineering principles to the study of safety, health, and loss prevention. Fires and explosions, hygiene, toxicology, hazard identification, and risk assessment in the chemical process industries. Prerequisite: senior standing.
CHEM	1123H	Honors University Chemistry II (Sp, Fa)	Presents the topics of periodicity, bonding, stoichiometry, thermodynamics, kinetics, and chemical equilibrium in detail. Lecture 4 hours per week. Upon successful completion of 1123H, credit for 1103 will also be given for students who passed the 1103 proficiency exam. Pre- or Corequisite: CHEM 1121M (or MATH 1203 or satisfactory performance on the mathematics proficiency examination). Corequisite: drill component. Prerequisite: CHEM 1103 (or satisfactory performance on the chemistry proficiency examination).

CHEM	3603H	Honors Organic Chemistry I (Su, Fa)	Corequisite: CHEM 3602M.
CHEM	3613H	Honors Organic Chemistry II (Sp, Su)	Pre- or Corequisite: CHEM 3612M. Corequisite: Drill component. Prerequisite: CHEM 1123 and CHEM 1121L and CHEM 3603 and CHEM 3601L.
CLST	1003H	Honors Introduction to Classical Studies: Greece (Sp, Su, Fa)	
CLST	1013H	Honors Introduction to Classical Studies: Rome (Sp, Su, Fa)	
COMM	1003H	Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	Introduction of film as entertainment and art. How to look at a film through a study of composition, lighting, editing, sound, acting. Lectures and viewing time.
COMM	1003H	Honors Basic Course in the Arts: Film Lecture (Sp, Su, Fa)	Introduction of film as entertainment and art. How to look at a film through a study of composition, lighting, editing, sound, acting. Lectures and viewing time.
COMM	1313H	Honors Fundamentals of Communication (Sp, Su, Fa)	Interpersonal and public communication with emphasis in developing both listening and speaking skills.
COMM	3923H	Honors Colloquium (Sp, Su, Fa)	Treats a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in communication).
CSCE	1123H	Honors Introduction to Programming (Sp, Fa)	Introductory course to programming. Topics include problem analysis and specification, design and test of programming solutions, toils, decomposition, abstraction, iteration and recursion, program I/O and files. Credit will be allowed for only one of CSCE 1023 and CSCE 1123H. Corequisite: CSCE 1121M. Prerequisite: CENG 1113.
CSCE	2143H	Data Structures (Sp, Fa)	Applications of the elements of data structures, arrays, linked lists, trees, stacks, and search techniques. Prerequisites: MATH 2103 and CSCE 1123 and honors standing.
CSCI	4912H	Honors Thesis (Sp, Fa)	To provide honors students with experience in presenting their research accomplishments to their peers and faculty. Prerequisite: honors standing.

CVEG	491VH	Honors Studies in Geotechnical Engineering (Sp, Su, Fa)	The study of advanced topics in the geotechnical engineering field. May include participation in geotechnical engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisite: CVEG 3133.
CVEG	492VH	Honors Studies in Environmental Engineering (Sp, Su, Fa)	The study of advanced topics in the environmental engineering field. May include participation in environmental engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisite: CVEG 3243.
CVEG	493VH	Honors Studies in Structural Engineering (Sp, Su, Fa)	The study of advanced topics in the structural engineering field. May include participation in structural engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisite: CVEG 3304.
CVEG	494VH	Honors Studies in Transportation Engineering (Sp, Su, Fa)	The study of advanced topics in the transportation engineering field. May include participation in transportation engineering courses normally available only to graduate students. Course may be repeated for up to 6 hours total credit with approval of the CVEG honors advisor. Prerequisite: CVEG 3413.
CVEG	4983H	Undergraduate Honors Thesis (Sp, Su, Fa)	Thesis research for civil engineering students enrolled in the honors college. Prerequisite: Honors College.
DANC	1003H	Honors Basic Course in the Arts: Movement and Dance (Sp, Su, Fa)	Introduction to the nature and scope of ballet, ethnic, and modern dance forms, their potential for contributing towards multicultural literacy, and to the shaping of an American audience. Comprised of lectures, videos, and movement experiences in the form of studio labs. Prerequisite: honors standing.
DRAM	1003H	Honors Basic Course in the Arts: Theatre Lecture (Sp, Su, Fa)	

ECON	2013H	Honors Principles of Macroeconomics (Sp, Su, Fa)	Macroeconomic analysis, including aggregate employment, income, fiscal and monetary policy, growth and business cycles. Prerequisite: (MATH 1203 or higher) or (MATH ACT of 25 or higher) or (MATH SAT of 580 or higher) or (MATH 2043 or higher).
ECON	2023H	Honors Principle of Microeconomics (Sp, Su, Fa)	Microeconomic analysis, including market structures, supply and demand, production costs, price and output, international economics. Prerequisite: (MATH 1203 or higher) or (MATH ACT of 25 or higher) or (MATH SAT of 580 or higher) or (MATH 2043 or higher).
ELEG	3083H	Honors Colloquium (Irregular)	Covers a special topic or issue, offered as part of the honors program. Prerequisite: honor student.
ELEG	388VH	Honors Special Problems (Sp, Su, Fa)	One to 3 hours of credit. Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: junior standing.
ELEG	400VH	Honors Senior Thesis (Sp, Su, Fa)	Prerequisite: senior standing.
ELEG	4061H	Honors Electrical Engineering Design I (Sp, Fa)	Design and application in electrical engineering. Prerequisite: ELEG 3223 and ELEG 3923.
ELEG	4071H	Honors Electrical Engineering Design II (Sp, Fa)	Design and application in electrical engineering. Prerequisite: ELEG 4061.
ELEG	487VH	Honors Special Topics in Electrical Engineering (Irregular)	Consideration of current electrical engineering topics not covered in other courses. Prerequisite: senior standing.
ELEG	488VH	Honors Special Problems (Sp, Su, Fa)	Individual study and research on a topic mutually agreeable to the student and a faculty member. Prerequisite: senior standing.
ENGL	1013H	Honors Composition I (Fa)	A course for freshmen with high placement scores.
ENGL	1023H	Honors Composition II (Sp)	Continuation of ENGL 1013H.
FREN	2013H	Honors Intermediate French II (Sp, Fa)	
FREN	4203H	Honors Quebec Studies (Irregular)	A study of Quebec's culture, institutions, economy, literature and cinema.

			Prerequisite: FREN 3113.
GEOG	2103H	Honors Emerging Nations (Sp, Fa)	Survey of problems, development potential, and physical and human resources of the developing worlds. Areas covered include Latin America, Africa, Middle East, and Monsoon Asia.
GEOG	3923H	Honors Colloquium (Irregular)	Covers a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in geography).
GEOG	4383H	Hazard & Disaster Assessment, Mitigation, Risk & Policy (SP)	Comprehensive introduction to interdisciplinary approaches to natural and environmental hazards and risk. Hazards and disaster assessment, mitigation, and policy are the focus of the class. Prerequisite: Junior standing or above.
GEOL	1113H	Honors General Geology (Irregular)	Survey of geological processes and products and their relationships to landforms, natural resources, living environments, and human beings. Lecture 3 hours, laboratory 2 hours per week. Corequisites: GEOL 1111 M.
GEOL	1121H	Honors General Geology Laboratory (Fa)	Survey of geological processes and products and their relationships to landforms, natural resources, living environments, and human beings. Lecture 3 hours, laboratory 2 hours per week. Corequisite: GEOL 1113 H.
GEOS	4563H	Honors Geology of Our National Parks (Fa)	This course examines the underlying geology responsible for selected parks, and explores the interplay of geology, biology, climate, topography, and humans to evaluate the value of the parks, and to anticipate the problems they will face in the near and long-term. Prerequisite: GEOL 1113.
GEOS	4693H	Honors Environmental Justice (Sp)	This course deals with the ethical, environmental, legal, economic, and social implications of society's treatment of the poor, the disenfranchised, and minorities who live in the less desirable, deteriorating neighborhoods, communities, and niches of our country. The class integrates science with philosophy, politics, economics, policy, and law, drawing on award-winning films, current news, and case studies.

GERM	2013H	Honors Intermediate German II (Sp, Fa)	
HIST	1113H	Honors World Civilization (Sp, Su, Fa)	Study of Western and non-Western civilizations.
HIST	1123H	Honors World Civilization (Sp, Su, Fa)	Study of Western and non-Western civilizations.
HIST	2003H	Honors History of the American People to 1877 (Sp, Su, Fa)	A history of American life encompassing constitutional, political, social, intellectual and economic development from prior to European colonization to 1877. Particular emphasis will be placed on the evolution of American political institutions.
HIST	3973H	Honors Methods (Sp, Su, Fa)	An introduction to historiography, the definitions of history, and an exploration of the social function of studying the past. Examines research methods and current theories of interpreting and evaluating the past. Prerequisite: junior standing.
HUMN	1114H	Honors Roots of Culture to 500 C.E. (Fa)	This course constitutes the first segment of a four-semester interdisciplinary study of the Egyptian Book of the Dead, the Torah, the Roman Colosseum, Hinduism, and Confucianism. open to first-year Honors students by invitation only. Corequisite: Drill component.
HUMN	1124H	Honors Equilibrium of Cultures 500-1600 (Sp)	This course constitutes the second segment of a four-semester sequence focusing on world cultures. Semester 2 may include the interdisciplinary study of Islam, early Byzantium, Gothic architecture, Heian Japan, and the ancient Maya. Open to first-year Honors students by invitation only. Corequisite: Drill component.
HUMN	2003H	Honors Introduction to Gender Studies (Fa)	This course explores cultural constructions of gender and sexuality using a variety of media, including literature, film, and architecture.
HUMN	3923H	Honors Colloquium (Irregular)	Treats a special topic or issue offered as a part of the Honors Program. Prerequisite: honors candidacy.

HUMN	4913H	Honors Literary Reflections of the Holocaust (Sp)	Drawing on fiction, poetry, autobiography, and drama from works written originally in French, Polish, German, Dutch, English, and Yiddish, this course introduces students to the Holocaust through literature. Deals with the adequacy of imaginative literature in the face of atrocity, the comparative effectiveness of fiction versus autobiography, and the dangers of exploitation and trivialization.
INEG	410VH	Honors Special Problems (Sp, Su, Fa)	Prerequisite: senior standing.
INEG	5843H	Honors Scheduling & Sequencing I (Odd years, Sp)	An introduction to constructive algorithms and various operations research approaches for solving sequencing and scheduling problems. The NP-completeness of most scheduling problems leads to a discussion of computational complexity, the use of heuristic solution methods, and the development of worst case bounds. Prerequisite: INEG 3613 and computer programming proficiency.
MATH	2103H	Honors Discrete Mathematics (Fa)	Introductory study of sets, relations, logic, proofs, algorithms, counting methods, graph theory, trees, and Boolean algebras. Prerequisite: MATH 1203 or ACT math score of 21 or above.
MATH	2554H	Honors Calculus I (Sp, Su, Fa)	Topics in analytic geometry and calculus. Students may not receive credit for both MATH 2043 and MATH 2554.
MATH	2565H	Honors Calculus II (Sp)	Integral calculus of one variable and infinite series. Prerequisite: MATH 2554.
MATH	2574H	Honors Calculus III (Sp, Su, Fa)	Differential and integral calculus of several variables, vector calculus. Prerequisite: MATH 2564.
MBIO	2013H	Honors General Microbiology (Sp, Su, Fa)	Basic concepts of microbiology including diversity, genetics, metabolism, growth, control of growth, pathogenesis, and immunology. Corequisite: BIOL 2011L or BIOL 2011M. Prerequisite: BIOL 1543 and BIOL 1541L and 2 semesters of general chemistry.

MEEG	4303H	Honors Materials Laboratory (Sp)	A study of properties, uses, testing, and heat treatment of basic engineering materials. Lecture 1 hour, laboratory 4 hours per week. Corequisite: Lab component. Prerequisite: MEEG 2303 and MEEG 3013.
MEEG	4903H	Mechanical Engineering Honors Research (Sp, Fa)	Independent research for mechanical engineering honors students. Prerequisite: student must be enrolled in Honors Program.
MEEG	491VH	Honors Special Projects (Sp, Su, Fa)	
MLIT	1003H	Honors Music Lecture (Sp, Su, Fa)	
PHIL	2003H	Honors Introduction to Philosophy (Sp, Su, Fa)	An examination of such basic philosophical topics as the existence of God, the nature of the human mind, the relationship between appearance and reality, the forms and limits of human knowledge, freedom of the will, and standards of right and wrong. Includes both historical and contemporary readings.
PHIL	3923H	Honors Colloquium (Sp, Su, Fa)	Treats a special topic of issue offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in philosophy).
PHYS	2054H	Honors University Physics I (Sp, Su, Fa)	Introduction to the principles of mechanics, wave motion, temperature and heat, with calculus. Lecture three hours per week and practicum two hours a week (included in lab component). Pre- or Corequisite: MATH 2554. Corequisite: Lab component.
PHYS	2074H	Honors University Physics II (Sp)	Continuation of PHYS 2054H. Topics covered include electricity, magnetism, light and geometric optics. Lecture three hours per week and practicum two hours per week (included in PHYS 2070M). Pre- or Corequisite: MATH 2564. Corequisite: Lab component. Prerequisite: PHYS 2054 or PHYS 2054H.
PHYS	3923H	Honors Colloquium (Irregular)	Covers a special topic or issue, offered as part of the honors program. No more than 3 hours may be offered toward fulfillment of the requirements for the B.S. or B.A. degree in Physics. Prerequisite: honors candidacy (not restricted to candidacy in physics).

PLSC	2003H	Honors American National Government (Fa)	Survey of the history, basic ideas, structure, and political processes of the national government of the United States, including the fundamental relationships of the federal system.
PLSC	3923H	Honors Colloquium (Irregular)	Covers a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy in political science.
PSYC	2003H	Honors General Psychology (Sp, Su, Fa)	Introduction to basic procedures in the study of behavior and to the elementary principles of learning, motivation, emotion, sensation, and individual differences. Students will be expected to complete a research requirement.
PSYC	3923H	Honors Colloquium (Irregular)	Treats a special topic or issue, offered as part of the honors program. May be repeated when the content is changed. Prerequisite: honors candidacy (not restricted to candidacy in psychology).
SCWK	3923H	Honors Colloquium (Irregular)	Treats a special topic or issue, offered as part of the honors program. Prerequisite: honors candidacy (not restricted to candidacy in social welfare).
SOCI	2013H	Honors General Sociology (Sp, Su, Fa)	Group relations, culture, personality, social institutions, collective behavior, and social change.
SPAN	2013H	Honors Intermediate Spanish II (Sp, Fa)	Continued development of basic speaking comprehension and writing skills and intensive development of reading skills. Prerequisite: SPAN 2003 or equivalent.
SPAN	399VH	Honors Spanish Course (Sp, Fa)	Prerequisite: junior standing.
WCIV	1013H	Institutions and Ideas of Western Civilization II (Sp, Su, Fa)	Examination of major themes of Western history since the Reformation and an evaluation of their contribution to contemporary life and culture.
WLIT	1113H	Honors World Literature I (Sp, Su, Fa)	Introduction to the study of both western and non-western literature. Prerequisite: Participation in Fulbright College Scholars Program or English ACT score of 28 or above.
WLIT	1123H	Honors World Literature II (Sp, Su, Fa)	A continuation of the study of literary masterpieces of the world. Prerequisite: WLIT 1113H and participation in the Fulbright College Scholars Program or English ACT score of 28 or above.

