

DEPARTMENT OF CHEMICAL & BIOMOLECULAR ENGINEERING

# PROGRAM GUIDE AND UNDERGRADUATE ADVISING HANDBOOK

SPRING 2017

---

## TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b> .....	<b>2</b>
EXCEPTIONS TO THIS DOCUMENT.....	4
PROGRAM OVERVIEW .....	5
<i>Academic Advising in Chemical and Biomolecular Engineering</i> .....	5
<i>Career Advising</i> .....	5
<i>Succeeding Academically</i> .....	5
<i>Fundamentals of Engineering Exam</i> .....	6
UNDERGRADUATE CURRICULA.....	7
<i>Standard Curriculum</i> .....	7
<i>Accelerated Curricula</i> .....	7
<i>Pre-Med Course Planning</i> .....	7
MINORS, CONCENTRATIONS, & SECOND MAJORS.....	9
<i>Minors</i> .....	9
<i>Concentrations</i> .....	9
Biomolecular Engineering .....	10
Materials .....	10
Energy .....	11
<i>Dual Majors</i> .....	11
UNDERGRADUATE RESEARCH .....	12
INTERNATIONAL PROGRAMS, STUDY ABROAD .....	13
<b>APPENDIX I</b> .....	<b>14</b>
BRIEF INFORMATION AND DEFINITIONS.....	14
<i>Advanced Placement, IB, SAT II Subject test credit</i> .....	14
<i>Courses Taken Elsewhere</i> .....	14
<i>Electives</i> .....	14

<i>Five Year Programs</i> .....	15
<i>Honors Program</i> .....	15
<i>International Studies</i> .....	15
<i>Prerequisites</i> .....	15
<i>ROTC Courses</i> .....	16
<i>Transfer Students</i> .....	16
<i>University Requirements</i> .....	16
<i>Miscellaneous</i> .....	16
REGISTRATION PROCESSES .....	18
<i>Forms</i> .....	18
<i>Overrides and approvals</i> .....	19
Department Overrides .....	19
Dean's Office Overrides and approvals .....	19

## EXCEPTIONS TO THIS DOCUMENT

Although every effort is made within this document to cover all course/curriculum issues for all students, it is recognized that there is occasionally a need for *exceptions*. Examples of exceptions are course substitutions for out of sequence students and approvals for new and/or special courses. The procedure for *exceptions* is as follows. The student will discuss the issue with her/his advisor. When an agreement is reached, the student will discuss the request with the Director of Undergraduate Studies (DUS). Note that the DUS must approve all exceptions. The DUS will discuss the exception as necessary with the Assistant Dean for Academic Affairs. If the request will be approved a "paper trail" is generated by the student first making a request by email to the Academic Program Administrator. It will be posed to the DUS and copies of the approved request to the Assistant Dean for the student's official files and back to the student to confirm that the exception is officially approved.

## PROGRAM OVERVIEW

With the advantage of a nationally ranked university, a campus culture that encourages excellence in teaching, students who are among the best in the country and faculty who comprise a top 30 graduate research program, the undergraduate chemical engineering program at Notre Dame is, in the words of a distinguished external reviewer "... among the elite". The curriculum emphasizes fundamental aspects of chemical engineering to ensure applicability of students' knowledge to the many industrial sectors (e.g., chemicals, petroleum, food products, consumer goods, electronic devices and materials, drug manufacture and delivery, medical diagnostics, financial analysis and business consulting) that employ our graduates. This training has been the foundation upon which the program's graduates have succeeded in careers in law and medicine, MBA programs and especially in graduate school in chemical engineering and biomedical engineering. This fundamental approach to the chemical engineering education facilitates subsequent industry specific training and lifetime learning. Written and oral communication skills are honed in two chemical engineering labs and the capstone design course. A special course for sophomores, *Careers for Chemical Engineers*, features outside speakers as its main component and allows students to plan possible career paths starting early in their academic tenure by understanding the breadth of the field. Students may also participate in a unique summer program, only for chemical engineering majors, at the Imperial College, London. It is six weeks of instruction and students complete a chemical engineering lab course and a CBE Elective in plant operations.

---

## ACADEMIC ADVISING IN CHEMICAL AND BIOMOLECULAR ENGINEERING

All of the students in the department have regular teaching and research faculty as academic advisors. Faculty advisors are able to provide information about courses in the department, advise students about how to approach classes to be more successful, and provide insight into career possibilities and specific information about graduate schools in chemical engineering. For the operational processes involving registration, courses needed to graduate, and other questions can be directed to the undergraduate Academic Program Administrator in 182 Fitzpatrick.

---

## CAREER ADVISING

The Career Center (<http://careercenter.nd.edu/>) is the centralized career advising center for students and alumni of the University of Notre Dame. Each year many companies come to campus to interview students for both permanent jobs and summer internships. All of these interviews are coordinated by the Career Center. Students have access to visiting recruiters through "GoRISH" (<https://careercenter.nd.edu/for-undergrads>), which keeps track of student profiles and resumes, lists job postings by companies and is used to schedule interviews. The placement office staff offers resume and cover letter reviews, mock interviews and assistance with "customized" job searches and career exploration. CBE Faculty advisors are also available to advise students on their educational plan as it relates to their career goals. It is recommended that all students pursue internships and jobs using available on-campus resources and traditional channels. The fall-semester's Engineering Industry Day is when seniors should ramp up their job-search efforts into full-gear.

---

## SUCCEEDING ACADEMICALLY

Students seeking to succeed academically can access various resources to further their understanding and enhance course performance. In addition to course tutorials and faculty office hours, students may access tutoring through various on-campus offices or private tutoring.

Math: O'Meara Mathematics Library Tutoring <https://library.nd.edu/mathematics/about/tutoring/>

---

## FUNDAMENTALS OF ENGINEERING EXAM

The Fundamentals of Engineering (FE) (See <http://ncees.org/exams/fe-exam/>) Exam is the first step for engineers to become licensed Professional Engineers. Traditionally, chemical engineers did not deal with the public directly, and so did not need professional registration. Chemical engineers could do work for a company without a license. If there was a need for permits for a construction project, one of the structural engineers “signed off” on the plans. There are two important reasons for chemical engineering students to consider taking the FE exam when they are seniors and then to get professional registration. First is that you will most likely not spend your entire career with the same company. When you are seeking a job change, the PE license is a “transportable credential” that you will have received after your degree. Second, as you move through your career you may find yourself as the “front line” person who needs registration either because of job function within your company or because you have started your own firm and need the license to affirm legitimacy. Information about the exam can be found here: <http://ncees.org/exams/fe-exam/>.

## UNDERGRADUATE CURRICULA

### STANDARD CURRICULUM

The only undergraduate engineering degree granted by the department is in Chemical Engineering. There are three concentrations that provide students suggested elective sequences to get a deeper background in the areas of [Biomolecular Engineering](#), [Materials](#), and [Energy](#). Concentrations will appear on a student's final transcript. For students pursuing entrance into medical school, there is a suggested course plan for chemical engineering majors. [Standard Curriculum](#).

### ACCELERATED CURRICULA

For students entering freshman year with college credit in either Calculus I & II or Calculus I & Chemistry I or Physics I an accelerated track is available. By completing Physics I before freshman spring semester it is possible to take the Introduction to Chemical Engineering early. By taking CBE 20255 a semester early, students will find smaller class sizes and earlier exposure to chemical engineering principles. It will also allow the thermodynamics course sequence to be moved ahead one semester creating more flexibility for study abroad during junior year or pursuing pre-med. If students decide to pursue a different engineering major, CBE 20255 may count as a tech elective in those curricula.

[Accelerated Curriculum A](#), [Accelerated Curriculum B](#), [Accelerated Curriculum C](#)

### PRE-MED COURSE PLANNING

**Students seeking to fulfill pre-med requirements are strongly encouraged to take the accelerated curriculum track. If the student is not ahead in two semesters of calculus or calculus I and chemistry or physics they will need to take Biology A and B during the summer, off campus, due to course conflicts during the regular academic year, see the [standard curriculum](#).**

Students seeking to be admitted to medical school should meet with an advisor in [the Center for Health Sciences Advising](#). Make an appointment by calling (574) 631-4890.

The chemical engineering premed-plan has one class and additional labs beyond the standard curriculum. The course sequence suggested accommodates the specific courses that must be taken prior to sitting for the MCAT in Junior Year.

[Pre-Med Curriculum](#), [Standard Pre-Med Curriculum](#), [Accelerated](#)

The differences between the standard Chemical Engineering curriculum and pre-med plan:

- Biology A, BIOS 20201+lab Fulfills Tech Elective requirement
- Biology B, BIOS 20202+lab Fulfills second Tech Elective requirement
  - **Bio A&B are not offered at ND during the summer and conflict with the CBE courses if not on accelerated track.** If you have advanced standing, take PHYS 10310 fall and CBE 20255 Intro to Chem E spring of first year. Freshman BIOS sequence may also be substituted, override from FYS is required to enroll.
- CHEM 21273, O Chem II lab is only offered Fall
- PHYS 11310, General Physics Lab
- CHEM 40420, Biochemistry will replace CHEM 10122\*

- SCPP 40001 Preparing Health Professions, 1 credit hour prep course for med school applications offered spring of junior year.
- Take PSY 10000 Intro to Psych as A&L 1 Fall of Freshman year
- Complete University Seminar course Freshman year
- Take sociology or anthropology. Some med schools will not accept anthropology courses, IU for example. Check on your top med school's websites for guidance, including your home state university.

You will need a total of 5 semesters of Chemistry, 4 with lab (Biochemistry will be the one with no lab, if you placed in with AP chemistry credit take CHEM 21274 lab with P-Chem for the final lab).

Along with the following:

- Service: 2 hours a week minimum
- Clinical
- Research: for CBE's as much as possible- every semester. This is a CBE student's strong suit, the Department has many opportunities for UG research.

All of the pre-med classes need to be completed by the end of junior year for the MCAT and applications to enter med school directly out of undergrad. Make sure to check out the schools you are most interested in to confirm your classes will count toward what they want, include your home state university in your planning.

A gap/enrichment year is also an option to reduce course load and provide more time for service, clinical, and research opportunities.

\*Note that if student does not complete pre-med curriculum, CHEM 40420 will still need to be completed to fulfill CHEM 10122 requirement.

## MINORS, CONCENTRATIONS, & SECOND MAJORS

### MINORS

A minor will appear on a student's final transcript, and is intended to allow students to develop a competency beyond that developed through a College major. A minor consists of:

1. At least 15 credits of course work.
2. At least 12 credits of that course work must be beyond degree requirements and beyond the requirements for any other credential (e.g., other minors or majors can only double-count 1 course)
3. Students must complete curriculum change eForm available on your InsideND portal and the Registrar website.

Note that completing a minor requires taking one or more classes plus additional courses drawn from a list of courses specific to each minor. Some of the courses listed may not be offered every year, and some may have pre-requisites which must be respected. With the exception of the minor in Energy Studies, minors below are for engineering majors only.

Additional information can be found at <http://engineering.nd.edu/academics/undergraduatedegreeprograms>. Students may complete minors from any department, in accordance with the offering department's restrictions.

### COLLEGE OF ENGINEERING UNDERGRADUATE MINORS

#### Offering department:

<b>College of Engineering</b>	<a href="#">Engineering Corporate Practice</a>
<b>AME</b>	<a href="#">Bioengineering</a>
	<a href="#">Computational Engineering</a>
	<a href="#">Energy Engineering</a>
<b>NDenergy</b>	<a href="#">Energy Studies</a>
<b>CEEES</b>	<a href="#">Environmental Earth Sciences</a>

### CONCENTRATIONS

The only undergraduate engineering degree granted by the department is in Chemical Engineering. However, there are three optional concentrations that provide students suggested elective sequences to get a deeper background in the areas of Biomolecular Engineering, Materials, or Energy. Students add concentrations through the "Change of Major" eForm and they will appear on official transcripts. Adding the designation via the eForm is to be done at the beginning of Spring semester of Senior year.

Each concentration can be completed without taking any "extra" courses beyond the minimum required. Some elective courses may require special permission or additional prerequisites. Take special note to make sure prerequisites are completed before attempting to register for courses. Any CBE Elective will also fulfill the tech elective requirement.

Additional information can be found at <http://cbe.nd.edu/undergraduate-program/undergraduate-curricula-details>

---

## BIOMOLECULAR ENGINEERING

### Total of any four courses from the following list:

#### CBE Electives

- CBE 30386 Introduction to Bioengineering
- CBE 40325 Immunoengineering
- CBE 40479 Introduction to Cellular and Tissue Engineering
- CBE 40483 Topics in Biomolecular Engineering
- CBE 40487 Drug Development and Mechanisms of Action
- CBE 40725 Principles of Molecular Engineering
- CBE 44487 Introduction to Biopharmaceutical Engineering (UCD)
- CBE 48903 Undergraduate Thesis, biomolecular engineering research topic

#### Tech Elective

- CHEM 40420 Biochemistry
- CHEM 30337 Physical Chemistry for the Life Sciences
- BIOS 30341 Cell Biology
- BIOS 31341 Cell Biology Lab
- BIOS 30342 Developmental Biology
- BIOS 30401 Microbiology
- CBE 48902 Advanced Undergraduate Research, biomolecular engineering research topic
- AME 50571 Structural Aspects of Biomaterials

#### Curricular Options

- CBE 30357 Biotransport, substitute for CBE30355 Transport I
- CBE 41910 Biomolecular Engineering Lab, substitute for CBE 41459 Chemical Engineering Lab 2

---

## MATERIALS

### Total of any four courses from the following list:

#### CBE Electives

- CBE 40435 Electrochemical Engineering
- CBE 40450 Non-Equilibrium Electrokinetics of Artificial and Biological Nanoporous Membranes
- CBE 40461 Structure of Solids
- CBE 40457 Polymer Science and Engineering
- CBE 40477 Nanoscience & Technology
- CBE 40525 Ambient Methods for Surface Characterization
- CBE 40725 Principles of Molecular Engineering
- CBE 48903 Undergraduate Thesis, Materials Research Topic
- CBE 44477 Applied Chemistry: Micro and Nano-Materials (UCD, Dublin: CHEN 30160)

#### Tech Elective

- CHEM 40443 Inorganic Chemistry
- CBE 48902 Advanced Undergraduate Research, materials research topic
- AME 50571 Structural Aspects of Biomaterials
- AME 50542 Engineering Analysis of Manufacturing Processes
- EE 40446 IC Fabrication Laboratory

---

## ENERGY

### Total of any four courses from the following list:

#### CBE Electives

- CBE 40435 Electrochemistry and Electrochemical Engineering
- CBE 40430 Industrial Chemical Processes
- CBE 40447 Modern Methods in Computational Molecular Thermodynamics and Kinetics
- CBE 40498 Energy and Climate
- CBE 40425 Energy, Economics, and Environment
- CBE 48903 Undergraduate Thesis, energy research topic
- CBE 60553 Advanced Chemical Engineering Thermodynamics

#### Tech Elective (any CBE elective and ASE above also fulfill tech elective)

- CHEM 40480 Chemistry of Lanthanides and Actinides
- CBE 48902 Advanced Undergraduate Research, energy research topic
- AME 47431 Special Studies: Designing Energy-Efficient Buildings

---

## DUAL MAJORS

60 credit hours beyond degree requirements. Must satisfy all requirements in both departments resulting in receiving two diplomas. Usually takes an extra year (e.g. Reilly Program).

## UNDERGRADUATE RESEARCH

Students are encouraged to participate in undergraduate research to enrich their educational experience. Undergraduate research is conducted as an individual arrangement between a student and a faculty member. Students should contact faculty who direct research in areas that match their interests. Once the student has a research faculty advisor, he or she must submit a [Request for Entry form](#) to the Academic Program Administrator to get an override to register for the course and ask the faculty advisor to confirm participation with the Academic Program Administrator. Students must complete all required lab safety courses before any work in the lab can begin.

Check here for research opportunities: <http://cbe.nd.edu/undergraduate-program/undergraduate-research>

There are three different designations for research for-credit:

### **CBE 48901 Undergraduate Research.**

This is the course that students should sign up for as their first experience in research. This is a one credit course, and involves a minimum commitment of 4-5 hours/wk. This course is S/U, may be taken more than once, but does not satisfy the Engineering/technical elective degree requirement.

### **CBE 48902 Advanced Undergraduate Research.**

This is a three credit course on which students should expect to spend 12-15 hours per week. Successful completion of CBE 48901 or a summer (or academic year) research internship in the Department is a prerequisite for enrolling in CBE 48902. It can be counted as an Engineering/technical elective and students must produce a written report of their results at the end of the semester. This course is graded, and may be repeated.

### **CBE 48903 Undergraduate Thesis.**

This is a three credit course which is normally taken in the final semester. Successful completion of CBE 48901, CBE 48902 or a summer (or academic year) research internship in the Department is a prerequisite for enrolling in CBE 48903. Students are required to produce a substantial written document that will be defended orally to a committee of faculty members. This course can be counted as a (3 credit) CBE elective, and may not be repeated.

The research can be conducted in any department but the defense committee must have at least one CBE faculty member. Students enrolled in this course will find their defense committee and an agreed upon time. The Academic Program Administrator will secure a space for the presentation. Complete the curriculum change eForm to have the "completed Engineering Thesis" designation added to your transcript.

Some students do research in other departments which can also be a tech elective. To be a tech elective it must be 3 credit hours letter-graded and require a significant written document a copy of which must be submitted to the CBE Academic Program Administrator.

## INTERNATIONAL PROGRAMS, STUDY ABROAD

Sem.	Class	Location	Host	Notes	Pre-requisites	Fulfills	Delayed Courses
Fall	Jr.	UCD Dublin, Ireland	NDI				Thermo II taken Jr spring
Fall	Jr.	UWA Perth, Australia	NDI		Math 30650 Diff Eq	Process Ctrl	Thermo II taken Jr. spring
Spring	Jr.	UCD Dublin, Ireland	NDI		Must have Chem Eng Lab I complete (completed Imperial summer program)		
Summer	Any	London, England Alcoy, Spain Rome, Italy Beijing, China	College of Engineering		Varies, see <a href="#">program websites</a>	2 Eng .tech electives (unless CBE course, then CBE elective & Tech elective)	n/a
Summer	After soph.	Imperial College, London	College of Engineering		Requires completion of Spring Unit Ops & Lab course. CBE30399	Chem Eng Lab I CBE Elective	n/a
Fall, spring or both	Any	Any not mentioned above	NDI	Must be in 5 yr program and push CBE courses back 1 year	Diff Eq.	No courses for major	all

Chemical Engineering students can participate in a number of international study programs. While all of these programs require some degree of schedule customization, it is normally possible to work this out so that students can participate without delaying graduation. Because of changing course offerings and content and foreign institutions, the replacement courses may change from year to year.

It is best to plan for international study starting at the beginning of the sophomore year. Please contact the CBE Director of Undergraduate Studies to discuss schedule options for your chosen location(s). Also contact the International Study Office and/or monitor their homepage (<http://www.nd.edu/international/index.shtml>) to determine application procedures and deadlines.

The CBE website for study abroad: <http://cbe.nd.edu/undergraduate-program/study-abroad>

#### CBE SUMMER PROGRAM IMPERIAL COLLEGE LONDON

Only for chemical engineering students, six week summer program. Students live in London housing arranged by the program while attending classes at Imperial College London. The program fulfills a Chemical Engineering Lab course, CBE 34360 Chemical Engineering Lab Abroad, and a CBE elective course, CBE 44360 Plant Operations. The prior spring semester students must complete CBE 30399 Unit Ops & Lab to be prepared for the coursework in London.

## APPENDIX I

### BRIEF INFORMATION AND DEFINITIONS

---

#### ADVANCED PLACEMENT, IB, SAT II SUBJECT TEST CREDIT

Exam Credit at Notre Dame: <http://firstyear.nd.edu/current-students/ap-ib-sat-ii-transfer-credit/>

Students should make sure that all exam results are noted on the academic record at the time of admission. The registrar handles this and problems should be fixed as soon as they are noted.

In general, credits will count in the appropriate University requirement (See above, e.g., American History) slots or in Mathematics (Calculus), Physics or Chemistry. Foreign language credits will count in the "Elective" slot. We do not count mathematics courses before Calculus anywhere.

AP credit is not credited toward degree requirements if the course for which credit is granted is lower than the initial course required in the degree program. For example, advanced credits in MATH 10350/360 are not counted toward engineering degree requirements.

---

#### COURSES TAKEN ELSEWHERE

Enrolled Notre Dame Students who plan to take courses at schools other than Notre Dame or Notre Dame study abroad sites MUST obtain pre-approval of the courses at the Office of the DEAN OF ENGINEERING if they plan to transfer the credits toward a Notre Dame degree. Some schools will not admit a student without our approval, and **Notre Dame will not accept credits earned elsewhere without prior approval.** [See transfer course pre-approval eForm.](#)

---

#### ELECTIVES

##### CBE ELECTIVE

CBE 30386 or any three-credit 40XXX or 60XXX CBE course that is not already required, EXCEPT 48901 and 48902. Students cannot take CBE 30386 if they already have credit in CBE 30385.

##### ENGINEERING/TECHNICAL ELECTIVE

Non-required, 30XXX+ level course in the College of Engineering or the College of Science that enhances the student's understanding of the subject. Must be a three credit lecture course. Other courses will be considered upon request.

CBE 48902 Advanced Undergraduate Research may only count toward three of the 6 required Technical Elective credits.

##### ELECTIVE OR "FREE ELECTIVE"

No "free electives" are required for successful completion of the chemical engineering degree. These are "extra" and beyond degree requirements. Transfer students may need to complete free electives to meet the minimum of 60 credit hours at Notre Dame.

---

## FIVE YEAR PROGRAMS

The College of Engineering offers dual degree programs with Arts and Letters and Business.

The dual degree five-year program between the College of Arts and Letters and the College of Engineering enables the student to acquire the Bachelor of Arts from the College of Arts and Letters and the Bachelor of Science degree in a chosen field of engineering. The decision to enter the program ordinarily should be made during the first year of studies, although students can also enter the program at a later stage.

The dual degree five-year program in the College of Business Administration and the College of Engineering enables the student to earn the Bachelor of Science in the chosen field of engineering and the master of business administration. This program is open only to those currently enrolled Notre Dame students who have completed three years of an engineering degree program. Students interested in making application for the M.B.A./engineering program should apply to the M.B.A. program during their junior year. To facilitate the application process, students should take the Graduate Management Admission Test (GMAT) either in June following their sophomore year or in October during the fall semester of their junior year.

In all cases of two degrees, the student must work closely with the primary advisor in engineering and the Dean's Office in both Colleges.

Dual degree programs are outlined at the bottom of the page:

<http://engineering.nd.edu/academics/undergraduatedegreeprograms>

---

## HONORS PROGRAM

The yearlong honors seminar fulfills the Literature/Fine Arts, Writing and Rhetoric, and university seminar requirements.

If a student has AP Credit for AP English Language or Literature, the yearlong seminar will also fulfill the 2nd philosophy requirement.

---

## INTERNATIONAL STUDIES

Students participating in Notre Dame's international programs must work with their advisors and have full approval from the International Studies Office and the Dean's Office. Courses and participation in St. Mary's international programs are not part of the co-ex program with Notre Dame and students must obtain specific approvals for use of these courses in their program. In most cases approval will be denied. The University does not encourage students to participate in non-Notre Dame Programs.

---

## PREREQUISITES

Students cannot enroll in a given course unless they have passed or are enrolled in the prerequisite courses. For valid reasons a student may be permitted to enroll in a course for which he or she does not have the stated prerequisite by obtaining permission from the DUS and requesting an override from the Academic Program Administrator in the CBE Office, 182 Fitzpatrick. Valid reasons include having taken an equivalent course elsewhere (transferred courses do not satisfy the NOVO system for prerequisite purposes). An F grade in a prerequisite is not a valid reason.

---

## ROTC COURSES

A maximum of 6 credit hours of upper level ROTC courses may be accepted as credit toward College of Engineering degree requirements. Requirements for which ROTC courses may be substituted are determined by the Department except that not more than 3 credits of ROTC can be substituted for History or Social Science and 3 credits towards a Tech Elective. Only ROTC students are eligible for this substitution (ROTC courses taken by non-ROTC students are not creditable toward the degree requirement). Thus, the student must complete the ROTC program of choice to exercise this option.

---

## TRANSFER STUDENTS

Students transfer to Notre Dame as sophomores, juniors, or seniors. Regardless of how many credits transfer that count toward a Notre Dame degree, all transfer students must have at least 60 credits from Notre Dame. This may require students to take free elective courses to meet this minimum requirement.

---

## UNIVERSITY REQUIREMENTS

Each student must satisfy the curricular requirements published in the "Bulletin of Information Undergraduate Programs" and meet all additional requirements (including a minimum of 60 credits at Notre Dame) of Article 15 of the Academic Code in order to earn a Bachelor of Science degree in the College of Engineering. These include the University (Arts/Letters) Core, Engineering Core and Program Core.

Only courses marked as "Univ. Req." in the online Schedule of Classes can be used to fulfill a University Requirement.

To search for specific courses that have been approved as fulfilling a University Requirement within a particular academic term, conduct a search of the online Schedule of Classes by selecting one or more Subject areas and specifying the appropriate "Univ. Req." under Course Attribute.

<http://corecurriculum.nd.edu/>

Core Curriculum Requirements	
Writing and Rhetoric	1
Mathematics*	2
Science*	2
History*	1
Social Science*	1
Theology*	2
Philosophy*	2
Fine Arts* or Literature*	1
Moreau First Year Experience	2

---

## MISCELLANEOUS

- HONOR CODE. Students who enter Notre Dame agree to abide by the [Honor Code](#).
- AUDITED courses are not recorded on the permanent record of undergraduate students.
- UNDER-PERFORMING STUDENTS. If a student is struggling with an engineering curriculum, he or she is much better advised to take a slower pace rather than try to catch up with overloads and out-of-sequence courses.
- Deviations or exceptions to program requirements must be approved by the Dean's Office and must be documented for the student's file in the departmental office and the Dean's Office where the student's complete file is kept.
- While each department assumes responsibility for its own students, the Dean's Office remains available to assist in cases of difficulty.

## REGISTRATION PROCESSES

---

### FORMS

The Registrar forms are online, follow the eForms link found on your InsideND portal. They will be signed electronically by all necessary parties. Please write comments to explain any details that approvers will need.

#### ACADEMIC COURSE CHANGE: DROP/ADD

Used after 6th day of semester. Students are able to use the online system during the first 6 days of a semester. Subject to Dean's and registration calendar's "last day to add/drop" dates. Not for changing section, cross-list, or credit hours.

#### ACADEMIC COURSE CHANGE: CROSS-LIST SECTION, CREDIT HR, AND TITLE CHANGE

Use when changing section or cross-list of the same class, changing credits of a variable credit hour class, or changing the title of the class.

#### CURRICULUM CHANGE

Use when changing major, adding a second major, minor, concentration, honors or thesis.

If entering Chemical Engineering, needs to meet with CBE Director of Undergraduate Studies and devise a program of study and then will be assigned an advisor.

#### TRANSFER COURSE PRE-APPROVAL

**Prior approval** is needed before courses are taken at other institutions to count for ND credit. Approval of such a course substitution is performed by the Assistant Dean for Academic Affairs. The transfer course pre-approval form is located in the eForms link found on your InsideND portal

#### SEAT ADJUSTMENT ALLOCATION

After getting instructor permission, a Department representative can initiate this form to increase the number of seats in a closed class. It will reserve the seat for you only. All approvals must be completed in one business day.

#### ACADEMIC GRADE CHANGE AND SPECIAL CREDIT

This form is initiated by the instructor and approved by the student's academic dean.

---

## OVERRIDES AND APPROVALS

Overrides are completed by the department that offers the class or the student's dean's office. Overrides for CBE courses are completed by the Undergraduate Academic Program Administrator, in the CBE office (182 Fitzpatrick). **Overrides for other departments can only be completed by the department offering the course.**

Students may seek overrides as early as two weeks prior the first day of registration.

---

## DEPARTMENT OVERRIDES

With the instructor and/or DUS approval the following lockouts can be overridden:

Department Approval Required

Prerequisite and Co-Requisite

Specific Major, Minor, College, Level, Classification, Degree and Program

---

## DEAN'S OFFICE OVERRIDES AND APPROVALS

Complete the paper form located just inside the entrance to the Dean's office and submit it to Tracy Cabello in 257 Fitzpatrick.

## TIME-CONFLICT OVERRIDE

When two courses have less than a 10 minute break between classes, or an overlap.

## OVERLOAD, EXCEEDING MAXIMUM CREDIT-HOUR LOAD

When engineering students want to register for more than 19 credit hours in a fall or spring semester, or 8 credit hours in a summer semester. If student is a dual degree student this will revert to the lower credit maximum (A&L is 18 cr.). ROTC courses, marching band, glee club, choral, music lessons, etc., are not included in the credit-hour load calculation.

Maximum credit hours must be changed in the student's Dean's office (see Assistant to Assistant Dean) before a student can enroll in more than 19 "countable" credit hours. This will only be done at the beginning of each semester.

Dual degree students are restricted to the lower of the two college maximum credit-hour limit. Overloads will need to be sought from both dean's offices.

ROTC courses, marching band, glee club, choral, music lessons, etc., are not included in the credit-hour load calculation.

## LESS THAN FULL-TIME STATUS REQUEST

A student must take a minimum of 12 credit hours every semester to maintain full-time status. Only in the student's final semester are they allowed to apply for part-time status. The minimum number of credits that a student must be registered for, and still remain a full time student, is 12. If planning on attending less than full-time, the student **MUST** speak with Financial Aid and get the full picture of how attending less than full-time will affect any financial-aid award. Personal insurance like auto, vision, dental, etc. can be affected by losing discounts or eligibility altogether. Eligibility for on-campus housing is also subject to change with this change in status.

## PASS-FAIL OPTION

Each JUNIOR and SENIOR may take one ELECTIVE, NON-MAJOR course per semester on a Pass-Fail (P/F) basis. For the College of Engineering, those courses will include:

- a) Free elective (if not offered by the student's department).
- b) Technical electives (if not offered by the student's department) but exclude courses in the university core.

Students must enroll in the course first, then request a change to pass/fail status in the Dean's office (see Assistant Dean of Academic Affairs) during the first seven days of each semester. A grade of "P" does not affect the GPA; a grade of "F" is counted in the GPA.

To be eligible for Dean's list, a student must be enrolled in at least 12 GRADED credit hours.