Chemical Engineering Undergraduate Office:

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Welcome to Chemical Engineering!

The purpose of this guide is to aid the undergraduate student in following registration procedures and completing the requirements for the baccalaureate degree in Chemical Engineering. This publication does not supersede any statements made by the University Engineering Bulletin, Faculty Documents, Office of the Dean of Engineering or Office of the Registrar.

Your academic advisor will assist you as much as possible with registration and fulfillment of the graduation requirements for the BSChE degree. However the final responsibility for completing the graduation requirements rests with the individual student. This guide and the Schedule of Classes published each semester should provide adequate information to the student for routine registration. In addition to the Plan of Study guides that are included in this booklet, the University Regulations Reference Book may be useful for finding information regarding the academic calendar, transfer of credits, scholastic standing, changing a grade, etc.

The Purdue Chemical Engineer

Chemical Engineers take chemistry and math into the world around us. They are creative problem solvers who apply scientific knowledge and technical expertise to meet a worldwide demand for useful materials at a reasonable cost and in the safest manner possible. Chemical Engineers are involved in creating new medicines, new materials, and new processes that improve the quality of life across the globe, protect the environment, and conserve our natural resources. They work in research, design, development, production, technical sales, and management. Some are consultants, computer system designers, doctors, or lawyers focusing on patent or environmental law. Chemical Engineers are responsible for the basic necessities in life that many of us take for granted. Because of the Chemical Engineer's unique background, Chemical Engineering is one of the broadest fields in the science-technical area. A background in chemical engineering offers a wide variety of career options.

The Purdue Chemical Engineering Curriculum builds on the basic sciences and other branches of engineering. Elective programs developed by the student with his or her advisor can create options in such areas as applied chemistry, biochemical engineering, biomedical engineering, chemical reaction engineering, chemical processing, energy and natural resources processing, environmental engineering, food processing, geoscience, materials science, nuclear engineering, pharmaceutical engineering, pre-law, pre-medicine, process control, production and sales, and systems engineering.
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<thead>
<tr>
<th>COURSE REQUIREMENTS</th>
<th>CREDIT HOURS</th>
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<tr>
<td>Freshman Engineering Program</td>
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<td>COM 114</td>
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<td>Mathematics and Physics: MA 261, 262, 303, PHYS 241</td>
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<td>Chemistry: CHM 261, 263, 262, 264, 370, 376</td>
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<td>General Education Electives:</td>
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<tr>
<td>Free Electives:</td>
<td>1</td>
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<td>BIOL 295E</td>
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<td>Technical Electives:</td>
<td>3</td>
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<tr>
<td>Chemical Engineering Electives:</td>
<td>6</td>
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<tr>
<td>Engineering Electives:</td>
<td>3</td>
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<td>Total</td>
<td>131</td>
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The Plan of Study, Co-Op Schedules and elective requirements are available online at [https://engineering.purdue.edu/ChE/Academics/Undergraduate/index.html](https://engineering.purdue.edu/ChE/Academics/Undergraduate/index.html)

### 2.0. Registration

Students register at Purdue twice per year. Registration for summer sessions and fall semester is in March while registration for the spring semester is in October. You will receive e-mail from me prior to these times with information concerning how to register. The basic process is as follows:

a. Students will receive a communication informing when registration begins and when appointments can be made. The School of Chemical Engineering allows seniors registration priority, therefore, seniors register the first week, then juniors, sophomores, and incoming students in that order.

b. Students will make an appointment in person by seeing Sandy in the Undergraduate Office (FRNY 106)

c. Upon scheduling the appointment, students will receive a “Pre-Registration” worksheet to be completed prior to their registration appointment (see pg)

d. Students are expected to come prepared for registration. Although the Academic Advisor is available to assist with registration and fulfillment of graduation requirements, the final responsibility for completing graduation requirements rests with the individual student.
While it is possible to register for courses up to the week classes begin each semester, it is not wise to wait. Classes fill very quickly. Registration is considered to last approximately 4 weeks. It is imperative that students register during their assigned week of each registration period.

### 3.0. Regulations in the School of Chemical Engineering

#### 3.1 Curriculum Regulations

a. A student must earn at least a C or better in CHE 205 to continue to enroll in subsequent CHE courses.

b. You may register for a required Chemical Engineering course twice (even if you drop the course, that counts as one registration). If you do not complete it successfully the second time, you will not be allowed to retake it at Purdue. (Note: CHE 205 cannot be retaken at another university.)

c. To graduate with a BSChE Degree, a student must have at least a 2.00 overall GPA and at least a 2.00 in CHE core courses.

#### 3.2 Critical Path for Graduation

If the following courses are not completed in the recommended semester, it may take longer than four years to graduate.

<table>
<thead>
<tr>
<th>Semester 3 or 4</th>
<th>Semester 5 or 6</th>
<th>Semester 6</th>
<th>Semester 7</th>
<th>Semester 8</th>
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<tbody>
<tr>
<td>CHE 205</td>
<td>CHE 377</td>
<td>CHE 320</td>
<td>CHE 378</td>
<td>CHE 435, 450</td>
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<td></td>
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<td></td>
<td>CHE 434</td>
<td>(Spring only)</td>
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<td>CHE 306</td>
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<td>CHE 456</td>
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a. It is highly recommended that you take CHE 205 in semester 3. CHE 205 is a prerequisite to all other Chemical Engineering courses.

b. CHE 205 and MA 262 must be completed by semester 4 or at the end of the summer session that follows semester 4 in order to meet prerequisites for CHE 377.

c. CHE 320 must be completed before semester 7.

#### 3.3. Chemical Engineering Drop Policies

a. You must be certain that all prerequisite and co-requisite courses are met before taking a Chemical Engineering course. If the requirements are not fulfilled, you will be asked to drop the course after the class list has been checked.

b. Except for extenuating circumstances, the Chemical Engineering advisor will not sign drop forms for chemical engineering students in chemical engineering courses after the first 4 weeks of the semester. Decisions on extenuating circumstances will be made by the instructor in charge of the course and the academic advisor.
3.4. Grade of "F" in Pre or Co-requisite Courses

a. If you fail a course that is the prerequisite for another Chemical Engineering course, but have completed all the required work and taken all exams in the prerequisite course then, with the permission of the instructor, you may take the next course while retaking the failed course.

b. This regulation does not apply to CHE 205. All prerequisites for CHE 205 must be passed before CHE 205 can be taken.

3.5. Transfer of ChE Required or Elective Courses

The faculty assumes that students plan on taking all Chemical Engineering courses at Purdue. If extenuating circumstances arise, and a Chemical Engineering course must be taken at another university, the following regulations apply:

a. Permission to take the substitute course must be received from the Undergraduate Committee before the course is taken.

b. The Chemical Engineering department at which the course is taken must be accredited.

c. The course must be judged equivalent to the course it is replacing. This judgment will normally be made by an instructor of the corresponding Purdue course; therefore, you must provide a course outline and description.

d. You must demonstrate that significant hardship would result if the course had to be taken at Purdue.

3.6. Lab, Seminar, Remedial Courses and 411 Projects

a. CHE Laboratory courses may not be added to a schedule after the first day of the lab.

b. Seminar courses (CHE 200, 300, 400) must be taken by all students unless the student is taking another course which directly conflicts with the seminar. Permission must be obtained before enrolling in a course with a direct conflict.

c. Remedial courses such as PHYS 149, MA 159, and CHM 111 may not be used to satisfy the graduation requirements.

d. CHE 411, 412 research projects are courses for students of junior or senior standing. Permission of the instructor is required. A maximum of six hours of research can be used to meet elective requirements. Three hours can apply toward CHE electives, the other three will apply toward ENGR or TECH electives.

e. CHE 401 (Credit for Co-Operative Education) may be used as a technical or engineering elective, but not a Chemical Engineering elective.

3.7. Petitions to the Undergraduate Committee
The prerequisite, co-requisite and graduation requirements have been carefully developed to ensure that graduates receive a strong education in Chemical Engineering. Some of these requirements are set by the organization which accredits our program. However, undue hardship may occur if the rules are strictly enforced without regard for individual situations. Thus, the Undergraduate Committee has the power to make exceptions on an individual basis when petitioned by a student. Exceptions are made by weighing the degree of hardship which would be caused versus the educational deficiencies involved in allowing the exception. Exceptions requested merely for the sake of convenience are not granted. To exercise your right to petition for an exception, proceed as follows:

a. Discuss the exception with your academic advisor. Make sure the exception is necessary.

b. Write a letter to the committee and request the exception. Explain, in detail, what hardship will be caused if the exception is not granted and what you will do to make up for any deficiencies caused. Remember this is an important business letter. Write it carefully and proofread it.

c. Discuss this letter and your situation with the chair of the committee.

d. Give six copies of the final draft of your letter to the chair at least one day in advance of the committee meeting.

3.8. Pass/No-Pass Option

The P/N option is allowed for General Education and Free Electives only. All other courses must be taken for a grade. This option provides an opportunity for students to broaden their educational experience by taking advanced courses with minimal concern for grades earned due to the lack of necessary prerequisite material. The first three of the six General Education courses should be taken for a grade. NOTE: Students interested in Graduate School, Med School, Law School, etc. should not enroll in a course P/N.

3.9. Removing Grades from the Transcript

a. Grades not applicable to the Chemical Engineering or the Dual-Degree program may be removed from a student's transcript only when entering Chemical Engineering from another school or university and in accordance with the new university redlining policy.

b. Grades will not be removed on any course once you have entered Chemical Engineering.

c. Grades will not be “red-lined” for students entering directly from Freshman Engineering.

d. Courses completed remain a part of the permanent record even if the grade is deleted from the GPA.

3.10. Minor Program

Various minor programs are available through Chemical Engineering. If you are interested in pursuing a minor, please see the advisor in the Undergraduate Office. Many of the minors can be completed with all the hours for the minor being used toward the Chemical Engineering degree. However, some of them require additional hours that cannot be used toward the Chemical Engineering degree, and may require you to attend summer school or take an extra semester. A student should place emphasis on their CHE major and not a minor.
4.0 ChE Honors Program

An honors option is available for students who have demonstrated exceptional academic ability and who want to conduct meaningful independent research or solve a unique design project. A student must apply for admission to the Honors Program during his/her junior year. To qualify for the program, a student must meet the following requirements:

a. An application form must be submitted by the last day of classes of the Fall semester in order to enter the Honors Program in the Spring semester of the junior year, or by the last day of classes of the Spring semester to enter the Honors Program in the Fall semester of the senior year

b. A minimum GPA of 3.50/4.00; and

c. A grade of B or better on the first registration in each of the following courses:

   CHE 205, CHE 211, CHE 348, CHE 377, CHE 378, PHYS 241, MA 261, MA 262, MA 303, ENGL 106 or 108 and COM 114

4.1 Program Requirements

Honors students will submit a B.S. thesis on their research and conduct at least a two term research project (one or two semesters of CHE 498 and one semester of CHE 499). Short written progress reports are to be submitted to the members of the student’s Thesis Committee and the Honors Program Chairman during the semesters that the student is enrolled in CHE 498/499. In all cases, a B.S. Thesis defense must be convened with the Thesis Committee no later than the last week of the Spring semester of the senior year. The Thesis Committee will be comprised of at least two faculty members, one of which is the student’s Honors Thesis Advisor. Honors students must also meet the following requirements:

a. fulfill all normal curricula requirements for the B.S.ChE except for the CHE 435 lab normally taken in the student’s senior year.

b. complete the two thesis research courses, CHE 498 (3 hours) and CHE 499 (3 hours). CHE 498 may be taken twice, during the Spring semester of the junior year and during the Fall semester of the senior year. CHE 499 can be taken only once, either in the Fall or Spring semester of the senior year. A grade of B or better is required in these courses to continue in or complete the Honors Program.

c. complete CHE 540, Transport Phenomena (3 hours), which is only offered in the Fall semester. This course may be used to fulfill part of the elective requirements for graduation (i.e., 6 cr. Chemical Engineering Electives, 6 cr. Engineering Electives, and 3 cr. Technical Elective). An Honors Student does not need to be enrolled in CHE 498/499 while taking CHE 540.

d. CHE 411 or 412 or CHE 498 can be used as one of the chemical engineering elective course requirements in the plan of study of honors students. Any extra credits from CHE 411, 412 or 498 not used for the chemical engineering elective can be used as engineering, technical, or free electives.

e. A bound copy of the Honors Thesis must be turned in to the Undergraduate Office by the last day of the Spring semester of the senior year. The format of the submitted Honors Thesis must conform to the guidelines set by the Honors Program Committee. A document outlining the format of the Honors Thesis is available in FRNY 106.
Any student failing any of the above requirements will be dropped from the Honors Program. A student dropping the Honors Program by the end of the Spring semester of the junior year or by the end of the Fall semester of the senior year will be required to take CHE 435 to meet graduation requirements. A student dropping the program during the Spring semester of the senior year will be required to complete CHE 499.

5.0. Plans of Study

It will be helpful to your Chemical Engineering college career if you develop your own individual plan of study. The better you understand the placement of the core curriculum courses and the elective requirements, the easier it will be for you to customize your schedule to match your interests and to get the courses you need to graduate on time. Course pre or co-requisites must be checked online at www.course.purdue.edu under “Course Information-All Campuses”