

**Davidson School of  
Chemical Engineering  
Undergraduate Program Guide  
2019-20**

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## Welcome to the Davidson School of Chemical Engineering!

The Davidson School of Chemical Engineering Undergraduate Guide is an excellent resource to help students navigate through the chemical engineering undergraduate curriculum. While this publication does not supersede any statements made by the Purdue University Course Catalog, faculty documents, Office of the Dean of Engineering, or Office of the Registrar, it hopefully provides a guide summary and links to pertinent information in navigating the academic journey at Purdue University.

All students in the Davidson School of Chemical Engineering are assigned an Academic Advisor who will *assist* you with registrations, reviewing your academic plans, and fulfillment of graduation requirements for the BSChE degree. *However the final responsibility for completing the graduation requirements rests with the individual student.* The Undergraduate Guide and the *Schedule of Classes* published each semester should provide adequate information to the student for routine registration. In addition, students have a personal myPurduePlan, from which to view continuous progress on all academic pursuits, and a *Plan of Study* accessed with links to the University Catalog throughout this booklet. The University Regulations Reference Book may be useful for finding information regarding the academic calendar, credit transfer, scholastic standing, changing a grade, etc.

# Chemical Engineering Undergraduate Office

**FRNY G041**  
**Monday – Friday**  
**8:00am – 12:00pm and 1:00pm – 5:00pm**  
**(765) 494-5650**



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[kraderstorf@purdue.edu](mailto:kraderstorf@purdue.edu)



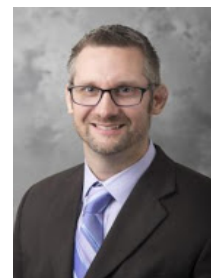
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The student services office staff is dedicated to working with our undergraduate population. The staff, and the specific areas they advise along with their advisee pool:

- **Karissa Raderstorf**, *Associate Director of Undergraduate Programs*; Transfers, CODO, T2M and co-instructor of Seminar courses
- **Caryn Morgan**, *Senior Academic Advisor*; Study Abroad and ChE coursework completed abroad
- **Allen R. Reigel**, *Senior Academic Advisor*; Co-Op Program students
- **Sandy Hendryx**, *Undergraduate Office and Co-Op Program Secretary*
- **Dr. Gabriela Nagy**, *Director of Industrial Education (Co-Op Programs and Co-Instructor of Seminar courses)*
  - Office Location: FRNY G051

The ChE Undergraduate office has an open door policy. Students are welcome to “drop-in” during designated dates, send an email, or schedule an appointment to meet their assigned Academic Advisor using the following guidelines:

1. **DROP-IN:** The first two weeks of a semester the office operates without appointments to assist students with course modification, formwork, or other requests concerning the current in-session term only.
  - Please understand the Advisors job duties also involve fulfilling other responsibilities, so they may be unavailable at the time of coming in, but Sandy can suggest a time to return.
2. **APPOINTMENT:** After the first two weeks, for the remainder of the semester, students should schedule an appointment with their assigned Advisor, to ensure adequate time to discuss registration, academic issues or other matters. Students should schedule an appointment via [BoilerConnect](#) (link also in myPurdue account).
  - During registration season, appointments are 15-minutes for registration reviews only. If there are other matters to discuss, please set an appointment outside of indicated time frames.
3. **E-MAIL:** This communication format is useful for Advisors to address student’s brief general questions (not registration). Advisors attempt to reply as soon as possible, but please allow 24-48 hours for a response. *Registration and extensive detailed inquiries require an appointment.*
  - **Registration by e-mail is acceptable only for those students off-campus on Co-Op, internship or study abroad experiences. All students on-campus are expected to meet with their assigned advisor for an advising appointment. .**

# Academic Advising

For undergraduates in the Davidson School of Chemical Engineering, students are assigned to an Academic Advisor who work along with the student through many academic related matters. The Academic Advisor is the student's most utilized front-line resource throughout their education for reasons such as:

1. Questions about the degree program, minors, concentrations, plans of study, etc.
2. Study Abroad and how courses may apply toward degree requirements
3. Personal issues interfering with academic performance
4. Academic Probation/deficiency issues – poor performance in Chemical Engineering coursework
5. Registration
6. Questions about other resources on campus

## **Purdue University Advising web site statement:**

*“The mission of undergraduate advising at Purdue University is to partner with students, faculty, staff, departments, and administration to empower students to develop and implement an individualized plan for academic success, and personal and career development, while integrating learning and enrichment within the University and community, as well as assisting students in understanding the nature, purpose, and value of higher education.”*

## **In that capacity, students in the Davidson School of Chemical Engineering can expect their advisor to:**

- Explain college and major requirements
- Discuss student's academic performance
- Assist with major exploration and interpreting degree requirements
- Empower student's to advocate for themselves
- Support personal concerns and academic issues
- Provide a safe, inclusive environment
- Provide detailed knowledge and guidance about the standards and program(s) they advise
- Help guide through plan of study and give advice about course requirements
- Inform of required prerequisites for subsequent courses in their program
- Assist with long- and short-term goal setting
- Talk about personal and academic strengths, interests, and abilities
- Establish a positive working relationship to provide a welcoming atmosphere at Purdue
- Teach how to analyze information and make well-informed choices throughout academic career
- Educate on various policies and procedures necessary to navigate the University
- Inform students of their responsibilities in the advising process
- Refer to additional campus resources or services as needed

## **Students are expected to fulfill the following responsibilities in the advising process:**

- Know your Academic Advisor (name, office location, and email)
- Communicate interests in research, study abroad, and/or experiential learning to plan in a timely manner
- Check [@purdue.edu](mailto:@purdue.edu) email account daily
- Be open to exploring new challenging opportunities
- Develop realistic short- and long-term educational and career goals
- Become familiar with the variety of campus resources and services
- Notify your advisor of any academic difficulties or changes in program or career interests
- Meet Academic Advisor minimally once a semester (required for registration):
  - BE prepared with course ideas (research course offerings and indicate on the Form 23)
  - BE prepared with questions regarding academics, policies, your plan of study for the upcoming term
- Review degree requirements and monitor academic progress on your myPurduePlan consistently
- Be informed of Purdue and Davidson School of Chemical Engineering academic policies and procedures
- Be proactive in your education; seek help at the first sign of concern!
- Accept there may be struggles in some classes; this is to be expected. Work hard and communicate!

# Registration Policy & Procedures

Students are required to meet with their Academic Advisor, by appointment, unless off-campus due to a Co-Op, internship, or study abroad, to discuss courses for the subsequent semester. Purdue has a required advising policy and restricts students from accessing the registration system until having met their Advisor (to audit course selections, review student myPurduePlan (mPP)) at which time receive a random 6-digit PIN for system access. Find more about [registration information with FAQs, “how to”, time tickets, add/drop classes, etc.](#)

Registration happens three times throughout the year. Prior to, the Undergraduate Office will email office processes and other pertinent information (sequence is priority group, then Seniors, Juniors, etc.):

1. **Fall** semester registration begins mid-March
2. **Spring** semester registration begins mid-October
3. **Summer** session registration begin late-January (PIN is the same as one used for Spring term)

## NOTE:

The role of the Academic Advisor is to *assist* the student with policies and degree progress. The University recognizes; “The student is ultimately responsible for knowing and completing all degree requirements”.

- **The student’s preparation is expected!**
- **Student must have their registration form filled out with course ideas for review and mPP audit prior to meeting with their advisor.**
- **Register immediately during assigned time ticket as classes can fill quickly!**

## Increasing the Maximum Credit Limit

Students participating in BAND, ROTC or research may request an increase to their maximum credit limit for the upcoming semester. Students will need to request and receive permission from their CHE academic advisor via the Scheduling Assistant during their registration time ticket. Because increasing a student’s maximum credit limit can lead to an extremely challenging semester, we review each request on an individual basis considering the students particular circumstances.

- Maximum credit limit for fall & spring – 18 credits
- Maximum credit limit for summer – 9 credits

## Course Conflicts

On occasion, students request to enroll in courses offered at the same time. CHE does not allow time conflict overrides – unless the conflict is with BAND. Students participating in BAND may request this override via the Scheduling Assistant during their time ticket.

## CHE Closed Courses

CHE does not use the Purdue wait list system for CHE courses. Should you have an issue registering for the required CHE courses, please place your name on the ChE Course Registration Issue Request link which will be available via the ChE Undergraduate Blog during registration. Please note that the wait list system for non-CHE courses is available during open registration until the 5pm Friday before the semester begins.

## Override Requests

**ALL override requests for CHE courses are handled through the Undergraduate Office.**

Please do not contact the faculty, or the Head of the Department for permission. Should you need an override, please request the override via the Scheduling Assistant during your time ticket and it will be reviewed by the Associate Director of Undergraduate Studies.

## **Auditing Courses**

Students wishing to audit a course may request an override to audit via the Schedule Assistant during their registration time ticket. The Davidson School of Chemical Engineering will approve audit requests, if space is available, for CHE coursework during the second week of each semester.



# BSChE Requirements

The degree (BS) is comprised of two main fields; *Chemical Engineering Core* and *Other Departmental* requirements, which has several focus areas, and the plan of study is located in the [University Catalog](#) and in the Appendix. The degree requirements and total credits for each area are dependent on the student's catalog term, or when they were admitted to the Davidson School of Chemical Engineering.

## Major in Chemical Engineering

- **Fall 2018 or before:** 41.0-credits in the major for students admitted or entered with this catalog term
- **Fall 2019 and after:** 46.0-credits in the major for students admitted or entered with these catalog terms
  - Beginning Fall 2019 catalog term, the 5.0-credit variance is a result of CHE 20000 and CHE 30000 being each 1.0-credit (0.0-cr prior) and the inclusion of Chemical Engineering Selective (3.0-cr) into the major core which prior to Fall 2019 was listed in "Other Departmental Courses" field
- CHE 49700 and 59700 are temporary course numbers assigned to newer material offerings and identified accordingly by different section, CRN, and content title in "Look Up Classes"
- Chemical Engineering coursework outline charted under "Suggested Pathway" and the Chemical Engineering Selective may be incorporated when student determines it best fits into the schedule

## Other Departmental Courses

To further one's breadth of knowledge, beyond their specific discipline, students must complete outlined coursework in various fields and selective credit hours (choosing courses from approved lists). Many of these requirements are mandated by the University (UCC), School of Chemical Engineering, College of Engineering, and [ABET](#).

It is important to understand, for selective requirements, courses appearing on approved lists have been determined by the faculty based on content, meeting the faculty's standard of that particular field, without regard to frequency offered. While these lists are inclusive of all active courses at Purdue, not all courses may be available in a given semester, so it is encouraged to reference the "Look Up Classes" link to determine offerings.

### 1. First-Year Engineering Core

These requirements must be successfully completed for "T2M" review into Chemical Engineering. The credit variance (30.0 – 33.0) is dependent on the Math and Oral Communication course selections.

### 2. Chemical Engineering STEM Core (36.0-credits)

The [STEM Core](#) is comprised of works providing foundational knowledge necessary in major courses.

Requirements shown as "Selective", indicates the student has options of courses, however, the courses **MUST** be selected from the provided list, requirement is linked, to meet that requirement.

- **Biology Selective (3.0-cr)**
- **CHM 26100 (3.0-cr)**, *Organic Chemistry I*
- **CHM 26300 (1.0-cr)**, *Organic Chemistry Laboratory I* (registered separately)
- **CHM 26200 (3.0-cr)**, *Organic Chemistry II*
- **CHM 26400 (1.0-cr)**, *Organic Chemistry Laboratory II* (registered separately)
- **CHM 37000 (3.0-cr)**, *Physical Chemistry*
- **[Engineering Selectives \(6.0-cr\)](#)** Students have an opportunity to expand and embrace an understanding of other disciplines and concepts outside major coursework. Courses **MUST** be from the approved list.
- **MA 26100 (4.0-cr)**, *Multivariate Calculus*
- **Math Selective I**, MA 26500, *Linear Algebra* (3.0-cr; recommended)
- **Math Selective II**, MA 26600, *Differential Equations* (3.0-cr; recommended)  
Select [one from three mathematics tracks](#).  
The variation in total credits (6.0 or 7.0) is dependent on the track selected to complete. The Department of Mathematics recommends MA 26500 & MA 26600 as the favorable sequence for engineering students.
- **PHYS 24100 (3.0-cr)**, *Electricity & Optics*
- **[Technical Selective \(3.0-cr\)](#)** Courses are commonly selected from the College of Science, however may be satisfied by other course options as listed on the site.

**\*\* Chemical Engineering Selective and Engineering Selectives \*\***

- A maximum 6.0-credits of research in CHE 41100, 41200, 49800, 49900 may apply toward degree
  - 3.0-credits toward Chemical Engineering Selective
  - 3.0-credits toward Engineering Selective **or** Technical Selective
- Establish credit in only one course, not both; ABE 5800 **or** CHE 52500
- Establish credit in only one course, not both; CHE 33000 **or** MSE 23000
- These courses **do not count** for any requirement within the degree as no credit or fall-through  
ABE 20100, 21000, 30800, 37000 **or** IE 23000, 33000 **or** ME 30900, 31500

**3. General Education Selectives (18.0-credits)**

The field consists of coursework from both the University Core Curriculum (UCC) and Departmental General Education fields. The UCC is a set of learning outcomes required of all undergraduates ensuring students share similar educational experiences and, in doing so, achieve common foundational goals.

- **3.0-credits** Behavioral Social Science (satisfies UCC requirement, **MUST** be from [list](#))
- **3.0-credits** Humanities (satisfies UCC requirement, **MUST** be from [list](#))
- **3.0-credits** Science, Technology & Society (satisfies UCC requirement, **MUST** be from [list](#))
- **3.0-credits** General Education Selective (**MUST** come from approved [Gen Ed page](#))
- **6.0-credits** General Education Upper Level Selective (**MUST** come from approved [Gen Ed page](#))

**General Education Upper Level**

As of Fall 2019 and beyond, to ensure streamlining of this requirement, students admitted to the School of Chemical Engineering **MUST** select courses from this [approved list](#) to satisfy this degree requirement.

➤ **What is a General Education Upper Level course?**

*A course which has a required prerequisite of the same subject (i.e. PSY 20000) **or** listed as 30000-level and above which may not have a prerequisite (i.e. HIST 35100).*

➤ **Are there possible exceptions for the requirement?**

*If a course appears to have relevant foundational content, but is not on the approved list, the student may submit the course syllabus and appeal request to the Associate Director of Undergraduate Studies for consideration. .*

## Suggested Pathway of Chemical Engineering Courses

The outline is considered the critical degree path, and, due to the layout of prerequisites and course offerings, it is imperative to follow to graduate in four years. The CHE 20500 course should be taken 2<sup>nd</sup> year fall term, and, deviating from this pathway, or not meeting course grade requirement, may require an additional year to graduate.

Transfer and CODO students: If ENGR 13100 is not completed, a prerequisite for CHE 20500, it must be first be fulfilled and the student is ineligible for CHE 205000 until satisfied.

| Course offered Fall term only |                            | Course offered Spring term only |                            |
|-------------------------------|----------------------------|---------------------------------|----------------------------|
| <b>FALL</b>                   | <b>2<sup>nd</sup> Year</b> | <b>SPRING</b>                   | <b>2<sup>nd</sup> Year</b> |
| <b>CHE 20000</b>              | (fall only)                | <b>CHE 21100</b>                |                            |
| <b>CHE 20500</b>              |                            | <b>CHE 32000</b>                |                            |
| <b>FALL</b>                   | <b>3<sup>rd</sup> Year</b> | <b>SPRING</b>                   | <b>3<sup>rd</sup> Year</b> |
| <b>CHE 30600</b>              |                            | <b>CHE 30000</b>                | (spring only)              |
| <b>CHE 37700</b>              |                            | <b>CHE 34800</b>                |                            |
|                               |                            | <b>CHE 37800</b>                |                            |
| <b>FALL</b>                   | <b>4<sup>th</sup> Year</b> | <b>SPRING</b>                   | <b>4<sup>th</sup> Year</b> |
| <b>CHE 40000</b>              | (fall only)                | <b>CHE 45000</b>                |                            |
| <b>CHE 42000</b>              | (fall only)                |                                 |                            |
| <b>CHE 43500</b>              |                            |                                 |                            |
| <b>CHE 45600</b>              | (fall only)                |                                 |                            |

# Degree Enhancements

While the curriculum set forth is challenging and provides a strong foundation in the area of Chemical Engineering, in preparation to be productive and an asset in the industry, many students seek additional opportunities to integrate enhancements based on interests or career choice. Listed are ways for students to achieve enrichments within an academic setting along with, or as a substitute, to Co-Op or internship avenues.

## **Research**

While research is not required for the degree, it is often pursued for selective degree requirements, and a facet of education bridging theory with application of knowledge from coursework into simulation of “real world” aspects while working closely with a faculty mentor. The School of Chemical Engineering has several options for [research and innovation](#) allowing students to capitalize on experience and earn credit while expanding their perspective, application into products in Chemical Engineering, and enhancing their reporting and communication skill sets in preparation for industry and achieving the expectations of our graduates. These opportunities are highly recommended for those students setting a goal of continuing education pursuits of Masters and PhD tracks.

### **Chemical Engineering Research, Internal**

Many faculty in the School of Chemical Engineering are involved in research for discovery and impact to enhance contributions to their classroom and labs, industry and world communities. With these objectives, often faculty have opportunities for undergraduate students to pursue and combine their academics to application of everyday needs addressed by industry through experiential learning.

**How to Register:** Students will need to professionally approach the faculty with whom they wish to work based on that faculty’s project or relation of interest. A list of current research opportunities are available in the Undergraduate Office. Both parties must agree on the involvement (hours per week of work; frequency of meeting; other expectations). Once an agreement has been made, both student and faculty member must complete the ChE Undergraduate Research Application which is also available in the ChE Undergraduate Office to begin the registration process.

### **Chemical Engineering Research, External-Related**

Some Chemical Engineering students secure research with faculty in other campus departments. This is not discouraged as the presented experience can offer exposure of application of Chemical Engineering concepts may be engrained in other fields, such as pharmaceuticals, foods, health, and more. The School of Chemical Engineering supports this notion and our students contributing elsewhere.

**How to Register:** If a student wishes to have their external research credit apply toward their ChE degree, and recognized as an appropriate CHE course, the student and external faculty must fill out the ChE Related Undergraduate Research Application: External Research Advisor indicating the content of the research and how it integrates Chemical Engineering concepts. Upon receipt of the application, due Friday of the first week of the semester of research, the application will be reviewed by the faculty of the Undergraduate Committee for a decision.

## Minors

Many departments offer a minor (15.0-18.0-credits) providing knowledge of an area supplemental to a degree program, but is not as extensive as the major plan allowing for completion usually without extending graduation (based on start of study). When the minor requirements are successfully completed, it will be displayed on the academic transcript. All active minors are listed on the official [University Catalog](#) web site.

Not all minors are available for all students and on the page of the minor requirements, note any additional claims of the outline including changes of requirements as determined by catalog term.

- Inquiries regarding specifics should be directed to the department offering the minor
- Student should discuss intent with their Academic Advisor to add minor to academic record; most do not have a formal application and admit process, with a few exceptions:
  - [CS](#) (program application and admission); ECE, MGMT and ECON for upper-level course enrollment
- Final audits of completion and approval or deny in awarding the minor is done by the offering department

## Concentrations

Students may demonstrate a “focus” selecting a [concentration\(s\)](#) (9.0-credits) as an option to satisfying the Chemical Engineering Selective and/or Engineering Selective requirements. Upon successful completion, the indicated concentration is displayed on the transcript. A comprehensive list of the concentrations may be found in the Appendix.

## Combined Degree BSCHE/MBA Program

The combined BSCHE/MBA Program is an integrated five year degree program in which qualified students can receive a Bachelor’s of Science in Chemical Engineering (BSCHE) and a Masters of Business Administration (MBA) from the Krannert School of Management. The program provides a seamless transition where graduate courses are taken as undergraduate electives and are counted toward both degrees thereby reducing the overall time required for the MBA. A sample plan of study can be found in the Appendix,

## Study Abroad

For students who desire to pursue education with world-wide exposure, study abroad is the way to go! Purdue’s [Study Abroad Office](#) is the main resource and where to begin the process. Studying within other cultures, meeting people, and enlightenment to new countries is an integral part of being a student and Purdue makes this possible providing opportunities to these otherwise sometimes rare experiences. The Study Abroad Office is a great place to [getting started](#) and assisting with preparatory avenues to going abroad.

When on a study abroad program, the student is accountable to adhere to the academic policies of the attending institution as well as those of Purdue University and the School of Chemical Engineering as if remained at the West Lafayette campus. A student who will study abroad is to sign an agreement, with their Academic Advisor, to confirm their awareness of these following expectations and regulations, and other information resources, to ensure satisfactory progress during their experience.

### 1. Short Programs

- a. These include Spring Break, Winter Break and programs of 2- and 4-weeks in length
- b. Credit earned in short programs may only apply to one of these requirements:
  - Technical Selective **or**
  - General Education Selective **or**
  - General Education Upper Level
- c. Credits earned through other School of Engineering programs, despite a higher level engineering course, *may not* apply toward the Chemical Engineering Selective or Engineering Selective areas

### 2. Semester and Year Long Programs and Policies of the Davidson School

- a. *Student meets with the Study Abroad Liaison in the Undergraduate Office to:*

- Review possible ChE-related programs
- Chemical Engineering related programs, of a semester or longer, have courses equated to School courses which directly satisfy the major requirements
  - [List of programs](#) which the School of Chemical Engineering has agreements
  - For review, previously equated courses are linked to the listed institution programs
- If an offered course at the institution has not previously been reviewed and recorded, submit syllabi of the CHE course material for faculty evaluation
- Sign forms of approved and intended courses and followed up with assigned Academic Advisor
- b.** *The policy of CHE course sequence, and prerequisites, remains intact as if not participating abroad*
  - If student earned less than the minimum requirement of “C-” in CHE 21100, then they may only enroll CHE 21100 (as a retake), if offered, and no subsequent Chemical Engineering courses may be enrolled per academic policy of the Davidson School of Chemical Engineering
- c.** *Coursework may not be enrolled or completed out of sequence*
  - If the highest course achieved prior to the program is CHE 21100, the student may not enroll CHE 37800 without first successfully completing the prerequisite of CHE 37700

# Academics and Regulations

## Chemical Engineering Course Regulations

The Davidson School of Chemical Engineering has academic regulations and policies in place, as designed by the faculty, to safeguard the reputation of the degree curriculum and educational preparedness of students.

- Students ***MUST*** earn a minimum “C” grade in **CHE 20500** to meet the course requirement and as a prerequisite for eligibility of subsequent CHE courses; CHE 20500 *may not be completed elsewhere*
- A minimum grade of “C-“ is required for all other CHE major core courses
- To graduate with a BSChE degree: student must secure a minimum 2.00 GPA (cumulative); satisfy minimum grade requirement of all CHE courses **and** earn minimum 2.00-major GPA of all CHE courses
- The School of Chemical Engineering, adopting University policy, allows enrollment of a repeatable course up to *three (3) times*; enrollment is establishing a letter grade (“A”–“F”) or withdrawal (“W”)
  - *If a CHE course is not successfully passed after the third enrollment, the student is no longer eligible to continue pursuit of a degree in the School of Chemical Engineering (BSChE)*

## Academic Policy of Pre- and Co-requisite Courses

As noted, all Chemical Engineering (CHE) core courses have a mandated minimum grade for satisfying the degree requirement and as a prerequisite, if identified. If the minimum is not met, that CHE course must be repeated while forfeiting enrollment of subsequent coursework for which the repeat course is a prerequisite.

*\* If a grade of a “C” is **NOT** earned in CHE 20500, then must repeat and discontinue enrollment of other CHE courses, such as CHE 21100 and/or CHE 32000 since it is a prerequisite*

*\* CHE 21100 is a prerequisite for CHM 3700; no exceptions. The School of Chemical Engineering policy supersedes that of Chemistry; student is not to contact the Department of Chemistry for override*

**Prerequisite:** course(s) that ***MUST*** be satisfactorily completed *prior* to enrollment of subsequent course(s)

**Co-requisite:** course(s) that may be taken at same time, concurrently (i.e. CHM 11600 enrolled with CHE 20500)

| COURSE    | PREREQUISITES                                    | CO-REQUISITES        |
|-----------|--|----------------------|
| CHE 20000 |  |                      |
| CHE 20500 | ENGR 13100<br>MA 16100 or 16500<br>PHYS 17200    | CHM 11600            |
| CHE 21100 | CHE 20500<br>MA 26100                            |                      |
| CHE 30000 |  |                      |
| CHE 30600 | CHE 21100  |                      |
| CHE 32000 | CHE 20500  | Math Selective I     |
| CHE 34800 | CHE 21100<br>Math Selective I                    | CHM 26100            |
| CHE 37700 | CHE 21100  | Math Selective II    |
| CHE 37800 | CHE 37700  |                      |
| CHE 40000 |  | CHE 45600            |
| CHE 42000 | CHE 37700  | CHE 34800, CHE 37800 |
| CHE 43500 | CHE 30600<br>CHE 32000<br>CHE 34800<br>CHE 37800 |                      |
| CHE 45000 | CHE 30600<br>CHE 37800<br>CHE 42000<br>CHE 45600 | CHE 43500            |
| CHE 45600 | CHE 37700  | CHE 34800, CHE 37800 |

# Credit Transfer to Purdue and Chemical Engineering

There are instances, for various reasons, in which a student may decide to enroll coursework through another institution. In this situation, the student should check with their Academic Advisor to be aware of certain restrictions or policy regarding coursework or application toward the following areas:

## 1. Chemical Engineering Major Requirement

The faculty assumes students will enroll all Chemical Engineering courses at Purdue University. If extenuating circumstances arise, and a course must be taken at elsewhere, the following *MUST* apply:

- The Undergraduate Committee's permission to enroll must be received *BEFORE* taking the course
- The providing Chemical Engineering program *MUST* be accredited
- The course must be judged equivalent to the course it is replacing and will normally be made by the Purdue instructor of the corresponding course; therefore, a detailed course syllabus must be provided
- Student must demonstrate significant hardship would result if the course has to be taken at Purdue
- See also *Special Exceptions to Regulations* for more information

## 2. General Education & General Education Upper Level Selectives Requirement

The "Gen Ed" (3.0-cr) and "Gen Ed Upper Level" (6.0-cr total) areas generally have some flexibility with transfer credit versus others; however, as of Fall 2019 students *MUST* ensure courses come in an follow the [outlined approved courses](#) for these requirements.

If taking a course elsewhere, use the [Purdue Transfer Credit Database](#) to view how the course transfers into Purdue. To meet these requirements, it is more streamlined if equated to a Purdue course, and on the approved list, however, if it does not (i.e. HIST 1XXXX, etc.), see your Academic Advisor to submit a request for evaluation.

## 3. University 32.0-Credits of Upper Level Requirement

Purdue University requires all undergraduate students earn a minimum of 32.0-credits of upper level work, defined as 300-level or higher, *at* the West Lafayette campus. Failure to meet this field results as deficient in this University degree requirement for graduation. While usually not an issue for ChE students, students should still monitor and factor progress when considering transfer coursework.

## Credit Transfer Eligibility and Process

It is encouraged to first check the [Purdue Transfer Credit Database](#) for how the course will enter Purdue and ensure eligibility of the credit:

- Credit earned at a [regionally accredited institution](#)
- Coursework is of college-level and not identified as remedial
- Student must earn a minimum "C-" or better for eligibility to be accepted as transfer; *no exceptions*

When the coursework is successfully completed, meeting the listed criteria, the credit must be established at Purdue, which the process requires the student to contact the attended institution and have the transcript submitted through one of the following methods found on the site of [Purdue Office of Admissions](#):

### 1. E-transcript

- The transcript must be sent to the email from the Office of the Registrar of the institution attended
- The institution sends to [admissions@purdue.edu](mailto:admissions@purdue.edu), which uses a secure e-transcript service
- Most efficient method and Purdue provides email updates to the student of receipt and processing

### 2. Mail

- The transcript *MUST* be sent direct from the attended institution to Purdue University

### 3. Deliver in person

- Student may hand-deliver transcript, *MUST* be in a sealed envelope on institution's stationary
- Take to the Office of Credit Evaluation in Schleman Hall



## Special Courses

There are certain circumstances, processes, or regulations to be aware of when pursuing any of these courses, some of which are required for the degree while others are experience options to enhance the education:

### ***CHE Laboratory Courses: CHE 34800, CHE 37700, CHE 37800, CHE 43500***

These courses may not be added to a schedule after the first day of attached lab section.

### ***CHE Seminar Courses: CHE 20000, CHE 30000, CHE 40000***

Required seminar courses within the within the major, and, as of Fall 2019, each course is 1.0-credit.

### ***Remedial Courses: PHYS 14900, MA 15900, CHM 11100*** (cannot satisfy graduation requirements)

### ***Research Projects: CHE 41100, CHE 41200***

Permission of instructor is required. A maximum of 6.0-credits may apply toward degree requirements – Chemical Engineering **or** Engineering **or** Technical Selective areas.

### ***Co-Op Program Courses***

Participation requires registration of a designated 0.0-credit course for the semester off-campus on a work session. The course sequence is dependent on which certificate program is followed, 3- or 5-term, and the registration maintains official full-time student status with the University which allows similar privileges as on-campus terms. Each Co-Op program has an approved tentative plan of study which are available in the Appendix.

- ***3 Term Co-Op Placeholder courses:*** CHE 38199 Work Session I, CHE 38299 Work Session II, CHE 38399 Work Session III
- ***5 Term Co-Op Placeholder courses:*** CHE 29199 Work Session I, CHE 29399 Work Session II, CHE 39399 Work Session III, CHE 39499 Work Session IV, CHE 39599 Work Session V.

### ***Co-Op Seminar Courses: CHE 20100, CHE 30100, and CHE 40100***

When a student returns for an academic semester, it is required of all Co-Op students to enroll the course corresponding with their program progress (CHE 20100 or 30100). The CHE 40100 course (3.0-cr) is the final seminar only for those ***on the 5-term Co-Op program*** (3-term not eligible). This course may apply toward the Technical ***or*** Engineering Selective requirements, but ***cannot*** satisfy the Chemical Engineering Selective.

### ***Internship Course: CHE 39699***

For domestic U.S. citizens, registration maintains full-time student status for official purposes while off-campus for work experience. Non-U.S. citizens (Visa holders) ***are required*** to register the appropriate course ***upon approval*** for any term, including summers, to comply with INS rules. The internship must be approved by Dr. Gabriela Nagy and submit a CPT application online with the International Student and Scholars Office (ISS).

### ***Graduate Credit***

Courses of 500- or 600-level, successfully completed, but are not applied toward any undergraduate degree requirements, may be used for graduate credit. To qualify, the student must be of senior classification and earn a grade of “B” or better. Also, the course instructor is required to file the authorization form, available in Undergraduate Office–FRNY G041, during the semester of enrollment. The student’s transcript will be audited after graduation, then authorized to utilize as graduate credit if deemed eligible per the criteria.

## Pass/No-Pass Option

This can provide a student the opportunity to broaden their educational experience of advanced courses with minimal concern of grades factoring into the cumulative GPA. Adjusting the mode may be done within the [modification timeline](#) of a given semester. **Please consider the following with P/NP option:**

- Only applies toward General Education Selective and General Education Upper Level Selective fields
  - All other degree requirements **MUST** be taken for a letter grade
- Students considering Graduate or Professional School *should not* enroll courses as P/NP
- The course obligations and expectations of the material is the same as if taking for a letter grade
- Final reporting; Passed is indicated with a “P” for those who would have earned an **A+, A, A-, B+, B, B-, C+, C, or C-** grade, and “NP”, Not Passed, to those earning lower
- “NP” indicates the credit is not earned and does not meet the allowed degree requirement (similar to fail)

## Retake/Repeat of Courses

It may be determined to repeat a course for various reasons, such as; unsatisfied with an earned grade, failed course, or not meeting the identified grade minimum in CHE courses, but the following policies apply:

- Per University policy, students *may only enroll a course for a maximum of three (3) times*
  - Enrollment is defined as establishing a letter grade or a “W” indicating a withdraw from the course
- When a course is retaken at Purdue, the previous grade is automatically *excluded* from contribution to the graduation index (overall GPA) and only the *latest* grade established is calculated
  - University regulation dictates, the most recent grade *always* replaces the previous grade – no consideration for which is higher. It is encouraged to discuss retakes with your Academic Advisor.
- If an approved equivalent course is successfully completed at another institution, the transferred credit will satisfy the degree requirement but *does not replace the original grade for GPA calculation*
  - Statement on myPurduePlan: *“If you register and receive a grade for a course in which credit hours have already been granted, either by work at Purdue or by transfer credit, you will forfeit the credit for the previous course. However, until final grades are processed, your previous course will appear in the audit as usable credit. Also, institution credit always take precedence over transfer credit.”*
  - Transfer credit may be established via: AP exams, IB exams, and credit from other institutions
- The repeated course may only be done in the same grade mode as the original course enrollment. Such as, if the course was initially enrolled for a letter grade, then the retake must also be for a grade; conversely, if originally enrolled as Pass/No Pass, the retake must be done in this option as well
- If repeating a course for solely for a grade improvement, it is encouraged to configure the affect the potential new grade may have on the overall GPA prior to spending time in repeating. There are several good calculators to assist in the factoring:

**GPA CALCULATORS** at [College of Science](#) or [School of Management](#) for “what if” GPA projections

## Accommodations for Students with Disabilities

In order to make our department more inclusive and accessible and to uphold the requirements of the Americans with Disabilities Act, the School has established procedures to be followed by students who have a Letter of Accommodation (LOA) from the Disability Resource Center (DRC).

Please provide your *academic advisor and instructor* a copy of your LOA (this is the instructor of your Lecture section, not a Teaching Assistant of your Lab, Recitation, or PSO). If you have the letter at the start of the term, we strongly recommend you give it to your instructor and academic advisor within the first two weeks of the semester and inform them if you plan to take your quizzes or exams with accommodations in the testing center or in the Undergraduate Office.

We recognize that a disability can occur at any time; therefore, we recommend that you give your academic advisor and instructor a copy of your LOA as soon as possible.

## Exam Accommodations

1. Talk with your instructor and academic advisor as soon as possible if you are experiencing barriers, or anticipate experiencing barriers through the semester.
2. We prefer you provide a minimum of one week notice (i.e., submission of an LOA to your instructor and academic advisor) prior to the scheduled exam date to ensure the accommodations requested are available. If notification of an accommodation is not provided within a reasonable timeframe, a good faith effort will be followed to meet the requirements of the accommodation; however, it may take time to implement certain accommodations, resulting in a delay of access.
3. If you plan to take your exams at the DRC Testing Center, contact the DRC Testing Center in Young Hall 830 via <http://www.purdue.edu/drc testing> to start the appointment scheduling process. It is recommended you contact the DRC for scheduling well ahead of the exam date. Any questions about the Testing Center should be directed to the DRC Testing Center at [drc testing@purdue.edu](mailto:drc testing@purdue.edu) or 765-496-6168.
4. If you plan to take your exams in the ChE Resource Room (FRNY G041E), contact your instructor to start the scheduling process. It is highly recommended that you contact your instructor a minimum of one week prior to the date of your exam to ensure availability. Exams will be proctored by a member of the UG Office staff, Monday through Friday, 8am to 5pm. If the ChE Resource Room is unavailable, the UGO will seek nearby alternative locations.

If you are unable to resolve issues with your instructor, please contact the Undergraduate Office in Forney Hall G041, 765-494-5650 or feel free to contact your DRC Access Consultant at any time.

## Special Exceptions to Regulations

The prerequisite, co-requisite and graduation requirements have been carefully developed to ensure foundational building of material for success in sequence of coursework and our graduates receive a strong education in Chemical Engineering. In addition to faculty, some degree requirements are set by the accrediting organization. However, undue hardship may occur if the rules are strictly enforced without regard for individual situations. While a process is in place, there is no guarantee an exception to the course or regulation will be authorized.

Thus, the Undergraduate Committee has the authority to make exceptions on an individual basis when petitioned by the 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 the right to petition for an exception, you must adhere to the following:

1. Discuss the exception need with your Academic Advisor to ensure the exception is necessary
2. Write a letter of request for exception addressed to the committee, explaining, in detail, the hardship caused if the exception is not granted and what you will do to make up for any deficiencies caused  
**\*\* Please write in a professional format and proofread as this is an important business letter**
3. Submit the letter to the Associate Director of Undergraduate Studies in FRNY G041
4. Students have the right to attend the Undergraduate Committee Meeting to present their case in support of their petition, if deemed necessary, and, when the student is unable to be present at the scheduled meeting, the Associate Director of Undergraduate Studies will present on the student's behalf

*Approval of the requested exception is not guaranteed*

# University Resources

## Office of the Bursar

This is the student's one stop shop to view their billing invoice, make payments, and ensure scholarship payments and refunds are received in a timely manner (if applicable). Students can find information on their [site](#) regarding tuition/fee rates, remissions, as well as a tuition calculator. It is encouraged to review their site for answers to frequently asked questions. Please know the Office of the Bursar always has staff available during business times.

## Office of the Dean of Students (ODOS)

Often referred to as [ODOS](#), provides many assistive support services for the student population at Purdue University. Please refer to links for some of the services the office and staff provide, as well as their "Home" page to access all offerings:

- [Academic Assistance](#)
- [Student Safety and Well-Being](#)
- [Student Legal Services](#)
- [Academic Probation](#)
- [Students Rights and Responsibilities](#)
- [Academic Integrity](#)

## University Policy Office

This office is the [definitive source](#) for the most current Purdue system-wide policies, and those duplicated on other sites or in print may not be the most current version. Purdue-West Lafayette, and its regional campuses, maintain additional administrative policies specific to their needs and structure. Individual colleges, schools and departments may adopt distinct procedures, standards or guidelines, all which must be consistent within system-wide policies. Here are the Purdue-West Lafayette [Student Policies](#) (non-academic).

## Office of the Registrar

The official University record-keeping office and offers many student, staff and faculty resources and functions as support and provision of academic and enrollment services and policies. Helpful information regarding course registration, enrollment and academic rights are found through the [Office of the Registrar](#) with some of the more necessities for assisting students, such as:

- [Registration](#) (registration-related needs)
- [Add or Drop Courses](#)
- [Academic Calendars](#) (process, billing, etc)
- [Current Student Information](#)
- [Textbooks](#)

## Student Regulations

Previously "University Regulations", [Student Regulations](#), provides information for all students on the structure, policy, regulations, and procedures of the University that govern their relationship to the University in both academic and personal progress toward their ultimate educational goals. It is designed as a reference, with direct quotes from the University Code where applicable, covering the basic areas relating to all Purdue students.

## Student Success Programs

Empowering students to embrace a sense of lifelong learning by providing nationally-recognized, student-centered college success [initiatives and services](#). The various interconnected programs assist progressive stages of development, and have as ultimate goals: an increased rate of student **degree completion**; future **employment** or study; **dedicated citizenship**; and responsible **leadership**. The [Disability Resource Center](#) and [Veterans Success Center](#), two vital resources to our student population, are offices housed in this area.

## Center for Career Opportunities (CCO)

Informing and assisting students and graduates alike using transformative career services, innovative technologies and collaborative synergies to connect with professional opportunities within Indiana, the United States and the world. It is encouraged to visit the [CCO](#) web site, to set up an account and for access to career fairs, internship and career postings, resume' submission, and more.

# Appendix

**Major Required Courses (46 credits)**

**Chemical Engineering Core**

- \_\_\_\_\_ (1) CHE 20000 ChE Sophomore Seminar
- \_\_\_\_\_ (4) CHE 20500 ChE Calculations
- \_\_\_\_\_ (4) CHE 21100 Intro ChE Thermodynamics
- \_\_\_\_\_ (1) CHE 30000 ChE Junior Seminar
- \_\_\_\_\_ (3) CHE 30600 Design of Staged Separation Processes
- \_\_\_\_\_ (3) CHE 32000 Statistical Modeling & Quality Enhancement
- \_\_\_\_\_ (4) CHE 34800 Chemical Reaction Engineering
- \_\_\_\_\_ (4) CHE 37700 Momentum Transfer
- \_\_\_\_\_ (4) CHE 37800 Heat & Mass Transfer
- \_\_\_\_\_ (1) CHE 40000 ChE Senior Seminar ◆
- \_\_\_\_\_ (3) CHE 42000 Process Safety Management ◆
- \_\_\_\_\_ (4) CHE 43500 ChE Laboratory
- \_\_\_\_\_ (4) CHE 45000 Design & Analysis of Processing Systems
- \_\_\_\_\_ (3) CHE 45600 Process Dynamics & Control ◆
- \_\_\_\_\_ (3) Chemical Engineering Selective

**Other Departmental Courses (84 credits)**

**First Year Engineering Core**

- \_\_\_\_\_ (4) CHM 11500 General Chemistry I ◆ *(satisfies Science Selective for core)*
- \_\_\_\_\_ (4) CHM 11600 General Chemistry II ◆ *(satisfies FYE Science Selective) (satisfies Science Selective for core)*
- \_\_\_\_\_ (2) ENGR 13100 Transforming Ideas to Innovation I ◆ *(satisfies Information Literacy for core)*
- \_\_\_\_\_ (2) ENGR 13200 Transforming Ideas to Innovation II ◆
- \_\_\_\_\_ (4) MA 16500 Analytic Geometry and Calculus I ◆ *(satisfies Quantitative Reasoning for core)*
- \_\_\_\_\_ (4) MA 16600 Analytic Geometry and Calculus II ◆
- \_\_\_\_\_ (3) Oral Communication Selective ◆ *(satisfies Oral Communication for core)*
- \_\_\_\_\_ (4) PHYS 17200 Mechanics or ENGR 16200 Honors Creativity and Innovation in Engineering Design II ◆
- \_\_\_\_\_ (3) Written Communication Selective ◆ *(satisfies Written Communication for core)*

**ChE Science, Technology, Engineering, Math Core**

- \_\_\_\_\_ (3) Biology Selective
- \_\_\_\_\_ (3) CHM 26100 Organic Chemistry I
- \_\_\_\_\_ (1) CHM 26300 Organic Chemistry Laboratory I
- \_\_\_\_\_ (3) CHM 26200 Organic Chemistry II
- \_\_\_\_\_ (1) CHM 26400 Organic Chemistry Laboratory II
- \_\_\_\_\_ (3) CHM 37000 Physical Chemistry
- \_\_\_\_\_ (6) Engineering Selective
- \_\_\_\_\_ (4) MA 26100 Multivariate Calculus
- \_\_\_\_\_ (3) Math Selective I
- \_\_\_\_\_ (3) Math Selective II
- \_\_\_\_\_ (3) PHYS 24100 Electricity & Optics
- \_\_\_\_\_ (3) Technical Selective

**ChE General Education Selective Core (select from list)**

- \_\_\_\_\_ (3) Behavioral Social Science Selective *(satisfies Human Cultures: Behavioral Social Science for core)*
- \_\_\_\_\_ (3) Humanities Selective *(satisfies Human Cultures: Humanities for core)*
- \_\_\_\_\_ (3) Science, Technology & Society Selective *(satisfies Science, Technology & Society for core)*
- \_\_\_\_\_ (3) General Education Selective
- \_\_\_\_\_ (6) Upper Level General Education Selective

◆ **Critical Course**

**University Core Requirements:**

| <i>Human Cultures: Humanities</i>                | Humanities Selective                | <i>Science, Technology &amp; Society</i> | Science, Technology & Society Selective |
|--|-------------------------------------|--|---|
| <i>Human Cultures: Behavioral/Social Science</i> | Behavioral Social Science Selective | <i>Written Communication</i>             | Written Communication Selective         |
| <i>Information Literacy</i>                      | ENGR 13100                          | <i>Oral Communication</i>                | Oral Communication Selective            |
| <i>Science Selective</i>                         | CHM 11500                           | <i>Quantitative Reasoning</i>            | MA 16500                                |
| <i>Science Selective</i>                         | CHM 11600                           |  |   |

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**The student is ultimately responsible for knowing and completing all degree requirements.  
Degree Works is knowledge source for specific requirements and completion.**

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**Suggested Arrangement of Courses** (please see your academic advisor for other options creating your plan of study):

| Credits   | Fall 1st Year                     | Prerequisite   |
|-----------|-----------------------------------|--|
| 4         | CHM 11500 ◆                       | MA 16500   |
| 2         | ENGR 13100 ◆                      |  |
| 4         | MA 16500 ◆                        | ALEKS score of 85 or<br>SAT Math score of 650 or<br>ACT Math score of 29 |
| 3         | Written Communication Selective ◆ |  |
| <b>13</b> | <b>Total Credits</b>              |  |

| Credits   | Spring 1st Year                | Prerequisite |
|-----------|--------------------------------|--------------|
| 4         | CHM 11600 ◆                    | CHM 11500    |
| 2         | ENGR 13200 ◆                   | ENGR 13100   |
| 4         | MA 16600 ◆                     | MA 16500     |
| 4         | PHYS 17200 or ENGR 16200 ◆     | MA 16500     |
| 3         | Oral Communication Selective ◆ |              |
| <b>17</b> | <b>Total Credits</b>           |              |

| Credits   | Fall 2nd Year        | Prerequisite                                      |
|-----------|----------------------|---|
| 1         | CHE 20000            | Fall Only   |
| 4         | CHE 20500            | ENGR 13100,<br>PHYS 17200,<br>MA 16500, CHM 11600 |
| 3         | CHM 26100            | Fall Only CHM 11600                               |
| 1         | CHM 26300            | Fall Only CHM 26100                               |
| 4         | MA 26100             | MA 16600  |
| 3         | PHYS 241             | PHYS 17200,<br>MA 16600                           |
| <b>16</b> | <b>Total Credits</b> |   |

| Credits   | Spring 2nd Year                     | Prerequisite                       |
|-----------|-------------------------------------|------------------------------------|
| 4         | CHE 21100                           | CHE 20500, MA 26100                |
| 3         | CHE 32000                           | CHE 20500,<br>Math Selective I     |
| 3         | CHM 26200                           | Spring Only CHM 26100              |
| 1         | CHM 26400                           | Spring Only CHM 26300<br>CHM 26200 |
| 3         | Math Selective I                    | MA 26100                           |
| 3         | Behavioral Social Science Selective |                                    |
| <b>17</b> | <b>Total Credits</b>                |                                    |

| Credits   | Fall 3rd Year        | Prerequisite                                     |
|-----------|----------------------|--|
| 3         | CHE 30600            | CHE 21100  |
| 4         | CHE 37700            | CHE 21100,<br>Math Selective II                  |
| 3         | CHM 37000            | CHE 21100,<br>CHM 11600, MA 26100,<br>PHYS 24100 |
| 3         | Math Selective II    | Math Selective I                                 |
| 3         | Biology Selective    |  |
| <b>16</b> | <b>Total Credits</b> |  |

| Credits   | Spring 3rd Year             | Prerequisite                              |
|-----------|-----------------------------|---|
| 1         | CHE 30000                   | Spring Only                               |
| 4         | CHE 37800                   | CHE 37700                                 |
| 4         | CHE 34800                   | Math Selective I,<br>CHE 21100, CHM 26100 |
| 3         | Technical Selective         |   |
| 3         | Engineering Selective       |   |
| 3         | General Education Selective |   |
| <b>18</b> | <b>Total Credits</b>        |   |

| Credits   | Fall 4th Year                           | Prerequisite                      |
|-----------|---|-----------------------------------|
| 1         | CHE 40000 ◆                             | Fall Only CHE 45600               |
| 3         | CHE 42000 ◆                             | Fall Only CHE 37700, 34800, 37800 |
| 4         | CHE 43500                               | CHE 30600, 32000, 34800,<br>37800 |
| 3         | CHE 45600 ◆                             | Fall Only CHE 34800, 37800        |
| 3         | Humanities Selective                    |                                   |
| 3         | Upper Level General Education Selective |                                   |
| <b>17</b> | <b>Total Credits</b>                    |                                   |

| Credits   | Spring 4th Year                         | Prerequisite                             |
|-----------|---|--|
| 4         | CHE 45000                               | CHE 30600, 37800,<br>42000, 43500, 45600 |
| 3         | Chemical Engineering Selective          |  |
| 3         | Engineering Selective                   |  |
| 3         | Science, Technology & Society Selective |  |
| 3         | Upper Level General Education Selective |  |
| <b>16</b> | <b>Total Credits</b>                    |  |

Concurrent prerequisites are listed in *italics*

◆ Critical Course

**130 Credits required for graduation**

2.0 overall and major (Chemical Engineering Core) GPA required for Bachelor of Science degree

Students must earn a "C" or better in CHE 20500 to enroll in any other CHE course

Students must earn a "C" or better in all other CHE major required courses (Chemical Engineering Core)

Students may take the ChE General Education Selective Core courses for a letter grade or pass/ no pass option

3 credits of CHE 41100, 41200, 49800 or 49900 may be used to complete the Chemical Engineering Selective

3 credits of CHE 41100, 41200, 49800, or 49900 may be used to complete the Engineering or Technical Selective

Students may not use credit in the following courses to fulfill CHE Degree requirements:

ABE 20100, ABE 21000, ABE 30800, ABE 37000, IE 23000, IE 33000, ME 30900, ME 31500

\*\*\*\*\*

The student is ultimately responsible for knowing and completing all degree requirements.

Degree Works is knowledge source for specific requirements and completion.

\*\*\*\*\*

### 3 Term Co-Op: Fall Start Suggested Arrangement of Courses

| FALL 1st Year |                                   | SPRING 1st Year |                                | SUMMER 1st Year |  |
|---------------|-----------------------------------|-----------------|--------------------------------|-----------------|--|
| 4             | CHM 11500 ♦                       | 4               | CHM 11600 ♦                    |                 |  |
| 4             | Written Communication Selective ♦ | 3               | Oral Communication Selective ♦ |                 |  |
| 2             | ENGR 13100 ♦                      | 2               | ENGR 13200 ♦                   |                 |  |
| 4             | MA 16500 ♦                        | 4               | MA 16600 ♦                     |                 |  |
|               |                                   | 4               | PHYS 17200 ♦                   |                 |  |
| <b>14</b>     |                                   | <b>17</b>       |                                |                 |  |

| FALL 2nd Year |                                   | SPRING 2nd Year |                                     | SUMMER 2nd Year |  |
|---------------|-----------------------------------|-----------------|-------------------------------------|-----------------|--|
| 1             | <b>CHE 20000</b> <i>Fall Only</i> | 4               | CHE 21100                           |                 |  |
| 4             | CHE 20500                         | 3               | CHE 32000                           |                 |  |
| 3             | <b>CHM 26100</b> <i>Fall Only</i> | 3               | <b>CHM 26200</b> <i>Spring Only</i> |                 |  |
| 1             | <b>CHM 26300</b> <i>Fall Only</i> | 1               | <b>CHM 26400</b> <i>Spring Only</i> |                 |  |
| 4             | MA 26100                          | 3               | Math Selective I                    |                 |  |
| 3             | PHYS 24100                        | 3               | Behavioral Social Science Selective |                 |  |
| <b>16</b>     |                                   | <b>17</b>       |                                     |                 |  |

| FALL 3rd Year |                           | SPRING 3rd Year |                                     | SUMMER 3rd Year |                            |
|---------------|---------------------------|-----------------|-------------------------------------|-----------------|----------------------------|
|               |                           | 0               | CHE 20100                           |                 |                            |
|               |                           | 1               | <b>CHE 30000</b> <i>Spring Only</i> |                 |                            |
|               |                           | 3               | CHE 30600                           |                 |                            |
| 0             | CHE 38199: Work Session I | 4               | CHE 37700                           | 0               | CHE 38299: Work Session II |
|               |                           | 3               | CHM 37000                           |                 |                            |
|               |                           | 3               | Engineering Selective I             |                 |                            |
|               |                           | 3               | Math Selective II                   |                 |                            |
| <b>0</b>      |                           | <b>17</b>       |                                     | <b>0</b>        |                            |

| FALL 4th Year |                             | SPRING 4th Year |                             | SUMMER 4th Year |  |
|---------------|-----------------------------|-----------------|-----------------------------|-----------------|--|
| 0             | CHE 30100                   |                 |                             |                 |  |
| 4             | CHE 34800                   |                 |                             |                 |  |
| 4             | CHE 37800                   |                 |                             |                 |  |
| 3             | Engineering Selective       | 0               | CHE 38399: Work Session III |                 |  |
| 3             | General Education Selective |                 |                             |                 |  |
| 3             | Technical Selective         |                 |                             |                 |  |
| <b>17</b>     |                             |                 |                             |                 |  |

| FALL 5th Year |                                     | SPRING 5th Year |                                   |
|---------------|-------------------------------------|-----------------|-----------------------------------|
| 0             | CHE 30100                           | 4               | CHE 45000                         |
| 1             | <b>CHE 40000</b> ♦ <i>Fall Only</i> | 3               | Chemical Engineering Selective    |
| 3             | <b>CHE 42000</b> ♦ <i>Fall Only</i> | 3               | Engineering Selective II          |
| 4             | CHE 43500                           | 3               | Science, Tech & Society Selective |
| 3             | <b>CHE 45600</b> ♦ <i>Fall Only</i> | 3               | Upper Level Gen Ed Selective II   |
| 3             | Humanities Selective                |                 |                                   |
| 3             | Upper Level Gen Ed Selective I      |                 |                                   |
| <b>17</b>     |                                     | <b>16</b>       |                                   |

➤ Courses offered in fall or spring only term are listed in ***bold italics***

#### 130 Credits required for graduation

- 2.00 GPA for overall and major (Chemical Engineering Core) required for Bachelor of Science degree
- Students must earn a "C" or better in CHE 20500 to enroll in any other CHE course
- Students must earn a "C-" or better in all other CHE major required courses (Chemical Engineering Core)
- Students may take the ChE General Education Selective Core courses for a letter grade or pass/no pass option
- 3.0-credits of CHE 41100, 41200, 49800 or 49900 may be used to complete the Chemical Engineering Selective
- 3.0-credits of CHE 41100, 41200, 49800, or 49900 may be used to complete the Engineering or Technical Selective
- Students may **not** use credit in the following courses to fulfill CHE Degree requirements:  
 ABE 20100, ABE 21000, ABE 30800, ABE 37000, IE 23000, IE 33000, ME 30900, ME 31500

\*\*\*\*\*  
**The student is ultimately responsible for knowing and completing all degree requirements.  
 Degree Works is knowledge source for specific requirements and completion.**  
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### 3 Term Co-Op: Summer Start Suggested Arrangement of Courses

| FALL 1st Year |                                   | SPRING 1st Year |                                | SUMMER 1st Year |  |
|---------------|-----------------------------------|-----------------|--------------------------------|-----------------|--|
| 4             | CHM 11500 ♦                       | 4               | CHM 11600 ♦                    |                 |  |
| 4             | Written Communication Selective ♦ | 3               | Oral Communication Selective ♦ |                 |  |
| 2             | ENGR 13100 ♦                      | 2               | ENGR 13200 ♦                   |                 |  |
| 4             | MA 16500 ♦                        | 4               | MA 16600 ♦                     |                 |  |
|               |                                   | 4               | PHYS 17200 ♦                   |                 |  |
| <b>14</b>     |                                   | <b>17</b>       |                                |                 |  |

| FALL 2nd Year |  | SPRING 2nd Year |  | SUMMER 2nd Year |                           |
|---------------|--|-----------------|--|-----------------|---------------------------|
| 1             | <b><i>CHE 20000</i></b> <i>Fall Only</i> | 4               | CHE 21100                                  |                 |                           |
| 4             | CHE 20500                                | 3               | CHE 32000                                  |                 |                           |
| 3             | <b><i>CHM 26100</i></b> <i>Fall Only</i> | 3               | <b><i>CHM 26200</i></b> <i>Spring Only</i> | 0               | CHE 38199: Work Session I |
| 1             | <b><i>CHM 26300</i></b> <i>Fall Only</i> | 1               | <b><i>CHM 26400</i></b> <i>Spring Only</i> |                 |                           |
| 4             | MA 26100                                 | 3               | Math Selective I                           |                 |                           |
| 3             | PHYS 24100                               | 3               | Behavioral Social Science Selective        |                 |                           |
| <b>16</b>     |  | <b>17</b>       |  | <b>0</b>        |                           |

| FALL 3rd Year |                   | SPRING 3rd Year |                            | SUMMER 3rd Year |  |
|---------------|-------------------|-----------------|----------------------------|-----------------|--|
| 3             | Biology Selective |                 |                            |                 |  |
| 0             | CHE 20100         |                 |                            |                 |  |
| 3             | CHE 30600         | 0               | CHE 38299: Work Session II |                 |  |
| 4             | CHE 37700         |                 |                            |                 |  |
| 3             | CHM 37000         |                 |                            |                 |  |
| 3             | Math Selective II |                 |                            |                 |  |
| <b>16</b>     |                   | <b>0</b>        |                            |                 |  |

| FALL 4th Year |                             | SPRING 4th Year |  | SUMMER 4th Year |  |
|---------------|-----------------------------|-----------------|--|-----------------|--|
|               |                             | 1               | <b><i>CHE 30000</i></b> <i>Spring Only</i> |                 |  |
|               |                             | 0               | CHE 30100                                  |                 |  |
| 0             | CHE 38399: Work Session III | 4               | CHE 34800                                  |                 |  |
|               |                             | 4               | CHE 37800                                  |                 |  |
|               |                             | 3               | Engineering Selective                      |                 |  |
|               |                             | 3               | General Education Selective                |                 |  |
|               |                             | 3               | Technical Selective                        |                 |  |
| <b>0</b>      |                             | <b>17</b>       |  |                 |  |

| FALL 5th Year |  | SPRING 5th Year |                                   |
|---------------|--|-----------------|-----------------------------------|
| 1             | <b><i>CHE 40000</i></b> ♦ <i>Fall Only</i> | 4               | CHE 45000                         |
| 3             | <b><i>CHE 42000</i></b> ♦ <i>Fall Only</i> | 3               | Chemical Engineering Selective    |
| 4             | <b><i>CHE 43500</i></b>                    | 3               | Engineering Selective             |
| 3             | <b><i>CHE 45600</i></b> ♦ <i>Fall Only</i> | 3               | Science, Tech & Society Selective |
| 3             | Humanities Selective                       | 3               | Upper Level Gen Ed Selective      |
| 3             | Upper Level General Ed Selective           |                 |                                   |
| <b>17</b>     |  | <b>16</b>       |                                   |

➤ Courses offered in fall or spring only term are listed in ***bold italics***

#### 130 Credits required for graduation

2.00 overall and major (Chemical Engineering Core) GPA required for Bachelor of Science degree

Students must earn a "C" or better in CHE 20500 to enroll in any other CHE course

Students must earn a "C-" or better in all other CHE major required courses (Chemical Engineering Core)

Students may take the ChE General Education Selective Core courses for a letter grade or pass/no pass option

3.0-credits of CHE 41100, 41200, 49800 or 49900 may be used to complete the Chemical Engineering Selective

3.0-credits of CHE 41100, 41200, 49800, or 49900 may be used to complete the Engineering or Technical Selective

Students may **not** use credit in the following courses to fulfill CHE Degree requirements:

ABE 20100, ABE 21000, ABE 30800, ABE 37000, IE 23000, IE 33000, ME 30900, ME 31500

\*\*\*\*\*  
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## 5 Term Co-Op: Fall Start Suggested Arrangement of Courses

| FALL 1st Year |  | SPRING 1st Year |  | SUMMER 1st Year |                                   |
|---------------|--|-----------------|--|-----------------|-----------------------------------|
| 4             | CHM 11500 ♦                                | 4               | CHM 11600 ♦                                | 0               | CHE 20100                         |
| 3             | Written Communication Selective ♦          | 2               | ENGR 13200 ♦                               | 4               | MA 26100                          |
| 2             | ENGR 13100 ♦                               | 4               | MA 16600 ♦                                 | 3               | PHYS 24100                        |
| 4             | MA 16500 ♦                                 | 3               | Oral Communication Selective ♦             | 3               | General Education Selective       |
|               |  | 4               | PHYS 17200 or ENGR 16200 ♦                 |                 |                                   |
| <b>13</b>     |  | <b>17</b>       |  | <b>10</b>       |                                   |
| FALL 2nd Year |  | SPRING 2nd Year |  | SUMMER 2nd Year |                                   |
|               |  | 0               | CHE 20100                                  |                 |                                   |
|               |  | 4               | CHE 20500                                  |                 |                                   |
| 0             | CHE 29199: Work Session I                  | 3               | Behavioral Social Science Selective        | 0               | CHE 29299: Work Session II        |
|               |  | 3               | Humanities Selective                       |                 |                                   |
|               |  | 3               | Math Selective I                           |                 |                                   |
|               |  | 3               | Technical Selective                        |                 |                                   |
| <b>0</b>      |  | <b>16</b>       |  | <b>0</b>        |                                   |
| FALL 3rd Year |  | SPRING 3rd Year |  | SUMMER 3rd Year |                                   |
| 1             | <b><i>CHE 20000</i></b> <i>Fall Only</i>   |                 |  | 0               | CHE 30100                         |
| 0             | CHE 20100                                  |                 |  | 3               | CHM 26200                         |
| 4             | CHE 21100                                  | 0               | CHE 39399: Work Session III                | 1               | CHM 26400                         |
| 3             | CHE 32000                                  |                 |  | 3               | Science, Tech & Society Selective |
| 3             | CHM 26100                                  |                 |  |                 |                                   |
| 1             | CHM 26300                                  |                 |  |                 |                                   |
| 3             | Biology Selective                          |                 |  |                 |                                   |
| 3             | Math Selective II                          |                 |  |                 |                                   |
| <b>18</b>     |  | <b>0</b>        |  | <b>7</b>        |                                   |
| FALL 4th Year |  | SPRING 4th Year |  | SUMMER 4th Year |                                   |
|               |  | 1               | <b><i>CHE 30000</i></b> <i>Spring Only</i> |                 |                                   |
|               |  | 0               | CHE 30100                                  |                 |                                   |
| 0             | CHE 39499: Work Session IV                 | 3               | CHE 30600                                  | 0               | CHE 39599: Work Session V         |
|               |  | 4               | CHE 34800                                  |                 |                                   |
|               |  | 4               | CHE 37700                                  |                 |                                   |
|               |  | 3               | Upper Level Gen Ed Selective               |                 |                                   |
| <b>0</b>      |  | <b>15</b>       |  | <b>0</b>        |                                   |
| FALL 5th Year |  | SPRING 5th Year |  |                 |                                   |
| 4             | CHE 37800                                  | 4               | CHE 43500                                  |                 |                                   |
| 1             | <b><i>CHE 40000</i></b> ♦ <i>Fall Only</i> | 4               | CHE 45000                                  |                 |                                   |
| 3             | <b><i>CHE 40100</i></b> ♦ <i>Fall Only</i> | 3               | Chemical Engineering Selective             |                 |                                   |
| 3             | <b><i>CHE 42000</i></b> ♦ <i>Fall Only</i> | 3               | CHM 37000                                  |                 |                                   |
| 3             | <b><i>CHE 45600</i></b> ♦ <i>Fall Only</i> | 3               | Engineering Selective                      |                 |                                   |
| 3             | Upper Level Gen Ed Selective               |                 |  |                 |                                   |
| <b>17</b>     |  | <b>17</b>       |  |                 |                                   |

➤ Courses offered in fall or spring only term are listed in ***bold italics***

### 130 Credits required for graduation

2.00 overall and major (Chemical Engineering Core) GPA required for Bachelor of Science degree

Students must earn a "C" or better in CHE 20500 to enroll in any other CHE course

Students must earn a "C-" or better in all other CHE major required courses (Chemical Engineering Core)

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3.0-credits of CHE 41100, 41200, 49800 or 49900 may be used to complete the Chemical Engineering Selective

3.0-credits of CHE 41100, 41200, 49800, or 49900 may be used to complete the Engineering or Technical Selective

Students may **not** use credit in the following courses to fulfill CHE Degree requirements:

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## 5 Term Co-Op: Summer Start Suggested Arrangement of Courses

| FALL 1st Year |                                     | SPRING 1st Year |                                     | SUMMER 1st Year |                               |
|---------------|-------------------------------------|-----------------|-------------------------------------|-----------------|-------------------------------|
| 4             | CHM 11500 ♦                         | 4               | CHM 11600 ♦                         |                 |                               |
| 3             | Written Communication Selective ♦   | 2               | ENGR 13200 ♦                        |                 |                               |
| 2             | ENGR 13100 ♦                        | 4               | MA 16600 ♦                          | 0               | CHE 29199: Work Session I     |
| 4             | MA 16500 ♦                          | 3               | Oral Communication Selective ♦      |                 |                               |
|               |                                     | 4               | PHYS 17200 or ENGR 16200 ♦          |                 |                               |
| <b>13</b>     |                                     | <b>17</b>       |                                     | <b>0</b>        |                               |
| FALL 2nd Year |                                     | SPRING 2nd Year |                                     | SUMMER 2nd Year |                               |
| 1             | <i>CHE 20000</i> <i>Fall Only</i>   |                 |                                     | 0               | CHE 20100                     |
| 4             | CHE 20500                           |                 |                                     | 3               | CHM 26200                     |
| 3             | <i>CHM 26100</i> <i>Fall Only</i>   | 0               | CHE 29299: Work Session II          | 1               | CHM 26400                     |
| 1             | <i>CHM 26300</i> <i>Fall Only</i>   |                 |                                     | 3               | Math Selective I              |
| 4             | MA 26100                            |                 |                                     |                 |                               |
| 3             | PHYS 24100                          |                 |                                     |                 |                               |
| <b>16</b>     |                                     | <b>0</b>        |                                     | <b>7</b>        |                               |
| FALL 3rd Year |                                     | SPRING 3rd Year |                                     | SUMMER 3rd Year |                               |
|               |                                     | 4               | CHE 21100                           |                 |                               |
|               |                                     | 1               | <i>CHE 30000</i> <i>Spring Only</i> |                 |                               |
| 0             | CHE 39399: Work Session III         | 0               | CHE 30100                           | 0               | CHE 39499: Work Session IV    |
|               |                                     | 3               | CHE 32000                           |                 |                               |
|               |                                     | 3               | Humanities Selective                |                 |                               |
|               |                                     | 3               | Math Selective II                   |                 |                               |
|               |                                     | 3               | General Education Selective         |                 |                               |
| <b>0</b>      |                                     | <b>17</b>       |                                     | <b>0</b>        |                               |
| FALL 4th Year |                                     | SPRING 4th Year |                                     | SUMMER 4th Year |                               |
| 3             | Biology Selective                   |                 |                                     | 0               | CHE 30100                     |
| 0             | CHE 30100                           |                 |                                     | 3               | Upper Level Gen Ed Selective  |
| 3             | CHE 30600                           | 0               | CHE 39599: Work Session V           | 3               | Upper Level Gen Ed Selective  |
| 4             | CHE 34800                           |                 |                                     | 3               | Sci, Tech & Society Selective |
| 4             | CHE 37700                           |                 |                                     |                 |                               |
| 3             | Behavioral Social Science Selective |                 |                                     |                 |                               |
| <b>17</b>     |                                     | <b>0</b>        |                                     | <b>9</b>        |                               |
| FALL 5th Year |                                     | SPRING 5th Year |                                     |                 |                               |
| 4             | CHE 37800                           | 4               | CHE 43500                           |                 |                               |
| 1             | <i>CHE 40000</i> ♦ <i>Fall Only</i> | 4               | CHE 45000                           |                 |                               |
| 3             | <i>CHE 40100</i> <i>Fall Only</i>   | 3               | Chemical Engineering Selective      |                 |                               |
| 3             | <i>CHE 42000</i> ♦ <i>Fall Only</i> | 3               | Engineering Selective               |                 |                               |
| 3             | <i>CHE 45600</i> ♦ <i>Fall Only</i> | 3               | CHM 37000                           |                 |                               |
| 3             | ChE Technical Selective             |                 |                                     |                 |                               |
| <b>17</b>     |                                     | <b>17</b>       |                                     |                 |                               |

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# ChE General Education Selective Core Requirements

For a complete listing of course options for the **Behavioral Social Science Selective, Humanities Selective, and Science, Technology & Society Selective**, please visit the [Provosts website](#).

For the **General Education Selective**, students must complete any course in the approved subjects below offered by the College of Liberal Arts, the Krannert School of Management and/or the Honors College, provided the course is open to students in the offering department and the student qualifies to take the course.

For the **Upper Level General Education Selectives**, students must complete courses in the approved subjects below at the 30000 level or above, or from courses with a required prerequisite in the same department.

**Approved subjects in these colleges include:**

AAS, AD, AGECE, AMST, ANTH, ARAB, ASAM, ASL, CHNS, CLCS, CMPL, COM, DANC, ECON, ENGL, FLL/LC, FR, GER, GREK, HDFS, HEBR, HIST, HONR, IDIS, ITAL, JWST, JPNS, LALS, LATN, LING, MARS, MUS, PHIL, POL, PSY, PTGS, REL, RUSS, SLHS, SOC, SPAN, THTR, WGSS

**Biology Selective (3 credits)**

- \_\_\_\_ (3) BIOL 23000 Biology of the Living Cell (*CHM 11600 & MA 16200*)
- \_\_\_\_ (3) BIOL 23100 Biology III: Cell Structure and Function (*BIOL 11100 & CHM 11600*)
- \_\_\_\_ (3) \*CHM 33900: Biochemistry: A Molecular Approach (*CHM 26200*)
- \_\_\_\_ (3) \*CHM 53300 Introductory Biochemistry (*Junior Classification, CHM 26200, CHM 32100*)
- \_\_\_\_ (3) BCHM 30700 Biochemistry (*CHM 26200*)
- \_\_\_\_ (3) \*BCHM 56100 General Biochemistry I (*Sophomore 45-59 Classification, CHM 26200*)

\*Students minoring in Chemistry can take **CHM 33900/ CHM 53300/ BCHM 56100** to fulfill both minor requirements and the ChE Bio Selective.

**Chemical Engineering Selective (3 credits)**

- \_\_\_\_ (3) ABE 58000 Process Engineering of Renewable Resources
- \_\_\_\_ (3) CHE 33000 Principles of Molecular Engineering (*CHE 21100*)
- \_\_\_\_ (1-3) CHE 41100 ChE Research (*Junior Classification, Instructor Permission*)
- \_\_\_\_ (1-3) CHE 41200 ChE Design Research Problems (*Junior Classification, Instructor Permission*)
- \_\_\_\_ (3) CHE 44200 Chemistry and Engineering of High Polymers (*CHM 26200 & CHM 37000*)
- \_\_\_\_ (3) CHE 46100 Biomedical Engineering
- \_\_\_\_ (3) CHE 46300 Applications of ChE Principles (*CHE 37800*)
- \_\_\_\_ (3) CHE 49700 Course Titles Vary
- \_\_\_\_ (3) CHE 49800 Undergrad Thesis Research I (*Instructor Permission & Admission to CHE Honors Program*)
- \_\_\_\_ (3) CHE 49900 Undergrad Thesis Research II (*Instructor Permission & Admission to CHE Honors Program*)
- \_\_\_\_ (3) Any CHE 500 level course

\*Students cannot earn credit in both **CHE 52500** and **ABE 58000**

\*CHE offers multiple **CHE 49700 & 59700** courses which can be identified by course title – refer to the Schedule of Classes for current offerings

\*CHE 49700 Chemical Engr Study Abroad does not count for CHE Elective – rather a Technical Selective or General Education Elective

**Engineering Selective (6 credits)**

- \_\_\_\_ (3) CHE 40100 Co-Op Seminar II (*Co-Op Students only*)
- \_\_\_\_ (3) Any Chemical Engineering Selective
- \_\_\_\_ (3) Any AAE, ABE, BME, CE, CEM, ECE, IE, MSE, ME AND NUCL course (*Must meet pre-req listed in MyPurdue to enroll*)

\*The following courses **DO NOT** count in CHE: **ABE 20100, 21000, 30800, 37000, IE 23000, 33000 and ME 30900, 35100**

\*CHE 49700 Chemical Engr Study Abroad does not count for an ENGR Elective – rather a Technical Selective or General Education Elective

**Math Selective (6-7 credits)**

- \_\_\_\_ (3) Math Selective I: MA 26500 Linear Algebra (*MA 26100 Minimum Grade of C-*)
  - \_\_\_\_ (4) Math Selective II: MA 36600 Ordinary Differential Equations(*MA 26100 & 26500 Minimum Grade of C-*)
  - \_\_\_\_ (3) MA 26600 Ordinary Differential Equations (*MA 26100 Minimum Grade of C-*)
- OR
- \_\_\_\_ (3) Math Selective I: \* MA 35100 Elementary Linear Algebra (*MA 26100 Minimum Grade of C-*)
  - \_\_\_\_ (4) Math Selective II: \*MA 36600 Ordinary Differential Equations(*MA 26100 & 26500 Minimum Grade of C-*)
- OR
- \_\_\_\_ (4) Math Selective I: MA 26200 Linear Algebra and Diff Equations (*MA 26100 Minimum Grade of C-*)
  - \_\_\_\_ (3) Math Selective II: MA 30300 Differential Equations and Partial Differential Equations (*MA 26200*)
  - \_\_\_\_ (3) MA 30400 Differential Equations and Analysis of Nonlinear Systems (*MA 26500 & 26600/36600*)
  - \_\_\_\_ (3) MA 51400 Numerical Analysis (*Junior Classification*)
  - \_\_\_\_ (3) ME 58100 Numerical Methods in Mechanical Engineering (*Junior Classification, ME 31500 & 35200*)

\*Suggested courses for students pursuing a minor or dual major in math

**Technical Selective (3 credits)**

- \_\_\_\_ (3) BCHM – Any biochemistry course excluding BCHM 307 & 56100 if used for Biology Selective
- \_\_\_\_ (3) BIOL – Any biology course excluding 11000, 13500, 14600 and 14700
- \_\_\_\_ (3) CHE 49700 Chemical Engr Study Abroad
- \_\_\_\_ (3) CHM 22400 Intro to Quantitative Analysis (*CHM 11600*)
- \_\_\_\_ (3) CHM 24100 Intro to Inorganic Chemistry
- \_\_\_\_ (4) CHM 32100 Analytical Chemistry I (*CHM 11600*)
- \_\_\_\_ (4) CHM 32300 Analytical Chemistry I (*CHM 11600*)
- \_\_\_\_ (3) CHM 33300 Principles of Biochemistry (*CHM 26200*)
- \_\_\_\_ (3) CHM 34200 Inorganic Chemistry
- \_\_\_\_ (4) CHM 42400 Analytical Chemistry (*CHE 21100 & CHM 37000*)
- \_\_\_\_ (3) CHM – Any chemistry course above 42400
- \_\_\_\_ (3) CS – Any computer science course
- \_\_\_\_ (3) EAPS – Any Earth and Atmospheric Science course
- \_\_\_\_ (3) EPCS – Any 3 credit hours of Epics (Excluding EPCS 11100 & 12100)
- \_\_\_\_ (3) Engineering Selective – Any Engineering Selective
- \_\_\_\_ (3) GEP – Any 3 credit hours of Global Engineering Programs 20000 and above
- \_\_\_\_ (3) MGMT 20000 Introductory Accounting or MGMT 20010 Business Accounting
- \_\_\_\_ (3) MGMT 24300 Minorities in Management
- \_\_\_\_ (3) MATH – MA 30100, 30800, 34100, 35300, 36200, 37000 and any course above 37300
- \_\_\_\_ (3) IPPH 56200 Intro to Pharma Manufacturing Processes
- \_\_\_\_ (3) HSOP Food and Drug Law I
- \_\_\_\_ (3) PHYS – Any physics course 30000 or above
- \_\_\_\_ (3) STAT – Any statistic course 51100 or above

Prerequisites are listed in *italics*.

**Biological Engineering (9 credits)**

- \_\_\_\_\_ (3) ABE 58000\* Process Engineering of Renewable Resources (*CHE 34800*)
- \_\_\_\_\_ (3) BCHM 56100 General Biochemistry I (*CHM 26200*)
- \_\_\_\_\_ (3) BME 52100 Biosensors: Fundamentals and Applications (*BIO23000 & MA 26600/30300/30400/36600*)
- \_\_\_\_\_ (3) BME 49500 Biomolecular Engineering
- \_\_\_\_\_ (3) BME 49500 Introductory Computational Biology
- \_\_\_\_\_ (3) BME 55100 Tissue Engineering
- \_\_\_\_\_ (3) CHE 41100 or 49800 Biological Engineering Related Research
- \_\_\_\_\_ (3) CHE 52500\* Biochemical Engineering (*CHE 34800*)
- \_\_\_\_\_ (3) CHE 59700 Engineering Applications of Biological Molecules
- \_\_\_\_\_ (3) CHE 59700 Principles of Tissue Engineering
- \_\_\_\_\_ (3) CHM 33300 Principles of Biochemistry (*CHM 26200*)
- \_\_\_\_\_ (3) CHM 53300 Introductory Biochemistry (*CHM 26200 & CHM 32100*)
- \_\_\_\_\_ (3) ME 59700 Bio-energy and Biofuels

\*Students cannot earn credit in both CHE 52500 and ABE 58000

**Energy and Environment (9 credits)**

- \_\_\_\_\_ (3) CE 35000 or EEE 35000 Environmental Engineering (*MA 16200, PHYS 17200, CHM 11600*)
- \_\_\_\_\_ (3) CE 35500 or EEE 35500 Engineering Environmental Sustainability
- \_\_\_\_\_ (3) CE 45700 Air Pollution Control and Design (*CE 34000*)
- \_\_\_\_\_ (3) CHE 41100 or 49800 Energy and Environment Related Research
- \_\_\_\_\_ (3) CHE 55800 Rate Controlled Separation Processes (*CHE 30600 & CHE 37800*)
- \_\_\_\_\_ (3) CHE 59700 Advanced Solar Energy Conversion
- \_\_\_\_\_ (3) CHE 59700 System Analysis of Energy Production
- \_\_\_\_\_ (3) CHE 59700 Battery Storage Systems Lab
- \_\_\_\_\_ (3) CHE 59700 Energy Storage Systems
- \_\_\_\_\_ (3) CHE 59700 Organic Electronic Materials & Devices
- \_\_\_\_\_ (3) ME 41800 Engineering of Environmental Systems and Equipment (*ME 30000/30100 & ME 31500*)
- \_\_\_\_\_ (3) ME 59700 Bio-Energy and Biofuels
- \_\_\_\_\_ (3) NUCL 40200 Engineering of Nuclear Power Systems (*ME 35100 or NUCL 35100*)
- \_\_\_\_\_ (3) NUCL 47000 Fuel Cell Engineering
- \_\_\_\_\_ (3) NUCL 50300 Radioactive Waste Management (*CHM 10200 & NUCL 20000/21100*)
- \_\_\_\_\_ (3) NUCL 56300 Direct Energy Conversion

**Material and Polymers (9 credits)**

- \_\_\_\_\_ (3) CHE 41100 or 49800 Material and Polymer Related Research
- \_\_\_\_\_ (3) CHE 44200 Chemistry and Engineering of High Polymers (*CHM 26200 & CHM 37000*)
- \_\_\_\_\_ (3) CHE 51700 Micro/Nanoscale Physical Processes (*CHE 37700 & CHE 37800*)
- \_\_\_\_\_ (3) CHE 53600 Particulate Systems (*CHE 37700*)
- \_\_\_\_\_ (3) CHE 54300 Polymerization Reaction Engineering and Reactor Analysis (*CHE 34800*)
- \_\_\_\_\_ (3) CHE 54400 Structure and Physical Behavior (*CHM 26200 & CHM 37000*)
- \_\_\_\_\_ (3) CHE 59700 Organic Electronic Materials & Devices
- \_\_\_\_\_ (3) MSE 37000 Electrical, Optical and Magnetic Properties of Materials (*PHYS 24100*)
- \_\_\_\_\_ (3) MSE 51000 Microstructural Characterization Techniques (*Senior Classification*)
- \_\_\_\_\_ (3) MSE 51200 Powder Processing (*Senior Classification*)
- \_\_\_\_\_ (3) MSE 52500 Struct-Property Relations of Engineering Polymers (*Junior 75+credits & Senior Classification*)
- \_\_\_\_\_ (3) MSE 55600 Fracture of Materials (*Senior Classification*)
- \_\_\_\_\_ (3) MSE 56000 Production of Inorganic Materials (*Junior 75+credits & Senior Classification*)
- \_\_\_\_\_ (3) MSE 59700 Manufacturing Advanced Composites
- \_\_\_\_\_ (3) MSE 59700 Biomaterials
- \_\_\_\_\_ (3) MSE 59700 Characterization of Advanced Composite Materials

**Pharmaceutical Engineering (9 credits)**

- \_\_\_\_\_ (3) CHE 41100 or 49800 Pharmaceutical Engineering Related Research
- \_\_\_\_\_ (3) CHE 53600 Particulate Systems (*CHE 37700*)
- \_\_\_\_\_ (3) CHE 55100 Principles of Pharmaceutical Engineering (*CHE 34800 & 37800 concurrently*)
- \_\_\_\_\_ (3) CHE 55300 Pharmaceutical Process Development and Design
- \_\_\_\_\_ (3) CHE 55500 Computer Integrated Process Operations (*Senior Classification*)
- \_\_\_\_\_ (3) CHE 55700 Intelligent Systems in Process Engineering (*Senior Classification*)
- \_\_\_\_\_ (3) IPPH 56200 Introduction to Pharmaceutical Manufacturing Process (*CHM 37000*)
- \_\_\_\_\_ (3) HSOP 50100 Food and Drug Law I

Prerequisites are listed in *italics*.

## Bachelor of Science in Chemical Engineering & Master of Business Administration

| Fall Semester                        |   | Cr        |
|--------------------------------------|---|-----------|
| F<br>R<br>E<br>S<br>H<br>M<br>A<br>N | ENGR 13100 Transforming Ideas to Innovation I | 2         |
|                                      | MA 16500 Analytical Geomety and Caclulus I    | 4         |
|                                      | CHM 11500 General Chemistry I                 | 4         |
|                                      | Written Communication                         | 3         |
|                                      | Humanities                                    | 3         |
| <b>Total</b>                         |   | <b>16</b> |

| Spring Semester |  | Cr        |
|-----------------|--|-----------|
|                 | ENGR 13200 Transforming Ideas to Innovation II | 2         |
|                 | MA 16600 Analytical Geomety and Caclulus II    | 4         |
|                 | CHM 11600 General Chemistry II                 | 4         |
|                 | PHYS 17200 Mechanics                           | 4         |
|                 | Oral Communication                             | 3         |
| <b>Total</b>    |  | <b>17</b> |

| Summer Semester |                                  | Cr       |
|-----------------|----------------------------------|----------|
|                 | MA 26100 Multivariate Calculus   | 4        |
|                 | CHE 20500 Analytic Geo & Calc II | 4        |
| <b>Total</b>    |                                  | <b>8</b> |

| Fall Semester                             |  | Cr        |
|---|--|-----------|
| S<br>O<br>P<br>H<br>O<br>M<br>O<br>R<br>E | CHE 20000 Chemical Engr Seminar        | 1         |
|   | CHE 21100 Chemical Engr Thermodynamics | 4         |
|   | CHE 32000 Statistical Modeling         | 3         |
|   | CHM 26100 Organic Chemistry I          | 3         |
|   | CHM 26300 Organic Chemistry Lab I      | 1         |
|   | PHYS 24100 Electricity & Optics        | 3         |
| Math Selective I                          | 3                                      |           |
| <b>Total</b>                              |  | <b>18</b> |

| Spring Semester |   | Cr        |
|-----------------|---|-----------|
|                 | CHE 30000 ChE Junior Seminar            | 1         |
|                 | CHE 34800 Chemical Reaction Engineering | 4         |
|                 | CHE 37700 Momentum Transfer             | 4         |
|                 | CHM 26200 Organic Chemistry II          | 3         |
|                 | CHM 26400 Organic Chemistry Lab II      | 1         |
|                 | Math Selective II                       | 3         |
| <b>Total</b>    |   | <b>16</b> |

| Summer Semester |            | Cr       |
|-----------------|------------|----------|
|                 | Internship |          |
|                 | STS        | 3        |
| <b>Total</b>    |            | <b>3</b> |

| Fall Semester              |                                      | Cr        |
|----------------------------|--------------------------------------|-----------|
| J<br>U<br>N<br>I<br>O<br>R | CHE40000 Chemical Engr Seminar       | 1         |
|                            | CHE 30600 Staged Separations         | 3         |
|                            | CHE 37800 Heat & Mass Transfer       | 4         |
|                            | CHE 42000 Process Safety Management  | 3         |
|                            | CHE 45600 Process Dynamics & Control | 3         |
|                            | Biology Selective                    | 3         |
| <b>Total</b>               |                                      | <b>17</b> |

| Spring Semester |                                | Cr        |
|-----------------|--------------------------------|-----------|
|                 | CHE 43500 Chemical Engr Lab    | 4         |
|                 | CHM 37000 Physical Chemistry   | 3         |
|                 | Chemical Engineering Selective | 3         |
|                 | Engineering Elective           | 3         |
|                 | Engineering Elective           | 3         |
|                 |                                |           |
| <b>Total</b>    |                                | <b>16</b> |

| Summer Semester |            | Cr       |
|-----------------|------------|----------|
|                 | Internship |          |
|                 | BSS        | 3        |
| <b>Total</b>    |            | <b>3</b> |

| Fall Semester              |  | Cr        |
|----------------------------|--|-----------|
| S<br>E<br>N<br>I<br>O<br>R | MGMT 39000 Leadership and Ethics           | 0         |
|                            | MGMT 60000 Accounting for Managers         | 3         |
|                            | MGMT 61000 Financial Management            | 3         |
|                            | MGMT 62000 Marketing Management            | 3         |
|                            | MGMT 67000 Business Analytics              | 3         |
|                            | MGMT 69200 Managerial Communication Skills | 1         |
|                            | ECON 51500 Macroeconomics                  | 2         |
|                            | ECON 51400 Microeconomics                  | 2         |
| <b>Total</b>               |  | <b>17</b> |

| Spring Semester |  | Cr        |
|-----------------|--|-----------|
|                 | CHE 45000 Design Process Systems             | 4         |
|                 | MGMT 39000 Leadership and Professional Devl. | 0         |
|                 | MGMT 65000 Strategic Management              | 3         |
|                 | MGMT 66000 Operations Management             | 3         |
|                 | MGMT 68300 Management Information Systems    | 2         |
|                 | MBA Electives                                | 8         |
|                 |  |           |
| <b>Total</b>    |  | <b>16</b> |

| Fall Semester                              | Cr        |
|--|-----------|
| MGMT 63000 Legal Foundations of Management | 2         |
| OBHR 68100 Organizational Behavior         | 2         |
| MBA Electives                              | 12        |
| <b>Total</b>                               | <b>16</b> |

| Spring Semester | Cr        |
|-----------------|-----------|
| MBA Electives   | 16        |
| <b>Total</b>    | <b>16</b> |

Course in *italics* will fulfill both the BSChE and MBA degree requirements.