GENERAL REQUIREMENTS FOR STUDENTS MATRICULATING IN ACADEMIC YEAR: 2017-2018

DEGREE: BACHELOR OF SCIENCE IN ENGINEERING
MAJOR: CHEMICAL ENGINEERING

MINIMUM CUMULATIVE GRADE POINT AVERAGE: 2.0
MINIMUM MAJOR GRADE POINT AVERAGE: 2.0

TOTAL CREDITS: 127

<table>
<thead>
<tr>
<th>Area Curriculum Requirements</th>
<th>Credits</th>
<th>To Be Selected From</th>
<th>Chemical Engineering Required Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Writing 1st Tier</td>
<td>4</td>
<td>ENGL 1010 or Equivalent</td>
<td>CENG 2110 CENG 2120 CENG 3230 CENG 2500 CENG 3110</td>
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<td>CENG 3240* CENG 3390 CENG 3340 CENG 4140 CENG 4310</td>
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<td>CENG 4310 CENG 4500 CENG 4750</td>
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<td>TIDES – 1 course in fall semester</td>
<td>1-1.5</td>
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<tr>
<td>Cultural Knowledge – 1 Humanities 1 Fine Arts</td>
<td>6</td>
<td>Courses designated Humanities and Fine Arts</td>
<td>*Students who declare the Chemical Engineering major in fall 2014 or thereafter are required to earn a minimum grade of C in each CENG required course in order to receive credit for the Bachelor’s degree.</td>
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<td>Cultural Knowledge – 2 Social Sciences</td>
<td>6</td>
<td>Courses designated Social Science</td>
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<td>Cultural Knowledge – 1 Humanities Fine Arts, or Social Science</td>
<td>3</td>
<td>Courses designated Humanities, Fine Arts, or Social Science</td>
<td>MATH 1210** MATH 1220+ MATH 2210 MATH 2240</td>
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<tr>
<td>Quantitative Reasoning 2 Math courses</td>
<td>8</td>
<td>MATH 1220 and 2210 or equivalent</td>
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<td>Scientific Inquiry – 1 Lab Science 1 Science or Math</td>
<td>7-8</td>
<td>Courses from departments designated Science and Math</td>
<td>CHEM 1070, 1075 CHEM 1080, 1085</td>
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<td>CHEM 2410, 2415 CHEM 2420, 2425</td>
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<td>Writing Intensive</td>
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<td>CENG 3240</td>
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<tr>
<td>Public Service – 1st Tier 2nd Tier</td>
<td></td>
<td>1000-3000-Level 3000-Level or above</td>
<td>PHYS 1310 and PHYS 1320</td>
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<td>Western Traditions</td>
<td>3</td>
<td>Refer to Undergraduate Core Curriculum Guide</td>
<td>Applied Biochemistry (CENG 4450/4460), Physical Chemistry I and II (CHEM 3110, 3120), Inorganic Chemistry (CHEM 3210), Instrumental Analysis (CHEM 3310), Organometallic Chemistry (CHEM 4300) Neurochemistry (CHEM 4020), Biochemistry (CHEM 3830, 3840) or Environmental Geochemistry (ENS 4160). Other courses with permission only.</td>
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<tr>
<td>Outside Western Traditions Comparative Cultures Intl. Perspectives</td>
<td>3</td>
<td>Refer to Undergraduate Core Curriculum Guide</td>
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<td>Advanced Chemistry Electives – 2 courses to be selected from:</td>
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<td>Technical Electives – 2 technical electives are required. At least one of the courses must be at the 3000 level or above. A technical elective is any non-required course offered by a department in the School of Science &amp; Engineering.</td>
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<td>Engineering and Advanced Engineering Elective Courses</td>
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<td>An Engineering elective is any non-required CENG course, a course offered by one of the engineering departments (BMEN, ENGP), or by Computer Science (COSC).</td>
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<td>(Note that a course such as CENG 4890, for example, could count as either a Technical or Engineering elective, but no single course can be used to satisfy two requirements.) Two Engineering Elective courses are required, with at least one at the 3000-level or above.</td>
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<td>*Writing Intensive, CENG 3240 (Unit Operations Lab)</td>
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<td>Study Abroad: Ireland, Germany, Switzerland</td>
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</tbody>
</table>

A minor is not available for Chemical Engineering.

- The Degree Plan and other information provided in this booklet serve only as advising tools. Newcomb-Tulane College advisors will help advise you on the core-curriculum, decide on a major, and consult on any academic success issues.
- Your major advisors will advise you on major requirements.
- Students with multiple majors will have more than one advisor and will need to consult with the appropriate advisor.
- Be in the know about your major! By declaring early, you have access to a major advisor, are able to enroll in "majors only" classes, and are on list serves that enable you to receive information about events, internships, and opportunities.
- Pre-med and Pre-law students should also consult with the health professions advisors or the pre-law advisors.
What Can I Do with a Major in...
Chemical Engineering

GENERAL INFORMATION
- Gaining relevant technical work experience through internships, part-time jobs, or volunteer positions is critical.
- Develop strong computer, mathematics and communication skills.
- Join professional organizations to stay abreast of current issues in your field(s) of interest and to develop networking contacts.
- Read scientific journals in your areas of interest.
- If you are interested in attending graduate or professional school, become familiar with admission requirements and maintain a high GPA.
- Develop excellent verbal and written communication skills including presentation and technical report writing skills.
- Research your state's requirements for engineering testing and certification.

SKILLS
- Using scientific rules and methods to solve problems
- Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems
- Giving full attention to what other people are saying, taking time to understand the points being made and asking questions as appropriate
- Identifying complex problems and reviewing related information to develop and evaluate options and implement procedures
- Understanding written sentences and paragraphs in work related documents
- Determining causes of operating errors and deciding what to do about it
- Understanding the implications of new information for both current and future problem-solving and decision-making
- Generating or adapting equipment and technology to serve user needs
- Using mathematics to solve problems
- Communicating effectively in writing as appropriate for the needs of the audience

CAREER AREAS

OPERATIONS/PRODUCTION
- Research and development
- Laboratory testing

TECHNICAL SALES
- Sales
- Sales support

DESIGN AND CONSTRUCTION
- Project Engineering
- Control Systems
- Field Engineering
- Process Engineering

EMployERS

OPERATIONS/PRODUCTION
- Chemical industry including: agricultural chemicals, cosmetic, environmental, food processing, government, industrial chemicals, petroleum, pharmaceutical, plastics
- Federal and state government agencies
- Manufacturing facilities including: airplane, automotive, consumer products, food & beverage, metals, microelectronics, pulp & paper, rubber, textiles

TECHNICAL SALES
- Pharmaceutical companies
- Manufacturing companies
- Chemical companies

DESIGN AND CONSTRUCTION
- Chemical industry including: agricultural chemicals, cosmetic, environmental, food processing, government, industrial chemicals, petroleum, pharmaceutical, plastics
- Manufacturing facilities including: airplane, automotive, consumer products, food & beverage, metals, microelectronics, pulp & paper, rubber, textiles

If you think you might be interested in this major, but you are not absolutely sure, an exploratory advisor can help you explore major and career options, please go to: Explore.Tulane.edu

If you are interested in information about Law Professions, please go to: LawProfessions.Tulane.edu

If you are interested in information about Health Professions, please go to: HealthProfessions.Tulane.edu
What Can I Do with a Major in...
Chemical Engineering

**PROFESSIONAL ORGANIZATIONS**

- American Institute of Chemical Engineers  
  [www.aiche.org](http://www.aiche.org)
- American Chemical Society  
  [www.acs.org](http://www.acs.org)
- American Institute of Engineers  
  [www.members-aie.org](http://www.members-aie.org)
- American Association of Engineering Societies  
  [www.aaes.org](http://www.aaes.org)
- Institution of Chemical Engineers  
  [www.icheme.org](http://www.icheme.org)
- National Society of Professional Engineers  
  [www.nspe.org](http://www.nspe.org)
- Society of Women Engineers  
  [http://societyofwomenengineers.swe.org](http://societyofwomenengineers.swe.org)
- American Society for Engineering Education  
  [www.asee.org](http://www.asee.org)

**RELATED WEBSITES & ASSOCIATIONS**

- Discover Engineering  
  [www.discoverengineering.org](http://www.discoverengineering.org)
- Chemical Engineering Magazine  
  [www.che.com](http://www.che.com)
- Chemical and Engineering Newspapers  
  [http://pubs.acs.org](http://pubs.acs.org)
- Chemical Engineering Progress  
  [www.cepmagazine.org](http://www.cepmagazine.org)
- The Chemical Engineers’ Resource Page  
  [www.cheresources.com](http://www.cheresources.com)
- Careers in Science and Engineering  
  [www.nap.edu/readingroom/books/careers](http://www.nap.edu/readingroom/books/careers)
- Guide to Graduate Education in Science, Engineering and Public Policy  
  [www.aaas.org/spp/sepp/index.htm](http://www.aaas.org/spp/sepp/index.htm)
- ScienceCareers.org  
  [http://sciencecareers.sciencemag.org](http://sciencecareers.sciencemag.org)

**ENVIRONMENTAL**

- Waste Management
- Soil Conservation
- Environmental focused corporations
- Environmental nonprofits
- Federal and state government agencies and departments

**OTHER**

- Law
- Consultant
- Research
- Consulting firms
- Biomedical firms