GENERAL REQUIREMENTS FOR STUDENTS MATRICULATING IN ACADEMIC YEAR: 2016-2017

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

CORE CURRICULUM REQUIREMENTS

<table>
<thead>
<tr>
<th>Area</th>
<th>Credits</th>
<th>To Be Selected From</th>
<th>Chemical Engineering Required Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Writing</td>
<td>4</td>
<td>ENGL 1010 or Equivalent</td>
<td>CENG 2110 CENG 2120 CENG 2320 CENG 2500 CENG 3110</td>
</tr>
<tr>
<td>TIDES – 1 course in fall semester</td>
<td>1-1.5</td>
<td></td>
<td>CENG 3230 CENG 3240* CENG 3390 CENG 3340 CENG 4150</td>
</tr>
<tr>
<td>Cultural Knowledge – 1 Humanities 1 Fine Arts</td>
<td>6</td>
<td>Courses designated Humanities and Fine Arts</td>
<td>CENG 4310 CENG 4500 CENG 4750</td>
</tr>
<tr>
<td>Cultural Knowledge – 2 Social Sciences</td>
<td>6</td>
<td>Courses designated Social Science</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>
</tr>
<tr>
<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>Mathematics Required Courses</td>
</tr>
<tr>
<td>Quantitative Reasoning 2 Math courses</td>
<td>8</td>
<td>MATH 1220 and 2210 or equivalent</td>
<td>MATH 1210** MATH 1220+ MATH 2210 MATH 2240</td>
</tr>
<tr>
<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>*Students receiving a score of 4 or 5 on the AP/AB calculus test are encouraged to enroll in consolidated calculus MATH 1310.</td>
</tr>
<tr>
<td>Writing Intensive</td>
<td>CENG 3240</td>
<td></td>
<td>**MATH 1210 is not required for the major, but it is a prerequisite for MATH 1220.</td>
</tr>
<tr>
<td>Public Service – 1st Tier 2nd Tier</td>
<td>1000-3000-Level 3000-Level or above</td>
<td>Refer to Undergraduate Core Curriculum Guide</td>
<td>Chemistry Required Courses</td>
</tr>
<tr>
<td>Western Traditions</td>
<td>3</td>
<td>Refer to Undergraduate Core Curriculum Guide</td>
<td>PHYS 1310 and PHYS 1320</td>
</tr>
<tr>
<td>Outside Western Traditions Comparative Cultures Intl. Perspectives</td>
<td>3</td>
<td>Refer to Undergraduate Core Curriculum Guide</td>
<td>Advanced Chemistry Electives – 2 courses to be selected from:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></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 4230) Neurochemistry (CHEM 4020), Biochemistry (CHEM 3830, 3840) or Environmental Geochemistry (EENS 4360). Other courses with permission only.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<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>
</tr>
</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

EMPLOYERS
• 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
• Sales
• Sales support

EMPLOYERS
• Pharmaceutical companies
• Manufacturing companies
• Chemical companies

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

EMPLOYERS
• 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

ENVIRONMENTAL
- Waste Management
- Soil Conservation

OTHER
- Law
- Consultant
- Research

- Environmental focused corporations
- Environmental nonprofits
- Federal and state government agencies and departments

- Consulting firms
- Biomedical firms

PROFESSIONAL ORGANIZATIONS
American Institute of Chemical Engineers
www.aiche.org

American Chemical Society
www.acs.org

American Institute of Engineers
www.members-aie.org

American Association of Engineering Societies
www.aaes.org

Institution of Chemical Engineers
www.iche.org

National Society of Professional Engineers
www.nspe.org

Society of Women Engineers
http://societyofwomenengineers.swe.org

American Society for Engineering Education
www.asee.org

RELATED WEBSITES & ASSOCIATIONS
Discover Engineering
www.discoverengineering.org

Chemical Engineering Magazine
www.che.com

Chemical and Engineering Newspapers
http://pubs.acs.org

Chemical Engineering Progress
www.cepmagazine.org

The Chemical Engineers’ Resource Page
www.cheresources.com

Careers in Science and Engineering
www.nap.edu/readingroom/books/careers

Guide to Graduate Education in Science, Engineering and Public Policy
www(aaas.org/spp/sepp/index.htm

ScienceCareers.org
http://sciencecareers.sciencemag.org

For Jobs, internships, resume assistance, interviews, and self-assessments, please go to:

Tulane University is committed to your academic success and provide several services to assist.