CHEMICAL ENGINEERING

Admission Requirements

Applicants for the master of science program must hold a bachelor’s degree from a program that is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology at the time of graduation, or provide evidence of an equivalent academic background to the Dean of the College of Engineering and the appropriate department chair.

Applicants must submit a completed Graduate School application, official undergraduate transcripts, undergraduate grade point average, three letters of recommendation, resume, and a statement of purpose. Personal statements or descriptions of post-baccalaureate experience that provide a rationale for proposed graduate study may also be submitted.

Official results of the analytical writing and quantitative portions of the GRE must be submitted. The GRE minimum requirements for admission into graduate programs in the College of Engineering can be met by one of the four score combinations below:

<table>
<thead>
<tr>
<th>Analytical Writing</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>159</td>
</tr>
<tr>
<td>3.5</td>
<td>153</td>
</tr>
<tr>
<td>4.0</td>
<td>149</td>
</tr>
<tr>
<td>4.5</td>
<td>146</td>
</tr>
</tbody>
</table>

The GRE requirement may be waived for students holding degrees from ABET accredited programs (with department approval).

Applicants with a bachelor’s degree must have an overall grade-point average of 2.75 or better or 3.00 for the last two years (64 semester credits or equivalent).

Applicants whose native language is not English must have a TOEFL score of at least 79 on the internet-based TOEFL and also must submit their score on the Test of Written English (TWE).

Applicants who do not satisfy the requirements for Full Admission may be granted Provisional Admission or Deferred Admission.

Degree Requirements

The University’s Academic Requirements (See Academic Requirements in this Graduate Bulletin), the following College of Engineering requirements and the department’s academic requirements must all be satisfied for the master of science degrees in the College of Engineering.

- Identify a three-member Advisory Committee including a major advisor before completion of 9 credit hours of coursework.
- Complete a formal Plan of Study that is acceptable to the Advisory Committee with a minimum of 24 credit hours of coursework of which no more than 6 credits are special topics courses. The formal Plan of Study may be revised upon approval of the Advisory Committee.
- Successfully (no “fail” votes) defend the thesis before the Advisory Committee, or have the Engineering Report approved by the Advisory Committee, or successfully complete the appropriate department’s nontesis option requirements.

Applicants with a bachelor’s degree in a discipline other than engineering shall have completed coursework in calculus, differential equations, have one year of classical physics, and must complete:

- 4200:200 Material & Energy Balances (4 credits)
- 4200:225 Equilibrium Thermodynamics (4 credits)
- 4200:321 Transport Phenomena (3 credits)
- 4200:330 Chemical Reaction Engineering (3 credits)

Total: 14 credits

An overall GPA of 3.0 must be maintained for these courses. These undergraduate engineering courses may be taken prior to graduate admission, or concurrently if the student has Full Admission or Provisional Admission and is enrolled for at least 9 graduate credits.

Thesis Option

- 4200:600 Transport Phenomena (3 credits)
- 4200:605 Chemical Reaction Engineering (3 credits)
- 4200:610 Classical Thermodynamics (3 credits)
- Chemical Engineering Electives* - 6 credits
- Approved Electives** - 6 credits
- Approved Mathematics - 3 credits
- Master’s Thesis - 6 credits

Total: 30 credits

Nonthesis Option

- 4200:600 Transport Phenomena (3 credits)
- 4200:605 Chemical Reaction Engineering (3 credits)
- 4200:610 Classical Thermodynamics (3 credits)
- 4200:697 Chemical Engineering Report (3 credits)
- Chemical Engineering Electives* - 6 credits
- Approved Electives** - 15 credits
- Approved Mathematics - 3 credits

Total: 36 credits

* Chemical Engineering students in both degree options are expected to attend and to participate in the department’s seminars.

** Students without a BS in Chemical Engineering are required to take 4200:535 Process Analysis & Control, 4200:541 Process Design I.

Five Year BS/MS Chemical Engineering Program

The five year BS/MS program in Chemical Engineering provides superior undergraduate students with the opportunity to complete an M.S. in Chemical Engineering with one additional year of study beyond their B.S. Chemical Engineering degree at The University of Akron. The program is only available to B.S. Chemical Engineering students at The University of Akron. Applications are accepted in the Spring of the junior year.