## Curriculum
### Master in Chemical Engineering

#### General Requirements (8 credits) | Cr.
--- | ---
GEN 522 | Law for Engineers | 2
GEN 523 | Engineering Ethics | 1
GEN 514 | Research Methodology | 1
GEN 524 | Engineering projects Management | 2
GEN 516 | Scientific English | 2
GEN 599 | Seminars and Conferences | 0
GEN 699 | Seminars and Conferences | 0

#### Diploma Project (4 credits) | Cr.
--- | ---
GCH 696 | Final Project - Subject Proposal and Research | 1
GCH 697 | Final Project - Thesis Dissertation and Defense | 3

#### Faculty Elective (3 credits) | Cr.
--- | ---
Faculty Elective - level 500 or 600

#### Internship (1 credit) | Cr.
--- | ---
GCH 580 | Internship | 1

#### Common core (17 credits) | Cr.
--- | ---
GCH 510 | Interfacial Phenomena and Colloids | 2
GCH 520 | Catalytic Processes | 2
GCH 521 | Applied Electrochemistry and Corrosion | 3
GMC 520 | Advanced Transport Phenomena | 3
GCH 620 | Design of Chemical Reactors | 3
GCH 625 | Process Design and Control | 3
GCH 671 | Advanced Process Engineering Lab | 1

#### Option: Petroleum (15 credits) | Cr.
--- | ---
GCHS30 | Properties of Polymers | 2
GCH 535 | Petroleum Refining Techniques | 3
GCH 540 | Conversion of Petroleum Products | 3
GCH 640 | Purification of Petroleum Products | 3
GCH 641 | Oilfields and Drilling Techniques | 2
GMC 671 | Computational Fluid Dynamics Lab | 1
GCH 673 | Analysis of Petroleum Products Lab | 1

#### Option: Industrial Processes (15 credits) | Cr.
--- | ---
GCH 530 | Properties of Polymers | 2
GMC 544 | Fluid Rheology | 3
GCH 632 | Water and Wastes Treatment | 3
GCH 642 | Food and Pharmaceutical Processes | 3
GCH 643 | Production and Processing of Metals | 3
GCH 672 | Process Simulation Lab | 1
## Course Itinerary
### Master in Chemical Engineering

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCH 510</td>
<td>Interfacial Phenomena and Colloids</td>
<td>2</td>
</tr>
<tr>
<td>GCH 520</td>
<td>Catalytic Processes</td>
<td>2</td>
</tr>
<tr>
<td>GCH 521</td>
<td>Applied Electrochemistry and Corrosion</td>
<td>3</td>
</tr>
<tr>
<td>GMC 520</td>
<td>Advanced Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>GEN 522</td>
<td>Law for Engineers</td>
<td>2</td>
</tr>
<tr>
<td>GEN 523</td>
<td>Engineering Ethics</td>
<td>1</td>
</tr>
<tr>
<td>Faculty Elective - level 500 or 600</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEN 516</td>
<td>Scientific English</td>
<td>2</td>
</tr>
<tr>
<td>GCH 620</td>
<td>Design of Chemical Reactors</td>
<td>3</td>
</tr>
<tr>
<td>GCH 625</td>
<td>Process Design and Control</td>
<td>3</td>
</tr>
<tr>
<td>GCH 671</td>
<td>Advanced Process Engineering Lab.</td>
<td>1</td>
</tr>
<tr>
<td>GEN 524</td>
<td>Engineering Projects Management</td>
<td>2</td>
</tr>
<tr>
<td>GEN 514</td>
<td>Research Methodology</td>
<td>1</td>
</tr>
<tr>
<td>Major Course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GCH 580</td>
<td>Internship</td>
<td>1</td>
</tr>
<tr>
<td>GCH 696</td>
<td>Final Project - Subject Proposal and Research</td>
<td>1</td>
</tr>
<tr>
<td>GEN 599</td>
<td>Seminars and Conferences</td>
<td>0</td>
</tr>
<tr>
<td>Major Course</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>GCH 697</td>
<td>Final Project - Thesis Dissertation and Defense</td>
<td>2</td>
</tr>
<tr>
<td>GEN 599</td>
<td>Seminars and Conferences</td>
<td>0</td>
</tr>
<tr>
<td>Major Course</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**First Year**

| Credits | 32 |

**Second Year**

| Credits | 16 |

**First Year Credits**

- **Fall**
  - GCH 510: Interfacial Phenomena and Colloids (2 credits)
  - GCH 520: Catalytic Processes (2 credits)
  - GCH 521: Applied Electrochemistry and Corrosion (3 credits)
  - GMC 520: Advanced Transport Phenomena (3 credits)
  - GEN 522: Law for Engineers (2 credits)
  - GEN 523: Engineering Ethics (1 credit)
  - Faculty Elective - level 500 or 600 (3 credits)

- **Spring**
  - GEN 516: Scientific English (2 credits)
  - GCH 620: Design of Chemical Reactors (3 credits)
  - GCH 625: Process Design and Control (3 credits)
  - GCH 671: Advanced Process Engineering Lab. (1 credit)
  - GEN 524: Engineering Projects Management (2 credits)
  - GEN 514: Research Methodology (1 credit)

- **Summer**
  - GCH 580: Internship (1 credit)

- **Major Course** (10 credits)

**Second Year Credits**

- **Fall**
  - GCH 696: Final Project - Subject Proposal and Research (1 credit)
  - GEN 599: Seminars and Conferences (0 credit)

- **Spring**
  - GCH 697: Final Project - Thesis Dissertation and Defense (3 credits)
  - GEN 599: Seminars and Conferences (0 credit)