Chemical Engineering (PhD)

Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 701</td>
<td>Introduction to Chemical Engineering Research</td>
<td></td>
<td>16</td>
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<tr>
<td>CHE 702</td>
<td>Chemical Engineering Research Proposition</td>
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<tr>
<td>CHE 711</td>
<td>Chemical Engineering Process Modeling</td>
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<tr>
<td>CHE 713</td>
<td>Thermodynamics I</td>
<td></td>
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<tr>
<td>CHE 715</td>
<td>Transport Phenomena</td>
<td></td>
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<tr>
<td>CHE 717</td>
<td>Chemical Reaction Engineering</td>
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</table>

Additional Courses | 6
Select six additional credit hours at 500 or 700 level in any technical discipline approved in conjunction with the academic committee

Dissertation Research Course | 6
CHE 895 Doctoral Dissertation Research

Elective Courses | 44
"Elective Courses" are determined in conjunction with the academic committee to meet the 72 total credit hours

Preliminary Exam
The Preliminary Exam is taken in the 4th semester, however, it requires an annual progress report

Total Hours | 72

Elective Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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</thead>
<tbody>
<tr>
<td>CHE 543</td>
<td>Polymer Science and Technology</td>
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<tr>
<td>CHE 551</td>
<td>Biochemical Engineering</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHE 560</td>
<td>Chemical Processing Of Electronic Materials</td>
<td>3</td>
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<tr>
<td>CHE 562</td>
<td>Fundamentals of Bio-Nanotechnology</td>
<td>3</td>
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<tr>
<td>CHE 563</td>
<td>Fermentation of Recombinant Microorganisms</td>
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<tr>
<td>CHE 568</td>
<td>Conventional and Emerging Nanomanufacturing Techniques and Their Applications in Nanosystems</td>
<td>3</td>
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<tr>
<td>CHE 577</td>
<td>Advanced Biomafacturing and Biocatalysis</td>
<td>3</td>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Colloid Science &amp; Nanoscale Engineering)</td>
<td>1-3</td>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Green Chemical Engineering)</td>
<td>1-3</td>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Molecular Cell Engineering)</td>
<td>1-3</td>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Chemical Process Engineering)</td>
<td>1-3</td>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Polymer Rheology and Processing)</td>
<td>1-3</td>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Drug Delivery Concepts)</td>
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<tr>
<td>CHE 761</td>
<td>Polymer Blends and Alloys</td>
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<td>CHE 775</td>
<td>Multi-Scale Modeling of Matter</td>
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</tbody>
</table>
## Faculty

### Full Professors
- Ruben G. Carbonell
- Joseph M. DeSimone
- Michael David Dickey
- Peter S. Fedkiw
- Jan Genzer
- Christine S. Grant
- Keith E. Gubbins
- Carol K. Hall
- Jason M. Haugh
- Hasan Jameel
- Robert M. Kelly
- Saad A. Khan
- Harold Henry Lamb
- Fanxing Li
- Phooi K. Lim
- Gregory N Parsons
- Behnam Pourdeyhimi
- Balaji M. Rao
- Richard J. Spontak
- Orlin Dimitrov Velev
- Phillip R. Westmoreland

### Associate Professors
- Chase Beisel
- Steven W. Peretti
- Erik Emilio Santiso

### Assistant Professors
- Milad Abolhasani
- Nathan Crook
- Chien Ching Lilian Hsiao
- Albert Jun Qi Keung
- Stefano Menegatti
- Adriana San Miguel Delgadillo

### Practice/Research/Teaching Professors
- Qingshan Wei

### Emeritus Faculty
- Richard M. Felder
- Michael Carl Flickinger
- Harold B. Hopfenberg
- David Frederick Ollis
- Hubert Winston

### Adjunct Faculty
- Anthony L. Andrady
- Christina Boi
- Eric Muller Gomez
- Raghbir P. Gupta
- Patrick V. Gurgel
- Michael R. Ladisch
- Gregory B. McKenna
- Orlando J. Rojas
- Martin Schoen
- Sindee Lou Simon
- Malgorzata Sliwinska-Bartowiak
- Simeon D. Stoyanov