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>
<td></td>
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<tr>
<td>CHE 713</td>
<td>Thermodynamics I</td>
<td></td>
<td></td>
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<tr>
<td>CHE 715</td>
<td>Transport Phenomena</td>
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<tr>
<td>CHE 717</td>
<td>Chemical Reaction Engineering</td>
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</table>

**Required Courses 16**

**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>
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<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>
<td>2</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 Biomannufacturing 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>
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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>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Polymer Rheology and Processing)</td>
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<tr>
<td>CHE 596</td>
<td>Special Topics in Chemical Engineering (Drug Delivery Concepts)</td>
<td>1-3</td>
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<tr>
<td>CHE 761</td>
<td>Polymer Blends and Alloys</td>
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<tr>
<td>CHE 761</td>
<td>Polymer Blends and Alloys</td>
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<tr>
<td>CHE 775</td>
<td>Multi-Scale Modeling of Matter</td>
<td>3</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  
Qingshan Wei

Practice/Research/Teaching Professors
Lisa G. Bullard  
Matthew Ellis Cooper  
Kirill Efimenko  
Gary Louis Gilleskie  
Luke Neal  
John H. van Zanten

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  
Raghubir 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