

# PURDUE CHEMICAL ENGINEERING PROFESSIONAL MASTER'S PROGRAM



## 5 CONCENTRATIONS

- BIOCHEMICAL ENGINEERING
- ENERGY SYSTEMS FUNDAMENTALS & PROCESSES
- KINETICS, CATALYSIS & REACTION ENGINEERING
- PARTICULATE PRODUCTS & PROCESSES
- PHARMACEUTICAL ENGINEERING

**Designed to prepare recent graduates for a specialized career in industry and government and to broaden the prospects of professionals with careers in progress**

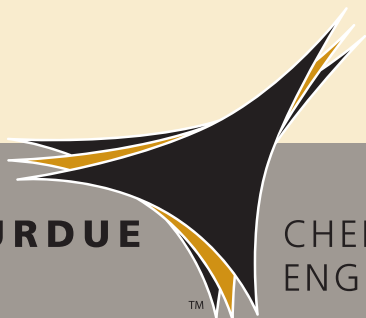
## WHY PURDUE CHEMICAL ENGINEERING?

- Competitive program with excellent employment and career advancement prospects
- Purdue Engineering ranked #6 (2016 US News and World Report)
- Purdue ranked #2 in U.S. public universities for international student enrollment
- Competitive tuition rates in an affordable, safe environment

## PROGRAM HIGHLIGHTS

- Graduates receive a Master of Science in Chemical Engineering
- 12 month, full-time program on the West Lafayette, Ind., campus
- Non-thesis terminal degree
- Elective summer research program with world class researchers
- Student access to two Purdue major job search events: The Fall Industrial Roundtable Job Fair and the Spring Expo Career Fair, attended by 400 companies

**PURDUE**



CHEMICAL  
ENGINEERING

**CONTACT US:**

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[engineering.purdue.edu/ChE/MS](http://engineering.purdue.edu/ChE/MS)

	Biochemical Engineering	Energy Systems Fundamentals & Processes	Kinetics, Catalysis & Reaction Engineering	Particulate Products & Processes	Pharmaceutical Engineering
<b>ChE Core Courses (6 Credit Hours)</b>	Transport Phenomena, Applied Statistics, or another CHE 600 course relevant to the concentration				
<b>Core Courses - Concentration (9 Credit Hours)</b>	<ul style="list-style-type: none"> <li>• Bioprocess Engineering</li> <li>• Engineering Applications of Biological Molecules</li> <li>• Bioseparations</li> <li>• Biochemistry</li> <li>• Good Regulatory Practices</li> </ul>	<ul style="list-style-type: none"> <li>• Systems Analysis of Energy Production, Transformation, Distribution, &amp; Use</li> <li>• Advanced Solar Energy Conversion</li> <li>• Organic Electronic Materials &amp; Devices</li> <li>• Intro to Nanoscale Science &amp; Engineering</li> <li>• Intro to Energy Storage Systems</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced ChE Thermodynamics</li> <li>• Chemical Reaction Engineering</li> <li>• Catalysis</li> <li>• Methods in Catalysis</li> <li>• Advanced Modeling for Catalysis Studies</li> </ul>	<ul style="list-style-type: none"> <li>• Particulate Processes</li> <li>• Particle Design &amp; Processing</li> <li>• Particle Characterization</li> <li>• Powder Processing</li> </ul>	<ul style="list-style-type: none"> <li>• API manufacturing processes</li> <li>• Intro to the Pharmaceutical Industry</li> <li>• Intro to the Pharmaceutical Processes</li> <li>• Biopharmaceutics</li> </ul>
<b>Core Courses - Management (9 Credit Hours)</b>	<ul style="list-style-type: none"> <li>• Financial Marketing</li> <li>• Marketing Management</li> <li>• Strategic Management</li> <li>• Operations Management</li> <li>• Quality Management, Audits &amp; Inspection</li> </ul>				
<b>Electives (6 Credit Hours)</b>	<ul style="list-style-type: none"> <li>• Pharmaceutical Process Development &amp; Design</li> <li>• Principles of Pharmaceutical Design</li> <li>• Protein Engineering</li> <li>• Metabolic Engineering</li> <li>• Advanced Separations</li> <li>• Polymers &amp; Pharmaceutical Systems</li> <li>• Biochemistry II</li> <li>• Biological &amp; Food Processing</li> <li>• Introduction to Pharmaceutical Manufacturing Processes</li> <li>• Advanced Biopharmaceutics</li> </ul>	<ul style="list-style-type: none"> <li>• Battery Systems Engineering</li> <li>• Separations Processes</li> <li>• Advanced Chemical Engineering Thermodynamics</li> <li>• Transport Phenomena</li> </ul>	<ul style="list-style-type: none"> <li>• Polymerization Reaction Engineering</li> <li>• Industrial Organic Chemistry</li> <li>• Statistical Thermodynamics</li> <li>• Kinetics &amp; Mechanisms of Inorganic Reactions</li> <li>• Transition Metal &amp; Organometallic Chemistry</li> <li>• Advanced Inorganic Chemistry</li> <li>• Advanced Organic Chemistry</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Pharmaceutical Processes</li> <li>• API manufacturing processes</li> <li>• Biological &amp; Food Processing Unit Operations</li> <li>• Pharmaceutical Solids</li> </ul>	<ul style="list-style-type: none"> <li>• Particulate Processes</li> <li>• Particle Design &amp; Processing</li> <li>• Pharmaceutical Solids</li> <li>• Physico-chemical principles</li> <li>• Biopharmaceutics</li> <li>• Pharmacokinetics</li> </ul>
<b>Elective Research Project (6 Credit Hours)</b>	Summer Research Activity				
<b>Total = 30 Credit Hours</b>					