



THE GRADUATE SCHOOL | MONTANA STATE UNIVERSITY

# Chemical & Biological Engineering

## DEGREES OFFERED

- M.S. in Chemical Engineering
- M.S. in Environmental Engineering
- M.E. in Chemical Engineering
- M.E. in Bioengineering
- Doctor of Philosophy in Engineering



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## RESEARCH AREAS OF EMPHASIS

The graduate program and scientific research areas in the Chemical and Biological Engineering Department cover a wide range of topics, including Magnetic Resonance and Transport Processes, Environmental Biotechnology, Biofuels, Materials for Improved Performance of Solid Oxide Fuel Cells, Composite Materials with Energy Applications, Metabolic Engineering of Cells, Computational Modeling of Fluid Systems, and Performance of Biofilm Systems.

## ADMISSION

The Department of Chemical and Biological Engineering has the following minimum requirements for admission to the graduate program:

- 3.0 GPA in undergraduate program (based on A = 4.0)
- GRE Scores (145 Verbal, 153 Quantitative)
- TOEFL score of 213 (CBT), 550 (PBT), 80 (IBT); or IELTS score of 7.0 or higher - required of non-native speakers of English

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## *Chemical & Biological Engineering, continued*

Typical scores for admitted students are well above these minima. Master's degree candidates can elect either the thesis or non-thesis options. Candidates following the non-thesis option are not eligible for Graduate Research Assistantships and are typically self-funded. Doctoral candidates are only admitted as funded Graduate Assistants, which limits the number of candidates that can be admitted each year. The majority of graduate students in the department are doctoral candidates.

A complete application is one that contains the following:

- Official undergraduate transcripts (and MA transcripts if applying for PhD program)
- Statement of Purpose that addresses the applicant's areas of intended study and the applicant's qualifications for graduate-level work.
- Three letters of recommendations. Letters should be written by people who are able to judge your ability to succeed in graduate school, e.g., your undergraduate professors, an advisor or supervisor during an internship, other faculty. The request for recommendation letters will be made through this online application process; plan on having contact information of your recommenders, including email address at the time of applying.
- Graduate Record Exam (GRE) Scores
- Resume/CV (optional only in the MS in Chemical Engineering)
- TOEFL/IELTS (international only)

Be sure you meet the minimum requirements for applying; if you do not meet the minimum or if you do not complete the application, you will not be considered.

### **ADMISSION DEADLINES**

- Domestic: Fall semester: July 1; spring: November 1; & summer: March 15
- International: Fall semester: May 1, spring: September 15; & summer: January 15
- Deadline for consideration for assistantships: Fall semester: February 1; & spring: August 1

### **ASSISTANTSHIPS**

Doctoral candidates are typically funded as Graduate Research Assistants. Master's candidates may be Graduate Research Assistants, or unfunded (non-thesis option). There are also limited opportunities for Graduate Teaching Assistantships in the Department.

### **FACULTY**

Ryan Anderson, Ph.D., *Heat Transfer, Fluid Flow, and Fuel Cells*  
Jennifer Brown, Ph.D., *Magnetic Resonance Imaging / Rheology*  
Ross Carlson, Ph.D., *Metabolic Engineering*  
Connie Chang, Ph.D., *Droplet Based Microfluidics*  
Christine Foreman, Ph.D., *Microbiology in Cold Environments*  
Paul Gannon, Ph.D., *Energy, Materials Science*  
Robin Gerlach, Ph.D., *Environmental Biotechnology*  
Jeffrey Heys, Ph.D., *Computational Modeling*  
Karlene Hoo, Ph.D., *Dean, The Graduate School*  
Stephanie McCalla, Ph.D., *Molecular Diagnostics and Microfluidics*  
Brent Peyton, Ph.D., *Bioremediation and Biotechnology*  
Abigail Richards, Ph.D., *Environmental Biotechnology*  
Joseph Seymour, Ph.D., *Magnetic Resonance Imaging / Transport Processes*  
Phil Stewart, Ph.D., *Director, Biofilm Systems*  
Stephanie Wettstein, Ph.D., *Catalysis and Membrane Separations*  
Jim Wilking, Ph.D., *Soft Matter Physics*

