

CHEMICAL ENGINEERING (M.S.)

<https://ceps.unh.edu/chemical-engineering/program/ms/chemical-engineering>

Description

An M.S. in chemical engineering can help you unlock your career potential or enter the world of entrepreneurship. In fact, this advanced degree can translate into more than \$15,000 annually in salary compared to those with an undergraduate degree alone. Our program will introduce you to the exciting world of chemical engineering research, teaching you how to plan and execute research activities and interpret results. You'll complete a research thesis in an area such as bioengineering, electrochemical engineering, advanced materials, reaction and energy engineering, or environmental engineering. You'll be prepared to enter the workforce with a deeper understanding of the fundamentals of chemical engineering.

M.S. Admission Requirements

An applicant is expected to have completed a baccalaureate degree in chemical engineering. Students with good undergraduate records but with deficiencies in certain areas may be admitted on condition that they complete specified courses without credit to make up for their deficiencies. Applicants must submit current scores (within five years) from the general test of the Graduate Record Examination. International students are required to submit TOEFL test scores. IELTS scores are accepted on a case-by-case basis, and students must have a minimum score of 6.5.

Requirements

M.S. Degree Requirements

A minimum of **30 credits**, which must include:

| Code | Title | Credits |
|------------------------------|--|---------|
| Required Courses | | |
| CHE 900 | Seminar ¹ | 2 |
| CHE 923 | Advanced Chemical Engineering Thermodynamics | 3 |
| CHE 932 | Advanced Chemical Engineering Kinetics | 3 |
| CHE 940 | Advanced Transport Phenomena | 3 |
| CHE 899 | Master's Thesis | 6 |
| Electives² | | |
| Select 13 course credits | | 13 |

¹ Students should register for CHE 900 for 2 credits in their first two semesters and CHE 900 for 0 credits each additional semester until their degree is granted.

² Can be made up of electives offered by the department or by the college. Courses taken within the UNH School of Law, College of Life Sciences and Agriculture, and the Paul College of Business and Economics can apply with approval. Electives must be assessed with a letter grade and cannot be pass/fail. Students take electives after consulting with their advisers. The courses the students have taken to fulfill their B.S. degree requirement cannot be counted toward their M.S. degree requirement.

Student Learning Outcomes

- The ability to apply knowledge of mathematics, science and engineering.
- The ability to design and conduct experiments safely, as well as to analyze and interpret data.
- The ability to identify, formulate and solve chemical engineering problems.
- The ability to design a process that meets desired specifications with consideration of environmental, safety, economic and ethical criteria.
- An appreciation of contemporary issues relevant to chemical engineering.
- Completed the UNH general education/Discovery program and obtained a broad education useful to understand the impact of engineering solutions in a global and societal context.
- The ability to use computers effectively for engineering practice.
- An appreciation of professional and ethical responsibility.
- The ability to communicate effectively.
- Skills to search for information in the library and on the internet.
- These skills will be used in their pursuit of lifelong learning.
- The capacity of function and work effectively alone and in a team environment.