

CHEMICAL ENGINEERING - MASTER OF SCIENCE IN CHEMICAL ENGINEERING

The program of study leading to the Master of Science in Chemical Engineering consists of 32 credits which includes:

- Required CHME core graduate courses (14 credits)
- CHME elective courses numbered 455-589 (3 credits)
- Other graduate elective courses (9 credits)
- Thesis as CHME 599 Master's Thesis (6 credits)

| Prefix | Title | Credits |
|--|--|-----------|
| Required Core Courses | | |
| CHME 501 | Graduate Thermodynamics for Chemical Engineers | 3 |
| CHME 506 | Graduate Transport Phenomena(s) (Spring semester course) | 3 |
| CHME 516 | Graduate Numerical Methods in Chemical Engineering | 3 |
| CHME 542 | Graduate Reactor Analysis and Design (s) (Spring semester course) | 3 |
| CHME 594 | Professional Communication in Chemical Engineering | 2 |
| Electives | | |
| CHME electives (select from CHME 455-CHME 594 except CHME 498) | | 3 |
| Electives ¹ | | 9 |
| Master's Thesis | | |
| CHME 599 | Master's Thesis (minimum 6 credit hours before the thesis defense) | 6 |
| Total Credits | | 32 |

¹ Elective courses are intended to supplement the research work of each graduate student. These courses must be numbered 450 or above and must be approved by the thesis advisor.

| First Year | | |
|--------------------|--|----------|
| Fall | | Credits |
| CHME 501 | Graduate Thermodynamics for Chemical Engineers | 3 |
| CHME 516 | Graduate Numerical Methods in Chemical Engineering | 3 |
| CHME Elective | | 3 |
| | Credits | 9 |
| Spring | | |
| CHME 506 | Graduate Transport Phenomena(s) | 3 |
| CHME 542 | Graduate Reactor Analysis and Design (s) | 3 |
| CHME 594 | Professional Communication in Chemical Engineering | 2 |
| CHME 599 | Master's Thesis | 1 |
| | Credits | 9 |
| Second Year | | |
| Fall | | Credits |
| CHME 599 | Master's Thesis | 3 |
| Grad Electives | | 6 |
| | Credits | 9 |

| Spring | | |
|---------------|----------------------|-----------|
| CHME 599 | Master's Thesis | 2 |
| Grad Elective | | 3 |
| | Credits | 5 |
| | Total Credits | 32 |

MAP Requirements

- The Graduate School allows qualified junior or senior students to substitute its graduate courses for required or elective courses in an undergraduate degree program and then subsequently count those same course as fulfilling graduate requirements in a related graduate program.
- Undergraduate students may apply for acceptance to the accelerated master's program after completing 60 semester hours of undergraduate coursework of which a minimum of 25 semester credit hours must be completed at NMSU.
- The grade point average must be at a minimum of 2.75.

Students must receive a grade of B or higher in this coursework to be counted for graduate credit. If a grade of B- or lower is earned, it will not count toward the graduate degree.

Accepted MAP Courses

The following courses are accepted for use in the MAP program. Other courses may be considered after a consultation with the program advisor.

| Prefix | Title | Credits |
|------------|--|---------|
| CHME 452 | Chemical Process Design & Economic Evaluation | 3 |
| CHME 455 | Chemical Plant Design | 3 |
| CHME 455 L | Chemical Plant Simulation | 1 |
| CHME 461 | Calculation of Material and Molecular Properties | 3 |
| CHME 464 | Polymer Science & Engineering | 3 |
| CHME 467 | Nanoscience and Nanotechnology | 3 |
| CHME 470 | Introduction to Nuclear Energy | 3 |
| CHME 471 | Health Physics | 3 |
| CHME 474 | Power Plant Design | 3 |
| CHME 476 | Nuclear Fuel Cycles | 3 |
| CHME 478 | Electrochemistry: Basics & Applications | 3 |
| CHME 479 | Corrosion and Degradation of Materials | 3 |
| CHME 481 | Biomedical Engineering and Engineering Healthcare | 3 |
| CHME 486 | Biofuels | 3 |
| CHME 495 | Brewing Science & Engineering | 3 |
| CHME 495 L | Brewing Science & Technology Lab | 1 |
| CHME 501 | Graduate Thermodynamics for Chemical Engineers | 3 |
| CHME 506 | Graduate Transport Phenomena(s) | 3 |
| CHME 516 | Graduate Numerical Methods in Chemical Engineering | 3 |
| CHME 542 | Graduate Reactor Analysis and Design (s) | 3 |
| CHME 548 | Industrial Safety | 3 |
| CHME 564 | Polymer Science & Engineering | 3 |
| CHME 565 | Rheology and Viscoelasticity | 3 |
| CHME 567 | Nanoscience and Nanotechnology | 3 |
| CHME 570 | Introduction to Nuclear Energy | 3 |
| CHME 571 | Health Physics | 3 |

2 Chemical Engineering - Master of Science in Chemical Engineering

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| CHME 574 | Power Plant Design | 3 |
| CHME 576 | Nuclear Fuel Cycles | 3 |
| CHME 578 | Electrochemistry: Basics & Applications | 3 |
| CHME 591 | Graduate Special Topics | 1-3 |
| CHME 593 | Graduate Special Projects | 1-3 |
| CHME 594 | Professional Communication in Chemical Engineering | 2 |
| CHME 595 | Chemical Process Design and Business Analysis | 3 |
| CHME 596 | Chemical Process Industries Research | 1 |
| CHME 597 | Advanced Chemical Process Industry Analysis | 2 |