

Otto H. York Department of
Chemical, Biological and Pharmaceutical Engineering
M.S. Program Requirements

For Students Entering the Program After
September, 2015

New Jersey Institute of Technology
Newark, NJ 07102



Master of Science in Chemical Engineering

Curriculum

This program is intended for those interested in advancing their understanding of chemical engineering. It may be taken on a part-time or full-time basis. There are two options. Option 2 requires completion of a Master's thesis. Option 1 does not require completion of a Master's thesis.

Admission Requirements: An undergraduate degree in chemical engineering is usually required. Students who do not have a degree in chemical engineering may be considered for admission through the bridge program which consists of taking the following courses: PHEN 500, PHEN 501 and PHEN 502. The bridge program is primarily for individuals who have a degree in either chemistry or an engineering discipline other than chemical engineering.

A minimum undergraduate GPA of 3.0 on a 4.0 scale, or equivalent, is typically required for admission. Typical scores for the GRE examination are verbal (150-160); quantitative (155 or better) and analytical (3.5-4.0), although lower scores may be accepted depending on the undergraduate record. International students must achieve a minimum TOEFL score of 79. For any student with a BS degree in chemical engineering from an institution in the USA with ABET accreditation, the GRE requirement will be waived.

Degree Requirements, Option 1

Core Courses (12 credits):

ChE 611	Thermodynamics
ChE 612	Kinetics of Reactions and Reactor Design
ChE 624	Transport Phenomena I
ChE 626	Mathematical Methods in Chemical Engineering

Elective Courses (18 credits):

A minimum of 9 credits of 600-or-700 level courses in chemical engineering. Of the remaining nine credits at least three credits must be in chemical engineering, chemistry or pharmaceutical engineering.

The selection of elective courses must be made in consultation with the department graduate advisor.

To graduate, students must attain a minimum GPA of 3.0 in the core courses listed above, and a minimum overall GPA of 3.0.

No more than 6 credits may be in Independent study [Ch.E 705/706]. No more than 3 credits in Independent Study may be taken with the same supervising faculty member. Also a student cannot take independent Study with a MS dissertation Advisor.

Degree Requirements, Option 2:

Core Courses (12 credits):

ChE 611	Thermodynamics
ChE 612	Kinetics of Reactions and Reactor Design
ChE 624	Transport Phenomena I
ChE 626	Mathematical Methods in Chemical Engineering

Thesis (6 credits):

ChE 701	Master's Thesis
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Before deciding on a thesis topic and advisor, students must discuss thesis topics with at least three faculty members and get their signature on a form provided by the department. The signed form with the name of the advisor selected and tentative title of thesis topic must be returned to the department for approval.

Change of advisor requires consent of the previous advisor and departmental approval. The completed thesis must be examined and signed by three faculty members at least two of which must be on the department faculty. The MS thesis committee must be formed and submitted to the department for approval at least one semester before the expected graduation date. The committee must have at least three members. The chair of the thesis committee and at least one other member must be a tenured or tenure-track faculty member or a research professor in the academic department of the program offering the degree. The department provides a form for the formation of the MS thesis committee. An oral presentation of the thesis to the committee is a requirement. Letter grades are not given for the thesis. Instead a grade of S, P or U is given.

Elective Courses (12 credits):

A minimum of 3 credits of 600-or-700 level courses in chemical engineering. Of the remaining nine credits, three credits must be in chemical engineering, chemistry or pharmaceutical engineering. The selection of elective courses must be made in consultation with the department graduate advisor.

Graduation Requirements:

To graduate, students must attain a minimum GPA of 3.0 in the core courses listed above, and a minimum overall GPA of 3.0.

**Department of Chemical, Biological and Pharmaceutical Engineering
MS Advisor Selection Form**

Name of Student (please print) _____

I have discussed thesis topics with the following faculty members of the Department of Chemical, Biological and Pharmaceutical Engineering for my MS degree in Chemical Engineering.

Name of Faculty Member
[please print]

Signature of Faculty Member and Date

1. _____

2. _____

3. _____

4. _____

I have decided that my thesis advisor(s) will be (please print name(s)) :

My thesis topic will be [please give a tentative title]:

I understand that after signing this form I cannot change advisor(s) without the consent of the advisor(s) mentioned in this form. I also understand that if my advisor refuses to release me, I can appeal to the department Graduate Studies Committee for a final decision.

Student's Signature

Date

Approved by the Associate Chair for Graduate Studies in Chemical Engineering:

Signature

Date

MASTER'S THESIS COMMITTEE APPOINTMENT REPORT

This form is completed upon formation of the Master's Thesis Committee. The committee must be approved by the Graduate Program Director. The chair of the committee and at least one other member must be a tenure or tenure-track faculty member or research professor in the department.

PROGRAM: _____

NAME OF STUDENT: _____
Last First

NJIT I.D. OR SOCIAL SECURITY #: _____

PRELIMINARY TITLE OF THESIS: _____

DATE OF COMMITTEE APPOINTMENT: _____

NAME, FACULTY RANK, DEPARTMENT/AFFILIATION OF THESIS COMMITTEE CHAIR:

NAME	RANK	DEPT/AFFILIATION	SIGNATURE
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

NAME, FACULTY RANK, DEPARTMENT/AFFILIATION OF THESIS COMMITTEE MEMBERS:

NAME	RANK	DEPT/AFFILIATION	SIGNATURE
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

GRADUATE PROGRAM DIRECTOR: _____
SIGNATURE DATE

OFFICE OF GRADUATE STUDIES: _____
SIGNATURE DATE

MASTER'S THESIS DEFENSE REPORT

This form must be completed by the Thesis Committee chair, approved by the Graduate Program Director immediately after the defense, and submitted to the Office of Graduate Studies.

PROGRAM: _____

NAME OF STUDENT: _____
Last First

NJIT ID OR SOCIAL SECURITY #: _____

FINAL TITLE OF THESIS: _____

DATE OF DEFENSE: _____

NAME, FACULTY RANK, DEPARTMENT/AFFILIATION OF THESIS COMMITTEE CHAIR:

Name	Rank	Dept/Affiliation	Signature
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NAME, FACULTY RANK, DEPARTMENT/AFFILIATION OF THESIS COMMITTEE MEMBERS:

_____	_____	_____	_____
_____	_____	_____	_____

Name	Rank	Dept/Affiliation	Signature
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RESULT OF DEFENSE: **PASS** _____ **FAIL** _____

CONDITIONS/COMMENTS: _____

THESIS COMMITTEE CHAIR: _____
Signature Date

GRADUATE PROGRAM DIRECTOR: _____
Signature Date

OFFICE OF GRADUATE STUDIES: _____
Signature Date