

BS/MS in Chemical Engineering

Five-year Academic Plan (155 cr; special rules apply; see advisor)



Michigan Technological University
Department of Chemical Engineering

Freshman Year – BS

Fall Semester

Course	Title	Cr
CH 1150	University Chemistry I	3
CH 1151	University Chemistry I Lab	1
CH 1153	University Chemistry I Rec	1
ENG 1101	Eng Analysis and Problem Solv	3
MA 1160	Calculus with Technology I	4
PH 1100	Physics by Inquiry I	1
UN 1001	Perspectives	3
Co-Curricular (1 unit)*		
Total		16

Spring Semester

Course	Title	Cr
CH 1160	University Chemistry II	3
CH 1161	University Chemistry II Lab	1
ENG 1102	Eng Modeling and Design	3
MA 2160	Calculus with Technology II	4
PH 2100	University Physics I	3
UN 1002	World Cultures**	4
Total		18

Sophomore Year – BS

Fall Semester

Course	Title	Cr
CH 2410	Organic Chemistry I	3
CH 2411	Organic Chemistry Lab I	1
CM 2110	Fundamentals of ChE I	3
MA 3160	Multivariable Calc with Techn	4
PH 1200	Physics by Inquiry II	1
UN 2001	Composition	3
Co-Curricular (1 unit)*		
Total		15

Spring Semester

Course	Title	Cr
CH 2420	Organic Chemistry II	3
CM 2120	Fundamentals of ChE II	3
MA 2321	Elementary Linear Algebra	2
MA 3521	Elem Differential Equations	2
PH 2200	University Physics II	3
UN 2002	Institutions	3
Co-Curricular (1 unit)*		
Total		16

Junior Year– BS

Fall Semester

Course	Title	Cr
CH 3510	Physical Chemistry I	3
CH 3511	Physical Chemistry Lab I	2
CM 3110	Transport/Unit Operations I	3
CM 3215	Fundamentals of ChE Lab	2
CM 3410	Tech Comm for ChE	3
HASS (Gen Ed) Distribution*		3
Total		16

Spring Semester

Course	Title	Cr
CM 3120	Transport/Unit Operations II	3
CM 3230	Thermodynamics for ChE	4
CM 3310	Process Control	3
CM 3510	Chemical Reaction Eng	3
HASS (Gen Ed) Distribution*		3
Total		16

Senior Year– BS plus 6 credits towards MS

Fall Semester

Course	Title	Cr
CM 4110	Unit Operations Lab	3
CM 4310	Process Safety/Environment	3
CM 4855	ChE Proc Anal & Design I	3
4000-level Technical Elective*		3
Free Elective*		3
HASS (Gen Ed) Distribution*		3
Total		18

Spring Semester

Course	Title	Cr
CM 4120	Chemical Plant Operations Lab	3
CM 4860	ChE Proc Anal & Design II	2
CM 4861	ChE Design Lab II	1
4000-level Technical Elective*		3
Technical Elective		4
HASS (Gen Ed) Distribution*		3
Total		16

Final Year– MS

Fall Semester

Course	Title	Cr
CM 5100	Applied Math for Chem Eng	3
CM 5200	Advanced Thermodynamics	3
CM 5310	Laboratory Safety	1
CM 5500	Theory/Methods of Research	2
Masters Technical Elective [#]		3
Total		12

Spring Semester

Course	Title	Cr
CM 5400	Advanced Transport Phenomena	3
CM 4860	Advanced Reactive Sys Anal	3
Masters Technical Elective [#]		3
Masters Technical Elective [#]		3
Total		12

*See separate handouts for description.

**Two semesters of a single modern language (6 cr) in addition to UN1003 (1cr) can substitute for UN1002 and 3 credits of gen ed distribution course requirements.

[#]Masters Technical Electives must be approved by the Graduate Program Director/Advisor

Updated 23-Mar-12