

Addendum F to the 2019 Dual Degree Agreement between WMU and INTEC
Chemical Engineering Program

Below are the degree requirements for WMU's Chemical Engineering Program as of July 2019. WMU will award a degree to all students who successfully complete all of the degree requirements (as detailed in the current degree catalog on the WMU Registrar's Office website <https://wmich.edu/registrar>) and who meet all of WMU's graduation requirements. Students are encouraged to meet with their academic advisor at WMU to ensure they will meet all of the requirements to graduate.

WMU CHEM Program			INTEC courses			Courses to be taken at WMU and credit hours
WMU code	WMU name	WMU Credits	INTEC code	INTEC Course Equivalent	Credits Transferred	
First Semester						
MATH 1220 or MATH 1700	Calculus I	4	CBM 102	Differential Calculus	4	
CHEM 1100	General Chemistry I	3	CBQ 207	Chemistry I	3	
CHEM 1110	General Chemistry Laboratory I	1	CBQ 207L	Chemistry I Lab	1	
CHEG 1010	Introduction to Chemical Engineering	3				3
IEE 1020	Technical Communication	3	AHH 201	Rhetoric and Composition	3	
TGE D1	General Education Area I - Fine Arts	3	AHA 201	Art Appreciation I	3	
Second Semester						
WMU code	WMU name	WMU Credits		INTEC Course Equivalent	Credits	
MATH 1230	Calculus II	4	CBM-201	Calculus II	4	
PHYS 2050	University Physics I	4	CBF 210	Mechanical Physics I	4	
PHYS 2060	University Physics I Laboratory	1	CBF 210L	Mechanical Physics I Lab	1	
CHEM 1120	General Chemistry II	3	CBQ 208	Chemistry II	3	
CHEM 1130	General Chemistry Lab II	1	CBQ 208L	Chemistry Lab II	1	
CHEG 1810	Introduction to Chemical Engineering Computation	2				2
TGE D3	General Education Area III - U.S. Cultures and Issues	3				3
Third Semester						
WMU code	WMU name	WMU Credits		INTEC Course Equivalent	Credits	
MATH 2720	Multivariate Calculus and Matrix Algebra	4	CBM 202	Calculus III	4	
PHYS 2070	University Physics II	4	CBF 211	Mechanical Physics II	4	
PHYS 2080	University Physics II Laboratory	1	CBF 211L	Mechanical Physics II Lab	1	
CHEG 2810	Data Acquisition & Handling	1				1
IEE 2610	Engineering Statistics	3	CBM 302	Statistical Inference	3	
ELEC	Approved Elective	4				4
Fourth Semester						
WMU code	WMU name	WMU Credits		INTEC Course Equivalent	Credits	
MATH 3740	Differential Equations and Linear Algebra	4	CBM 203	Differential Equations	4	
BIOS 1610	Molecular & Cellular Biology	4	CBB 202	Biology II	4	
CHEG 2611	Environmental Engineering	3	INC 349	Environmental Engineering	3	
CHEG 2960	Material and Energy Balance	4	MEC 301	Material and Energy Balance	4	
ELEC	Approved Elective	4				4
Fifth Semester						
WMU code	WMU name	WMU Credits		INTEC Course Equivalent	Credits	
CHEM 4300	Physical Chemistry I	3				3
CHEG 3110	Unit Operations in Chemical Engineering I	3				3
CHEG 3200	Chemical Engineering Thermodynamics	3				3
CHEG 3810	Computer Modeling and Simulation	1				1
ECON 2010	Principles of Microeconomics	3	ECO 201	Principles of Microeconomics	3	
TGE D8	Health & Well-Being	2	AHD 101	Physical Education and Sport	2	
Sixth Semester						
WMU code	WMU name	WMU Credits		INTEC Course Equivalent	Credits	
CHEM 3750	Organic Chemistry I	3	CBQ 204	Organic Chemistry I	4	
CHEM 3760	Organic Chemistry Lab I	1				
CHEG 3120	Unit Operations in Chemical Engineering II	3				3
CHEG 3300	Mass Transfer	3				3
CHEG 3550	Bioprocess Engineering	3				3
TGE D2	General Education Area II - Humanities	4	CSS-101	Human Being and Society	4	
Seventh Semester						
WMU code	WMU name	WMU Credits		INTEC Course Equivalent	Credits	
CHEM 3770	Organic Chemistry II	3	CBQ 205	Organic Chemistry II	4	
CHEM 7780	Organic Chemistry Lab II	1				
CHEG 4100	Chemical Reaction Engineering	3				3
PAPR 4600	Plant Economics and Project Design	3				3

CHEG 4830	Process Control I	4			4
ELEC	Approved Elective	3			3
		Eighth Semester			
WMU code	WMU name	WMU Credits		INTEC Course Equivalent	Credits
CHEG 4810	Unit Operations Lab: Fluid Flow, Heat & Mass	2			2
CHEG 4870	Senior Design Project	3			3
CHEG 4400	Safety and Hazards Management	1			1
ELEC	Approved Elective	3			3
ELEC	Approved Elective	3			3
TGE D4	General Education Area IV - Other Cultures	4			4
Required Credits to graduate		136			71
Total credits accounted for in this program		136			65

- Courses to be taken at WMU in the 3rd and 4th year
- Courses with alternative options
- Multiple courses need to be transferred to be equivalent

At the time of the signing of this addendum, WMU is undergoing changes to its general education curriculum. The courses highlighted in green may or may not change during this curriculum revision, and therefore any green courses taken at INTEC may not count for this program beginning Fall 2020. If changes are made, WMU will work with students to help them understand their options to complete the program.

Approved By

Steven C. Butt 10/22/19
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