Western S Engineering

Chemical Engineering and Business (Option C)

September 2020 (for students who entered HBA in September 2019)

<u>Year 2:</u>			
Term A		NOTES:	
AM 2270a	Applied Math for Engineering II		
CBE 2206a	Introductory Industrial Organic Chemistry		
CBE 2214a	Engineering Thermodynamics		
CBE 2220a	Chemical Process Calculations		
CBE 2290a	Fundamentals of Biochemical and Environmental Engineering	Important:	
BUS 2257	Accounting & Business Analysis		sible for ensuring they have the correct courses
	.		gree. If you are unsure which courses you still
Term B			ourses listed on the progression sheet that are no
AM 2277b	Applied Math Chemical and Civil Engineering III	-	e not offered in the term you see listed here, Academic Counsellor. For HBA related questions
CBE 2207b	Applied Industrial Organic Chemistry		ichard Ivey School of Business. For Engineering
CBE 2221b	Fluid Flow		lease contact your Academic Counsellor in
CBE 2224b	Chemical Eng. Thermodynamics	Engineering.	,
CBE 2291b	Computational Methods for Engineering		
BUS 2257	Accounting & Business Analysis		
		**1.5 HBA requ	ired courses:
<u>Year 3:</u> HBA 1		International Perspective Requirement: Business	
		4505a/b	reispective Requirement. Business
Year 4:		 Corporations and Society Requirement: 0.5 course from 	
		Business Administration – Corporations and Society	
Term A			
CBE 3307a	Energy & Environment	designated electives offered during the academic year to	
CBE 3315a	Reaction Engineering	 satisfy this requirement. Managerial Accounting Requirement: Business 4624a/b 	
CBE 3324a	Mass Transfer Operations	Managerial A	accounting Requirement: Business 4624a/b
CBE 3322a	Heat Transfer Operations		
CBE 3395y	Chemical Engineering Lab		
BUS 4569	Ivey Field Project		
Term B		Technical Electiv	ve List:
	Process Dynamics and Control		
	Process Dynamics and Control Sustainable Chemical Engineering & Life Cycle Analysis	Some technical elect	tives may not be offered in a given academic
CBE 3316b	Sustainable Chemical Engineering & Life Cycle Analysis		tives may not be offered in a given academic partment for accurate listing.
CBE 3316b CBE 3319b	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety		
CBE 3316b CBE 3319b CBE 3323b	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations	year. Consult the De	
CBE 3316b CBE 3319b CBE 3323b CBE 3318b	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation		partment for accurate listing.
CBE 3316b CBE 3319b CBE 3323b CBE 3318b CBE 3395y	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab	year. Consult the De	Downstream Processing in
CBE 3316b CBE 3319b CBE 3323b CBE 3318b	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation	year. Consult the De	Downstream Processing in Pharmaceutical Manufacturing
CBE 3316b CBE 3319b CBE 3323b CBE 3318b CBE 3395y	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab	year. Consult the De CBE 4404a/b CBE 4407a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment
CBE 3316b CBE 3319b CBE 3323b CBE 3318b CBE 3395y SS 2143b	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering
CBE 3316b CBE 3319b CBE 3323b CBE 3318b CBE 3395y SS 2143b Year 5:	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3318b CBE 3395y SS 2143b Year 5: Term A	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management
CBE 3316b CBE 3319b CBE 3323b CBE 3318b CBE 3395y SS 2143b Year 5: Term A CBE 4497	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b CBE 4417a/b	partment for accurate listing. Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4417a/b CBE 4418a/b	Downstream Processing in Pharmaceutical ManufacturingSolid Waste TreatmentWastewater TreatmentSelected Topic in Chemical EngineeringChemical Engineering ProjectCarbon Footprint & ManagementCatalytic ProcessesIndustrial Multiphase Reactor Design
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4417a/b CBE 4418a/b CBE 4420a/b	Downstream Processing in Pharmaceutical ManufacturingSolid Waste TreatmentWastewater TreatmentSelected Topic in Chemical Engineering Chemical Engineering ProjectCarbon Footprint & Management Catalytic ProcessesIndustrial Multiphase Reactor Design Computer Process Control
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4417a/b CBE 4417a/b CBE 4420a/b CBE 4421a/b	Downstream Processing in Pharmaceutical ManufacturingSolid Waste TreatmentWastewater TreatmentSelected Topic in Chemical Engineering Chemical Engineering ProjectCarbon Footprint & Management Catalytic ProcessesIndustrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering
CBE 3316b CBE 3319b CBE 3323b CBE 3318b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses**	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4416a/b CBE 4418a/b CBE 4420a/b CBE 4421a/b CBE 4422a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering
CBE 3316b CBE 3319b CBE 3323b CBE 3318b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Teo 1.5 HBA req Term B CBE 4497	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses**	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4417a/b CBE 4418a/b CBE 4420a/b CBE 4421a/b CBE 4422a/b CBE 4423a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Nanobiotechnology Tissue Engineering
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B CBE 4497 ES 4498G	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4417a/b CBE 4420a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Nanobiotechnology Tissue Engineering Biosensor Principles and Applications
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Teo 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Teo	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4417a/b CBE 4417a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Nanobiotechnology Tissue Engineering Biosensor Principles and Applications Introduction to Nanoengineering
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Teo 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Teo	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4420a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Biosensor Principles and Applications Introduction to Nanoengineering Energy and Fuels Production Systems
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4417a/b CBE 4417a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4432a/b CBE 4432a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Biosensor Principles and Applications Introduction to Nanoengineering Energy and Fuels Production Systems Water Pollution Design
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law hnical elective	year. Consult the Dee CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4417a/b CBE 4420a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4423a/b CBE 4432a/b CBE 4432a/b CBE 4463a/b CBE 4485a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Biosensor Principles and Applications Introduction to Nanoengineering Energy and Fuels Production Systems Water Pollution Design Energy & Society
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3328b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4418a/b CBE 4418a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4432a/b CBE 4432a/b CBE 4432a/b CBE 4493a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Biosensor Principles and Applications Introduction to Nanoengineering Energy and Fuels Production Systems Water Pollution Design Energy & Society Polymer Engineering
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4418a/b CBE 4420a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4432a/b CBE 4432a/b CBE 4435a/b CBE 4493a/b CBE 4493a/b CEE 3362a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Biosensor Principles and Applications Introduction to Nanoengineering Energy and Fuels Production Systems Water Pollution Design Energy & Society
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4417a/b CBE 4420a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4424a/b CBE 4428a/b CBE 4428a/b CBE 4463a/b CBE 4463a/b CBE 4493a/b CBE 4493a/b CEE 3362a/b CEE 4405a/b	Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Biosensor Principles and Applications Introduction to Nanoengineering Energy and Fuels Production Systems Water Pollution Design Energy & Society Polymer Engineering
CBE 3316b CBE 3319b CBE 3323b CBE 3323b CBE 3395y SS 2143b Year 5: Term A CBE 4497 One 0.5 Tec 1.5 HBA req Term B CBE 4497 ES 4498G One 0.5 Tec	Sustainable Chemical Engineering & Life Cycle Analysis Introduction to Plant Design and Safety Staged Operations Introduction to Chemical Process Simulation Chemical Engineering Lab Applied Statistics and Data Analysis for Engineers Chemical Process and Plant Design hnical elective uired courses** Chemical Process and Plant Design Engineering Ethics, Sustainable Development and the Law hnical elective	year. Consult the De CBE 4404a/b CBE 4407a/b CBE 4409a/b CBE 4409a/b CBE 4413a/b CBE 4415 CBE 4416a/b CBE 4416a/b CBE 4418a/b CBE 4420a/b CBE 4420a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4422a/b CBE 4432a/b CBE 4432a/b CBE 4435a/b CBE 4493a/b CBE 4493a/b CEE 3362a/b	partment for accurate listing. Downstream Processing in Pharmaceutical Manufacturing Solid Waste Treatment Wastewater Treatment Selected Topic in Chemical Engineering Chemical Engineering Project Carbon Footprint & Management Catalytic Processes Industrial Multiphase Reactor Design Computer Process Control Introduction to Biomaterials Engineering Biosensor Principles and Applications Introduction to Nanoengineering Energy and Fuels Production Systems Water Pollution Design Energy & Society Polymer Engineering Drinking Water Quality and Treatment

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