



The Association of Professional  
Engineers and Geoscientists of Alberta

**CHEMICAL ENGINEERING  
COURSE EQUIVALENTS  
2016 EDITION**

<i>University of Alberta</i>		<i>University of Calgary</i>	
<b>16-CHEM-A1 Process Balances and Chemical Thermodynamics</b>			
CME 265	Process Analysis	ENCH 315	Chemical Engineering Process Calculation
&		&	
CHE 343	Chemical Engineering Thermodynamics	ENCH 427	Chemical Engineering Thermodynamics
<b>16-CHEM-A2 Unit Operations and Separation Processes (formerly Mechanical Thermal Operations)</b>			
CHE 312	Fluid Mechanics	ENCH 331	Process Fluid Dynamics
&		&	
CHE 512	Introduction to Fluid Particle Systems	ENCH 403	Heat Transfer
<b>16-CHEM-A3 Heat and Mass Transfer (formerly Mass Transfer Operations)</b>			
CHE 314	Heat Transfer	ENCH 405	Separation Processes I
&		&	
CHE 318	Mass Transfer	ENCH 505	Separation Processes II
&			
CHE 416	Equilibrium Stage Processes		
<b>16-CHEM-A4 Chemical Reactor Engineering</b>			
CHE 345	Chemical Reactor Analysis I	ENCH 421	Chemical Engineering Kinetics
&			
CHE 445	Chemical Reactor Analysis I		
<b>16-CHEM-A5 Chemical Plant Design and Economics</b>			
CHE 464	Chemical Engineering Design I	ENCH 423	Chemical Engineering Process Development
&			
CHE 465	Chemical Engineering Design II		
<b>16-CHEM-A6 Process Dynamics and Control</b>			
CHE 446	Process Dynamics and Control	ENCH 429	Process Dynamics and Control
<b>16-CHEM-B1 Transport Phenomena</b>			
	<i>No Course Equivalent Offered</i>	ENCH 501	Transport Phenomena
<b>16-CHEM-B2 Environmental Engineering</b>			
	Natural Resources & Environmental Management		
HGP 250		ENEE 505	Effluent Treatment Processes for Energy Industry
<b>16-CHEM-B3 Simulation, Modelling, and Optimization</b>			
CHE 472	Modelling Process Dynamics	ENCH 627	Chemical Process Simulation
<b>16-CHEM-B4 Biochemical Engineering</b>			
	Introduction to Biochemical Engineering		
CHE 484		ENCH 535	Principles of Biochemical Engineering

---

**University of Alberta**

---

**University of Calgary**

---

<b>16-CHEM-B5</b>	<b>Pulp and Paper Technology</b> No Course Equivalent Offered		<i>No Course Equivalent Offered</i>
<b>16-CHEM-B6</b>	<b>Petroleum Refining and Petrochemicals</b> Fundamentals of Oilsands		
CH 522	Upgrading	ENCH 503	Crude Oil Upgrading and Refining
<b>16-CHEM-B7</b>	<b>Extractive Metallurgy</b> CME 472		<i>No Course Equivalent Offered</i>
<b>16-CHEM-B8</b>	<b>Polymer Engineering</b> CME 482		
	Fundamentals of Polymers	ENCH 539	Polymer Engineering
<b>16-CHEM-B9</b>	<b>Advanced Materials</b> Nanomaterials and Biomedical		
MATE 495	Applications		<i>No Course Equivalent Offered</i>
<b>16-CHEM-B10</b>	<b>Life Cycle Assessment (LCA)</b> <i>No Course Equivalent Offered</i>		
		ENEE 503	Life Cycle Assessment
		or	
		ENEN 693	Life Cycle Assessment
<b>16-CHEM-B11</b>	<b>Nuclear and Nuclear Chemical Processes</b> <i>No Course Equivalent Offered</i>		<i>No Course Equivalent Offered</i>
<b>16-CHEM-B12</b>	<b>Petroleum Production Operations - (17-Pet-A5)</b> Fundamentals of Oilsands		
CHE 534	Extraction	ENPE 533	Petroleum Production Engineering
<b>16-CHEM-B13</b>	<b>Fundamental Reservoir Engineering (17-Pet-A3)</b>		
PET E 373	Fundamental Reservoir Engineering	ENPE 523	Introduction to Reservoir Engineering

**Updated July 2019**