



The Association of Professional
Engineers and Geoscientists of Alberta

**COMPUTER ENGINEERING
COURSE EQUIVALENTS
2017 EDITION**

<i>University of Alberta</i>		<i>University of Calgary</i>	
17-Comp-A1 Electronics			
ECE 302	Electronic Devices	ENEL 361	Electronic Devices and Circuits
&			
ECE 303	Analog Electronics	ENCM 467	Digital Electronic Circuits
17-Comp-A2 Digital Systems Design			
ECE 312	Embedded System Design	ENEL 453	Digital Systems Design
17-Comp-A3 Computer Architecture			
ECE 311	Computer Organization and Architecture	ENCM 369	Computer Organization
17-Comp-A4 Program Design and Data Structures			
ECE 325	Object-Oriented Software Design	ENSF 380	Object Oriented Principles for Software Development
17-Comp-A5 Operating Systems			
CMPUT 379	Operating System Concepts	ENSF 461	Applied Operating Systems
17-Comp-A6 Software Engineering			
ECE 321	Software Requirements Engineering	SENG 300	Introduction to Software Engineering
17-Comp-B1 Advanced Computer Architecture			
ECE 410	Advanced Digital Logic Design	ENCM 501	Principles of Computer Architecture
17-Comp-B2 Principles of VLSI			
ECE 403	Integrated Circuit Design	ENEL 567	CMOS VLSI Engineering
17-Comp-B3 Databases and File Systems			
CMPUT 391	Database Management Systems	ENSF 300	Software Engineering Practices for Data Management
		&	
		ENSF 338	Practical Data Structures and Algorithms
17-Comp-B4 Computer Graphics			
CMPUT 411	Introduction to Computer Graphics	CPSC 453	Introduction to Computer Graphics
17-Comp-B5 Computer Communications			
ECE 487	Data Communications Networks	ENSF 462	Networked Systems
17-Comp-B6 Computer Control and Robotics			
ECE 460	Control Systems II	ENEL 541	Control Systems II
&		&	
ECE 464	Medical Robotics and Computer-Integrated Intervention	ENME 505	Robotics
17-Comp-B7 Digital Signal Processing			
ECE 541	Digital Signal Processing	ENEL 593	Digital Filters
17-Comp-B8 Computer Integrated Manufacturing			
	<i>No Course Equivalent Offered</i>	ENMF 503	Computer-Aided Design and Manufacturing
17-Comp-B9 Artificial Intelligence and Expert Systems			
ECE 449	Intelligent Systems Engineering	ENEL 525	Machine Learning for Engineers
17-Comp-B10 Distributed Systems			
ECE 420	Parallel and Distributed Programming	CPSC 561	Introduction to Distributed Algorithms
17-Comp-B11 Advanced Software Design			
ECE 522	Software Construction, Verification and Evolution	ENSF 480	Principles of Software Design
17-Comp-B12 Computer Security			
ECE 422	Reliable and Secure Systems Design	SENG 521	Software Reliability and Software Quality
17-Comp-B13 Mechatronic Design			
MCTR 365	Mechatronic and Robotic System Modelling and Analysis (future offering)	ENME 461	Foundations of Mechatronics

Updated October 2025