COMPUTER ENGINEERING/ RED RIVER COLLEGE POLYTECHNIC ARTICULATION AGREEMENT

Electrical Engineering Technology Diploma Program

Course	Title	Hours
Preliminary Engineering Program		
CHEM 1100	Introductory Chemistry 1: Atomic and Molecular Structure and Energetics	3
CHEM 1122	Introduction to Chemistry Techniques for Engineering 1	1.5
COMP 1012	Computer Programming for Scientists and Engineers	3
ENG 1430	Design in Engineering	3
ENG 1440	Introduction to Statics	3
ENG 1450	Introduction to Electrical and Computer Engineering RRC1	3
ENG 1460	Introduction to Thermal Sciences	3
MATH 1210	Techniques of Classical and Linear Algebra	3
MATH 1510	Applied Calculus 1 RRC2	3
MATH 1710	Applied Calculus 2 RRC3	3
PHYS 1050	Physics 1: Mechanics RRC4	3
One course that satisfies the university "writing" requirement		3
One complementary studies elective [1]		3
Program courses and electives taught by the department		
ECE 2160	Electronics 2E RRC5	5
ECE 2220	Digital Logic Systems RRC6	5
ECE 2262	Electric Circuits RRC7	4
ECE 2400	Engineering Algorithms 1	4
ECE 3400	Engineering Algorithms 2	4
ECE 3610	Microprocessing Systems	4
ECE 3700	Telecommunication Network Engineering	4
ECE 3740	Systems Engineering Principles 1	4
ECE 3760	Digital Systems Design 1	4
ECE 3780	Signal Processing 1	4
ECE 4150	Control Systems	4
or ECE 4260	Communications Systems	
ECE 4240	Microprocessor Interfacing	4
ECE 4830	Signal Processing 2	4
ECE 4600	Group Design Project [2]	6
Choose ONE of:		3-4
ECE 3630	Real-time Embedded Systems	
ECE 4530	Parallel Processing	
COMP 3010	Distributed Computing	
ECE 3720	Electric Power and Machines RRC8	4
ECE 4850	Topics in Electrical and Computer Engineering 1 RRC9	4
ECE 4860	Topics in Electrical and Computer Engineering 2 RRC10	4
One Technical Elective from the approved list		3-4
One Technical Elective from the approved list		3-4
Program courses taught by other academic departments		
ANTH 2430	Ecology, Technology and Society [3]	3
COMP 1020	Introductory Computer Science 2	3
COMP 2140	Data Structures: Analysis and Implementation	3
ENG 2040	Engineering Communication: Strategies, Practice and Design RRC11	3
ENG 3000	Engineering Economics	3
MATH 2130	Engineering Mathematical Analysis 1	3
MATH 2132	Engineering Mathematical Analysis 2	3
MATH 2136	Mathematics for Computer Engineering	3
PHYS 2152	Modern Physics for Engineers	3
STAT 2220	Contemporary Statistics for Engineers [4]	3
Electives taught by other departments		
One complementary studies elective [1]		3
One natural science elective course from the approved list		3
One natural science elective course from the approved list		3
Total Hours		**157.5-160.5**

1. The complementary studies elective can be any course at the 1000 level or above from either the faculties of Arts or Management. However, ARTS 1110 may not be used for credit in the Price Faculty of Engineering.
2. Course continues through both terms with credit given upon completion.
3. ANTH 2430 is an Indigenous Knowledge course.
4. STAT 2220 is the recommended statistics course within this program, however, STAT 1000 and STAT 2000 together are considered equivalent to STAT 2220.

RRC1 Polytech Equivalent Course: CIRC-1005 DC Circuits AND DIGI-1003 Digital Logic.

RRC2 Polytech Equivalent Course: MATH-2013 Calculus.

RRC3 Polytech Equivalent Course: MATH-2013 Calculus AND CTRL-1001 Linear Controls.

RRC4 Polytech Equivalent Course: PHYS-1001 Physics 1 AND PHYS-2001 Physics 2.

RRC5 Polytech Equivalent Course: DEVC-2003 Power Electronics 1 AND DEVC-2004 Semiconductor Devices AND DEVC-3001 Power Electronics.

RRC6 Polytech Equivalent Course: DIGI-1003 Digital Logic.

RRC7 Polytech Equivalent Course: CIRC-1005 DC Circuits AND CIRC-2002 AC Circuits AND PROJ-3002 Final Project.

RRC8 Polytech Equivalent Course: MACH-1092 Electrical Machines 1 AND MACH-2000 Electrical Machines 2 AND TRAN-1000 Transformers.

RRC9 Polytech Equivalent Course: CODE-2001 Electrical Practices and Design AND PRJ-2000 Project Management AND WRKS-1037 Introduction to Quality.

RRC10 Polytech Equivalent Course: DCOM-1001 Digital Communications AND PLCS-1110 PLCs 1 AND PLCS-2111 PLCs 2.

RRC11 Polytech Equivalent Course: COMM-1152 Technical Communications AND COMM-3005 Technical Thesis AND PROJ-3002 Final Project.

Electronic Engineering Technology Diploma Program

Course	Title	Hours
Preliminary Engineering Program		
CHEM 1100	Introductory Chemistry 1: Atomic and Molecular Structure and Energetics	3
CHEM 1122	Introduction to Chemistry Techniques for Engineering 1	1.5
COMP 1012	Computer Programming for Scientists and Engineers	3
ENG 1430	Design in Engineering	3
ENG 1440	Introduction to Statics	3
ENG 1450	Introduction to Electrical and Computer Engineering RRC1	3
ENG 1460	Introduction to Thermal Sciences	3
MATH 1210	Techniques of Classical and Linear Algebra	3
MATH 1510	Applied Calculus 1 RRC2	3
MATH 1710	Applied Calculus 2 RRC3	3
PHYS 1050	Physics 1: Mechanics RRC4	3
One course that satisfies the university "writing" requirement		3
One complementary studies elective [1]		3
Program courses and electives taught by the department		
ECE 2160	Electronics 2E RRC5	5
ECE 2220	Digital Logic Systems RRC6	5
ECE 2262	Electric Circuits RRC7	4
ECE 2400	Engineering Algorithms 1	4
ECE 3400	Engineering Algorithms 2	4
ECE 3610	Microprocessing Systems	4
ECE 3700	Telecommunication Network Engineering	4
ECE 3740	Systems Engineering Principles 1	4
ECE 3760	Digital Systems Design 1	4
ECE 3780	Signal Processing 1	4
ECE 4150	Control Systems	4
or ECE 4260	Communications Systems	
ECE 4240	Microprocessor Interfacing	4
ECE 4830	Signal Processing 2	4
ECE 4600	Group Design Project [2]	6
Choose ONE of:		3-4
ECE 3630	Real-time Embedded Systems	
ECE 4530	Parallel Processing	
COMP 3010	Distributed Computing	
ECE 4850	Topics in Electrical and Computer Engineering 1 RRC8	4
ECE 4860	Topics in Electrical and Computer Engineering 2 RRC9	4
One Technical Elective from the approved list		3-4
One Technical Elective from the approved list		3-4
One Technical Elective from the approved list		3-4
Program courses taught by other academic departments		
ANTH 2430	Ecology, Technology and Society [3]	3
COMP 1020	Introductory Computer Science 2	3
COMP 2140	Data Structures: Analysis and Implementation	3
ENG 2040	Engineering Communication: Strategies, Practice and Design RRC10	3
ENG 3000	Engineering Economics	3
MATH 2130	Engineering Mathematical Analysis 1	3
MATH 2132	Engineering Mathematical Analysis 2	3
MATH 2136	Mathematics for Computer Engineering	3
PHYS 2152	Modern Physics for Engineers	3
STAT 2220	Contemporary Statistics for Engineers [4],RRC11	3
Electives taught by other departments		
One complementary studies elective [1]		3
One natural science elective course from the approved list		3
One natural science elective course from the approved list		3
Total Hours		**156.5-160.5**

1 The complementary studies electives can be any course at the 1000 level or above from either the faculties of Arts or Management. However, ARTS 1110 may not be used for credit in the Price Faculty of Engineering.

2 Course continues through both terms with credit given upon completion.

3 ANTH 2430 is an Indigenous Knowledge course.

4 STAT 2220 is the recommended statistics course within this program, however, STAT 1000 and STAT 2000 together are considered equivalent to STAT 2220.

RRC1 Polytech Equivalent Course: CIRC-1005 DC Circuits AND DIGI-1003 Digital Logic.

RRC2 Polytech Equivalent Course: MATH-2013 Calculus.

RRC3 Polytech Equivalent Course: MATH-2013 Calculus AND MATH-3007 Advanced Calculus.

RRC4 Polytech Equivalent Course: PHYS-1001 Physics 1 AND PHYS-2001 Physics 2.

RRC5 Polytech Equivalent Course: DEVC-2004 Semiconductor Devices AND DEVC-2005 Analog Devices and Applications.

RRC6 Polytech Equivalent Course: DIGI-1003 Digital Logic AND DIGI-2224 Digital Systems.

RRC7 Polytech Equivalent Course: CIRC-1005 DC Circuits AND CIRC-2002 AC Circuits AND PROJ-3000 Final Project.

RRC8 Polytech Equivalent Course: DCOM-1000 Digital Communications AND DCOM-2001 Routing & Switching.

RRC9 Polytech Equivalent Course: EMBD-3000 Embedded Systems 2 AND MANU-2009 Printed Circuit Board Manufacturing and Layout.

RRC10 Polytech Equivalent Course: COMM-1152 Technical Communications AND COMM-3005 Technical Thesis AND PROJ-3000 Final Project

RRC11 Polytech Equivalent Course: STAT-1001 Statistics and Quality Assurance.

Instrumentation and Control Engineering Technology Diploma Program

Course	Title	Hours
Preliminary Engineering Program		
CHEM 1100	Introductory Chemistry 1: Atomic and Molecular Structure and Energetics	3
CHEM 1122	Introduction to Chemistry Techniques for Engineering 1	1.5
COMP 1012	Computer Programming for Scientists and Engineers	3

ENG 1430	Design in Engineering	3
ENG 1440	Introduction to Statics	3
ENG 1450	Introduction to Electrical and Computer Engineering RRC1	3
ENG 1460	Introduction to Thermal Sciences RRC2	3
MATH 1210	Techniques of Classical and Linear Algebra	3
MATH 1510	Applied Calculus 1 RRC3	3
MATH 1710	Applied Calculus 2 RRC4	3
PHYS 1050	Physics 1: Mechanics RRC5	3
One course that satisfies the university "writing" requirement		3
One complementary studies elective [1]		3
Program courses and electives taught by the department		
ECE 2160	Electronics 2E RRC6	5
ECE 2220	Digital Logic Systems RRC7	5
ECE 2262	Electric Circuits RRC8	4
ECE 2400	Engineering Algorithms 1	4
ECE 3400	Engineering Algorithms 2	4
ECE 3610	Microprocessing Systems	4
ECE 3700	Telecommunication Network Engineering	4
ECE 3740	Systems Engineering Principles 1	4
ECE 3760	Digital Systems Design 1	4
ECE 3780	Signal Processing 1	4
ECE 4150	Control Systems	4
or ECE 4260	Communications Systems	
ECE 4240	Microprocessor Interfacing	4
ECE 4830	Signal Processing 2	4
ECE 4600	Group Design Project [2]	6
Choose ONE of:		3-4
ECE 3630	Real-time Embedded Systems	
ECE 4530	Parallel Processing	
COMP 3010	Distributed Computing	
ECE 4850	Topics in Electrical and Computer Engineering 1 RRC9	4
ECE 4860	Topics in Electrical and Computer Engineering 2 RRC10	4
One Technical Elective from the approved list		3-4
One Technical Elective from the approved list		3-4
One Technical Elective from the approved list		3-4
Program courses taught by other academic departments		
ANTH 2430	Ecology, Technology and Society [3]	3
COMP 1020	Introductory Computer Science 2	3
COMP 2140	Data Structures: Analysis and Implementation	3
ENG 2040	Engineering Communication: Strategies, Practice and Design RRC11	3
ENG 3000	Engineering Economics	3
MATH 2130	Engineering Mathematical Analysis 1	3
MATH 2132	Engineering Mathematical Analysis 2	3
MATH 2136	Mathematics for Computer Engineering	3
PHYS 2152	Modern Physics for Engineers	3
STAT 2220	Contemporary Statistics for Engineers [4]	3
Electives taught by other departments		
One complementary studies elective [1]		3
One natural science elective course from the approved list		3
One natural science elective course from the approved list		3
Total Hours		**156.5-160.5**

1 The complementary studies electives can be any course at the 1000 level or above from either the faculties of Arts or Management. However, ARTS 1110 may not be used for credit in the Price Faculty of Engineering.

2 Course continues through both terms with credit given upon completion.

3 ANTH 2430 is an Indigenous Knowledge course.

4 STAT 2220 is the recommended statistics course within this program, however, STAT 1000 and STAT 2000 together are considered equivalent to STAT 2220.

RRC1 RRC Polytech Equivalent Course: CIRC-1005 DC Circuits AND DIGI-1003 Digital Logic.

RRC2 RRC Polytech Equivalent Course: INST-2001 Heat Transfer and Thermodynamics.

RRC3 RRC Polytech Equivalent Course: MATH-2013 Calculus

RRC4 RRC Polytech Equivalent Course: MATH-2013 Calculus AND MATH-3006 Applied Calculus

RRC5 RRC Polytech Equivalent Course: PHYS-1001 Physics 1 AND PHYS-2001 Physics 2.

RRC6 RRC Polytech Equivalent Course: DEVC-2004 Semiconductor Devices AND PROJ-3003 Final Project and Technical Thesis.

RRC7 RRC Polytech Equivalent Course: DIGI-1003 Digital Logic AND DIGI-2224 Digital Systems.

RRC8 RRC Polytech Equivalent Course: CIRC-1005 DC Circuits AND CIRC-2002 AC Circuits AND PROJ-3003 Final Project and Technical Thesis.

RRC9 RRC Polytech Equivalent Course: PLCS-1002 Instrumentation PLCs 1 AND PLCS-2002 Instrumentation PLCs 2 AND INST-2004 Process Measurements 2.

RRC10 RRC Polytech Equivalent Course: DCOM-1009 Data Acquisition AND DCOM-2003 Electrical Systems 2 AND INST-1008 Robotics and Automation.

RRC11 RRC Polytech Equivalent Course: PROJ-1004 Project Management AND PROJ-3003 Final Project and Technical Thesis.