ELECTRICAL 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
"W" Elective - One course that satisfies the university "writing" requirement		3
CS Elective 1 - 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 2240	Numerical Methods for Electrical Engineers	4
ECE 2262	Electric Circuits RRC7	4
ECE 3540	Advanced Circuit Analysis and Design	4
ECE 3580	Foundations of Electromagnetics	4
ECE 3590	Electromagnetic Theory	4
ECE 3600	Physical Electronics	4
ECE 3610	Microprocessing Systems	4
ECE 3670	Electronics 3E	4
ECE 3720	Electric Power and Machines RRC8	4
ECE 3730	Principles of Embedded System Design	4
ECE 3780	Signal Processing 1	4
ECE 4150	Control Systems	4
ECE 4260	Communications Systems	4
ECE 4600	Group Design Project [2]	6
"A" Elective 1 - Technical elective from the "Group A" list of qualified electives		4
"A" Elective 2 - Technical elective from the "Group A" list of qualified electives		4
"A" Elective 3 - Technical elective from the "Group A" list of qualified electives		4
ECE 4850	Topics in Electrical and Computer Engineering 1 (Tech Elective 1) RRC9	4
ECE 4860	Topics in Electrical and Computer Engineering 2 (Tech Elective 2) RRC10	4
Tech Elective 3 - Technical Elective from either "Group A" list or "Group B" list		3-5
Tech Elective 4 - Technical Elective from either "Group A" list or "Group B" list		3-4
Program courses taught by other academic departments		
ANTH 2430	Ecology, Technology and Society [3]	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 3132	Engineering Mathematical Analysis 3	3
PHYS 2152	Modern Physics for Engineers	3
STAT 2220	Contemporary Statistics for Engineers [4]	3
Electives taught by other departments		
CS Elective 2 - Complementary studies elective [1]		3
NS Elective - Natural science elective course from the approved list		3
Total Hours		**161.5-164.5**

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 from 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: MATH-2013 Calculus

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

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

RRC5 RRC Polytech Equivalent Course: DEVC-2003 Power Electronics 1 AND DEVC-2004 Semiconductor Devices AND DEVC-3001 Power Electronics 2

RRC6 RRC Polytech Equivalent Course: DIGI-1003 Digital Logic

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

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

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

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

RRC11 RRC 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
"W" Elective - One course that satisfies the university " writing" requirement		3
CS Elective 1 - 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 2240	Numerical Methods for Electrical Engineers	4
ECE 2262	Electric Circuits [RRC7]	4
ECE 3540	Advanced Circuit Analysis and Design	4
ECE 3580	Foundations of Electromagnetics	4
ECE 3590	Electromagnetic Theory	4
ECE 3600	Physical Electronics	4
ECE 3610	Microprocessing Systems	4
ECE 3670	Electronics 3E	4
ECE 3720	Electric Power and Machines	4
ECE 3730	Principles of Embedded System Design	4
ECE 3780	Signal Processing 1	4
ECE 4150	Control Systems	4
ECE 4260	Communications Systems	4
ECE 4600	Group Design Project [2]	6
"A" Elective 1 - Technical elective from the "Group A" list of qualified electives		4
"A" Elective 2 - Technical elective from the "Group A" list of qualified electives		4
"A" Elective 3 - Technical elective from the "Group A" list of qualified electives		4
ECE 4850	Topics in Electrical and Computer Engineering 1 (Tech Elective 1) [RRC8]	4
ECE 4860	Topics in Electrical and Computer Engineering 2 (Tech Elective 2) [RRC9]	4
Tech Elective 3 - One technical elective from either "Group A" list or "Group B" list		3-5
Tech Elective 4 - One technical elective from either "Group A" list or "Group B" list		3-4
Program courses taught by other academic departments		
ANTH 2430	Ecology, Technology and Society [3]	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 3132	Engineering Mathematical Analysis 3	3
PHYS 2152	Modern Physics for Engineers	3
STAT 2220	Contemporary Statistics for Engineers [4,RRC11]	3
Electives taught by other departments		
CS Elective 2 - Complementary studies elective [1]		3
NS Elective - Natural science elective course from the approved list		3
Total Hours		**161.5-164.5**

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 from 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: MATH-2013 Calculus

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

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

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

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

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

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

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

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

RRC11 RRC 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
"W" Elective - One course that satisfies the university "writing" requirement		3
CS Elective 1 - 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 2240	Numerical Methods for Electrical Engineers	4
ECE 2262	Electric Circuits RRC8	4
ECE 3540	Advanced Circuit Analysis and Design	4
ECE 3580	Foundations of Electromagnetics	4
ECE 3590	Electromagnetic Theory	4
ECE 3600	Physical Electronics	4
ECE 3610	Microprocessing Systems	4
ECE 3670	Electronics 3E	4
ECE 3720	Electric Power and Machines	4
ECE 3730	Principles of Embedded System Design	4
ECE 3780	Signal Processing 1	4
ECE 4150	Control Systems	4
ECE 4260	Communications Systems	4
ECE 4600	Group Design Project [2]	6
"A" Elective 1 - Technical elective from the "Group A" list of qualified electives		4
"A" Elective 2 - Technical elective from the "Group A" list of qualified electives		4
"A" Elective 3 - Technical elective from the "Group A" list of qualified electives		4
ECE 4850	Topics in Electrical and Computer Engineering 1 (Tech Elective 1) RRC9	4
ECE 4860	Topics in Electrical and Computer Engineering 2 (Tech Elective 2) RRC10	4
Tech Elective 3 - Technical elective from either "Group A" list or "Group B" list		3-5
Tech Elective 4 - Technical elective from either "Group A" list or "Group B" list		3-4
Program courses taught by other academic departments		
ANTH 2430	Ecology, Technology and Society [3]	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 3132	Engineering Mathematical Analysis 3	3
PHYS 2152	Modern Physics for Engineers	3
STAT 2220	Contemporary Statistics for Engineers [4]	3
Electives taught by other departments		
CS Elective 2 - Complementary studies elective [1]		3
NS Elective - Natural science elective course from the approved list		3
Total Hours		**161.5-164.5**

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 from 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