



## ARTICULATION AGREEMENT

BETWEEN:

### THOMPSON RIVERS UNIVERSITY

a corporation continued under the *Thompson Rivers University Act* of British  
Columbia  
("University")

- and -

### NORTH ISLAND COLLEGE,

a corporation continued under the *College and Institute Act* of British Columbia  
("College")

## A BACKGROUND

- A.1 The University is a fully accredited and degree granting public university operating in Kamloops, B.C.
- A.2 The University offers its students the **Bachelor of Engineering in Software Engineering** program ("University Program"), and is empowered to grant degrees to graduates of the University Program.
- A.3 The College is a public career training institution operating in Comox Valley, B.C.
- A.4 The College offers its students an **Engineering Foundation Certificate** program as set out in Schedule A of this Agreement ("College Program"). In addition, the College offers its students the following course: **MAT 122 - Logic and Foundations** ("College Course").
- A.5 The College confirms that the College Program meets all relevant National and/or Provincial professional standards. The College also acknowledges and agrees that the College Program has current and documented approval from relevant Provincial or National regulatory bodies.

## B OBJECTIVES

The objectives of this articulation agreement (the "Agreement") include, but are not limited to, the:

- B.1 Establishment of criteria to determine eligibility of graduates of the College Program, who may also take the College Course in addition to the requirements of the College Program, to enrol in the University Program;
- B.2 Determination of the amount of transfer credit to be awarded to graduates of the College Program, who also take the College Course in addition to the requirements of the College Program, toward the requirements of the University Program should they enrol in the University Program;
- B.3 Identification of special negotiated terms, if any, applicable to graduates of the College Program enrolling in the University Program concerning specific program requirements, fees or services;
- B.4 Establishment of a basis for use of certain trademarks of the University and the College pursuant to this Agreement; and the
- B.5 Establishment of processes to encourage, review and expand, as appropriate, this Agreement.

## C AGREEMENT

### C.1 Admission

The University agrees to accept in the University Program graduates of the College Program, who may have also taken the College Course, who meet the criteria set out in Schedule B of this Agreement. Such acceptance is subject to there being seats available in the University Program when the College student applies. The College's students may apply after successfully completing the College's entire program and any related requirements.

### C.2 Changes to the College Program and/or College Course

The College agrees to provide the University with at least sixty (60) days' notice of any substantive changes planned to the admission standards, graduation requirements, curriculum or course offerings within the College Program, or any planned changes to the length in weeks, hours of instruction or overall duration of the College Program and/or College Course. A substantive change is any change in curriculum that could alter the learning outcomes, admission requirements or graduation requirements of the College Program. Depending on the nature of the curriculum change to the College Program and/or College Course, a re-evaluation of the course(s) with associated changes in credits awarded may occur.

### **C.3 Changes to the University Program**

The University agrees to provide the College with at least sixty (60) days' notice of any changes planned to the current admission standards or graduation requirements of the University Program that may affect the eligibility of graduates of the College Program.

### **C.4 Mutual grant of rights**

Each party grants to the other party a non-exclusive, non-transferable, revocable, royalty-free license during the term of the Agreement to use the trademark of the other party as shown in Appendices B and C for promotional purposes relevant to this Agreement provided that such use does not 1) contravene the other party's policy or practice as to proper use of its mark, or 2) in the opinion of the other party, damage its reputation or goodwill.

### **C.5 Promotion by the College**

The College agrees to:

- Make information about this Agreement available to current students and to graduates of the College's Program.
- Promote the opportunity, for the College's students and graduates to participate in the University program, in relevant school marketing materials, including online media and websites, and
- Provide appropriate opportunities for representatives of the University to visit appropriate forums at the College to disseminate information about the University Program.

### **C.6 Preparation of promotional material by the University**

The University agrees to prepare and offer to the College for comment any promotional material relevant to participation in this Agreement.

### **C.7 Evaluation**

The College and the University shall conduct an evaluation of the operation of this Agreement on the first and each subsequent anniversary of the signing of the Agreement. Where possible this evaluation will consist of both parties examining:

- The number of qualified College students admitted into the University Program during the prior year;

- Approved or proposed changes to courses in either the University Program or the College Program and/or College Course;
- Admission procedures, program planning, timelines and special requirements;
- Placement tests, fees and certification for the College Program and/or
- Recommendation for types and times of promotion efforts.

#### C.8 Contact

Each of the College and the University will designate a representative at its respective campus to be responsible for inter-institutional administrative implementation of this Agreement and compliance with this Agreement.

### D TERM AND TERMINATION

- D.1 This Agreement will become effective on the date of signing and shall have an initial term of five (5) years. The term shall be extended on a year-by-year basis unless either party notifies the other in writing at least three (3) months before the end of the then-current term of its desire to terminate the agreement. Either party can terminate this agreement for any reason at any time upon giving three (3) months prior written notice to the other party.
- D.2 In the event of the termination of this Agreement under Section D.1, both parties acknowledge and agree that, subject to Section C.1 above, all students enrolled in the College Program as at the date of the written notice of such termination shall be entitled to the benefit of this Agreement despite its termination upon their graduation from the College Program so as to ensure the fulfillment of the reasonable expectations of such students.

### E GENERAL

- E.1 For the purposes of this Agreement, any notice or other communication between the parties may be delivered by courier, mail, facsimile or electronic mail to the respective addresses of the parties set out below:

**Thompson Rivers University**  
 Department of Strategic Partnerships  
 B.C. Centre for Open Learning, 4th Floor  
 805 TRU Way



Kamloops, B.C. V2C 0C8  
Attention: Coordinator, External Agreements


**North Island College**  
**Comox Valley**  
2300 Ryan Rd  
Courtenay, BC V9N 8N6  
Attention: Neil Cruickshank, Dean, Arts, Science & Technology

- E.2 This Agreement shall be construed in accordance with the laws of the Province of British Columbia and any legal proceedings with respect to this Agreement will be brought forward in Kamloops, B.C.
- E.3 Neither party to this Agreement shall be liable to the other party for any failure or delay in performance caused by circumstances beyond its control including, but not limited to, acts of God, fire or flood, labour difficulties, unusually severe weather or governmental action. If the University ceases offering the University Program, it will have no obligation to accept College students into the University Program unless and until it starts offering the University Program again.
- E.4 This Agreement constitutes the entire agreement of the parties with respect to the subject matter set out herein and may only be amended in writing signed by the parties.

DATED the 7<sup>th</sup> day of November 2019

**THOMPSON RIVERS UNIVERSITY**

**NORTH ISLAND COLLEGE**

Per:   
Dr. Christine Bovis-Crossen  
Provost & Vice-President Academic  
Duly authorised signatory

Per:   
Dr Lisa Domae  
Executive VP, Academic & COO  
Duly authorised signatory

Date: 07/11/2019  
(Day / Month / Year)

Date: 08/01/2020  
(Day / Month / Year)

## Schedule A

### Articulation Agreement between Thompson Rivers University and North Island College

**College Program: Engineering Foundation Certificate program and College course**

#### College Program Requirements:

- CPS-100 Computer Programming I
- CPS-101 Computer Programming II or CHE-152 Engineering Chemistry<sup>1</sup>
- ENG-115 Essay Writing and Critical Analysis
- ENR 100 Introduction to Engineering I and ENR 101 Introduction to Engineering II<sup>2</sup>
- MAT-133 Matrix Algebra
- MAT-181 Calculus I
- MAT-182 Calculus II
- PHY-120 Principles of Physics I
- PHY-121 Principles of Physics II
- PHY-141 Engineering Mechanics I: Statics or PHY-170 Engineering Mechanics I: Statics and Dynamics
- ENG-160 Effective Organizational Writing or University Transfer Elective

#### Optional NIC Course:

- MAT 122 – Logic and Foundations (3 credits)

#### College Program Completion Requirements

Average Grade of C+ or better

<sup>1</sup> College program requirements state students can take CPS 101 or CHE 152. If students take only one, they will receive 3 credits. However, if they take both CPS 101 and CHE 152 they will receive 6 credits.

<sup>2</sup> ENR 100 and ENR 101 together replace ENR 110. College students who already have ENR 110 can substitute it for both ENR 100 and ENR 101.

## Schedule B

**Articulation Agreement between Thompson Rivers University and North Island College**

**University Program: Bachelor of Engineering in Software Engineering**

**University Program Requirements:**

<b>Year 1</b>		
<b>Fall Semester – 18 credits</b>		<b>Credits</b>
ENGR 1100	Introduction to Engineering & Design	3
SENG 1110	Programming for Engineers 1	3
DRAF 1520	Engineering Graphics	3
ENGL 1100	Introduction to University Writing	3
EPHY 1150	Physics for Engineers 1	3
MATH 1130	Calculus 1 for Engineering	3
<b>Winter Semester – 18 credits</b>		
EPHY 1250	Physics for Engineers 2	3
EPHY 1700	Engineering Mechanics 1	3
MATH 1230	Calculus 2 for Engineering	3
MATH 1700	Discrete Mathematics 1	3
EPHY 1990	Introduction to Engineering Measurements	3
SENG 1210	Programming for Engineers 2	3
<b>Sub-total</b>		<b>36</b>
<b>Year 2</b>		
<b>Fall Semester – 21 credits</b>		
PHYS 2150	Circuit Analysis	3
EPHY 2200	Electrical Properties of Materials	3
ENGR 2200	Engineering in Society, Health and Safety	3
CENG 2010	Computer Architecture & Assembly Language	3
CMNS 1290	Introduction to Professional Writing	3
STAT 2230	Probability and Statistics for Engineers	3
MATH 1300	Linear Algebra for Engineers	3
<b>Winter Semester – 18 credits</b>		
CENG 2030	Introduction to Digital Signal Processing	3
EPHY 2990	Introduction to ECE Design	3
EPHY 2300	Digital Electronics	3
ENGR 2300	Engineering Management	3
ENGR 2400	Engineering Economics	3
CHEM 1520	Principles of Chemistry	3
<b>Sub-total</b>		<b>39</b>

Year 3		
<b>Fall Semester – 18 credits</b>		
SENG 3110	Algorithms & Data Structure	3
CENG 3010	Computer System Design	3
EENG 3010	Introduction to Control Systems	3
SENG 3130	Software Requirements and Specifications	3
CENG 3310	Digital Communication Systems	3
ENGR 3300	Engineering Professional Ethics	3
<b>Winter Semester – 15 credits</b>		
COMP 3410	Operating Systems	3
COMP 3610	Database Systems	3
SENG 3120	Software Engineering Design: Process & Principles	3
SENG 3210	Applied Software Engineering	3
CENG 3020	Real Time Systems Design	3
<b>Sub-total</b>		<b>33</b>
Year 4 – 6 credits		
<b>Fall Semester</b>		
COOP 3080	Engineering COOP Work Term-I	3
<b>Winter Semester</b>		
COOP 3180	Engineering COOP Work Term-II	3
Year 5		
<b>Fall Semester – 21 credits</b>		
SENG 4100	Software Engineering Design Project	6
SENG 4120	Software Model Engineering & Formal Methods	3
SENG 4110	Software Testing & Verification	3
SENG 4130	Software Design Patterns	3
SENG 4XXX	Upper Level Technical Elective	3
SENG 4XXX	Upper Level Technical Elective	3
<b>Winter Semester – 18 credits</b>		
CENG 4320	Communication Networks	3
SENG 4230	Software Estimation	3
SENG 4220	Software Security Engineering	3
SENG 4140	Software Quality Engineering	3
SENG 4XXX	Upper Level Technical Elective	3
SENG 4XXX	Upper Level Technical Elective	3
<b>Sub-total</b>		<b>39</b>
<b>Total Credits</b>		<b>153</b>

Program requirements are subject to change. The current program requirements are set out below.

1. Completion of 147 credits (excluding CO-OP).



2. Completion of Two (2) COOP work terms (6 credits).
3. Student must earn a grade of "C" or better in all prerequisite courses.
4. Student must achieve a cumulative grade point average (GPA) of 2.5 in order to graduate.
5. Student must maintain a cumulative grade point average (GPA) of 2.33 in order to progress.
6. Two of the Upper Level, Technical Electives can be from EENG or CENG Upper Level Technical Electives on the approval of the engineering program advisor.

### University Program Structure

Calendar Year	Fall	Winter	Summer
1	Study term-1	Study term-2	Co-op Work term (optional)
2	Study term-3	Study term-4	Co-op Work term (optional)
3	Study term-5	Study term-6	Co-op Work term (optional)
4	Co-op Work term (mandatory)	Co-op Work term (mandatory)	Co-op Work term (optional)
5	Study term-7	Study term-8	

**Academic elective credits.** The number of elective credits required depends on the number of credits awarded for the College Program and College Course.

Exemptions without credit may be granted for appropriate courses taken within the College Program and College Course (excluding courses needed to fulfill the residency requirements). This may increase the number of elective credits required for program completion.

University Program students are responsible for consulting with their University program advisor to ensure courses selected are appropriate for their program of study or to meet future educational goals. Students require a Letter of Permission to register in a course at any other post-secondary institution to complete the credential. Students who proceed without approval may find that a course does not meet requirements and may be subject to credit assessment fees.

#### University Admission Requirements:

- BC Grade 12 (or equivalent).



- BC English 12/English 12 First Peoples with a minimum of 73 percent (or equivalent).
- Pre-Calculus 12 with a minimum of 67 percent (or equivalent).
- \*Chemistry 12 with a minimum of 67 percent (or equivalent).
- Physics 12 with a minimum of 67 percent (or equivalent).

\* It is preferable to have Chemistry 12 or equivalent completed with 67% minimum (or equivalent), however if only Chemistry 11 is completed with a minimum of 67% (or equivalent), the applicant will be admitted to the program but the student also needs to finish CHEM 1500 with a minimum of grade "C" prior to completing the program requirement of CHEM 1520.

### **Recommended courses**

Admission requirements are subject to change. Students applying for admission to the University Program are required to submit the University application for admission form and applicable application fee. Students are subject to all University admission policies including the requirement to provide original documentation showing their full post-secondary academic history along with graduation with a relevant certificate and/or diploma from a recognized program and institution.

Before graduates of the College Program and College Course can claim the credits shown in this Schedule and detailed in Appendix A, the College's administrative office must first directly submit a sealed transcript to the University's Admissions Office confirming the graduates' successful completion of the College Program and College Course.

### **Fees:**

College graduates entering the University Program are subject to standard fees as outlined in the University policy and academic Calendar, unless otherwise stated in this Agreement.



**Credit Transfer:**

**The College Program and College Course articulate the following credits into the University Program:**

**The College Program plus College Course are granted a maximum of 40 transfer credits into the Bachelor of Engineering in Software Engineering as detailed in Appendix A.**

## Appendix A

**University Program: Bachelor of Engineering in Software Engineering**

**College Program: Engineering Foundation Certificate**

**College Course: MAT 122 - Logic and Foundations**

**Block Transfer: 40 credits (Lower Level)<sup>3</sup>**

**Credit Requirements Remaining: 113 credits (35 Lower Level; 78 Upper Level)**

Year 1			
Fall Semester – 18 credits		Credits	College Course equivalency
ENGR 1100	Introduction to Engineering & Design	3	ENR 110, or ENR 100 and ENR 101 <sup>4</sup>
SENG 1110	Programming for Engineers 1	3	CPS 100
DRAF 1520	Engineering Graphics	3	
ENGL 1100	Introduction to University Writing	3	ENG 115
EPHY 1150	Physics for Engineers 1	3	PHY 120
MATH 1130	Calculus 1 for Engineering	3	MAT 181
Winter Semester – 18 credits			
EPHY 1250	Physics for Engineers 2	3	PHY 121
EPHY 1700	Engineering Mechanics 1	3	PHY 141
MATH 1230	Calculus 2 for Engineering	3	MAT 182
MATH 1700	Discrete Mathematics 1	3	MAT 122 <sup>5</sup>
EPHY 1990	Introduction to Engineering Measurements	3	ENR 110, or ENR 100 and ENR 101 <sup>4</sup>

<sup>3</sup> Students must complete the entire College program and all optional College courses to receive the full 40 transfer credits into the University program.

<sup>4</sup> ENR 110 or ENR 100 and ENR101 will receive credit for both ENGR 1100 and EPHY 1990. With ENR 110 being a 4-credit course and ENR 100 and ENR 101 being 2 credit courses at the College, the University can only transfer in the maximum amount of 4 credits. The University's ENGR 1100 and EPHY 1990 are 3 credits each, therefore students will need to make up an additional 2 credits, to complete the University Program.

<sup>5</sup> Students are eligible to receive up to an additional 3 credits if they complete MAT 122 (equivalent to TRU's MATH 1700).

SENG 1210	Programming for Engineers 2	3	CPS 101 <sup>6</sup>
<b>Sub-total</b>		<b>36</b>	
<b>Year 2</b>			
<b>Fall Semester – 21 credits</b>			
PHYS 2150	Circuit Analysis	3	
EPHY 2200	Electrical Properties of Materials	3	
ENGR 2200	Engineering in Society, Health and Safety	3	
CENG 2010	Computer Architecture & Assembly Language	3	
CMNS 1290	Introduction to Professional Writing	3	ENG 160
STAT 2230	Probability and Statistics for Engineers	3	
MATH 1300	Linear Algebra for Engineers	3	MAT 133
<b>Winter Semester – 18 credits</b>			
CENG 2030	Introduction to Digital Signal Processing	3	
EPHY 2990	Introduction to ECE Design	3	
EPHY 2300	Digital Electronics	3	
ENGR 2300	Engineering Management	3	
ENGR 2400	Engineering Economics	3	
CHEM 1520	Principles of Chemistry	3	CHE 152 <sup>6</sup>
<b>Sub-total</b>		<b>39</b>	
<b>Year 3</b>			
<b>Fall Semester – 18 credits</b>			
SENG 3110	Algorithms & Data Structure	3	
CENG 3010	Computer System Design	3	
EENG 3010	Introduction to Control Systems	3	
SENG 3130	Software Requirements and Specifications	3	
CENG 3310	Digital Communication Systems	3	
ENGR 3300	Engineering Professional Ethics	3	
<b>Winter Semester – 15 credits</b>			
COMP 3410	Operating Systems	3	
COMP 3610	Database Systems	3	
SENG 3120	Software Engineering Design: Process & Principles	3	
SENG 3210	Applied Software Engineering	3	
CENG 3020	Real Time Systems Design	3	
<b>Sub-total</b>		<b>33</b>	
<b>Year 4 – 6 credits</b>			

<sup>6</sup> College program requirements state students can take CPS 101 or CHE 152. If students take only one, they will receive 3 credits. However, if they take both CPS 101 and CHE 152 they will receive 6 credits.



<b>Fall Semester</b>			
COOP 3080	Engineering COOP Work Term-I	3	
<b>Winter Semester</b>			
COOP 3180	Engineering COOP Work Term-II	3	
<b>Year 5</b>			
<b>Fall Semester – 21 credits</b>			
SENG 4100	Software Engineering Design Project	6	
SENG 4120	Software Model Engineering & Formal Methods	3	
SENG 4110	Software Testing & Verification	3	
SENG 4130	Software Design Patterns	3	
SENG 4XXX	Upper Level Technical Elective	3	
SENG 4XXX	Upper Level Technical Elective	3	
<b>Winter Semester – 18 credits</b>			
CENG 4320	Communication Networks	3	
SENG 4230	Software Estimation	3	
SENG 4220	Software Security Engineering	3	
SENG 4140	Software Quality Engineering	3	
SENG 4XXX	Upper Level Technical Elective	3	
SENG 4XXX	Upper Level Technical Elective	3	
		<b>Sub-total</b>	<b>39</b>
		<b>Total Credits</b>	<b>153</b>
			<b>40</b>

Appendix B

University Mark



**THOMPSON RIVERS UNIVERSITY**



Appendix C

College Mark

NORTH ISLAND COLLEGE

