Minor Modification Proposal

Faculty: Faculty of Health

Department: School of Health Management and Policy

Program: Health Policy, Management & Digital Health - Bachelor of Health Studies

Degree Designation: Specialized Honours and Honours Minor

Type of Modification: Course change – replacement– where there are no changes to PLOs

Location *(current campus and, if applicable, proposed)*: Keele

Effective Date: Fall 2025

Approval Date at Faculty Council:

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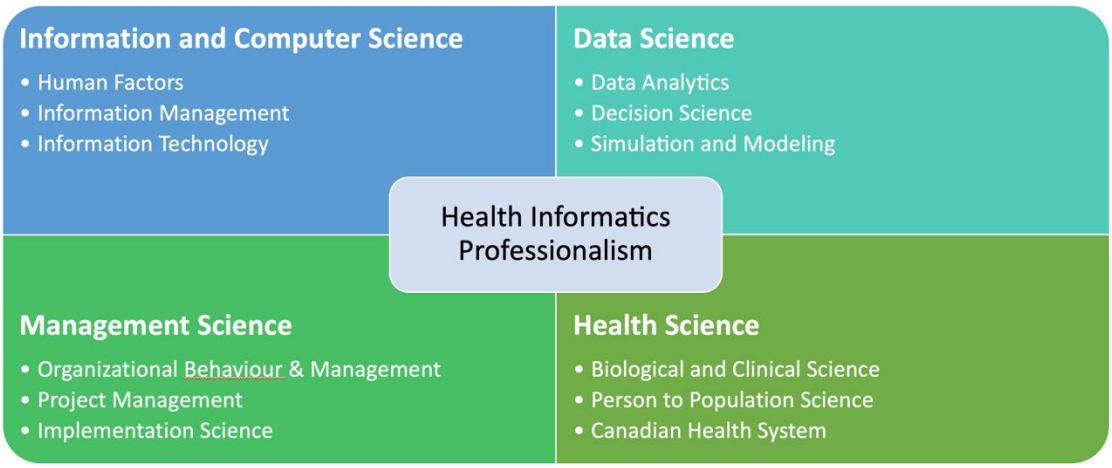
1. Describe the proposed modifications to the program.

This change will align the BHS Specialized Honours and Honours Minor with a Fall 2024 change to the other BHS programs (the change was inadvertently omitted for these 2 programs). The change: Replacing a core course for digital health / health informatics (HH/HLST 3341 3.00 Introduction to Health Informatics II) with an existing (elective) course (HH/HLST 3350 3.00 Health Data Analytics, Machine Learning and AI).

The material included in this proposal is consistent (no change) with the program change approved by Faculty of Health Council on December 3, 2023, and that went into effect for Fall 2024 for the BHS Honours, Double Major and Major/Minor programs.

2. Provide a rationale for the proposed modifications.

Machine learning and AI have become an essential skill in the market. It is becoming a necessity to have such skills for informaticians as substantiated by latest reports (report1, report 2). Recently, a group of researchers, educators and subject matter experts in health informatics (director, professor, advisor, and co-operative education coordinator) met to discuss changes in health informatics education and conducted also a scoping review about education in health informatics. Their findings were the basis of a new health informatics competency framework (see figure below).



This emerging set of competencies includes the new field of Data Science that incorporates knowledge in data analytics: descriptive, diagnostics and predictive analytics; that are acquired through machine learning.

It is now clear that machine learning for health has become a must to have in today's informatics work and research environments, and that programs need to update their curriculum accordingly. Machine learning gives the student a new set of skills needed for the job market. It also prepares those students who plan to continue graduate studies for the growing field of research in the domain of AI and machine learning for Health, and other fields such as data sciences.

HLST 3350 (Analytics and machine learning) is the only course in analytics and machine learning that we offer and that was introduced recently as an elective course. On the other hand, and in terms of practical skills, HLST 3341 (Health Informatics II) does not provide new practical skills for students and might include a lab component (depending on the instructor) that covers practical skills enclosed in other courses particularly HLST 3320 (Databases).

In light of this, we are suggesting moving HLST 3341 (Informatics II) from the list of core courses to the list of electives and HLST 3350 (Analytics and machine learning) from the list of electives to the list of as a core/required course for health informatics students in the undergraduate degree. This switch will allow us to prepare our student better to be competitive in the job market and for future graduate studies in data science. The field is shifting, and we needed to keep up with it.

3. How will the proposed modification support the achievement of Program Learning Outcomes?

No change. Mapping is provided in Appendix B.

4. Describe how students currently enrolled in the program will be accommodated.

Students currently enrolled in the program will follow their program requirements in place when they entered the program. Accommodation will not be required as HLST 3341 will continue to be offered.

5. Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from the relevant Dean(s)/Principal confirming resources will be in place to implement the changes.

No additional resources are needed. The proposed core course, HLST 3350, is already offered as an elective in an existing lab setting. Faculty members are available to teach this course on an ongoing basis. In fact, the only software needed is a browser as the machine learning software needed is freely available to students on the Cloud (i.e., Google Collaboratory).

6. If relevant, summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs. Provide individual statements from the relevant program(s) confirming consultation and their support.

N/A

APPENDIX A

Attach a Side-by-Side Academic Calendar Copy Comparison

Ensure that deletions are indicated with strikethrough (e.g., ~~strikethrough~~) text and additions are made in a contrasting colour (e.g., KINE 1000)

Program: Health Studies **Degree Program**: • Health Policy, Management & Digital Health – **BHS - Specialized Honours** • Health Policy, Management & Digital Health – **Honours Minor** **Effective Date: Fall 2025**
Please note that only those fields applicable to the relevant program need to be completed.

Health Policy, Management & Digital Health – BHS - Specialized Honours	
Current Calendar Copy (~~Strikethrough~~ items to be removed)	New Calendar Copy (Underline items to be added in revisions to existing programs)

Major Credits
 	
Students must complete a minimum of 72 credits in health policy, management and digital health.
 	
Complete all of the following
 	
Core Courses (42 credits):
 	
• Complete all of the following
  • Passed the following:
  • HH/HLST1010 - Foundations of Health Studies I (3.00)
  • HH/HLST1011 - Foundations of Health Studies II (3.00)
  • HH/HLST2010 - Social Determinants of Health (3.00)
	Major Credits
	
	Students must complete a minimum of 72 credits in health policy, management and digital health.
	
	Complete all of the following
	
	Core Courses (42 credits):
	
	• Complete all of the following
	  • Passed the following:
	  • HH/HLST1010 - Foundations of Health Studies I (3.00)
	  • HH/HLST1011 - Foundations of Health Studies II (3.00)
	  • HH/HLST2010 - Social Determinants of Health (3.00)

• HH/HLST2020 - Health Policy: Power and Politics (3.00) • HH/HLST2030 - Health Management 1: Essentials of Health Care Management (3.00) • HH/HLST2040 - Health Informatics 1: Introduction to Health Informatics (3.00) • HH/HLST3120 - Health Policy II: Analyzing Processes of Power and Politics (3.00) • HH/HLST3230 - Integrated Health Systems in Canada (3.00) • ~~HH/HLST3341 - Health Informatics II: Health Information Systems (3.00)~~ • HH/HLST4010 - Health Care Ethics: Policy and Management Perspectives (3.00) • HH/HLST4200 - Applied Research Approaches in Health Studies: Advanced Seminar (6.00) • Complete 1 of the following • Passed the following: • HH/HLST2300 Statistical Methods in Health Studies I and II (6.00) • Passed the following: • HH/HLST2301 - Statistical Methods in Health Studies I (3.00) • HH/HLST2302 - Statistical Methods in Health Studies II (3.00) • Completed at least 30 credits from the following types of courses: health studies (HLST) including 15 credits at the 3000 level and 15 credits at the 4000 level	• HH/HLST2020 - Health Policy: Power and Politics (3.00) • HH/HLST2030 - Health Management 1: Essentials of Health Care Management (3.00) • HH/HLST2040 - Health Informatics 1: Introduction to Health Informatics (3.00) • HH/HLST3120 - Health Policy II: Analyzing Processes of Power and Politics (3.00) • HH/HLST3230 - Integrated Health Systems in Canada (3.00) • HH/HLST3350 - Health Data Analytics, Machine Learning and AI (3.00) • HH/HLST4010 - Health Care Ethics: Policy and Management Perspectives (3.00) • HH/HLST4200 - Applied Research Approaches in Health Studies: Advanced Seminar (6.00) • Complete 1 of the following • Passed the following: • HH/HLST2300 - Statistical Methods in Health Studies I and II (6.00) • Passed the following: • HH/HLST2301 - Statistical Methods in Health Studies I (3.00) • HH/HLST2302 - Statistical Methods in Health Studies II (3.00) • Completed at least 30 credits from the following types of courses: health studies (HLST) including 15 credits at the 3000 level and 15 credits at the 4000 level

Health Policy, Management & Digital Health –Honours Minor	
Current Calendar Copy (~~Strikethrough~~ items to be removed)	New Calendar Copy (Underline items to be added in revisions to existing programs)

Minor Requirements (30 Total Credits)
 	
Students must complete a minimum of 72 credits in health policy, management and digital health.
 	
• Complete all of the following
  • Passed the following:
  • HH/HLST1010 - Foundations of Health Studies I (3.00)
  • HH/HLST1011 - Foundations of Health Studies II (3.00)
  • HH/HLST2010 - Social Determinants of Health (3.00)
  • HH/HLST2020 - Health Policy: Power and Politics (3.00)
  • HH/HLST2030 - Health Management 1: Essentials of Health Care Management (3.00)
  • HH/HLST2040 - Health Informatics 1: Introduction to Health Informatics (3.00)
 	
Select two of:
 	
• Complete 2 of the following:
  • Passed the following:
  • HH/HLST3120 - Health Policy II: Analyzing Processes of Power and Politics (3.00)
  • HH/HLST3230 - Integrated Health Systems in Canada (3.00)
  ~~• HH/HLST3341 - Health Informatics II: Health Information Systems (3.00)~~
• Passed the following:
  • HH/HLST4010 - Health Care Ethics: Policy and Management Perspectives (3.00)
• Completed at least 3 credits from the following types of courses: in health studies (HLST) credits at the 4000 level
	Minor Requirements (30 Total Credits)
	
	Students must complete a minimum of 72 credits in health policy, management and digital health.
	
	• Complete all of the following
	  • Passed the following:
	  • HH/HLST1010 - Foundations of Health Studies I (3.00)
	  • HH/HLST1011 - Foundations of Health Studies II (3.00)
	  • HH/HLST2010 - Social Determinants of Health (3.00)
	  • HH/HLST2020 - Health Policy: Power and Politics (3.00)
	  • HH/HLST2030 - Health Management 1: Essentials of Health Care Management (3.00)
	  • HH/HLST2040 - Health Informatics 1: Introduction to Health Informatics (3.00)
	
	Select two of:
	
	• Complete 2 of the following:
	  • Passed the following:
	  • HH/HLST3120 - Health Policy II: Analyzing Processes of Power and Politics (3.00)
	  • HH/HLST3230 - Integrated Health Systems in Canada (3.00)
	  • HH/HLST3350 - Health Data Analytics, Machine Learning and AI (3.00)
	• Passed the following:
	  • HH/HLST4010 - Health Care Ethics: Policy and Management Perspectives (3.00)
	• Completed at least 3 credits from the following types of courses: in health studies (HLST) credits at the 4000 level

APPENDIX B: Course and Program Learning Outcomes

- **How do the Course Learning Outcomes (CLOs) for the new course (3350) enable students to better meet the Program Learning Outcomes (PLOs) for the BHS Hons and BHS Spec Hons compared to the current course (3341).**

The course learning outcomes for HLST 3350 are defined as follows: After completion of the course students will be able to:

1- Apply theoretical and practical knowledge of Data Analytics application in Healthcare
2- Apply practical knowledge of Business Intelligence & Statistical tools available for Data analytics
3- Assess Health outcomes using data analytics
4- Choose appropriate Data Visualization tools
5- Compare the advantages and challenges of Health Data Analytics tools
6- Communicate orally effectively about a range of data analytics problems and solutions
7- Analyze, argue and communicate in writing rigorously about a range of data analytics problems and solutions

The program learning outcomes are

1- Systematically select, interpret, and synthesize available …
2- Critically appraise evidence, perspectives and …
3- Work collaboratively in teams to analyze issues…
4- Act responsibly and with integrity as expected …
5- Plan and carry out quantitative and qualitative …
6- Describe and apply health policy concepts …
7- Describe and apply health management concepts …
8- Describe and apply health informatics concepts …

The table below shows maps the course learning outcomes to the Program Learning outcomes.

Course Learning Outcomes	**Program Learning Outcomes**
1- Apply theoretical and practical knowledge of Data Analytics application in Healthcare	1, 2, 3, 4, 5, 6, 7, 8
2- Apply practical knowledge of Business Intelligence & Statistical tools available for Data analytics	1, 2, 3, 5
3- Assess Health outcomes using data analytics	1, 2, 5, 6
4- Choose appropriate Data Visualization tools	3, 7, 8
5- Compare the advantages and challenges of Health Data Analytics tools	2, 6
6- Communicate orally effectively about a range of data analytics problems and solutions	1, 3, 4, 6, 7
7- Analyze, argue and communicate in writing rigorously about a range of data analytics problems and solutions	1, 2, 6, 7, 8

The following maps the course to the PLOs.

Level of Learning Outcome				
Introductory (I): Teaching and learning activities focus on basic concepts and skills. Students recall/explain concepts. **Developed (D):** Teaching and learning activities reinforce concepts and skills. Students apply procedures or analyze concepts. **Mastery (M):** Teaching and learning activities focus on the use of concepts and skills. Students analyze concepts at multiple levels of complexity, evaluate decisions, or create new ideas. Students are assessed on graduation-level proficiency in the outcome.				
Methods of Assessment				
01 Multiple choice test questions **02** Written exams (short/long essay) **03** Online/Moodle quizzes **04** Online modules **05** Participation **06** Collage	**07** Class discussions **08** Group presentation **09** Scholarly discussion papers **10** Group project or learning contract **11** Reflective writing or journaling **12** Problem-solving assignments	**13** Project proposal or Team charter **14** Policy Brief or Briefing note **15** Policy analysis or recommendations **16** Research paper/essay **17** Reading Scholarly summaries **18** Annotated bibliography	**19** Peer or self-evaluation **20** Case study **21** Financial analysis **22** Statistical analysis of data **23** Hands-on activities **24** Use of Electronic Health records	**25** Database design and implementation **26** Database queries **27** Quality Management Report **28** Placements or observations **29** Literature review **30** Survey participation

Program Required Courses:

Courses (Program Requirement)		**Program Learning Outcomes**							
		1 Systematically select, interpret, and synthesize available …	**2** Critically appraise evidence, perspectives and …	**3** Work collaboratively in teams to analyze issues…	**4** Act responsibly and with integrity as expected …	**5** Plan and carry out quantitative and qualitative …	**6** Describe and apply health policy concepts …	**7** Describe and apply health management concepts …	**8** Describe and apply health informatics concepts …
HLST 3350 3.00	Level taught (assessed)	**M (M)**	**M (M)**	**M (M)**	**M(M)**	**M(M)**	**(D)**	**(D)**	**M (M)**
	Assessment methods	1, 5, 7, 10, 12, 13, 16, 19, 22, 23, 29	1, 3, 4, 5, 7, 17, 20	5, 7, 10, 12, 13, 19, 20, 23, 29	5, 7, 10, 13, 17, 19, 20, 23, 29	10, 12, 13, 18, 22, 23, 29	5, 7, 10, 17, 20, 29	5, 7, 10, 13, 20, 22, 29	1, 5, 7, 10, 12, 13, 20, 22, 23, 29

- **How do the CLOs for the new course map onto the PLOs compared to the CLOs for the current course.**

The following table compares how the CLOs of the new course HLST 3350 compares to the current course HLST 3341. HLST 3350 focuses more on hands-on and "statistical analysis" (i.e., analytics and machine learning) experiences.

Courses (Program Requirement) * implies 'one of'		**Program Learning Outcomes**							
		1 Systematically select, interpret, and synthesize available …	**2** Critically appraise evidence, perspectives and …	**3** Work collaboratively in teams to analyze issues…	**4** Act responsibly and with integrity as expected …	**5** Plan and carry out quantitative and qualitative …	**6** Describe and apply health policy concepts …	**7** Describe and apply health management concepts …	**8** Describe and apply health informatics concepts …
HLST 3341 3.00 *	Level taught (assessed)	**D (D)**	**D (D)**	**D (D)**					**D (D)**
	Assessment methods	1, 3, 4, 5, 7, 8, 16, 29	1, 3, 4, 5, 8, 16, 29	1, 3, 4, 5, 7, 8, 16, 29					1, 3, 4, 5, 7, 8, 16, 29
HLST 3350 3.00	Level taught (assessed)	**M (M)**	**M (M)**	**M (M)**	**M(M)**	**M(M)**	**(D)**	**(D)**	**M (M)**
	Assessment methods	1, 5, 7, 10, 12, 13, 16, 19, 22, 23, 29	1, 3, 4, 5, 7, 17, 20	5, 7, 10, 12, 13, 19, 20, 23, 29	5, 7, 10, 13, 17, 19, 20, 23, 29	10, 12, 13, 18, 22, 23, 29	5, 7, 10, 17, 20, 29	5, 7, 10, 13, 20, 22, 29	1, 5, 7, 10, 12, 13, 20, 22, 23, 29

Detailed Minor Modification Proposal

Faculty: Faculty of Health

Department: School of Global Health

Program: Global Health

Degree Designation: Honours Bachelor of Arts (BA) and Honours Bachelor of Science (BSc)

Type of Modification: Changes to Admission Criteria

Location *(current campus and, if applicable, proposed)*: Keele Campus

Effective Date: Fall 2026

Approval Date at Faculty Council:

1. Describe the proposed modifications to the program.

The proposed modification to the admission criteria for the Bachelor of Arts (BA) in Global Health *[OUAC code YHS]* and the Bachelor of Science (BSc) in Global Health *[OUAC Code YHT]* aims to: a) enhance the program's accessibility for prospective students with diverse educational backgrounds who are interested in studying the multidisciplinary aspects of GH; and b) better align the program with other degree offerings in the Faculty of Health.

For the BA in Global Health, the proposed modification is to remove the science pre-requisite requirements and require 5 additional 4U or M courses, with Biology (SBI4U) as 'recommended.' This change recognizes that students interested in the social sciences and humanities may not have pursued advanced science courses in high school. This modification aligns with the multidisciplinary nature of GH and ensures the BA program is inclusive and accessible to a wider range of prospective students with varied academic backgrounds. This change also aligns with the BA in Psychology at York that requires only ENG4U as well as the BA in Health Studies that requires ENG4U and 4U Math (recommended).

For the BSc in Global Health, the proposed modification is to add Biology (SBI4U) as a science option to the pre-requisites alongside Chemistry (SCH4U) and Physics (SPH4U). As highlighted by the BSc curriculum's inclusion of Anatomy & Physiology courses (GH 1001 3.0 and GH 1002 3.0), Biology should be included as a science option. The addition of Biology would provide greater accessibility to prospective students who may have a

stronger background and/or interest in Biology, compared to Chemistry and Physics, to be eligible for admission to the BSc in GH.

2. Include as an appendix a side-by-side comparison of the existing and proposed program requirements as they will appear in the Undergraduate or Graduate Academic Calendar. Please indicate deletions as strikethrough text and additions as underlined text in a contrasting colour.

Please refer to the Appendix.

3.1 List the current and/or updated Program Learning Outcomes for the proposed modified program.[1]

N/A. No changes to the Program Learning Outcomes are being proposed.

3.2 Provide a rationale for the proposed changes as articulated through the Program Learning Outcomes.

N/A. The Program Learning Outcomes remain unchanged. This modification only affects the admission criteria and does not alter the curriculum or the students' ability to achieve the established Program Learning Outcomes.

3.3 How will the proposed modification support the achievement of Program Learning Outcomes?

N/A. Please refer to Item 3.2 above.

4. Describe how students currently enrolled in the program will be accommodated.

This change will not impact current students.

5. Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from the relevant Dean(s)/Principal confirming resources will be in place to implement the changes.

This change will not have any resource implications.

6. If relevant, summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs.

[1] Ideally, a program would have 8-12 Program Learning Outcomes (PLOs) that reflect the program and demonstrate how the program meets Ontario's Degree Level Expectations. Support for visioning, defining, and mapping your PLOs can be found in the Office of the Vice Provost Academic.

Provide individual statements from the relevant program(s) confirming consultation and their support.

These proposed changes were approved on December 11, 2024 by the School of Global Health Council. The Office of the University Registrar will be notified of the changes.

7. For optional work-integrated learning elements (e.g., an optional internship course), please describe the consultation to ensure these elements are in line with best practice for experiential education and York's established other practices in this area. The Office of the Vice Provost, Teaching and Learning can provide further guidance.

N/A.

APPENDICES

Appendix: Side-by-Side Academic Calendar Copy Comparison

Ensure that deletions are indicated with strikethrough text and additions are made in a contrasting colour.

These changes are to be made to the Future Students Admission Requirements page, Undergraduate Student Handbooks/Viewbook, and OUAC application system.

Current Admission Criteria for BA in Global Health [OUAC Code YHS]	**Proposed Admission Criteria for BA in Global Health** [OUAC Code YHS]
• Ontario Secondary School Diploma (OSSD) • ENG4U • SBI4U or SCH4U or SPH4U • And four additional 4U or M courses	• Ontario Secondary School Diploma (OSSD) • ENG4U • ~~SBI4U or SCH4U or SPH4U~~ • And ~~**four**~~ **five** additional 4U or M courses - **Recommendation: SBI4U**

Current Admission Criteria for BSc in Global Health [OUAC Code YHT]	**Proposed Admission Criteria for BSc in Global Health** [OUAC Code YHT]
• Ontario Secondary School Diploma (OSSD) • ENG4U, 4U Math • SCH4U or SPH4U • And three additional 4U or M courses	• Ontario Secondary School Diploma (OSSD) • ENG4U, 4U Math • SCH4U or SPH4U **or SBI4U** • And three additional 4U or M courses

Appendix: Consultation and Support Letters

Minor Modification Proposal

Faculty: Health

Department:

Program: Neuroscience

Degree Designation:

Type of Modification: Reclassify HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00) from the Systems stream to the Molecular & Cellular stream.

Location *(current campus and, if applicable, proposed)*:

Effective Date: Fall 2025

Approval Date at Faculty Council:

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1. Describe the proposed modifications to the program.

Move HH/PSYC 4380 3.00 *Seminar in Neuroscience: Rhythms of the Brain* from the Systems Neuroscience stream to the Molecular & Cellular Neuroscience stream

2. Provide a rationale for the proposed modifications.

These adjustments do not affect the program's learning outcomes. One of the stream courses, HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00), was previously categorized under the Systems stream but should correctly be classified under the Molecular & Cellular stream. This reclassification better aligns the material covered in the course.

Moving this course from the Systems stream to the Molecular & Cellular stream reduces the Systems stream options from ten to nine but increases Molecular & Cellular options from five to six, ensuring balanced choices for students.

3. How will the proposed modification support the achievement of Program Learning Outcomes?

No revisions to the PLO are proposed.

4. Describe how students currently enrolled in the program will be accommodated.

HH/PSYC 4380 3.00 Seminar in Neuroscience: Rhythms of the Brain has not yet been offered as part of the NRSC program, as it was last offered in 2018. The course will be offered for the first time since the neuroscience program's launch in 2020 during the upcoming academic year. Reclassifying the course in the appropriate stream before it is offered in Fall/Winter 2025/2026 ensures that the change will not impact any students currently enrolled in the program.

Changes will be communicated to current students through the academic calendar, and via updates on the Neuroscience Courses website at https://www.yorku.ca/interdisciplinary/neuroscience/courses/ . Additionally, email notifications will be sent out to indicate the change to current students. Advising will be available by the program coordinator.

5. Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from the relevant Dean(s)/Principal confirming resources will be in place to implement the changes.

There are no resource implications.

6. If relevant, summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs. Provide individual statements from the relevant program(s) confirming consultation and their support.

The new course director for PSYC 4380 3.00, Georg Zoidl, was consulted to confirm that the course was misclassified and that the content better aligns with the Molecular & Cellular Neuroscience stream.

This minor modification was reviewed and unanimously approved by the Neuroscience Undergraduate Executive Committee (NUEC) which includes the chairs of Biology, Kinesiology and Health Science, and Psychology and the Associate Deans of students in Science and Health, and the Associate Dean of Teaching & Academic programs in Health.

APPENDIX

Attach a Side-by-Side Academic Calendar Copy Comparison

Ensure that deletions are indicated with strikethrough (e.g., ~~strikethrough~~) text and additions are made in a contrasting colour (e.g., KINE 1000)

Program: Neuroscience (All streams)
Degree Program: Please Select Applicable Degree Program
Specialized Honours Honours Ordinary (90-credit) Double Major Major/Minor Minor
Other:
Effective Date: Fall 2025

Please note that only those fields applicable to the relevant program need to be completed.

Current Calendar Copy (~~Strikethrough~~ items to be removed)	New Calendar Copy (Underline items to be added in revisions to existing programs)
Neuroscience (Behavioural & Cognitive) **Major Requirements** – Required Credits: 64 • Complete all of the following **Students must complete a minimum of 64 credits in neuroscience major.** ○ Passed the following: ▪ SC/BIOL1000 - Biology I - Cells, Molecular Biology and Genetics (3.00) ▪ SC/BIOL1001 - Biology II - Evolution, Ecology, Biodiversity and Conservation Biology (3.00) ▪ HH/KINE3650 - Functional Neuroanatomy (3.00) ▪ HH/PSYC1010 - Introduction to Psychology (6.00) ▪ HH/PSYC3250 - Neural Basis of Behaviour (3.00)	**Neuroscience (Behavioural & Cognitive)** **Major Requirements** – Required Credits: 64 • Complete all of the following **Students must complete a minimum of 64 credits in neuroscience major.** ○ Passed the following: ▪ SC/BIOL1000 - Biology I - Cells, Molecular Biology and Genetics (3.00) ▪ SC/BIOL1001 - Biology II - Evolution, Ecology, Biodiversity and Conservation Biology (3.00) ▪ HH/KINE3650 - Functional Neuroanatomy (3.00) ▪ HH/PSYC1010 - Introduction to Psychology (6.00) ▪ HH/PSYC3250 - Neural Basis of Behaviour (3.00)

○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Passed the following: ▪ SC/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Note: HH/NRSC 1001 1.00 (cross-listed to: SC/NRSC 1001 1.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Note: HH/NRSC 2000 3.00 (cross-listed to: SC/NRSC 2000 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00)	○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Passed the following: ▪ SC/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Note: HH/NRSC 1001 1.00 (cross-listed to: SC/NRSC 1001 1.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Note: HH/NRSC 2000 3.00 (cross-listed to: SC/NRSC 2000 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00)

▪ Note: HH/NRSC 2100 3.00 (cross-listed to: SC/NRSC 2100 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2200 - Neuroscience Techniques (3.00) ▪ Passed the following: ▪ SC/NRSC2200 - Neuroscience Techniques (3.00) ▪ Note: HH/NRSC 2200 3.00 (cross-listed to: SC/NRSC 2200 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Passed the following: ▪ SC/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Note: HH/NRSC 3000 3.00 (cross-listed to: SC/NRSC 3000 3.00) ○ Complete 1 of the following ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4000 - Neuroscience Individual Research Project (6.00)	▪ Note: HH/NRSC 2100 3.00 (cross-listed to: SC/NRSC 2100 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2200 - Neuroscience Techniques (3.00) ▪ Passed the following: ▪ SC/NRSC2200 - Neuroscience Techniques (3.00) ▪ Note: HH/NRSC 2200 3.00 (cross-listed to: SC/NRSC 2200 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Passed the following: ▪ SC/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Note: HH/NRSC 3000 3.00 (cross-listed to: SC/NRSC 3000 3.00) ○ Complete 1 of the following ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4000 - Neuroscience Individual Research Project (6.00)

▪ Passed the following: ▪ SC/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4002 - Team Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4002 - Team Research Project (6.00) ▪ Note: HH/NRSC 4000 6.00 (cross-listed to: SC/NRSC 4000 6.00) or HH/NRSC 4002 6.00 (cross-listed to: SC/NRSC 4002 6.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/PSYC2021 - Statistical Methods I (3.00) ▪ Passed the following: ▪ HH/KINE2050 - Analysis of Data in Kinesiology I (3.00) ▪ Passed the following: ▪ SC/BIOL2060 - Statistics for Biologists (3.00)	▪ Passed the following: ▪ SC/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4002 - Team Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4002 - Team Research Project (6.00) ▪ Note: HH/NRSC 4000 6.00 (cross-listed to: SC/NRSC 4000 6.00) or HH/NRSC 4002 6.00 (cross-listed to: SC/NRSC 4002 6.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/PSYC2021 - Statistical Methods I (3.00) ▪ Passed the following: ▪ HH/KINE2050 - Analysis of Data in Kinesiology I (3.00) ▪ Passed the following: ▪ SC/BIOL2060 - Statistics for Biologists (3.00)

12 credits selected from the list of courses in the chosen specialized - Behavioural and Cognitive Neuroscience Stream ○ Earned at least 12 credits from the following: ▪ HH/KINE4210 - Disorders of Visual Cognition (3.00) ▪ HH/PSYC2220 - Sensation and Perception I (3.00) ▪ HH/PSYC2260 - Cognition (3.00) ▪ HH/PSYC3140 - Psychological Health, Distress, & Impairment (3.00) ▪ HH/PSYC3265 - Memory (3.00) ▪ HH/PSYC3270 - Sensation and Perception II (3.00) ▪ HH/PSYC3495 - Neuroscience of Aging & Cognitive Health (3.00) ▪ HH/PSYC4080 - Neuropsychology of Abnormal Behaviour (6.00) ▪ HH/PSYC4260 - Seminar in Sensation and Perception (3.00) ▪ HH/PSYC4270 - Seminar in Memory and Cognition (3.00) ▪ HH/PSYC4360 - Visuospatial Memory and Goal-Directed Action (3.00)	**12 credits selected from the list of courses in the chosen specialized - Behavioural and Cognitive Neuroscience Stream** ○ Earned at least 12 credits from the following: ▪ HH/KINE4210 - Disorders of Visual Cognition (3.00) ▪ HH/PSYC2220 - Sensation and Perception I (3.00) ▪ HH/PSYC2260 - Cognition (3.00) ▪ HH/PSYC3140 - Psychological Health, Distress, & Impairment (3.00) ▪ HH/PSYC3265 - Memory (3.00) ▪ HH/PSYC3270 - Sensation and Perception II (3.00) ▪ HH/PSYC3495 - Neuroscience of Aging & Cognitive Health (3.00) ▪ HH/PSYC4080 - Neuropsychology of Abnormal Behaviour (6.00) ▪ HH/PSYC4260 - Seminar in Sensation and Perception (3.00) ▪ HH/PSYC4270 - Seminar in Memory and Cognition (3.00) ▪ HH/PSYC4360 - Visuospatial Memory and Goal-Directed Action (3.00)
12 credits selected from the list of courses in each of the two alternative specialized streams with a minimum of 3 credits required from each stream ○ Complete all of the following	**12 credits selected from the list of courses in each of the two alternative specialized streams with a minimum of 3 credits required from each stream** ○ Complete all of the following

Molecular and Cellular Neuroscience Stream ▪ Earned at least 3 credits from the following: ▪ HH/KINE3670 - Molecular and Cellular Neuroscience with Applications to Health (3.00) ▪ HH/KINE4230 - Neuronal development for activity and health (3.00) ▪ HH/KINE4505 - Neurophysiology of Movement in Health and Disease (3.00) ▪ SC/BIOL4310 - Physiology of Circadian Timing (3.00) ▪ SC/BIOL4370 - Neurobiology (3.00)	**Molecular and Cellular Neuroscience Stream** ▪ Earned at least 3 credits from the following: ▪ HH/KINE3670 - Molecular and Cellular Neuroscience with Applications to Health (3.00) ▪ HH/KINE4230 - Neuronal development for activity and health (3.00) ▪ HH/KINE4505 - Neurophysiology of Movement in Health and Disease (3.00) ▪ SC/BIOL4310 - Physiology of Circadian Timing (3.00) ▪ SC/BIOL4370 - Neurobiology (3.00) ▪ HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00)
Systems Neuroscience Stream ▪ Earned at least 3 credits from the following: ▪ HH/KINE3020 - Skilled Performance and Motor Learning (3.00) ▪ HH/KINE4225 - Principles of Neuro-motor learning (3.00) ▪ HH/KINE4226 - Principles of Neurorehabilitation (3.00)	**Systems Neuroscience Stream** ▪ Earned at least 3 credits from the following: ▪ HH/KINE3020 - Skilled Performance and Motor Learning (3.00) ▪ HH/KINE4225 - Principles of Neuro-motor learning (3.00) ▪ HH/KINE4226 - Principles of Neurorehabilitation (3.00)

▪ HH/KINE4240 - Applied Human Factors (3.00) ▪ HH/KINE4452 - Autonomic Function in Health and Disease (3.00) ▪ HH/KINE4500 - Neural Control of Movement (3.00) ▪ HH/PSYC3210 - Vision Science (3.00) ▪ HH/PSYC4215 - Neuroimaging of Cognition - fMRI methods (3.00) ▪ ~~HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00)~~ ▪ SC/BIOL3380 - Sensory Systems (3.00) ▪ SC/BIOL4380 - Systems Neuroscience (3.00) **Alternative Specialized Streams** ▪ Completed at least 6 credits from the following types of courses: from the Molecular and Cellular Neuroscience Stream and / or Behavioural Cognitive Neuroscience Stream.	▪ HH/KINE4240 - Applied Human Factors (3.00) ▪ HH/KINE4452 - Autonomic Function in Health and Disease (3.00) ▪ HH/KINE4500 - Neural Control of Movement (3.00) ▪ HH/PSYC3210 - Vision Science (3.00) ▪ HH/PSYC4215 - Neuroimaging of Cognition - fMRI methods (3.00) ▪ SC/BIOL3380 - Sensory Systems (3.00) ▪ SC/BIOL4380 - Systems Neuroscience (3.00) **Alternative Specialized Streams** ▪ Completed at least 6 credits from the following types of courses: from the Molecular and Cellular Neuroscience Stream and / or Behavioural Cognitive Neuroscience Stream.
Grand Total Credit Count - 120	**Grand Total Credit Count - 120**
Neuroscience (Molecular & Cellular) **Major Requirements** – Required Credits: 64 • Complete all of the following **Students must complete a minimum of 64 credits in neuroscience major.**	**Neuroscience (Molecular & Cellular)** **Major Requirements** – Required Credits: 64 • Complete all of the following **Students must complete a minimum of 64 credits in neuroscience major.**

○ Passed the following: ▪ SC/BIOL1000 - Biology I - Cells, Molecular Biology and Genetics (3.00) ▪ SC/BIOL1001 - Biology II - Evolution, Ecology, Biodiversity and Conservation Biology (3.00) ▪ HH/KINE3650 - Functional Neuroanatomy (3.00) ▪ HH/PSYC1010 - Introduction to Psychology (6.00) ▪ HH/PSYC3250 - Neural Basis of Behaviour (3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Passed the following: ▪ SC/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Note: HH/NRSC 1001 1.00 (cross-listed to: SC/NRSC 1001 1.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Passed the following:	○ Passed the following: ▪ SC/BIOL1000 - Biology I - Cells, Molecular Biology and Genetics (3.00) ▪ SC/BIOL1001 - Biology II - Evolution, Ecology, Biodiversity and Conservation Biology (3.00) ▪ HH/KINE3650 - Functional Neuroanatomy (3.00) ▪ HH/PSYC1010 - Introduction to Psychology (6.00) ▪ HH/PSYC3250 - Neural Basis of Behaviour (3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Passed the following: ▪ SC/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Note: HH/NRSC 1001 1.00 (cross-listed to: SC/NRSC 1001 1.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Passed the following:

▪ SC/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Note: HH/NRSC 2000 3.00 (cross-listed to: SC/NRSC 2000 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Note: HH/NRSC 2100 3.00 (cross-listed to: SC/NRSC 2100 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2200 - Neuroscience Techniques (3.00) ▪ Passed the following: ▪ SC/NRSC2200 - Neuroscience Techniques (3.00) ▪ Note: HH/NRSC 2200 3.00 (cross-listed to: SC/NRSC 2200 3.00) ○ Complete 1 of the following ▪ Passed the following:	▪ SC/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Note: HH/NRSC 2000 3.00 (cross-listed to: SC/NRSC 2000 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Note: HH/NRSC 2100 3.00 (cross-listed to: SC/NRSC 2100 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2200 - Neuroscience Techniques (3.00) ▪ Passed the following: ▪ SC/NRSC2200 - Neuroscience Techniques (3.00) ▪ Note: HH/NRSC 2200 3.00 (cross-listed to: SC/NRSC 2200 3.00) ○ Complete 1 of the following ▪ Passed the following:

▪ HH/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Passed the following: ▪ SC/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Note: HH/NRSC 3000 3.00 (cross-listed to: SC/NRSC 3000 3.00) ○ Complete 1 of the following ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4002 - Team Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4002 - Team Research Project (6.00)	▪ HH/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Passed the following: ▪ SC/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Note: HH/NRSC 3000 3.00 (cross-listed to: SC/NRSC 3000 3.00) ○ Complete 1 of the following ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4002 - Team Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4002 - Team Research Project (6.00)

▪ Note: HH/NRSC 4000 6.00 (cross-listed to: SC/NRSC 4000 6.00) or HH/NRSC 4002 6.00 (cross-listed to: SC/NRSC 4002 6.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/PSYC2021 - Statistical Methods I (3.00) ▪ Passed the following: ▪ HH/KINE2050 - Analysis of Data in Kinesiology I (3.00) ▪ Passed the following: ▪ SC/BIOL2060 - Statistics for Biologists (3.00) **12 credits selected from the list of courses in the chosen specialized stream - Molecular and Cellular Neuroscience Stream** ○ Earned at least 12 credits from the following: ▪ HH/KINE3670 - Molecular and Cellular Neuroscience with Applications to Health (3.00) ▪ HH/KINE4230 - Neuronal development for activity and health (3.00) ▪ HH/KINE4505 - Neurophysiology of Movement in Health and Disease (3.00) ▪ SC/BIOL4310 - Physiology of Circadian Timing (3.00)	▪ Note: HH/NRSC 4000 6.00 (cross-listed to: SC/NRSC 4000 6.00) or HH/NRSC 4002 6.00 (cross-listed to: SC/NRSC 4002 6.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/PSYC2021 - Statistical Methods I (3.00) ▪ Passed the following: ▪ HH/KINE2050 - Analysis of Data in Kinesiology I (3.00) ▪ Passed the following: ▪ SC/BIOL2060 - Statistics for Biologists (3.00) **12 credits selected from the list of courses in the chosen specialized stream - Molecular and Cellular Neuroscience Stream** ○ Earned at least 12 credits from the following: ▪ HH/KINE3670 - Molecular and Cellular Neuroscience with Applications to Health (3.00) ▪ HH/KINE4230 - Neuronal development for activity and health (3.00) ▪ HH/KINE4505 - Neurophysiology of Movement in Health and Disease (3.00) ▪ SC/BIOL4310 - Physiology of Circadian Timing (3.00)

▪ SC/BIOL4370 - Neurobiology (3.00)	▪ SC/BIOL4370 - Neurobiology (3.00)
	▪ HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00)
12 credits selected from the list of courses in each of the two alternative specialized streams with a minimum of 3 credits required from each stream.	**12 credits selected from the list of courses in each of the two alternative specialized streams with a minimum of 3 credits required from each stream.**
○ Complete all of the following	○ Complete all of the following
Behavioural and Cognitive Neuroscience Stream	**Behavioural and Cognitive Neuroscience Stream**
▪ Earned at least 3 credits from the following:	▪ Earned at least 3 credits from the following:
▪ HH/KINE4210 - Disorders of Visual Cognition (3.00)	▪ HH/KINE4210 - Disorders of Visual Cognition (3.00)
▪ HH/PSYC2220 - Sensation and Perception I (3.00)	▪ HH/PSYC2220 - Sensation and Perception I (3.00)
▪ HH/PSYC2260 - Cognition (3.00)	▪ HH/PSYC2260 - Cognition (3.00)
▪ HH/PSYC3140 - Psychologi cal Health, Distress, & Impairment (3.00)	▪ HH/PSYC3140 - Psychologi cal Health, Distress, & Impairment (3.00)
▪ HH/PSYC3265 - Memory (3 .00)	▪ HH/PSYC3265 - Memory (3 .00)
▪ HH/PSYC3270 - Sensation and Perception II (3.00)	▪ HH/PSYC3270 - Sensation and Perception II (3.00)
▪ HH/PSYC3495 - Neuroscie nce of Aging & Cognitive Health (3.00)	▪ HH/PSYC3495 - Neuroscie nce of Aging & Cognitive Health (3.00)
▪ HH/PSYC4080 - Neuropsyc hology of Abnormal Behaviour (6.00)	▪ HH/PSYC4080 - Neuropsyc hology of Abnormal Behaviour (6.00)

▪ HH/PSYC4260 - Seminar in Sensation and Perception (3.00) ▪ HH/PSYC4270 - Seminar in Memory and Cognition (3.00) ▪ HH/PSYC4360 - Visuospatial Memory and Goal-Directed Action (3.00) **Systems Neuroscience Stream** ▪ Earned at least 3 credits from the following: ▪ HH/KINE3020 - Skilled Performance and Motor Learning (3.00) ▪ HH/KINE4225 - Principles of Neuro-motor learning (3.00) ▪ HH/KINE4226 - Principles of Neurorehabilitation (3.00) ▪ HH/KINE4240 - Applied Human Factors (3.00) ▪ HH/KINE4452 - Autonomic Function in Health and Disease (3.00) ▪ HH/KINE4500 - Neural Control of Movement (3.00) ▪ HH/PSYC3210 - Vision Science (3.00)	▪ HH/PSYC4260 - Seminar in Sensation and Perception (3.00) ▪ HH/PSYC4270 - Seminar in Memory and Cognition (3.00) ▪ HH/PSYC4360 - Visuospatial Memory and Goal-Directed Action (3.00) **Systems Neuroscience Stream** ▪ Earned at least 3 credits from the following: ▪ HH/KINE3020 - Skilled Performance and Motor Learning (3.00) ▪ HH/KINE4225 - Principles of Neuro-motor learning (3.00) ▪ HH/KINE4226 - Principles of Neurorehabilitation (3.00) ▪ HH/KINE4240 - Applied Human Factors (3.00) ▪ HH/KINE4452 - Autonomic Function in Health and Disease (3.00) ▪ HH/KINE4500 - Neural Control of Movement (3.00) ▪ HH/PSYC3210 - Vision Science (3.00)

▪ HH/PSYC4215 - Neuroimaging of Cognition - fMRI methods (3.00) ▪ ~~HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00)~~ ▪ SC/BIOL3380 - Sensory Systems (3.00) ▪ SC/BIOL4380 - Systems Neuroscience (3.00) **Alternative Specialized Streams** ▪ Completed at least 6 credits from the following types of courses: from the Molecular and Cellular Neuroscience Stream and /or Behavioural Cognitive Neuroscience Stream.	▪ HH/PSYC4215 - Neuroimaging of Cognition - fMRI methods (3.00) ▪ SC/BIOL3380 - Sensory Systems (3.00) ▪ SC/BIOL4380 - Systems Neuroscience (3.00) **Alternative Specialized Streams** ▪ Completed at least 6 credits from the following types of courses: from the Molecular and Cellular Neuroscience Stream and /or Behavioural Cognitive Neuroscience Stream.
Grand Total Credit Count - 120	**Grand Total Credit Count - 120**
Neuroscience (Systems) **Major Requirements** – Required Credits: 64 • Complete all of the following **Students must complete a minimum of 64 credits in neuroscience major.** ○ Passed the following: ▪ SC/BIOL1000 - Biology I - Cells, Molecular Biology and Genetics (3.00) ▪ SC/BIOL1001 - Biology II - Evolution, Ecology, Biodiversity and Conservation Biology (3.00)	**Neuroscience (Systems)** **Major Requirements** – Required Credits: 64 • Complete all of the following **Students must complete a minimum of 64 credits in neuroscience major.** ○ Passed the following: ▪ SC/BIOL1000 - Biology I - Cells, Molecular Biology and Genetics (3.00) ▪ SC/BIOL1001 - Biology II - Evolution, Ecology, Biodiversity and Conservation Biology (3.00)

▪ HH/KINE3650 - Functional Neuroanatomy (3.00) ▪ HH/PSYC1010 - Introduction to Psychology (6.00) ▪ HH/PSYC3250 - Neural Basis of Behaviour (3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Passed the following: ▪ SC/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Note: HH/NRSC 1001 1.00 (cross-listed to: SC/NRSC 1001 1.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Note: HH/NRSC 2000 3.00 (cross-listed to: SC/NRSC 2000 3.00) ○ Complete 1 of the following ▪ Passed the following:	▪ HH/KINE3650 - Functional Neuroanatomy (3.00) ▪ HH/PSYC1010 - Introduction to Psychology (6.00) ▪ HH/PSYC3250 - Neural Basis of Behaviour (3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Passed the following: ▪ SC/NRSC1001 - Frontiers of Neuroscience (1.00) ▪ Note: HH/NRSC 1001 1.00 (cross-listed to: SC/NRSC 1001 1.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2000 - Fundamental Molecular and Cellular Neuroscience (3.00) ▪ Note: HH/NRSC 2000 3.00 (cross-listed to: SC/NRSC 2000 3.00) ○ Complete 1 of the following ▪ Passed the following:

▪ HH/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Note: HH/NRSC 2100 3.00 (cross-listed to: SC/NRSC 2100 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2200 - Neuroscience Techniques (3.00) ▪ Passed the following: ▪ SC/NRSC2200 - Neuroscience Techniques (3.00) ▪ Note: HH/NRSC 2200 3.00 (cross-listed to: SC/NRSC 2200 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Passed the following: ▪ SC/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Note: HH/NRSC 3000 3.00 (cross-listed to: SC/NRSC 3000 3.00)	▪ HH/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Passed the following: ▪ SC/NRSC2100 - Systems, Behavioral, and Cognitive Neuroscience (3.00) ▪ Note: HH/NRSC 2100 3.00 (cross-listed to: SC/NRSC 2100 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC2200 - Neuroscience Techniques (3.00) ▪ Passed the following: ▪ SC/NRSC2200 - Neuroscience Techniques (3.00) ▪ Note: HH/NRSC 2200 3.00 (cross-listed to: SC/NRSC 2200 3.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Passed the following: ▪ SC/NRSC3000 - Molecular and Cellular Neurobiology (3.00) ▪ Note: HH/NRSC 3000 3.00 (cross-listed to: SC/NRSC 3000 3.00)

○ Complete 1 of the following ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4002 - Team Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4002 - Team Research Project (6.00) ▪ Note: HH/NRSC 4000 6.00 (cross-listed to: SC/NRSC 4000 6.00) or HH/NRSC 4002 6.00 (cross-listed to: SC/NRSC 4002 6.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/PSYC2021 - Statistical Methods I (3.00) ▪ Passed the following:	○ Complete 1 of the following ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4000 - Neuroscience Individual Research Project (6.00) ▪ Complete 1 of the following ▪ Passed the following: ▪ HH/NRSC4002 - Team Research Project (6.00) ▪ Passed the following: ▪ SC/NRSC4002 - Team Research Project (6.00) ▪ Note: HH/NRSC 4000 6.00 (cross-listed to: SC/NRSC 4000 6.00) or HH/NRSC 4002 6.00 (cross-listed to: SC/NRSC 4002 6.00) ○ Complete 1 of the following ▪ Passed the following: ▪ HH/PSYC2021 - Statistical Methods I (3.00) ▪ Passed the following:

▪ HH/KINE2050 - Analysis of Data in Kinesiology I (3.00) ▪ Passed the following: ▪ SC/BIOL2060 - Statistics for Biologists (3.00) **12 credits selected from the list of courses in the chosen specialized stream - Systems Neuroscience Stream** ○ Earned at least 12 credits from the following: ▪ HH/KINE3020 - Skilled Performance and Motor Learning (3.00) ▪ HH/KINE4225 - Principles of Neuro-motor learning (3.00) ▪ HH/KINE4226 - Principles of Neurorehabilitation (3.00) ▪ HH/KINE4240 - Applied Human Factors (3.00) ▪ HH/KINE4452 - Autonomic Function in Health and Disease (3.00) ▪ HH/KINE4500 - Neural Control of Movement (3.00) ▪ HH/PSYC3210 - Vision Science (3.00) ▪ HH/PSYC4215 - Neuroimaging of Cognition - fMRI methods (3.00) ▪ ~~HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00)~~	▪ HH/KINE2050 - Analysis of Data in Kinesiology I (3.00) ▪ Passed the following: ▪ SC/BIOL2060 - Statistics for Biologists (3.00) **12 credits selected from the list of courses in the chosen specialized stream - Systems Neuroscience Stream** ○ Earned at least 12 credits from the following: ▪ HH/KINE3020 - Skilled Performance and Motor Learning (3.00) ▪ HH/KINE4225 - Principles of Neuro-motor learning (3.00) ▪ HH/KINE4226 - Principles of Neurorehabilitation (3.00) ▪ HH/KINE4240 - Applied Human Factors (3.00) ▪ HH/KINE4452 - Autonomic Function in Health and Disease (3.00) ▪ HH/KINE4500 - Neural Control of Movement (3.00) ▪ HH/PSYC3210 - Vision Science (3.00) ▪ HH/PSYC4215 - Neuroimaging of Cognition - fMRI methods (3.00) ▪ SC/BIOL3380 - Sensory Systems (3.00)

▪ SC/BIOL3380 - Sensory Systems (3.00) ▪ SC/BIOL4380 - Systems Neuroscience (3.00) **12 credits selected from the list of courses in each of the two alternative specialized streams with a minimum of 3 credits required from each stream.** o Complete all of the following **Molecular and Cellular Neuroscience Stream** ▪ Earned at least 3 credits from the following: ▪ HH/KINE3670 - Molecular and Cellular Neuroscience with Applications to Health (3.00) ▪ HH/KINE4230 - Neuronal development for activity and health (3.00) ▪ HH/KINE4505 - Neurophysiology of Movement in Health and Disease (3.00) ▪ SC/BIOL4310 - Physiology of Circadian Timing (3.00) ▪ SC/BIOL4370 - Neurobiology (3.00) **Behavioural and Cognitive Neuroscience Stream** ▪ Earned at least 3 credits from the following:	▪ SC/BIOL4380 - Systems Neuroscience (3.00) **12 credits selected from the list of courses in each of the two alternative specialized streams with a minimum of 3 credits required from each stream.** o Complete all of the following **Molecular and Cellular Neuroscience Stream** ▪ Earned at least 3 credits from the following: ▪ HH/KINE3670 - Molecular and Cellular Neuroscience with Applications to Health (3.00) ▪ HH/KINE4230 - Neuronal development for activity and health (3.00) ▪ HH/KINE4505 - Neurophysiology of Movement in Health and Disease (3.00) ▪ SC/BIOL4310 - Physiology of Circadian Timing (3.00) ▪ SC/BIOL4370 - Neurobiology (3.00) ▪ HH/PSYC4380 - Seminar in Neuroscience: Rhythms of the Brain (3.00) **Behavioural and Cognitive Neuroscience Stream** ▪ Earned at least 3 credits from the following:

▪ HH/KINE4210 - Disorders of Visual Cognition (3.00) ▪ HH/PSYC2220 - Sensation and Perception I (3.00) ▪ HH/PSYC2260 - Cognition (3.00) ▪ HH/PSYC3140 - Psychological Health, Distress, & Impairment (3.00) ▪ HH/PSYC3265 - Memory (3 .00) ▪ HH/PSYC3270 - Sensation and Perception II (3.00) ▪ HH/PSYC3495 - Neuroscience of Aging & Cognitive Health (3.00) ▪ HH/PSYC4080 - Neuropsychology of Abnormal Behaviour (6.00) ▪ HH/PSYC4260 - Seminar in Sensation and Perception (3.00) ▪ HH/PSYC4270 - Seminar in Memory and Cognition (3.00) ▪ HH/PSYC4360 - Visuospatial Memory and Goal-Directed Action (3.00)	▪ HH/KINE4210 - Disorders of Visual Cognition (3.00) ▪ HH/PSYC2220 - Sensation and Perception I (3.00) ▪ HH/PSYC2260 - Cognition (3.00) ▪ HH/PSYC3140 - Psychological Health, Distress, & Impairment (3.00) ▪ HH/PSYC3265 - Memory (3 .00) ▪ HH/PSYC3270 - Sensation and Perception II (3.00) ▪ HH/PSYC3495 - Neuroscience of Aging & Cognitive Health (3.00) ▪ HH/PSYC4080 - Neuropsychology of Abnormal Behaviour (6.00) ▪ HH/PSYC4260 - Seminar in Sensation and Perception (3.00) ▪ HH/PSYC4270 - Seminar in Memory and Cognition (3.00) ▪ HH/PSYC4360 - Visuospatial Memory and Goal-Directed Action (3.00)
Alternative Specialized Streams ▪ Completed at least 6 credits from the following types of courses:	**Alternative Specialized Streams** ▪ Completed at least 6 credits from the following types of courses:

from the Molecular and Cellular Neuroscience Stream and /or Behavioural Cognitive Neuroscience Stream.	from the Molecular and Cellular Neuroscience Stream and /or Behavioural Cognitive Neuroscience Stream.
Grand Total Credit Count - 120	**Grand Total Credit Count - 120**

Minor Modification Proposal

Faculty: Health

Department: School of Nursing

Program: 4-Year Direct Entry BScN program

Degree Designation: Honours BScN program

Type of Modification: length of completion of degree

Location *(current campus and, if applicable, proposed)*: Keele campus

Effective Date: September 2024

Approval Date at Faculty Council:

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1. Describe the proposed modifications to the program.

The School of Nursing would like to have a definitive number of years a student can take to complete the degree.

2. Provide a rationale for the proposed modifications.

This is a new undergraduate program that does not have a length of completion policy; other BScN programs have such a policy in effect. Time limitations are important to ensure cohesion and continuity of content, current competence and associated patient safety within the context of professional nursing education. (Please refer to the Policy for Undergraduate Nursing Student Leave of Absence for other related information.)

These time limitations consider the program's structures and plans of study, as well as the frequency of course offerings, and the degree to which nursing knowledge and practice change over time.

3. How will the proposed modification support the achievement of Program Learning Outcomes?

There are no revisions/changes to any Program Learning Outcomes

4. Describe how students currently enrolled in the program will be accommodated.

None of the students in this program are currently at a point where this policy would be enacted. It would be shared with sufficient time for students to apply it to their situations, as needed in several years.

5. Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from the relevant Dean(s)/Principal confirming resources will be in place to implement the changes.

(current resources are already in place for this policy)

6. If relevant, summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs. Provide individual statements from the relevant program(s) confirming consultation and their support.

The length of completion for this undergraduate program mirrors the same length of completion of the Collaborative BScN program (6 Years) 2nd Entry BScN program (4 Years) and the Post RN IEN BScN program (4 years), and other BScN programs.

APPENDIX

Attach a Side-by-Side Academic Calendar Copy Comparison

Ensure that deletions are indicated with strikethrough (e.g., ~~strikethrough~~) text and additions are made in a contrasting colour (e.g., KINE 1000) deletions as strikethrough text and additions as underlined text in a contrasting colour.

This policy defines time limitations for program completion for the 4-Year Direct Entry BScN program:

GUIDELINES

1. Length of completion of programs
    - The 4-Year Direct Entry BScN program is a four-year full-time program (8 terms). Students normally must complete this program within six (6) years from the time of admission, twelve (12) terms.
2. Unsuccessful completion of program requirements within the designated timeframe

- A student who is unsuccessful in completing the program requirements within the designated timeframe, notwithstanding approved leaves under the Policy for Undergraduate Nursing Student Leave of Absence, must withdraw from their nursing program. If a student is not able to complete the program within the required timeframe, the exit reason will be coded as: “Ineligible to Continue or Graduate”.

- The student may apply to be reinstated to the program, considering extraordinary extenuating circumstances, for instance, severe illness or personal loss. Reinstatement may require clinical or academic remediation as per the individual student’s standing in the program.

- Students who are with withdrawn from a nursing program based on exceeding the time limitations for program completion may pursue admission or transfer to another degree program at the University.

Undergraduate students may only register within a “session” (i.e., Fall/Winter and Summer) as opposed to a “term” and exit decisions from a program can only be determined at the end of a session. All exit decisions must be made coincident with the completion of course work in any given session. Since nursing students may be concurrently enrolled in courses that both span a full session (6 credits) and are completed in one term (3 credits), discretion regarding the timing of a final decision on student progress and/or exit may be necessary. The School of Nursing will ensure registration and exit decisions are communicated to the Registrar's office for application to a student's record at the end of the relevant academic session.