



Faculty of Health Sciences

Program

Minor Program Adjustment

Date

September 9th 2016

Prepared by: Bernadette Murphy

1. INTRODUCTION

The Faculty of Health Sciences proposes the inclusion of a new core course in the second year of the Kinesiology Major programs: HLSC XXXX Quantitative Reasoning for Kinesiology, which will replace PHY 1810U Physics for Health Sciences and some course changes in the Fitness and Health Promotion (FHP) Degree Completion Pathway based on recommendations from a recent CTIG report. The CTIG report recommended that Comprehensive Anatomy and Physiology be removed from the FHP Pathway. The new Quantitative Reasoning for Kinesiology course being introduced for all kinesiology students means that the Mathematical Reasoning for Health Sciences is no longer needed in the FHP Pathway, as the essential material will be covered in the new course.

1. The first change is the creation of a new course, HLSC XXXX Quantitative Reasoning for Kinesiology. It has become apparent that kinesiology students are reaching the upper years of the program lacking key skills in quantitative reasoning that is relevant to kinesiology. This impacts on their ability to succeed in courses such as Biomechanics and Exercise Physiology. The purpose of this course is to provide students foundational knowledge in kinesiology and concepts from physics and mathematics that they need to succeed in the kinesiology program. It replaces PHY 1810U Physics for the Health Sciences. Only about 1/3 of the material in PHY 1810U is needed to prepare students to take Biomechanics and this material will be incorporated into the new Quantitative Reasoning for Kinesiology course. The new course is expected to improve student retention and progression through the kinesiology program.
2. The third point involves changes to the Fitness and Health Promotion Pathway. The inclusion of the new course, Quantitative Reasoning for Kinesiology means that HLSC 2700U Mathematical Reasoning for the Health Sciences Course will no longer be needed in the FHP Pathway. It will still be available as an elective for students who really struggle with mathematical concepts. Additionally, Comprehensive Anatomy and Physiology will be removed from the FHP Pathway, replacing it with Anatomy and Physiology II. FHP students take two Anatomy and Physiology courses in their FHP Pathway. Comprehensive A&P is part of the Nursing Bridge and as part of the FHP Pathway review, it was recommended to remove this course, as FHP students indicated it was too “nursing” oriented and did not meet their learning needs. HLSC 1201U Anatomy and Physiology II has similar content to Comprehensive A&P. As of 2017-18, A&P II is going to be offered in the fall semester as well as the winter semester which makes this change cost-neutral. Finally, HLSC 2426U Altered Physiology I is being removed as a pre-requisite to HLSC 3475U Intro to Injury Management. This means that HLSC 3475U Intro to Injury Management can move into the first bridging year, so that FHP students will have the opportunity to take the necessary upper year electives to enroll in the Athletic Therapy Internship if they so wish.

2. DEGREE REQUIREMENTS

a) Program learning outcomes

- The program level learning outcomes remain unchanged

b) Admission Requirements

- The program admission requirements remain unchanged

c) Program Structure

Below, please find the Revised Maps for the specializations and Pathway to include the new course.

Bachelor of Health Science - Kinesiology - Exercise Science 2017-2018

Year 1 (2017/18)	
Semester 1	Semester 2
BIOL 1010U - Biology I	BIOL 1020U - Biology II
CHEM 1010U - Chemistry I	CHEM 1020U - Chemistry II
HLSC 1200U - Anatomy & Physiology I	HLSC 1201U - Anatomy & Physiology II
HLSC 1701U - Information Literacy and Written Communications for the Health Sciences	HLSC 1812U - Socio-cultural Perspectives on Physical Activity & Health
HLSC 1810U - Health Promotion & Healthy Active Living	PSYC 1000U - Introductory Psychology
Year 2 (2018/19)	
Semester 1	Semester 2
HLSC 2400U - Intro to Movement Neuroscience	HLSC 2110U - Foundations in Clinical and Exercise Biochemistry
HLSC 2462U - Altered Physiology: Mechanisms of Disease I	HLSC 3800U - Critical Appraisal of Statistics in Health Sciences
HLSC 2401U - Human Growth and Motor Development	HLSC 3475U - Intro to Injury Management
HLSC 3470U - Kinesiology I: Anatomy of Human Movement	HLSC 3481U - Exercise Physiology
PHY 1810U - Physics for Health Science HLSC xxxxU - Quantitative Reasoning for Kinesiology	Open Elective
Year 3 (2019/20)	
Semester 1	Semester 2
HLSC 3020U - Health & Exercise Psychology	HLSC 3410U - Human Motor Control and Learning
HLSC 3480U - Principles of Fitness Assessment & Exercise Prescription	HLSC 3711U - Professional Ethics & Communication in Kinesiology
HLSC 3910U - Research Methods for Health Care Professionals: Theory and Application	HLSC 4412U - Exercise Rehabilitation I: Cardiac, Respiratory and Metabolic Conditions
HLSC 4471U - Kinesiology II: Musculoskeletal Biomechanics	HLSC 4475U - Occupational Ergonomics
HLSC 2825U - Nutrition and Health	Open Elective
Year 4 (2020/21)	
Semester 1	Semester 2
HLSC 4413U - Exercise Rehabilitation II: Integrated Case Studies	Open Elective
HLSC 4414U - Advanced Topics in Neuromuscular Physiology and Pathophysiology	HLSC 4476U - Clinical Biomechanics
HLSC 4994U - Research Applications for Kinesiology OR HLSC 4998U - Research Practicum I	HLSC 4995U - Kinesiology Research to Practice OR HLSC 4999U - Research Practicum II
HLSC 4482U - Advanced Exercise Assessment and Prescription	Open Elective (2000 level or higher)
Kinesiology Elective (3000 - or 4000 Level)	Kinesiology Elective (3000 - or 4000 Level)

Bachelor Of Health Science - Kinesiology - Rehabilitation 2017-2018

*Year 1 (2017/18) Follow any Year 1 Kinesiology Map

Year 2 (2018/19)	
Semester 1	Semester 2
HLSC 2400U - Intro to Movement Neuroscience	HLSC 2110U - Foundations in Clinical and Exercise Biochemistry
HLSC 2462U - Altered Physiology: Mechanisms of Disease I	HLSC 3800U - Critical Appraisal of Statistics in Health Sciences
HLSC 2401U - Human Growth and Motor Development	HLSC 3475U - Intro to Injury Management
HLSC 3470U - Kinesiology I: Anatomy of Human Movement	HLSC 3481U - Exercise Physiology
PHY 1810U - Physics for Health Science HLSC xxxxU - Quantitative Reasoning for Kinesiology	Open Elective
Year 3 (2019/20)	
Semester 1	Semester 2
HLSC 3020U - Health & Exercise Psychology	HLSC 3410U - Human Motor Control and Learning
HLSC 3480U - Principles of Fitness Assessment & Exercise Prescription	HLSC 3711U - Professional Ethics & Communication in Kinesiology
HLSC 3910U - Research Methods for Health Care Professionals: Theory and Application	HLSC 4412U - Exercise Rehabilitation I: Cardiac, Respiratory and Metabolic Conditions
HLSC 4471U - Kinesiology II: Musculoskeletal Biomechanics	HLSC 4475U - Occupational Ergonomics
HLSC 4473U-Practical Human Anatomy I	HLSC 4474U-Practical Human Anatomy II
Year 4 (2020/21)	
Semester 1	Semester 2
HLSC 4413U - Exercise Rehabilitation II: Integrated Case Studies	Open Elective
HLSC 4414U - Advanced Topics in Neuromuscular Physiology and Pathophysiology	HLSC 4476U - Clinical Biomechanics
HLSC 4994U - Research Applications for Kinesiology OR HLSC 4998U - Research Practicum I	HLSC 4995U - Kinesiology Research to Practice OR HLSC 4999U - Research Practicum II
HLSC 4482U - Advanced Exercise Assessment and Prescription	Open Elective (2000 level or higher)
HLSC 2825U - Nutrition and Health	Kinesiology Elective (3000 - or 4000 Level)

Bachelor Of Health Science - Kinesiology – Health and Wellness 2017-2018

Year 1 (2017/18)	
Semester 1	Semester 2
HLSC 1200U - Anatomy & Physiology I	HLSC 1201U - Anatomy & Physiology II
BIOL 1010U - Biology I	HLSC 1812U - Socio-cultural Perspectives on Physical Activity & Health

HLSC 1701U - Information Literacy and Written Communications for the Health Sciences	PSYC 1000U - Introductory Psychology
HLSC 1810U - Health Promotion & Healthy Active Living	Open Elective
General elective	Open Elective
Year 2 (2018/19)	
Semester 1	Semester 2
HLSC 2400U - Intro to Movement Neuroscience	HLSC 2110U - Foundations in Clinical and Exercise Biochemistry
HLSC 2462U - Altered Physiology: Mechanisms of Disease I	HLSC 3800U - Critical Appraisal of Statistics in Health Sciences
HLSC 2401U - Human Growth and Motor Development	HLSC 3475U - Intro to Injury Management
HLSC 3470U - Kinesiology I: Anatomy of Human Movement	HLSC 3481U - Exercise Physiology
PHY 1810U – Physics for Health Science HLSC xxxxU - Quantitative Reasoning for Kinesiology	Open Elective
Year 3 (2019/20)	
Semester 1	Semester 2
HLSC 3020U - Health & Exercise Psychology	HLSC 3410U - Human Motor Control and Learning
HLSC 3480U - Principles of Fitness Assessment & Exercise Prescription	HLSC 3711U - Professional Ethics & Communication in Kinesiology
HLSC 3910U - Research Methods for Health Care Professionals: Theory and Application	HLSC 4412U - Exercise Rehabilitation I: Cardiac, Respiratory and Metabolic Conditions
HLSC 4471U - Kinesiology II: Musculoskeletal Biomechanics	HLSC 4475U - Occupational Ergonomics
HLSC 2825U - Nutrition and Health	Open Elective
Year 4 (2020/21)	
Semester 1	Semester 2
HLSC 4413U - Exercise Rehabilitation II: Integrated Case Studies	HLSC 4460U - Selective Topics in Physical Activity and Health
HLSC 3805U - Introduction to Epidemiology	HLSC 4808U - Exploring Mental Health & Developmental Disabilities
HLSC 4994U - Research Applications for Kinesiology OR HLSC 4998U - Research Practicum I	HLSC 4995U - Kinesiology Research to Practice OR HLSC 4999U - Research Practicum II
HLSC 4482U - Advanced Exercise Assessment and Prescription	Open Elective (2000 level or higher)
Kinesiology Elective (3000 - or 4000 Level)	Kinesiology Elective (3000 - or 4000 Level)

Bachelor of Health Science - Kinesiology – Fitness & Health Promotion Pathway - Health and Wellness 2017-2018

Year 1 (2017/18)	
Semester 1	Semester 2

BIOL 1010U - Biology I	HLSC 2110U - Foundations in Clinical and Exercise Biochemistry
HLSC 1701U - Information Literacy and Written Communications for the Health Sciences	HLSC 2202U - Comprehensive Anatomy & Physiology HLSC 3475U - Intro to Injury Management
HLSC 2700U - Mathematical Reasoning for the Health Sciences HLSC 1201U Anatomy & Physiology II	HLSC 3711U - Professional Ethics & Communication in Kinesiology
PHY 1810U - Physics for Health Science HLSC xxxxU - Quantitative Reasoning for Kinesiology	HLSC 3481U - Exercise Physiology
HLSC 2401U - Human Growth and Motor Development	HLSC 1812U - Socio-cultural Perspectives on Physical Activity & Health
Year 2 (2018/19)	
Semester 1	Semester 2
HLSC 3800U - Critical Appraisal of Statistics in Health Science	HLSC 4412U - Exercise Rehabilitation I: Cardiac, Respiratory and Metabolic Conditions
HLSC 3020U - Health and Exercise Psychology	HLSC 3475U - Intro to Injury Management *Open Elective
HLSC 2400U - Intro to Movement Neuroscience	HLSC 4475U - Occupational Ergonomics
HLSC 2462U - Altered Physiology: Mechanisms of Disease I	HLSC 3910U - Research Methods for Health Care Professionals: Theory and Application
HLSC 4471U - Kinesiology II: Musculoskeletal Biomechanics	HLSC 3410U - Human Motor Control and Learning
Year 3 (2019/20)	
Semester 1	Semester 2
HLSC 4482U - Advanced Exercise Assessment and Prescription	HLSC 4460U - Selective Topics in Physical Activity and Health
HLSC 4413U - Exercise Rehabilitation II: Integrated Case Studies	HLSC 4808U - Exploring Mental Health & Developmental Disabilities
HLSC 4994U - Research Applications for Kinesiology OR HLSC 4998U - Research Practicum I	HLSC 4995U - Kinesiology Research to Practice OR HLSC 4999U - Research Practicum II
HLSC 3805U - Intro to Epidemiology	Health or Kinesiology Elective (3000 or 4000 level)
Health or Kinesiology Elective (3000 or 4000 level)	

*Students wishing to pursue an Athletic Therapy Internship in Year 3, must take Advanced Sport Injury Management as their elective

Bachelor of Health Science - Kinesiology – Fitness & Health Promotion Pathway 2017-2018

Year 1 (2017/18)	
Semester 1	Semester 2

BIOL 1010U – Biology I	HLSC 2110U – Foundations in Clinical and Exercise Biochemistry
HLSC 1701U – Information Literacy and Written Communications for the Health Sciences	HLSC 2202U – Comprehensive Anatomy & Physiology HLSC 3475U - Intro to Injury Management
HLSC 2700U – Mathematical Reasoning for the Health Sciences HLSC 1201U-Anatomy & Physiology II	HLSC 3711U - Professional Ethics & Communication in Kinesiology
PHY 1810U – Physics for Health Science HLSC xxxxU - Quantitative Reasoning for Kinesiology	HLSC 3481U - Exercise Physiology
HLSC 2401U - Human Growth and Motor Development	HLSC 1812U - Socio-cultural Perspectives on Physical Activity & Health
Year 2 (2018/19)	
Semester 1	Semester 2
HLSC 3800U - Critical Appraisal of Statistics in Health Science	HLSC 4412U - Exercise Rehabilitation I: Cardiac, Respiratory and Metabolic Conditions
HLSC 3020U - Health and Exercise Psychology	HLSC 3475U – Intro to Injury Management Open Elective
HLSC 2400U - Intro to Movement Neuroscience	HLSC 4475U - Occupational Ergonomics
HLSC 2462U - Altered Physiology: Mechanisms of Disease I	HLSC 3910U - Research Methods for Health Care Professionals: Theory and Application
HLSC 4471U - Kinesiology II: Musculoskeletal Biomechanics	HLSC 3410U - Human Motor Control and Learning
Year 3 (2019/20)	
Semester 1	Semester 2
HLSC 4482U - Advanced Exercise Assessment and Prescription	HLSC 4460U – Selective Topics in Physical Activity and Health 3000 or 4000 level Kinesiology Elective
HLSC 4413U - Exercise Rehabilitation II: Integrated Case Studies	HLSC 4808U – Exploring Mental Health & Developmental Disabilities Health or Kinesiology Elective (3000 or 4000 level)
HLSC 4994U - Research Applications for Kinesiology OR HLSC 4998U - Research Practicum I	HLSC 4995U - Kinesiology Research to Practice OR HLSC 4999U - Research Practicum II
HLSC 3805U – Intro to Epidemiology Open Elective	Open Elective
Health or Kinesiology Elective (3000 or 4000 level)	

d) Program Content**NEW COURSE TEMPLATE**

For changes to existing courses see Course Change Template

Faculty: Faculty of Health Sciences

Course title: Quantitative Reasoning for Kinesiology		
Course number: HLSC XXXXU	Cross-listings:	<input checked="" type="checkbox"/> Core <input type="checkbox"/> Elective
Credit weight: 3 credits	Contact hours: <u>3</u> Hybrid Lecture <u>1.5</u> + online material Tutorial 1.5 (alternate weeks) <u> </u> Tutorial <u> </u> Other	

CALENDAR DESCRIPTION

The purpose of this course is to provide students foundational knowledge in kinesiology and concepts from physics and mathematics that they need to succeed in the kinesiology program. The course covers foundational mathematics concepts including: manipulation of algebraic equations needed to solve problems in biomechanics, ergonomics, and exercise physiology, conversion of SI measurement units and the use of trigonometry to add biomechanical force vectors. The course includes an overview of basic functional anatomy of movement (types of contractions, roles of different tissues, muscles as lever systems, etc). Foundational knowledge of biomechanics such a how to solve one and two dimensional kinematics problems and analyze free body diagrams are covered. Finally students are taught how to use software such as Excel to manipulate large data sets, analyze, interpret and present different types of kinesiology data sets. Prerequisite: HLSC 1201U

Prerequisites	HLSC 1200U Anatomy & Physiology I
Co-requisites	
Credit restrictions	PHY 1810U Physics for Health Sciences
Credit exemptions	*students enrolled in physics 1010 can apply for exemption

LEARNING OUTCOMES

Upon completion of this course, students will have reliably demonstrated an ability to:

- Manipulate algebraic expressions that are relevant to biomechanics and exercise physiology
- Convert between units of measurement that are relevant to the body
- Solve one- and two-dimensional kinematics problems
- Draw and analyze free body diagrams of various parts of the body
- use trigonometry to add biomechanical force vectors
- Evaluate muscle structure and types of muscle contractions (e.g. concentric, eccentric, isometric, isotonic)
- Understand the concept of origins and insertions and relate this to how muscles cross joints and generate motion
- Use technology to analyse and interpret kinesiology data

DELIVERY MODE

The course uses a combination of classroom lectures and tutorials, and will utilize posted lecture notes, online content (self-directed learning).

TEACHING AND ASSESSMENT METHODS

Midterm and Final written examinations
Bi-weekly tutorial problems
On-line self-directed quizzes

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

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APPROVAL DATES

Date of submission	April 28, 2016
Program Committee approval	May 2, 2016
Curriculum Committee approval	June 24, 2106
Executive Committee approval	Sept 1, 2016
Faculty Council approval	Sept 14, 2016

CHANGE TEMPLATE

Faculty: Health Sciences	
Course number: HLSC 3475U	Current course title: Intro to Injury Management

COURSE CHANGES (check all that apply)

<input type="checkbox"/>	Course title	<input type="checkbox"/>	Credit weighting
<input type="checkbox"/>	Course description	<input type="checkbox"/>	Contact hours
<input type="checkbox"/>	Course number	<input checked="" type="checkbox"/>	Prerequisites
<input type="checkbox"/>	Course design	<input type="checkbox"/>	Co-requisites
<input type="checkbox"/>	Learning outcomes	<input type="checkbox"/>	Cross-listings
<input type="checkbox"/>	Mode of delivery	<input type="checkbox"/>	Credit restrictions
<input type="checkbox"/>	Teaching and assessment methods	<input type="checkbox"/>	Credit exclusions

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE OBJECTIVES

Because HLSC 3475U is an introductory level course which does not overlap with HLSC 2462U Altered Physiology I, HLSC 2462U is not needed for students to be able to succeed in HLSC 3475U. Therefore, this prerequisite is being changed to HLSC 1201U Anatomy and Physiology II. This will also improve progression pathways for Kinesiology students in the Fitness and Health Promotion pathway.

CHANGE TO CALENDAR ENTRY

Current	Proposed
Prerequisites: HLSC 2462U, HLSC 3470U	Prerequisites: HLSC 1201U, HLSC 3470U

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

None

APPROVAL DATES

Date of submission	May 2, 2016
Program Committee approval	May 2, 2016
Curriculum Committee approval	June 24, 2016
Executive Committee approval	Sept 1, 2016
Faculty Council approval	Sept 14, 2016

3. RESOURCE REQUIREMENTS

- **There are no additional resource requirements.**

a) Faculty members

No additional resource requirements.

b) Additional academic and non-academic human resources

No additional resource requirements.

c) Physical resource requirements

No additional resource requirements.

4. BUSINESS PLAN

- **There are no additional resource requirements.**

a) Statement of funding requirements

No additional resource requirements.

b) Statements of resource availability

No additional resource requirements.

5. TIMELINE/DATE OF IMPLEMENTATION

Fall 2017 – It is intended that the current first year class (class of 2019) as well as the fall 2017 incoming class, will have the new Quantitative Reasoning for Kinesiology course in their maps, replacing Physics for Health Sciences. Current students in years two and above will remain on the original program maps.

APPROVAL DATES

Date of Submission to CPRC	September 9, 2016
Faculty Council Approval	September 14, 2016
CPRC or GSC Approval	September 16, 2016
Academic Council Approval	