SFU OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC **S.18-20**

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MEMORANDUM

ATTENTION	Senate	**DATE**	January 12, 2018
FROM	Daniel Leznoff, Chair Senate Committee on Undergraduate Studies	**PAGES**	1/1
RE:	Course Changes (SCUS 18-01)		

For information:

Acting under delegated authority at its meeting of January 11, 2018 SCUS approved the following curriculum revisions effective Fall 2018.

a. Faculty of Health Sciences (SCUS 18-01a)

(i) Prerequisite change for HSCI 416 and 474

b. Faculty of Science (SCUS 18-01b)

1. Department of Biomedical Physiology and Kinesiology

(i) Deletion of reference to KIN courses from prerequisite entries for all BPK courses
(ii) Deletion of BPK 111, 212 and 461
(iii) Prerequisite change for BPK 495
(iv) Prerequisite, title, description and equivalency for BPK 426
(v) Equivalency and prerequisite for BPK 491

2. Department of Physics

(i) Prerequisite changes for PHYS 101 and 102
(ii) Title, description and prerequisite change for PHYS 332
(iii) Title and description change for PHYS 390
(iv) Title and prerequisite change for PHYS 431
(v) Description change for PHYS 432

3. Department of Statistics and Actuarial Science

(i) Prerequisite change for STAT305
(ii) Description and prerequisite for STAT 302

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT HSCI **NUMBER** 416 **TITLE** Health Services Research

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Prerequisite: ~~HSCI majors with 90 units, including HSCI 330 and STAT 302.~~
STAT 302 or STAT 305, and HSCI 307 or HSCI 330.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

FALL 2018

RATIONALE (must be included)

The change will increase flexibility for completing prerequisites and improving course access for students.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT	HSCI	NUMBER	474	TITLE	Seminar in Neuropharmacology

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Prerequisite: HSCI 323 and either HSCI 321 or MBB 331.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

FALL 2018

RATIONALE (must be included)

The change would align HSCI 486 prerequisites with other upper division HSCI course prerequisites.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT BPK **NUMBER** XXX **TITLE** ALL COURSES

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

BPK ~~(or KIN)~~ XXX

~~Students with credit for KIN XXX may not repeat this course for credit.~~

See attached document with Course descriptions for all BPK courses with the specific changes for each course. For four courses: BPK 407, 426, 491 and 495 course modification forms are provided for further calendar changes for those courses.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

It is seven years since BPK courses transitioned from the KIN course subject. Reference to KIN courses should be removed from prerequisite entries for all BPK courses.

Calendar Modifications

All Biomedical Physiology and Kinesiology Courses

December 14th 2017

BPK 105 - Fundamentals of Human Structure and Function (3)

Basic anatomy and physiology of the skeletal, muscular, nervous, endocrine, cardio-respiratory, urinary, digestive, immune, and reproductive systems. (distance education). Kinesiology majors and honors students may not receive credit for BPK 105. BPK ~~or KIN~~ 205 or 208 may be used as a substitute for BPK 105 by students in the Kinesiology Minor and Certificate programs. No student may take both BPK ~~(or KIN)~~ 105 and BPK ~~(or KIN)~~ 208 for credit. Prerequisite: Recommended: Grade 11 Biology, Chemistry and Physics. ~~Students who have taken KIN 105 cannot repeat this course for credit.~~

BPK 110 - Human Nutrition: Current Issues (3)

An introduction of the principles of human nutrition with an emphasis on topics of current interest. The material is presented in a Canadian context to focus on nutrition practices and problems in this country. Students will gain an understanding of factors affecting food selection and the role of nutrition in maintaining good health. Students will develop the ability to discriminate between reliable and unreliable information on the subject of food and nutrition. ~~Students with credit for KIN 110 may not take BPK 110 for further credit.~~ Breadth-Science.

BPK 140 - Contemporary Health Issues (3)

Explores health from a holistic perspective, in which health is viewed as physical, psychological, and social well-being. Considers genetics, environment, personal health behaviors (such as diet, exercise, stress management, and drug use), socioeconomic status, health care delivery systems, and aging with the intent to improve students' abilities to evaluate health information. ~~Students with credit for KIN 140 may not take this course for further credit.~~ Breadth-Science.

BPK 141 - Theory of Exercise Program Design (3)

An introduction to the anatomical, physiological and biomechanical knowledge required to develop effective training regimes and implementation of this knowledge in exercise program design. Students with credit for ~~KIN 143 or~~ BPK 143 may not take this course for further credit. Breadth-Science.

BPK 142 - Introduction to Kinesiology (3)

Basic procedures for the assessment of the status and performance of the individual according to the principles of anthropometry, functional anatomy, biomechanics, exercise physiology, and motor learning. Prerequisite: Recommended: Grade 11 Biology, Chemistry and Physics. ~~Students with credit for KIN 142 may not take this course for further credit.~~ Breadth-Science.

BPK 143 - Exercise: Health and Performance (3)

Introduces the student to exercise physiology. Focuses on personal exercise prescription to improve aerobic capacity, muscular strength and endurance, and flexibility. Also discusses athletic conditioning, e.g. speed and power training. The effects of nutritional and environmental factors on exercise and the role of exercise in weight control and stress management are considered. Prerequisite: Recommended: medical clearance from a personal physician. ~~Students with credit for KIN 143 may not take this course for further credit.~~ Breadth-Science.

BPK 180W - Introduction to Ergonomics (3)

Intended for students with a potential interest in ergonomics or human factors. The course surveys the design of work, the workplace environment, information systems, and consumer products. Topics include musculoskeletal disorders, manual materials handling, workplace design, organization of work, design of human/machine interfaces, environmental ergonomics, industrial design, and legal and social issues. Prerequisite: Grade 12 Biology or Physics, Grade 12 Math. Students with credit for BPK ~~(or KIN)~~ 180 ~~and KIN 180W~~ may not take this course for further credit. Writing.

BPK 201 - Biomechanics (3)

This course will cover the application of basic mechanics to human movement. It will provide students with a basic understanding of how forces act on body segments and how movements are produced. The subject matter of this course is relevant to quantifying all forms of physical activity, from activities of daily living, physically challenged movement patterns, to elite athletic performance. It also has applications in medical settings, including rehabilitation and sports medicine. Prerequisite: MATH 150, 151 or 154, MATH 152 or 155 (may be taken concurrently), PHYS 101 (or 120 or 125 or 140), BPK ~~(or KIN)~~ 142. ~~Students with credit for KIN 201 may not take this course for further credit.~~ Quantitative.

BPK 205 - Introduction to Human Physiology (3)

An introductory survey of human physiology with an emphasis on mechanisms of regulation and integration. Anatomy of structures will be detailed only when it is critical to a functional understanding. Although this is intended as a survey course, some topics will be covered in reasonable detail in order to give insight into mechanisms of function. BPK (or KIN) 208 may not be used as a substitute for BPK ~~(or KIN)~~ 205 by students in the Kinesiology Major and Honors programs. Kinesiology majors and honors students who have taken BPK ~~(or KIN)~~ 105 must also take BPK ~~(or KIN)~~ 205. For students taking both of these courses, credit will only be given for BPK ~~(or KIN)~~ 205. Prerequisite: BISC 101, CHEM 281, PHYS 101 and 102. ~~Students with credit for KIN 205 may not take this course for further credit.~~

BPK 207 - Sensorimotor Control and Learning (3)

Students are introduced to basic concepts in the sensorimotor planning and control of movement. Topics include the factors and disorders affecting movement, sensory and motor physiology, sensorimotor integration, current theories of motor control, and motor learning. Taught from a behavioral and neurophysiological perspective that explores psychological influences on motor control. Prerequisite: BPK ~~(or KIN)~~ 142 or permission of instructor. ~~Students with credit for KIN 207 may not take this course for further credit.~~

BPK 208 - Introduction to Physiological Systems (3)

An introduction to anatomy and physiological function of the major human systems, from a biomedical engineering perspective. Normally only available to students in the Biomedical Engineering Program. KIN 208 may be used as a substitute for KIN 105 by students in the Kinesiology Minor and Certificate programs. Kinesiology Major and Honors students may not receive credit for BPK 208. No student may take both BPK ~~(or KIN)~~ 105 and BPK ~~(or KIN)~~ 208 for credit, or both BPK ~~(or KIN)~~ 205 and BPK ~~(or KIN)~~ 208 for credit. Corequisite: CHEM 180. ~~Students with credit for KIN 208 may not take this course for further credit.~~

BPK 221 - Special Topics in Kinesiology (3)

Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biomedical Physiology and Kinesiology. Prerequisite: to be announced.

BPK 241 - Sports Injuries - Prevention and Rehabilitation (3)

Includes delineation of the role of the sports therapist and will study the structural and functional characteristics of the body with regard to the prevention of injury in sport. A first aid approach to athletic injuries will be developed with practical experience in routine treatments. Prerequisite: BPK ~~(or KIN)~~ 142. ~~Students with credit for KIN 241 may not take this course for further credit.~~

BPK 301 - Biomechanics Laboratory (3)

A laboratory course on the quantitative biomechanical evaluation of human movement. Students will learn analysis techniques for quantifying kinematics and kinetics of body segments in athletes, normal populations, and special populations during activities such as walking and jumping. Experiments will look at the nature of muscular force generation, and the mechanical impedance properties of the musculoskeletal system, as well as patterns of muscle activation, using surface EMG. Prerequisite: PHYS 102 (or 121 or 126 or 141), BPK ~~(or KIN)~~ 201. ~~Students with credit for KIN 301 may not take this course for further credit.~~ Quantitative.

BPK 303 - Kinanthropometry (3)

A study of human size, shape, proportion, composition, maturation and gross function related to basic concepts of growth, exercise, performance and nutrition. Prerequisite: BPK ~~(or KIN)~~

105 or 142, and STAT 201 or an equivalent statistics course. ~~Students with credit for KIN 303 may not take this course for further credit.~~

BPK 304 - Inquiry and Measurement in Kinesiology (3)

This course covers the evaluation of measurement quality, test construction and assessment, and computer techniques for data capture and signal processing relevant to issues in Kinesiology. Prereq statistical knowledge will be put into practice when discussing typical research designs, modeling and hypothesis testing in kinesiology. Prerequisite: BPK ~~(or KIN)~~ 142, 201, 205, and STAT 201. Students with credit for BPK ~~(or KIN)~~ 304W may not take this course for further credit. Quantitative.

BPK 304W - Inquiry and Measurement in Biomedical Physiology and Kinesiology (3)

This course covers the evaluation of measurement quality, test construction and assessment, and computer techniques for data capture and signal processing relevant to issues in Biomedical Physiology and Kinesiology. Prereq statistical knowledge will be put into practice when discussing typical research designs, modeling and hypothesis testing in Biomedical Physiology and Kinesiology. Prerequisite: BPK ~~(or KIN)~~ 142, 201, 205, and STAT 201. Students with credit for BPK ~~(or KIN)~~ 304 may not repeat this course for further credit. Writing/Quantitative.

BPK 305 - Human Physiology I (3)

A detailed examination of the physiology and pathophysiology of the cardiac, vascular and respiratory systems. The course focuses on integration of physiological mechanisms at the molecular, cellular and systems levels. Prerequisite: BPK ~~(or KIN)~~ 205, MBB 231 (or 201), MATH 155 (or 152). Majors from outside BPK require BPK ~~(or KIN)~~ 205 (or BISC 305), MBB 231 (or 201), MATH 155 (or 152) plus permission of the instructor. ~~Students with credit for KIN 305 may not take this course for further credit.~~

BPK 306 - Human Physiology II (3)

A detailed examination of the physiology and pathophysiology of the nervous system, skeletal muscle and connective tissue. The course focuses on integration of physiological mechanisms at the molecular, cellular and systems levels. Prerequisite: BPK ~~(or KIN)~~ 207, Co-requisite BPK 305. Majors from outside BPK require BPK ~~(or KIN)~~ 205 (or BISC 305), MBB 231 (or 201), MATH 155 (or 152) plus permission of the instructor. ~~Students with credit for KIN 306 may not take this course for further credit.~~

BPK 307 - Human Physiology III (3)

A detailed examination of the physiology and pathophysiology of the gastrointestinal, renal, endocrine, immune and reproductive systems. The course focuses on integration of physiological mechanisms at the molecular, cellular and systems levels. Prerequisite: BPK ~~(or KIN)~~ 305, Co-requisite BPK ~~(or KIN)~~ 306, however students that took BPK 306 prior to Fall 2017, cannot take this course. Majors from outside BPK require BPK ~~(or KIN)~~ 205 (or BISC 305), MBB 231 (or 201), MATH 155 or 152 plus permission of the instructor.

BPK 308 - Experiments and Models in Systems Physiology (3)

Lab exercises will provide a hands-on experience in the acquisition of physiological data and mathematical and computer modeling of physiological systems. Lectures will provide an advanced understanding of select human physiological systems. Prerequisite: BPK ~~(or KIN)~~ 208 or all of BPK ~~(or KIN)~~ 205, 201, STAT 201 and a strong mathematical background. ~~Students with credit for KIN 308 may not take this course for further credit.~~

BPK 310 - Exercise/Work Physiology (3)

The study of human physiological responses and adaptations to acute and chronic exercise/work. Cardiorespiratory, cellular and metabolic adaptations will be studied and discussed in detail. Prerequisite: BPK ~~(or KIN)~~ 205, MBB 201 (or 231). Recommended: BPK ~~(or KIN)~~ 201. ~~Students with credit for KIN 310 may not take this course for further credit.~~

BPK 311 - Applied Human Nutrition (3)

The principles of nutritional biochemistry are applied to nutrition in life cycle - pregnancy, lactation, infancy, childhood, adolescence and aging. The second part of the course deals with common disease conditions where nutrition plays an important role in prevention or treatment or both. The course is presented in the Canadian context featuring sources of help on Canadian practice, standards and regulations. Prerequisite: BPK ~~(or KIN)~~ 105 or 205 ~~(formerly KIN 100)~~, and 110. Students with credit for BPK ~~(or KIN)~~ 220 ~~or BPK (or KIN) 311~~ may not take this course for further credit.

BPK 312 - Nutrition for Fitness and Sport (3)

This course examines the theory and application of nutrition for fitness and sport. Students will study issues around dietary practices commonly promoted for performance enhancement, including mechanisms, effectiveness, risks and regulations. Students will learn skills for critical evaluation of nutrition research and nutrition claims, and will employ these in several small group projects investigating specific nutrition issues and products. Prerequisite: BPK ~~(or KIN)~~ 105 (or 205), and 110. Students with credit for ~~KIN 312 or~~ BPK ~~(or KIN)~~ 424 may not take this course for further credit.

BPK 313 - Nutrition and the Life Cycle (3)

The factors that determine human nutritional requirements and health under a range of conditions throughout the human life span (pregnancy, lactation, infancy, childhood adolescence, aging) are evaluated. The role of nutrition is evaluated in response to the metabolic and physiologic changes during growth and development versus aging, touching upon eating disorders, depression, osteoporosis, epigenetics, and pharmacology and toxicology of commonly prescribed medications in aging adults. Prerequisite: BPK ~~(or KIN)~~ 105 or 205 and 110. Students with credit for BPK ~~(or KIN)~~ 220, 311 or KIN 313 may not take this course for further credit.

BPK 314 - Nutrition and Chronic Disease (3)

Principles of nutrition are applied to common disease conditions where nutrition plays an important role in prevention, treatment or both. Nutrition in obesity, diabetes, cancer and

cardiovascular disease are highlighted. The impact of dietary interventions such as DASH and the Diabetes Prevention Program upon chronic disease is evaluated. Pharmacology and toxicology of common medications with regard to alterations in metabolism in disease are discussed, as well as noncompliant and depressed patients. Prerequisite: BPK ~~(or KIN)~~ 105 or 205 and 110. Students with credit for BPK ~~(or KIN~~ 220~~)~~ or BPK ~~(or KIN)~~ 311 ~~or KIN 314~~ may not take this course for further credit.

BPK 324 - Principles of Human Anatomy (3)

Pursues a systematic study of human anatomy with emphasis on functional applications. A study of organs and body systems using computer software supported tutorials to provide an understanding of the three dimensional organization of the human body. Participation in all tutorials is required. This course may not be taken for credit by kinesiology majors. Prerequisite: BPK ~~(or KIN)~~ 142, 205 and at least 60 units of undergraduate credit. Students with credit for BPK ~~(or KIN)~~ 325 or KIN 324 or BPK ~~(or KIN)~~ 326 may not take this course for further credit.

BPK 325 - Basic Human Anatomy (3)

For students interested in physical education, health science professions and liberal arts. Brief discussions on applied anatomy, aging, common dysfunctions and diseases enable students to appreciate the relationship between structure and function. Available only through correspondence, this course will not be counted as an upper level optional course for a major in kinesiology. Prerequisite: BPK ~~(or KIN)~~ 142 & either BPK ~~(or KIN)~~105 w/ a grade of C or higher) or BPK (or KIN) 205. Students with credit for BPK ~~(or KIN)~~ 324 or BPK ~~(or KIN)~~ 326 ~~or KIN 325~~ may not take this course for further credit.

BPK 326 - Functional Anatomy (4)

Pursues a systematic study of human anatomy with emphasis on functional applications. A comparative study of organs and body systems using laboratory dissections to provide an understanding of the three dimensional organization of the human body. Participation in all labs is required. Prerequisite: BPK ~~(or KIN)~~ 142, 201, 205 and at least 60 units. Behavioral Neuroscience Major and Honours students req BPK ~~(or KIN)~~ 142, 205, PSYC 280 and at least 60 units. Students with credit for BPK~~(or KIN)~~ 324 or BPK ~~(or KIN)~~ 325 ~~or KIN 326~~ may not repeat this course for further credit.

BPK 336 - Histology (3)

Light and electron microscopic study of mammalian tissues and organs with emphasis on human systems. Prerequisite: One of BPK ~~(or KIN)~~ 325, 326, BISC 305, 316. ~~Students with credit for KIN 336 may not take this course for further credit.~~

BPK 340 - Active Health: Behavior and Promotion (3)

Relationships among health, physical activity, and other health-associated behaviors are examined. In addition, the theories and models of health behavior, in the context of intervention and promotion strategies, are discussed. Pertinent background information is provided, concerning the influence of fitness on various disease states, as well as the

epidemiology of health and exercise behaviors. Prerequisite: BPK ~~(or KIN)~~ 142, STAT 201 (or PSYC 201). Recommended: BPK ~~(or KIN)~~ 140. ~~Students with credit for KIN 340 may not take this course for further credit.~~

BPK 342 - Active Health (3)

An extension of BPK ~~(or KIN)~~ 143, Exercise Management, this course parallels the on-campus course BPK ~~(or KIN)~~ 343. This course is designed for students completing the health and fitness certificate and/or a kinesiology minor. The goal of the course is to provide students with an opportunity to appreciate principles of exercise leadership, assess individual fitness needs, design programs and monitor effects of prescribed exercise. This course is available only through distance education. Prerequisite: BPK ~~(or KIN)~~ 105 (or 205), 142 and 143. Biomedical Physiology, Behavioural Neuroscience and Kinesiology majors and honours students may not receive credit for BPK ~~(or KIN)~~ 342. Students with credit for KIN 342 or BPK ~~(or KIN)~~ 343 may not take this course for further credit.

BPK 343 - Active Health: Assessment and Programming (3)

An extension of BPK ~~(or KIN)~~ 143, Exercise Management, designed to provide students with an opportunity to appreciate principles of exercise leadership, assess individual fitness needs, design programs and monitor effects of prescribed exercise. The course includes a 34 hour practicum. Prerequisite: BPK ~~(or KIN)~~ 142, 143 and 205; STAT 201 or an equivalent statistics course, BPK ~~(or KIN)~~ 340 (may be taken concurrently). Students must successfully complete a Criminal Record Check prior to enrolling. Students with credit for BPK ~~(or KIN)~~ 342 ~~or KIN 343~~ may not take this course for further credit. Quantitative.

BPK 351 - Practicum I (3)

The first term of work experience in the Biomedical Physiology and Kinesiology Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Prerequisite: Students must complete Bridging Online (visit www.sfu.ca/coop/bol for further details) at least two terms before co-op placement. Students must then apply to the BPK co-op program by Week 1 of the term prior; a minimum of 45 units, BPK ~~(or KIN)~~ 142, plus at least two other BPK courses and have a minimum GPA of 2.50. ~~Students who have taken KIN 351 cannot take this course for further credit.~~

BPK 352 - Practicum II (3)

The second term of work experience in the Kinesiology Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Work terms are graded as pass/fail (P/F). Prerequisite: BPK ~~(or KIN)~~ 351. ~~Students with credit for KIN 352 may not take this course for further credit.~~

BPK 375 - Human Growth and Development (3)

The fundamentals of physiological growth and development from conception to maturity. Topics included form a strong foundation for those interested in designing appropriate activity programs for children of all ages. Prerequisite: BPK ~~(or KIN)~~ 105 or 205, and 142. ~~Students with credit for KIN 375 may not take this course for further credit.~~

BPK 381 - Psychology of Work (3)

The application of psychological principles and methods to the study of human performance at work. A systems approach will be taken to study the interactions among the individual worker, his/her task, groups of workers, and the management structure of the organization. Prerequisite: PSYC 210 or both of BPK ~~(or KIN)~~ 207 and STAT 201. Corequisite: STAT 201 may be taken concurrently. Recommended: ~~KIN~~ BPK 180. ~~Students with credit for KIN 381 may not take this course for further credit.~~

BPK 382 - Workplace Health (3)

The focus of this course will be the study of the physical environment and its effects on the health, safety and performance of the worker. Physical problems associated with noise, vibration, lighting, radiation, dust and ventilation will be examined together with methods of recognition, treatment, protection and prevention. Prerequisite: BPK ~~(or KIN)~~ 142, 201, 205. ~~Students with credit for KIN 382 may not repeat this course for further credit.~~ Quantitative.

BPK 401 - Muscle Biomechanics (3)

The mechanics and function of skeletal muscle, from the level of single muscle fibres to the whole muscle-tendon unit. The role of muscle structure, recruitment patterns and contractile conditions to the force development, power output and efficiency of contractions will be considered. Theoretical, experimental and computational aspects will be covered. Prerequisite: 90 credits, BPK ~~(or KIN)~~ 201 and 205, or BPK ~~(or KIN)~~ 208. Students with credit for BPK ~~(or KIN)~~ 421, Muscle Biomechanics, may not take this course for further credit.

BPK 402 - Mechanical Behavior of Biological Tissues (3)

Extension of BPK 201 provides students with an understanding of structure-function relations in musculoskeletal tissues (bone, cartilage and muscle) in health and disease. Includes effect of disease and aging on physiological and biomechanical properties, mechanics and prevention of tissue injury, and design of implants and prostheses. Prerequisite: BPK ~~(or KIN)~~ 201. ~~Students with credit for KIN 402 may not take this course for further credit.~~

BPK 405 - Clinical Exercise Physiology I: Cardiorespiratory and Metabolic Disorders (3)

A study of the clinical aspects of exercise physiology by thoroughly examining the relationship between exercise and chronic disease. For each chronic disease state and condition, this course covers its physiology, pathophysiology, and pharmacotherapy along with exercise testing, prescription, safety, and programming issues. Prerequisite: BPK ~~(or KIN)~~ 305, 306, 324 or 326, 344. ~~Students with credit for KIN 405 may not repeat this course for further credit.~~

BPK 406 - Clinical Exercise Physiology II: Musculoskeletal, Neuromuscular, and Immunological Disorders (3)

A study of the clinical aspects of exercise physiology by thoroughly examining the relationship between exercise and chronic disease. For each chronic disease state and condition, this course covers its physiology, pathophysiology, and pharmacotherapy along with exercise testing,

prescription, safety, and programming issues. Prerequisite: BPK ~~(or KIN)~~ 305, 306, 324 or 326, 344. ~~Students with credit for KIN 406 may not repeat this course for credit.~~

BPK 407 - Human Physiology Laboratory (3)

Experiments dealing with the nervous, muscular, cardiovascular, respiratory, and renal systems are covered. Prerequisite: BPK ~~(or KIN)~~ 305 and 306. ~~, one of which must already have been completed and the other can be taken concurrently. Students with credit for KIN 407 may not take this course for further credit.~~ Quantitative.

BPK 408W - Cellular Physiology Laboratory (3)

An advanced laboratory course in cellular physiological techniques providing students with theoretical and practical training in cellular physiology laboratory techniques such as DNA and RNA manipulation and quantification, immunofluorescence imaging of protein expression, tissue contraction studies and recording of nerve action potentials and modulation. Prerequisite: STAT 201 and BPK 305 for BPK Majors or BISC 305 for BISC Majors. Enrollment of non-BPK and non-BISC majors require permission of the instructor. Writing.

BPK 412 - Molecular Cardiac Physiology (3)

This course entails a detailed analysis of the molecular and cellular basis of cardiac function. The material will be derived from myriad disciplines including: structure (histology and ultrastructure, molecular), biophysics, biomechanics, physiology, electrophysiology, biochemistry and molecular biology. A particular emphasis will be placed on the mechanisms by which inherited arrhythmias and cardiomyopathies manifest as a pathological phenotype. Prerequisite: BPK ~~(or KIN)~~ 305. ~~Students with credit for KIN 412 may not repeat this course for further credit.~~

BPK 415 - Neural Control of Movement (3)

An in depth study of the neurophysiology of movement. Illustrates general principles of neural control by exploring specific movement tasks including standing, walking, reaching/grasping, and eye movements. Prerequisite: BPK ~~(or KIN)~~ 306 or BISC 305. ~~Students with credit for KIN 415 may not take this course for further credit.~~

BPK 417 - Obesity, Adipocyte Function and Weight management (3)

Discusses mechanisms of health and disease with respect to a range of molecular mechanisms of physiology and organ system function, including how adipokines have an effect on metabolic alterations in immunology and hormone production in diabetes, stress and cardiovascular disease. Health behavior change in obesity and impact of dietary habits upon hyperlipidemia and apolipoprotein metabolism are addressed in addition to nutritional challenges in weight management and obesity. Prerequisite: BPK ~~or (KIN)~~ 110, 306, 314 (or 311), 340. Students with credit for BPK ~~(or KIN)~~ 417W ~~or KIN 417~~ may not repeat this course for further credit.

BPK 417W - Obesity, Adipocyte Function and Weight Management (3)

Discusses mechanisms of health and disease with respect to a range of molecular mechanisms of physiology and organ system function, including how adipokines have an effect on metabolic alterations in immunology and hormone production in diabetes, stress and cardiovascular disease. Health behavior change in obesity and impact of dietary habits upon hyperlipidemia and apolipoprotein metabolism are addressed in addition to nutritional challenges in weight management and obesity. Prerequisite: BPK ~~(or KIN)~~ 110, 306, 314 (or 311), 340. Students with credit for BPK ~~(or KIN)~~ 417 ~~or KIN 417W~~ may not repeat this course for further credit. Writing.

BPK 420 - Selected Topics in Kinesiology I (3)

Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from term to term, depending on faculty availability and student interest. Prerequisite: To be announced in the Undergraduate Schedule of Classes and Examinations.

BPK 421 - Selected Topics in Kinesiology II (3)

Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from term to term, depending on faculty availability and student interest. Prerequisite: to be announced.

BPK 422 - Selected Topics in Kinesiology III (3)

Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from term to term, depending on faculty availability and student interest. Prerequisite: To be announced.

BPK 423 - Selected Topics in Kinesiology IV (3)

Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from term to term, depending on faculty availability and student interest. Prerequisite: To be announced in the Undergraduate Schedule of Classes and Examinations.

BPK 430 - Human Energy Metabolism (3)

Pathways of energy flow in animals and man, and the relationship of biological energy transduction to the needs of the whole animal. Quantitative aspects of bioenergetics and adaptation to changes in energy supply and demand. Measuring techniques applied to adaptations to muscle activity and variations in food intake. Prerequisite: BPK ~~(or KIN)~~ 306 or 310 or MBB 321 or BICH 321. Students with credit for BPK ~~(or KIN)~~ 330 ~~or KIN 430~~ may not take this course for further credit.

BPK 431 - Integrative Cancer Biology (3)

Core concepts in cancer biology ranging from the clinical and pathological basis of carcinogenesis to the molecular and cellular changes involved in cancer development. Emphasis will be on the complex interactions of lifestyle factors, genetics and social cultural determinants on cancer risk. Prerequisite: MBB 231 (or MBB 201) and at least 90 units. ~~Students with credit for KIN 431 may not complete this course for further credit.~~

BPK 432 - Physiological Basis of Temperature Regulation (3)

The study of human temperature regulation in extreme environments. Physiological responses in hot and cold environments will be studied at molecular, cellular and whole body/systems physiology levels. The course focuses on the mechanisms of control of human temperature as well as unresolved topics in this area of physiology. Prerequisite: BPK ~~(or KIN)~~ 305 or BISC 305. Recommended BPK ~~(or KIN)~~ 407. Students with credit for BPK 420, Physiological Basis of Temperature Regulation, may not take this course for further credit.

BPK 443 - Advanced Exercise Prescription (3)

This course covers evidence-based practice and quantitative modeling skills for prescribing effective exercise programs to any individual who has a specific health, rehabilitation or performance goal. Programming considerations for various special populations (e.g., those with chronic disease, elite athletes) will be emphasized through laboratory-based case studies representing diverse professional settings such as active rehabilitation, strength & conditioning and clinical exercise physiology. Prerequisite: BPK ~~(or KIN)~~ 304W, 310 and 343. Students with credit for BPK 344 or BPK 423-Advanced Exercise Prescription may not take this course for further credit.

BPK 444 - Cardiac Disease: Pathophysiology and Assessment (3)

Examines the etiology, prevention, and rehabilitation of cardiovascular disease. Involves the assessment of patient risk factors, and non-invasive cardiovascular assessments. Particular emphasis will be placed upon the recording and interpretation of the electrocardiogram in health and disease. Prerequisite: BPK ~~(or KIN)~~ 305. Recommended: BPK ~~(or KIN)~~ 110, 306, 310 and 343~~. Students taking KIN 444 may not take this course for further credit.~~

BPK 445 - Advanced Cardiac Rehabilitation (3)

Builds upon the knowledge and skills learned in BPK (or KIN) 444 through advanced ECG interpretation, exercise stress testing, and patient counseling. Students will be required to complete a 30 hour practicum within a community or hospital-based cardiac rehabilitation program. In addition, this course will introduce students to relevant research questions in cardiac rehabilitation and how this field is expanding and evolving. Prerequisite: BPK ~~(or KIN)~~ 444. Students must successfully complete a Criminal Record Check. ~~Students with credit for KIN 445 may not take this course for further credit.~~

BPK 446 - Neurological Disorders (3)

Examines neural and neuromuscular diseases, including Alzheimer's disease, amyotrophic lateral sclerosis, multiple sclerosis, stroke, and myasthenia gravis. Emphasizes currently favoured hypotheses, underlying evidence and pathogenic mechanisms. Prerequisite: BPK ~~(or KIN)~~ 306. Recommended: BPK ~~(or KIN)~~ 336 and/or BPK ~~(or KIN)~~ 415. ~~Students with credit for KIN 446 may not take this course for further credit.~~

BPK 448 - Rehabilitation of Movement Control (3)

This course is aimed at students interested in neuromuscular rehabilitation. Students will learn about the pathological origins of movement disorders associated with impaired function of sensory and motor systems. The course will be focused on the stages and strategies for recovery of voluntary control of essential functions. The range of rehabilitation interventions available to assist recovery and restore voluntary control will be explored, with special emphasis on advanced techniques to restore control of movement and bodily functions in paralyzed people. Prerequisite: BPK ~~(or KIN)~~ 201 or 207, and BPK 306, or for biomedical engineering students, BPK ~~(or KIN)~~ 201, 208 and 308. ~~Students with credit for KIN 448 may not take this course for further credit.~~

BPK 451 - Practicum III (3)

The third term of work experience for students in the Kinesiology Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Work terms are graded as Pass/Fail (P/F). Prerequisite: BPK ~~(or KIN)~~ 352. ~~Students with credit for KIN 451 may not repeat this course for credit.~~

BPK 451W - Practicum III (3)

The third term of work experience for students in the Kinesiology Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Work terms are graded as Pass/Fail (P/F). Prerequisite: BPK ~~(or KIN)~~ 352. Writing.

BPK 452 - Practicum IV (3)

The fourth term of work experience for students in the Kinesiology Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Work terms are graded as pass/fail (P/F). Prerequisite: BPK ~~(or KIN 451).~~ ~~Students with credit for KIN 452 may not repeat this course for credit.~~

BPK 453 - Practicum V (3)

Optional term of work experience for students in the Kinesiology to Biomedical Physiology Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Work terms are graded as pass/fail (P/F). Prerequisite: BPK ~~(or KIN)~~ 452. ~~Students with credit for KIN 453 may not repeat this course for credit.~~

BPK 457 - Behavioural Neuroscience Undergraduate Honours Thesis Proposal (3)

Research proposal. Prerequisite: 75 units, with a minimum CGPA of at least 3.00, PSYC 301 or BPK 304W with a minimum grade of B, and permission from one of the Co-chairs of the Behavioural Neuroscience Program Committee. Students with credit for ~~KIN 457 or~~ PSYC 457 may not take this course for further credit.

BPK 458 - Prevention and Management of Cardiovascular Disease (3)

A multi-disciplinary approach to understanding the pathology, risk factors and treatments for the prevention and management of cardiovascular disease. Physical examination, as well as non-invasive cardiac imaging techniques will be discussed and demonstrated. Both theoretical and practical perspectives inform the course's approach to the principles of behavioural change (diet, physical exercise, and smoking cessation) and risk factor management. Prerequisite: BPK~~(or KIN)~~ 305 or HSCI 321. Students with credit for HSCI 471 or BPK 421 (Fall 2013) may not complete this course for further credit. Credit will not be given for both BPK 458 and HSCI 458.

BPK 459 - Behavioural Neuroscience Undergraduate Honours Thesis (9)

A written thesis based on research previously proposed in BPK (or KIN) 457. Prerequisite: A minimum grade of B in BPK ~~(or KIN)~~ 457. Corequisite: Must be enrolled in the Honours Program of the B.Sc. in Behavioural Neuroscience. Students must seek permission from their honours project supervisor to enroll in additional courses at the same time. Students with credit for PSYC 459 ~~or KIN 459~~ may not repeat this course for credit.

BPK 481 - Musculoskeletal Disorders (3)

Considers the prevalence, distribution, risk factors, mechanisms, management and prevention of disorders of muscle, connective tissue, joint, and bone. Covers tendonitis, bursitis, carpal tunnel syndrome and other overuse injuries from work and sport; whiplash-associated disorders; arthritis; osteoporosis; chronic pain; fibromyalgia. Prerequisite: BPK ~~(or KIN)~~ 201 and 326. ~~Students with credit for KIN 481 may not take this course for further credit.~~

BPK 482 - Ergonomics and Rehabilitation (3)

Examines the role of ergonomics within the rehabilitation process. Provides knowledge about tools and techniques for improving the rehabilitation process for patients, heath care providers and organizations. Prerequisite: BPK ~~(or KIN)~~180W, 201, 326, and 381. Corequisite: BPK ~~(or KIN)~~ 481. Students must successfully complete a Criminal Record Check before enrolling.

BPK 484 - Altitude and Aerospace Physiology (3)

A laboratory based examination of human physiological systems during exposure to aerospace related conditions of altered atmospheric content and G-forces. Developments of breathing apparatus, pressurized flight suits and anti-G-suits for high performance aircraft will be examined as they relate to solving the physiological problems of exposure to these environments. The effects of weightlessness during spaceflight will also be explored through lecture, literature review and current research data. An investigation of the biomedical monitoring of pilots and astronauts will be explored as they relate to health and safety. Prerequisite: BPK ~~(or KIN)~~ 305 or 308. ~~Students with credit for KIN 484 may not repeat this course for credit.~~ Quantitative.

BPK 491 - Undergraduate Honours Thesis Proposal (3)

Only students in the honours program may enroll in BPK 491. Prerequisite: 90 units, BPK ~~(or KIN)~~ 304W (may be taken concurrently) and permission of the chair of the undergraduate program committee. **A minimum grade of B in this course is needed to register in BPK 495 or BPK 499.** Students with credit for BPK ~~(or KIN)~~ 497 may not take this course for further credit.

BPK 495 - Undergraduate Honours Research Performance (6)

Student will perform an individual research project under the guidance and supervision of a faculty member. The project will carry out the research for the honours thesis proposed in BPK 491 - Undergraduate Honours Thesis Proposal. Prerequisite: BPK 491 **(minimum grade of B).** Co-requisite: BPK 499. Only students in the honours program may enroll in BPK 495. Students with credit for BPK 499 prior to Fall 2016 may not take this course for further credit.

BPK 496 - Directed Study Literature (3)

Directed reading and literature research on topics selected in consultation with the supervising instructor. A short proposal of the project, approved by the course supervisor, must be submitted for approval to the chair of the undergraduate program committee by the end of the first week of classes of the term. May be repeated once for credit with a different course supervisor. Prerequisite: BPK ~~(or KIN)~~ 304W (may be taken concurrently) or PSYC 210, and permission from the chair of the undergraduate program committee. Usually, upper level standing with at least 75 units in the Biomedical Physiology and Kinesiology program will be required.

BPK 498 - Directed Study Experiential (3)

Directed study and research selected in consultation with the supervising instructor. A short proposal of the project approved by the course supervisor, must be submitted for approval to the chair of the undergraduate program committee by the end of the first week of classes of the term. May be repeated once for credit with a different course supervisor. Prerequisite: BPK ~~(or KIN)~~ 304W (may be taken concurrently) or PSYC 210, and permission from the chair of the

undergraduate program committee. Usually, upper level standing with at least 75 units in the Biomedical Physiology and Kinesiology program will be required.

BPK 499 - Undergraduate Honours Thesis Reporting (6)

A written thesis based on research previously proposed in BPK ~~(or KIN)~~ 491 and performed in BPK 495. Regulations regarding the locale of the work, supervision and other arrangements, follow those for BPK ~~(or KIN)~~ 491. The written thesis should be submitted to the chair of the undergraduate program committee by the last day of exams of the term. The thesis will also be presented orally as a seminar in an open forum at the end of the term. Students may enroll in a maximum of one additional course concurrently with BPK 499 and BPK 495 with permission from the faculty honours supervisor. Prerequisite: BPK 491 (minimum grade of B). Co-requisite: BPK 495. Only students in the honours program may enroll in BPK 499. Students with credit for KIN 499 may not repeat this course for credit.

SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

EXISTING COURSE DELETION FORM

COURSE SUBJECT BPK **NUMBER** 111 **TITLE** Food and Food Safety

RATIONALE (must be included)

The course was used for the Human Nutrition Certificate. There are no students registered in the certificate and termination of the certificate is being requested concurrent with this request.
A request to remove BPK 111 from the Kinesiology Minor has been submitted concurrently with this request.
There are no plans to offer this course in the future.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (enter in textbox) Fall 2018

PLEASE DO THE FOLLOWING:

1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.
2. Once you have the program impact list, please review how deleting this course affects each program's requirements.
3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.
4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

Kinesiology Minor

5. Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit our page and click on "deleting a course" and review Step 2. Course Impact Analysis.

SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

EXISTING COURSE DELETION FORM

COURSE SUBJECT BPK **NUMBER** 212 **TITLE** Food and Society

RATIONALE (must be included)

The course was used for the Human Nutrition Certificate. There are no students registered in the certificate and termination of the certificate is being requested concurrent with this request.
A request to remove BPK 212 from the Kinesiology Minor has been submitted concurrently with this request.
There are no plans to offer this course in the future.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (enter in textbox) Fall 2018

PLEASE DO THE FOLLOWING:

1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.
2. Once you have the program impact list, please review how deleting this course affects each program's requirements.
3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.
4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

Kinesiology Minor

5. Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit our page and click on "deleting a course" and review Step 2. Course Impact Analysis.

SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

EXISTING COURSE DELETION FORM

COURSE SUBJECT BPK **NUMBER** 461 **TITLE** Physiological Aspects of Aging

RATIONALE (must be included)

This was a CODE course on ageing that has been discontinued. This has been replaced by a Special Topics CODE course with a different emphasis on Ageing taught by Dawn Mackey. This has been taught successfully and will be brought forward in the future to be given a regular course number and take its replace 461 in the course requirements.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (enter in textbox) Fall 2018

PLEASE DO THE FOLLOWING:

1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.
2. Once you have the program impact list, please review how deleting this course affects each program's requirements.
3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.
4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

5. Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit our page and click on "deleting a course" and review Step 2. Course Impact Analysis.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT BPK **NUMBER** 491 **TITLE** Undergraduate Honours Thesis Proposal

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☒

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

BPK 491 - Undergraduate Honours Thesis Proposal (3)
Only students in the honours program may enroll in BPK 491. Prerequisite: 90 units, BPK ~~(or KIN)~~ 304W (may be taken concurrently) and permission of the chair of the undergraduate program committee. **A minimum grade of B in this course is needed to register in BPK 495 or BPK 499.** Students with credit for BPK ~~(or KIN)~~ 497 may not take this course for further credit.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

Clarification that a minimum B grade is required to register in BPK 495 and 499. This already is present in the BPK 499 prerequisite language

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT BPK **NUMBER** 495 **TITLE** Undergraduate Honours Research Performance

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

BPK 495 - Undergraduate Honours Research Performance (6)
Student will perform an individual research project under the guidance and supervision of a faculty member. The project will carry out the research for the honours thesis proposed in BPK 491 - Undergraduate Honours Thesis Proposal. Prerequisite: BPK 491 **(minimum grade of B).** Co-requisite: BPK 499. Only students in the honours program may enroll in BPK 495. Students with credit for BPK 499 prior to Fall 2016 may not take this course for further credit.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

Clarification that a minimum B grade in BPK 491 is required to register in this course. This already is present in the BPK 499 prerequisite language

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT BPK **NUMBER** 426 **TITLE** Neuromuscular Anatomy

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☒	Description	☒	Equivalent Statement	☒

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike-through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Title: ~~Neuromuscular Anatomy~~ Functional Human Neuroanatomy

Description:

~~This course explores human neuromuscular anatomy using a lecture format supplemented by course readings, an anatomy atlas and tutorials which are presented in an interactive fashion via the Macintosh Computer Laboratory on campus. A strong grounding will be given in neuroanatomy with additional emphasis on the limb musculature and its innervation.~~

Students will critically assess and investigate functional neuroanatomy, and examine how neuroimaging, animal models, and functional deficits in patients inform this knowledge. The course encompasses divisions of the human nervous system from both functional (sensory, motor, and autonomic) and anatomical (peripheral and central) perspectives, including the neural basis of higher cortical functions.

Prerequisite:

~~BPK (or KIN) 324 or BPK (or KIN) 325 or~~ **BPK 306 and** ~~(or KIN)~~ BPK 326. ~~Students with credit for KIN 426 may not complete this course for further credit.~~

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

New title is a better descriptor of course content.

Modified description better describes the current content of the course

Requiring BPK 306 will enable us to assume necessary anatomical topics have been covered allowing less overlap and more in depth discussion of neuroanatomy.

Reference to equivalent KIN courses is being deleted from prerequisites in all BPK courses

RATIONALE (must be included)

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT PHYS **NUMBER** 101 **TITLE** Physics for the Life Sciences I

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Recommended Corequisite: PHYS 132

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

Following introduction of our new first year lab courses, PHYS 132 and PHYS 133, and cancellation of one of our older first year lab courses, PHYS 130, we recommend PHYS 101/102 students take PHYS 132/133 as corequisites.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT PHYS **NUMBER** 102 **TITLE** Physics for the Life Sciences II

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Recommended Corequisites: MATH 152, 155 or 158, ~~PHYS 130~~ and PHYS 133.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

Following introduction of our new first year lab courses, PHYS 132 and PHYS 133, and cancellation of one of our older first year lab courses, PHYS 130, we recommend PHYS 101/102 students take PHYS 132/133 as corequisites.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT PHYS **NUMBER** 332 **TITLE** Optics Laboratory

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☒	Description	☒	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike-through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

~~Optics Laboratory~~
~~Experiments in optics and modern physics, including diffraction, interference, spectroscopy, lasers and holography. Engineering Science students will do a selected set of experiments. Students with credit for PHYS 332 may not take this course for further credit. Prerequisite: Either PHYS 233 or both (PHYS 231 and CHEM 266) and either PHYS 285 or CHEM 260 all with a minimum grade of C-. Students with credit for PHYS 332 may not take this course for further credit. Writing/Quantitative.~~

Advanced Physics Laboratory I

Experiments investigating a range of physical phenomena such as Brownian motion, molecular order, chaotic dynamics, Doppler broadening of stellar spectra, and biophysical forces using techniques such as interference, optical trapping, and spectroscopy. Attention will also be given to more general skills, including experimental design, operating and troubleshooting experimental equipment, modeling of experimental results, data analysis, and the presentation of experimental results. Biological Physics students will do a selected set of experiments.
Prerequisite: Either PHYS 233 or both (PHYS 231 and either CHEM 266 or PHYS 347) and either PHYS 285 or CHEM 260, all with a minimum grade of C-. PHYS 347 may be taken concurrently. Students with credit for PHYS 332 may not take this course for further credit. Writing/Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

Rationale: We are working to combine our three advanced labs – PHYS 332, 431 and 433 - into two courses – Advanced Physics Laboratory I and II – and students will be able to select from a wider range of topics. The labs that are currently part of PHYS 433 will be incorporated into PHYS 332 and students in the Biological Physics programs will select from these experiments. The new name emphasizes that this course is the first part of a two semester sequence and the description reflects the broader range of experiments that are available. The addition of PHYS 347 to the list of prerequisites is for the benefit of Biological Physics students.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT PHYS **NUMBER** 390 **TITLE** Introduction to Astrophysics

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☐
Title	☒	Description	☒	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

PHYS 390 - Introduction to Cosmology and Astrophysics

Calendar Description: ~~Characteristics of stars and their evolution, thermodynamics of stellar interior, origin of the elements, galaxies, cosmology, and origin of the planets.~~ Evolution of the universe, modern cosmological models, origins of matter and entropy in the universe, Big Bang nucleosynthesis, formation of large scale structure and galaxies, planetary systems. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

We are updating title and description to reflect evolution of the content since our cosmologists, Andrei Frolov and Levon Pogosian, started teaching the course.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT PHYS **NUMBER** 431 **TITLE** Advanced Physics Laboratory I

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☒	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

~~Advanced Physics Laboratory I~~ Advanced Physics Laboratory II

Advanced experiments in Physics. May include special projects. Prerequisite: PHYS 385 and ~~either~~ PHYS 332 ~~or (PHYS 326 and 465)~~, with a minimum grade of C-. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

The new name emphasizes that it is the second part of a two semester sequence.

The prerequisite change is necessary because this course requires the analysis and writing skills developed in the first course in this sequence, PHYS 332 Advanced Physics Laboratory I.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT PHYS **NUMBER** 432 **TITLE** Undergraduate Honours Thesis

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☐
Title	☐	Description	☒	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike-through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Undergraduate research and preparation of an honours thesis over ~~two consecutive~~ the fall and the subsequent spring semesters. The research project may be in experimental or theoretical physics. Prospective students must obtain agreement of a faculty member willing to supervise the project. Prerequisite: All students interested in taking this course must consult with their faculty supervisor regarding prerequisites.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2018

RATIONALE (must be included)

We have adopted a cohort model for this course and want to make sure the students are aware of this and of the expected scheduling of this course.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT STAT **NUMBER** 302 **TITLE** Analysis of Experimental and Observational Data

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☒	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

The standard techniques of multiple regression analysis, analysis of variance, and analysis of covariance, and their role in observational and experimental studies. Prerequisite: Any STAT course (except STAT 100)~~,~~ or BUEC 232~~, or ARCH 376~~. This course may not be used to satisfy the upper division requirements of the Statistics major or honours program. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

1187

RATIONALE (must be included)

A lower division STAT course is the best preparation for upper division STAT courses. BUEC 232 provides sufficient preparation. Other courses provide insufficient preparation.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT STAT **NUMBER** 305 **TITLE** Introduction to Biostatistical Methods for Health Sciences

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Intermediate statistical techniques for the health sciences. Review of introductory concepts in statistics and probability including hypothesis testing, estimation and confidence intervals for means and proportions. Contingency tables and the analysis of multiple 2x2 tables. Correlation and regression. Multiple regression and model selection. Logistic regression and odds ratios. Basic concepts in survival analysis. Prerequisite: Any STAT course (except STAT 100)~~,~~ or BUEC 232~~, or ARCH 376~~. This course may not be used to satisfy the upper division requirements of the Statistics major or honours program. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

1187

RATIONALE (must be included)

A lower division STAT course is the best preparation for upper division STAT courses. BUEC 232 provides sufficient preparation. Other courses provide insufficient preparation.