Kinesiology
Certificate and Diploma Programs

Program Outline

PROGRAM IMPLEMENTATION DATE: September 2012
OUTLINE EFFECTIVE DATE: September 2017
PROGRAM OUTLINE REVIEW DATE: March 2022

GENERAL PROGRAM DESCRIPTION:

The Kinesiology Certificate and Diploma programs are the ideal option if you enjoy learning about the science of the body and human movement or are pursuing a career as a fitness instructor or trainer, an athletic trainer or coach, a physical therapist, a practicing kinesiologist, sports psychology consultant or a teacher. Students who complete two full years of study may transfer into third year studies at select post-secondary institutions in BC and Alberta. In addition, students have opportunities to receive additional industry required credentials within the various courses in the KNES program.

Program Information:

Delivery: All courses are delivered on-site at the Cranbrook Campus in a combination of formats including face-to-face, hybrid and online. Many of the KNES and elective Science courses will have labs attached to the courses.

Industry Credentials: Students in the diploma program may have the opportunity to obtain industry certifications such as:

- Canadian Fitness Education Services – Personal Trainer
- Canadian Society for Exercise Physiology (CSEP) – Certified Personal Trainer (CPT)
- Canadian Fitness Education Services – (CFES) Fitness Knowledge
- CFES Weight Training Instructor 1
- National Coaching Certification Program (NCCP) Modules

Program Design:

College of the Rockies offers 1-year certificate and 2-year diploma specializations in the following streams:

1) **Exercise Science** is designed for students interested in pursuing a Bachelor of Science degree in Kinesiology.

2) **Health and Human Performance** is designed for students interested in earning a diploma or degree in Kinesiology. Students interested in becoming personal trainers or physiotherapists are encouraged to take this stream.

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<table>
<thead>
<tr>
<th>Health and Human Performance Stream</th>
<th>Exercise Science Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YEAR 1</strong></td>
<td><strong>YEAR 1</strong></td>
</tr>
<tr>
<td><strong>Semester 1</strong></td>
<td><strong>Semester 1</strong></td>
</tr>
<tr>
<td>KNES 152</td>
<td>KNES 152</td>
</tr>
<tr>
<td>KNES 190</td>
<td>KNES 200</td>
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<tr>
<td>ENGL 100 or ENGL 101</td>
<td>ENGL 100 or ENGL 101</td>
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<tr>
<td>PSYC 101</td>
<td>BIOL 101</td>
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<tr>
<td>ELECTIVE 100 or 200 level</td>
<td>ELECTIVE 100 or 200 level</td>
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<tr>
<td><strong>Semester 2</strong></td>
<td><strong>Semester 2</strong></td>
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<tr>
<td>KNES 102</td>
<td>KNES 102</td>
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<tr>
<td>KNES 103</td>
<td>KNES 103</td>
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<tr>
<td>KNES 154 and 15X</td>
<td>KNES 163</td>
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<tr>
<td>KNES 163</td>
<td>KNES 210</td>
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<tr>
<td>PSYC 102</td>
<td>BIOL 102</td>
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<tr>
<td><strong>YEAR 2</strong></td>
<td><strong>YEAR 2</strong></td>
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<tr>
<td><strong>Semester 3</strong></td>
<td><strong>Semester 3</strong></td>
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<tr>
<td>KNES 200</td>
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<td>KNES 201</td>
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<td>KNES 205</td>
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<tr>
<td>KNES 206</td>
<td>LAB SCIENCE ELECTIVE 100 or 200 level</td>
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<tr>
<td><strong>Semester 4</strong></td>
<td><strong>Semester 4</strong></td>
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<tr>
<td>KNES 203</td>
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<td>KNES 204</td>
<td>KNES 204</td>
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<td>KNES 210</td>
<td>ELECTIVE 100 or 200 level</td>
</tr>
<tr>
<td>KNES 270</td>
<td>STAT 106</td>
</tr>
<tr>
<td>KNES 209</td>
<td>KNES 209</td>
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**IMPORTANT NOTES:**

If a student's goal is to get either of these diplomas in *two consecutive years*, then they must follow the course sequences prescribed as presented above in each semester.

Only two performance courses (154 and 15X) may be counted towards the diploma.

STAT 106 is recommended for the Health and Human Performance students if a University degree is the goal.

Each elective must be a university transferable, 3 credit course.
Hours for this program: 1155 - 1335 hours

Typical Structure of Instructional Hours:

<table>
<thead>
<tr>
<th>Instructional Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Hours</td>
<td>840-870*</td>
</tr>
<tr>
<td>Seminars / Tutorials</td>
<td></td>
</tr>
<tr>
<td>Laboratory / Studio Hours</td>
<td>315-465*</td>
</tr>
<tr>
<td>Practicum / Field Experience Hours</td>
<td>*</td>
</tr>
<tr>
<td>Other Contact Hours</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1155-1335</td>
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</tbody>
</table>

* Practicum and field experience hours are included within various labs.
* Exact hours vary according to specific streams and courses chosen.

Practicum Hours (if applicable):

<table>
<thead>
<tr>
<th>Type of Practicum</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-the-job Experience</td>
<td>N/A</td>
</tr>
<tr>
<td>Formal Work Experience</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

Course Program Author or Contact:
Jani Vogell, MKin, CEP

APPROVAL SIGNATURES:

Department Head
Norma Sherret
E-mail: nsherret@cotr.bc.ca

Dean of Health and Human Services
Heather Hepworth
E-mail: hepworth@cotr.bc.ca

EDCO

Valid from: September 2017 – March 2022

PROGRAM PREREQUISITES AND TRANSFER CREDIT:

Academic Requirements

- Secondary school graduation or equivalent
- Minimum 65% in ENGL 090, ENGL 12, or equivalent
- MATH 080, Pre-Calculus 11, Foundations of Math 11, or equivalent
- For the Exercise Science Stream, minimum 65% in BIOL 090, BIOL 12 or equivalent
- Students may upgrade these pre-requisites while beginning their Kinesiology studies

Corequisites: None
Additional Information for Students

Students must submit a Physical Activity Readiness Questionnaire (PAR-Q), documenting medical clearance for participation in unrestricted physical activity or for participation in progressive physical activity with special limitations or exclusions. Any positive (YES) responses on the Par-Q will require the Par-Med X form to be completed by a physician.

Applicants are advised that students in this program engage in moderate to vigorous physical activity as part of their laboratory practice in a variety of courses. Students will act both as physical activity leaders and participants.

Students may be required to travel to off-campus fitness and recreation facilities in the local area, and will require appropriate transportation. College of the Rockies students have access to free public transportation.

Flexible Assessment (FA):

Students seeking prior credit to any of the required courses for the certificate and diploma must refer to individual course outlines and follow the procedures outlined in the College Calendar.

Transfer Credit: For transfer information within British Columbia, Alberta and other institutions, please visit http://www.cotr.bc.ca/Transfer.

Students should also contact an Education Advisor at the institution where they want transfer credit.

COURSE GRADE:

Course grades are assigned as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>A+</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>≥ 90</td>
<td>89-85</td>
<td>84-80</td>
<td>79-76</td>
<td>75-72</td>
<td>71-68</td>
<td>67-64</td>
<td>63-60</td>
<td>59-55</td>
<td>54-50</td>
<td>&lt; 50</td>
</tr>
</tbody>
</table>

A grade of “D” grants credit, but may not be sufficient as a prerequisite for sequential courses.

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to course activities, including grade appeals, cheating and plagiarism.

PROGRAM CHANGES:

Information contained in program outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.
COURSE DESCRIPTIONS:

**KNES 102: Introduction to Motor Skill Acquisition**
This course is an introductory examination of motor skill acquisition, the variables which influence the learning and performance of motor skills, and the relationship between skill acquisition and growth and development. The course examines various fields for information that may help in the understanding of how motor skills are acquired.

**KNES 103: Introduction to Biomechanics**
In this course, students acquire knowledge of the mechanical, anatomical, and physiological aspects of human movement and performance, including the application of basic principles of physics and math to a quantitative analysis of human movement. Analysis focus on the development of forces within the body and their effect on initiating and controlling movement.

**KNES 151: Performance Analysis of Basketball**
This course provides the students with an understanding of the technical and tactical components and strategies that contribute to the effective performance of basketball. Students can gain an understanding of developing curriculum and designing instruction for implementing a basketball program in the K-12 education system. Theoretical understanding is supplemented with active participation.

**KNES 152: Active Health**
This course introduces the principles of physical fitness, exercise and human physiology, as applied to exercise management and prescription. Students can develop knowledge and practical skills related to conditioning methods, exercise techniques and fitness appraisal.

**KNES 154: Performance Analysis of Weight Training**
This course builds on knowledge and skills presented in KNES 152 and KNES 190 or KNES 200. This course includes theory and practice of fitness development through progressive resistance exercise. Students develop knowledge and skills in beginner and intermediate weight training programs and techniques. Course content is based on the Canadian Fitness Education Service (CFES) recognized for the Weight Training Instructor Course. Following completion, students have the opportunity to become a CFES Certified Weight Training Instructor.

**KNES 155: Performance Analysis of Volleyball**
This course can provide the students with an understanding of the technical and tactical components and strategies that contribute to the effective performance of volleyball. Students can gain an understanding of developing curriculum and designing instruction for implementing a volleyball program in the K-12 education system. Theoretical understanding is supplemented with active participation. Students who successfully complete the course should fulfill the requirements for the NCCP Volleyball Level 1 Technical component.

**KNES 156: Performance Analysis of Soccer**
This course provides the students with an understanding of the technical and tactical components and strategies that contribute to the effective performance of soccer. Students can gain an understanding of developing curriculum and designing instruction for implementing a soccer program in the K-12 education system. Theoretical understanding is supplemented with active participation.
KNES 157: Performance Analysis of Gymnastics
This performance course can provide the students with an understanding of the components that contribute to the effective performance of gymnastics. Students can gain an understanding of developing curriculum and designing instruction for implementing a gymnastics program in the K-12 education system. Theoretical understanding is supplemented with active participation.

KNES 158: Performance Analysis of Dance
This performance course can provide the students with an understanding of the components that contribute to the effective dance performance. Students can gain an understanding of developing curriculum and designing instruction for implementing a dance program in the K-12 education system. Theoretical understanding is supplemented with active participation.

KNES 159: Performance Analysis of Yoga
This course helps provide students with an understanding of both the practice and philosophy of yoga and how yoga can be integrated into wellness programs for people of all ages and abilities. Students can develop a standard level of performance, an ability to analyze postures (asanas), and an enhanced understanding of yoga and flexibility concepts. Students also explore basic asanas, with an emphasis on anatomy to prevent injury, as well as breathing and relaxation techniques to aid in stress management. Theoretical understanding is supplemented with active participation.

KNES 163: Physical Literacy for Life
Physical literacy is the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life. This course will cover the development and assessment of these components, as well as their importance in physical literacy participation and health throughout the Lifespan. Students will have the opportunity to gain relevant industry certifications.

KNES 190: Basic Human Anatomy
This course introduces the student to basic human anatomy and physiology with a particular interest in health and wellness. The basic structure and function of various organ systems are discussed through a series of lectures and labs. Organ systems included in this course are skeletal, muscular, cardiovascular, respiratory, nervous, urinary and endocrine systems.

KNES 200: Introductory Human Anatomy and Physiology 1
An introduction to the structural and functional aspects of the human musculoskeletal, cardiovascular, and respiratory systems.

KNES 201: Leisure & Sport in Canadian Society
This course examines the organization and role of the sport, recreation, leisure, and fitness delivery systems in Canada as they relate to active health.

KNES 202: Physical Growth and Human Development
This course introduces characteristics of physical growth and motor development throughout the lifespan, with particular reference to the effects of physical activity on growth, development and health. Developmental differences in the motor ability of children is studied.
**KNES 203: Introduction to Athletic Injuries**
This course is an introduction to the recognition, prevention and treatment of injuries associated with sport and exercise. It is offered in a modular format including sports first aid, athletic taping and advanced issues in athletic injuries and practical application. Completion of all components, in addition to a standard first aid and current CPR level may result in recognition by the Sports Medicine Council of BC's "Sports Aid Training Certificate."

**KNES 204: Psychology of Sport and Exercise**
This course provides insight into the theories, subject matter, and recent research concerning the cognitive processes and emotional states that regulate and influence performance and participation in sport, exercise and physical activity. An examination of aggression, cohesion, self-talk, motivation, and mental training as they relate to human performance will be conducted.

**KNES 205: Nutrition**
This course investigates factors involved in food choices and healthy living, the function of nutrients, distribution of nutrients in the diet, metabolism, and dietary requirements. Students gain theoretical knowledge and practical skills that allow them to make evidence based decisions about healthy food choices and dietary habits. Nutrition for active lifestyles and exercise, weight management, disease prevention, considerations along the lifespan, and current trends and issues are covered.

**KNES 206: Introduction to Exercise Physiology**
Introduction to acute and chronic effects of exercise on the human body. It further looks at the basic concepts of cardiovascular, respiratory, muscular and neuromuscular responses to physical activity.

**KNES 209: Research and Inquiry in Kinesiology and Health**
Students will be introduced to research and inquiry with a focus on current topics in kinesiology and health. Students will develop an understanding of the research process, including quantitative and qualitative research design. Students will be able to apply the knowledge from current scientific literature and critically analyze research findings.

**KNES 210: Introductory Human Anatomy & Physiology 2**
A continuation of KNES 200, this course is designed to allow the student to explore the anatomical and physiological details of the nervous, endocrine, digestive, excretory, immune and reproductive systems. Emphasis is placed on the integrated homeostatic balance of the body and its relationship to physical activity.

**KNES 270: Exercise Testing & Prescription**
This course helps to develop theoretical knowledge and practical skills in fitness and lifestyle appraisal and exercise prescription. Students should acquire the skills to administer the Canadian Society for Exercise Physiology – Physical Activity Training for Health (CSEP-PATH) Program and have the opportunity to become a recognized Certified Personal Trainer (CPT) through CSEP.

**BIOL 101: Introduction to Biology I**
An introduction to the structure and function of organisms with particular reference to molecular, biochemical and physiological aspects of the living world. Designed for students seeking a degree or diploma in a field of science or technology, BIOL 101, with BIOL 102 lays the foundations on which the higher-level courses in Biology are based. It is also suitable as an elective course for general interest or arts students.
BIOL 102: Introduction to Biology II
BIOL 102 is an introduction to organismic and population biology with emphasis on reproduction, genetics, developmental biology, evolution, diversity, and ecology.

ENGL 100: English Composition
English 100 focuses on composition for academic purposes and helps develop a student’s ability to write clearly and effectively. Students also cover the fundamentals of critical thinking, scholarly research and academic reading.

ENGL 101: Introduction to Poetry & Drama
An introduction to the critical reading of literature through the study & analysis of poetry and drama.

PSYC 101: Introduction to Psychology I
This course provides an introduction to the history, principles, and methods of psychology. Topics may include the brain and behavior, sensation and perception, learning and memory, thinking and language, and states of consciousness.

PSYC 102: Introduction to Psychology 2
This course is a continuation of PSYC 101. Topics may include development across the lifespan, intelligence, motivation, emotion, stress and health, personality, psychological disorders, therapy, and social behaviour.

STAT 106: Statistics
This course introduces the fundamental ideas of statistics and can be applied to any discipline. Topics include collection, description, and presentation of data; calculating central tendency and dispersion; probability and statistical inference; hypothesis testing (means, proportions, variances, one and two samples); correlation and regression; decision making and sampling, goodness of fit tests, and contingency tables.