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**MEMORANDUM**

<b>ATTENTION</b>	Senate	<b>DATE</b>	May 4, 2018
<b>FROM</b>	Daniel Leznoff, Chair Senate Committee on Undergraduate Studies	<b>PAGES</b>	1/1
<b>RE:</b>	Program Changes		

**For information:**

Acting under delegated authority at its meeting of May 3, 2018 SCUS approved the following curriculum revisions effective Spring 2019.

**a. Faculty of Environment (SCUS 18-36)**1. Department of Archaeology (SCUS 18-36a)

(i) Requirement changes to the:

- Archaeology Major, Honours, Minor and Extended Minor
- Archaeology and Anthropology Joint Major

2. School of Resource and Environmental Management (SCUS 18-36b)

(i) Upper and lower division requirement changes to the Resource and Environmental Management Minor program

**b. Faculty of Science (SCUS 18-37)**1. Department of Biomedical Physiology and Kinesiology (SCUS 18-37a)

(i) Requirement changes to the Occupational Ergonomics Certificate

2. General Science Program (SCUS 18-37b)

(i) Requirement changes to the General Science Double Minor program

**Calendar Entry Change****Name of Program or Name of Faculty****ARCHAEOLOGY**

Rationale for change: Two newly created Archaeology courses (ARCH 389 and ARCH 425) need to be added to the Group II courses in the Archaeology undergraduate program requirements.
Effective term and year: Spring 2019
The following program(s) will be affected by these changes: Archaeology Major, Honours, Minor, Extended Minor, Archaeology and Anthropology Joint Major

**Calendar Change:** “to” and “from” sections are not required. All deletions should be crossed out as follows: ~~sample~~. All additions should be marked by a **bold**.

<p><b>Group II - Environmental Archaeology Courses</b></p> <p>ARCH 329 - Special Topics in Environmental Archaeology (3)  ARCH 340 - Zooarchaeology (5)  ARCH 363 - Landscape Archaeology (3)  ARCH 365 - Archaeological Perspectives on Human Ecology (3)  ARCH 375 - From Soup to Nuts: The Archaeology of Food (3)  ARCH 383 - Molecular Bioarchaeology (3)  ARCH 386 - Archaeological Resource Management (3)  ARCH 388 - Geoarchaeology (5)  <b>ARCH 389 - Ethnoecology (3)</b>  ARCH 390 - Archaeobotany (5)  <b>ARCH 425 - Archaeometry (3)</b>  ARCH 428 - Soil Micromorphology (5)</p>
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**Calendar Entry Change  
Resource and Environmental Management Minor**

<p>Rationale for change:</p> <p><i>The REM Minor was established during the period when Environmental and Resource Management programming (e.g. ERM major) was housed in the FENV Dean's Office. Since 2016 this programming has been relocated to REM and a subsequent revision package involving the REM Major has been approved by Senate. The next step in the relocation process is to revise and update the REM Minor. There are four motivations for this update: (i) numerous courses have been developed since the minor's initiation and are not now included in the listings of REM courses and need to be added; (ii) given changes to the REM Major, there is a desire to realign the minor to conform with the newly revised major to the degree possible; (iii) given the initial design of the ERM Minor as a Faculty-wide program housed in the Dean's Office, it did not reflect the usual structure for a departmental minor so that some restructuring to better match other FENV (and SFU) minors was needed; and (iv) based upon student feedback, there was a desire to enhance the attractiveness of the minor by reducing and simplifying its requirements.</i></p>
<p>Effective term and year:</p> <p><i>January 2019</i></p>
<p>The following program(s) will be affected by these changes:</p> <p><i>None</i></p>

**Calendar Change:** "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample~~. All additions should be marked by a **bold**.

# Resource and Environmental Management Minor

The REM Minor provides an opportunity for SFU undergraduates to study applied environmental management issues from both natural and social sciences perspectives. The minor program aims to establish student abilities to: (1) understand and articulate how the dynamics of natural and social systems are inter-related in resource management issues; (2) explain how natural resource management strategies and techniques are formulated for environmental planning and decision-making; and (3) demonstrate the biological, physical, social, economic, and institutional implications of resource and environmental management decisions. These aims provide an environmental management perspective to complement a wide range of existing degrees within SFU Faculties.

## Admission Requirements

All students must be in good academic standing, and obtain approval from the REM Academic Advisor in order to be enrolled in the REM Minor. Note: Resource and Environmental Management Bachelor of Environment students are not eligible for the REM Minor.

## Program Requirements

Students must complete 6 lower division units and a total of 18 upper division units consisting of at least 15 units from REM upper division electives, and an optional 3 units from the upper division electives.

**Students complete a total of 2 lower division courses and 5 upper division REM courses in the REM Minor.**

### Lower Division Requirements (6 units)

One of Complete one of:

[REM 100 - Global Change \(3\)](#)

[EVSC 100 - Introduction to Environmental Science \(3\)](#)

[GEOG 100 - Our World: Introducing Human Geography \(3\)](#)

[GEOG 111 - Earth Systems \(3\)](#)

and

[REM 200 - Introduction to Resource and Environmental Management in Canada \(3\)](#)

### **REM Upper Division Requirements Electives (minimum of 15 units)**

Upper division REM courses form the core of the REM Minor, offering opportunities to develop and apply interdisciplinary thinking skills to specific topics in environmental management.

- REM 311 – Applied Ecology and Sustainable Environments (3)
- REM 321 – Ecological Economics (4)
- REM 350 – Sustainable Energy and Materials Management (4)
- REM 356 – Institutional Arrangements for Sustainable Environmental Management (3)
- REM 363 – Special Topics (3)
- REM 370 – Global Resource Issues in Oceanography (3)
- REM 375 – Ecology and Conservation of Coastal BC (3)
- REM 381 – Sustainable Community Development Theory and Practice (4)
- REM 481 – Social Enterprise for Sustainable Community Development (4)
- REM 483 – Leadership in Sustainable Community Development (4)
- REM 412 – Environmental Modeling (3)
- REM 445 – Environmental Risk Assessment (3)
- REM 471 – Forest Ecosystem Management (3)

### **Upper Division Electives**

Elective courses allow students to specialize in either social or natural science aspects of resource management.

- ARCH 365 – Archaeological Perspectives on Human Ecology (3)
- ARCH 386 – Archaeological Resource Management (3)
- BISC 309 – Conservation Biology (3)
- BISC 413 – Fisheries Ecology (3)
- EASC 405 – Water, Environment, and Climate Change (3)
- ENSC 412 – Technologies, Cultures and a Sustainable World (3)
- ENV 319 – Environmental Law (3)
- ENV 320W – Ethics and the Environment (3)
- FNST 403 – Indigenous Knowledge in the Modern World (3)
- GEOG 315 – World Ecosystems (4)
- GEOG 316 – Global Biogeochemical and Water Cycles (4)
- GEOG 322 – World Resources (4)



~~GEOG 389W - Nature and Society (4)~~  
~~GEOG 428 - World Forests (4)~~  
~~HSCI 304 - Perspectives on Human Health and the Environment (3)~~  
~~PHIL 328 - Environmental Philosophy (3)~~  
~~PHYS 346 - Energy and the Environment (3)~~  
~~SA 371 - The Environment and Society (SA) (4)~~

Complete one of:

[REM 311 - Applied Ecology and Sustainable Environments \(3\) \\*](#)  
[REM 321 - Ecological Economics \(4\) \\*](#)  
[REM 356W - Institutional Arrangements for Sustainable Environmental Management \(3\) \\*](#)

Complete two of:

[REM 311 - Applied Ecology and Sustainable Environments \(3\) \\*](#)  
[REM 319 - Environmental Law \(3\)](#)  
[REM 321 - Ecological Economics \(4\) \\*](#)  
[REM 350 - Sustainable Energy and Materials Management \(4\)](#)  
[REM 355 - Sustainable Transportation Management \(3\)](#)  
[REM 356W - Institutional Arrangements for Sustainable Environmental Management \(3\) \\*](#)  
[REM 363 - Special Topics \(3\)](#)  
[REM 370 - Global Resource Issues in Oceanography \(3\)](#)  
[REM 375 - Ecology and Conservation of Coastal BC \(3\)](#)  
[REM 381 - Building Sustainable Communities: Concepts and Cases \(4\)](#)

Complete two of:

[REM 406 - Indigenous People and Co-management \(4\)](#)  
[REM 407 - Indigenous Governance and Resource Relationships \(4\)](#)  
[REM 412 - Environmental Modeling \(3\)](#)  
[REM 423 - Methods in Fisheries Assessment \(4\)](#)  
[REM 427 - Avalanche Risk Management \(4\)](#)  
[REM 445 - Environmental Risk Assessment \(3\)](#)  
[REM 446 - Environmental and Social Impact Assessment \(4\)](#)  
[REM 454 - Water Security \(4\)](#)  
[REM 463 - Special Topics \(3\)](#)  
[REM 471 - Forest Ecosystem Management \(3\)](#)  
[REM 481 - Sustainable Communities Leadership Lab \(4\)](#)

**\*Note: REM 311, 321 and 356W appear in two requirement lists; however, each course may only be used to meet one of the above upper division requirements.**

**General University regulations also apply.**



SCUS 18-37a

**Calendar Entry Change**

**Name of Program or Name of Faculty**

**Occupational Ergonomics Certificate**

**Dept Biomedical Physiology & Kinesiology**

Rationale for change:

Introductory language was added to give greater clarity to student eligibility.

Three courses were moved from the elective to the required list as these extra topics should be mandatory coverage by any recipient of this certificate.

Effective term and year:

Spring 2019

The following program(s) will be affected by these changes:

None

**Calendar Change:** "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample~~. All additions should be marked by a **bold**.

**Occupational Ergonomics Certificate**

**This Certificate is intended for students in the Kinesiology Major in the Department of Biomedical Physiology and Kinesiology or qualified professionals in the areas of occupational rehabilitation, corporate wellness, and occupational health and safety who wish to augment their ergonomic knowledge and skills. Professionals must be able to provide appropriate documentation to show that they meet the necessary prerequisites to enroll in the required courses.** ~~The Occupational Ergonomics Certificate requires the completion of 24 units, 12 of which are required, with the remaining 12 selected from a list of electives.~~

**Admission Requirements**

Admission is governed by the University's admissions regulations. After University admission, submission of a completed program approval form to the Biomedical Physiology & Kinesiology academic advisor is required for formal acceptance in the program. **Approval into this certificate is competitive with external applicants having to meet the same standard as internal applicants.**

The certificate is normally completed within five years of admission to the certificate program. Units applied to one certificate may not be applied to another certificate or diploma.

**Prerequisite and Required Course Grades**



Students enrolling in biomedical physiology and kinesiology courses must have a grade of C- or better in prerequisite courses. Students enrolled in this certificate program must have grade of C- or better in all required courses.

### **Program Requirements**

Students complete all of

BPK 180 - Introduction to Ergonomics (3)  
BPK 381 - Psychology of Work (3)  
BPK 481 - Musculoskeletal Disorders (3)  
BPK 482 - Ergonomics and Rehabilitation (3) \*

**BPK 303 - Kinanthropometry (3)**

**BPK 310 - Exercise/Work Physiology (3)**

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

and ~~four~~ one of

~~BPK 303 - Kinanthropometry (3)~~

~~BPK 382 - Workplace Health (3)~~

~~BPK 310 - Exercise/Work Physiology (3)~~

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

BPK 402 - Mechanical Behavior of Biological Tissues (3)

BPK 415 - Neural Control of Movement (3)

BPK 426 - Neuromuscular Anatomy (3)

BPK 448 - Rehabilitation of Movement Control (3)

BPK 484 - Altitude and Aerospace Physiology (3)

BPK 496 - Directed Study Literature (3) #

BPK 498 - Directed Study Experiential (3) #

**Approved 3<sup>rd</sup> or 4<sup>th</sup> year elective from another department #**

# course must be in area related to Occupational Ergonomics, **approved through the BPK Advisor**

\* ~~course requires additional pre-requisites~~

\* **Students must successfully complete a Criminal Record Check prior to enrolling. For more information, please go to: <https://www.sfu.ca/students/criminalrecords.html>**

### **Grade Point Average Needed for Graduation**

**Students in this certificate must have a minimum 2.00 grade point average (GPA) calculated on all required courses.**



**Calendar Entry Change**

**Name of Program or Name of Faculty**

Rationale for change: Addition of EASC required course creates a more well-rounded General Science program. As well as adding a further two STAT courses, STAT 203 and 205, while identifying STAT 201 as the recommended course, to the 'one of' list.
Effective term and year: Spring 2019
The following program(s) will be affected by these changes: General Science Double Minor Program

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<p><del>and one of</del></p> <p><del>EASC 101 - Dynamic Earth (3)</del>  <del>BPK 110 - Human Nutrition: Current Issues (3)</del>  <del>BPK 140 - Contemporary Health Issues (3)</del>  <del>BPK 142 - Introduction to Kinesiology (3)</del>  <del>BPK 143 - Exercise: Health and Performance (3)</del></p> <p><b>and one of</b></p> <p><b>EASC 101 - Dynamic Earth (3)</b>  <b>EASC 103 - The Rise and Fall of the Dinosaurs (3)</b>  <b>EASC 104 - Geohazards - Earth in Turmoil (3)</b>  <b>EASC 106 - Earth Through Time (3)</b>  <b>EASC 107 - Economic Geological Resources (3)</b>  <b>EASC 108 - Exploring the Solar Systems (3)</b></p> <p><b>and one of</b></p> <p><b>BPK 110 - Human Nutrition: Current Issues (3)</b>  <b>BPK 140 - Contemporary Health Issues (3)</b>  <b>BPK 142 - Introduction to Kinesiology (3)</b>  <b>BPK 143 - Exercise: Health and Performance (3)</b></p>
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and one of

~~STAT 201 - Statistics for the Life Sciences (3)~~

~~STAT 270 - Introduction to Probability and Statistics (3)~~

**and one of**

**STAT 201 - Statistics for the Life Sciences (3)**

**STAT 203 - Introduction to Statistics for the Social Sciences (3)**

**STAT 205 - Introduction to Statistics (3)**

**STAT 270 - Introduction to Probability and Statistics (3)**