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MEMORANDUM

ATTENTION	Senate	DATE	May 8, 2020
FROM	Wade Parkhouse, Chair Senate Committee on Undergraduate Studies	PAGES	1/2
RE:	New Course Proposals		

For information:

Acting under delegated authority at its meeting of May 7, 2020 SCUS approved the following curriculum revisions effective Spring 2021.

a. Faculty of Applied Sciences (SCUS 20-38)

1. School of Mechatronic Systems Engineering)

(i) New Course Proposal: MSE 412-3, Neuromodulation Technologies and Applications in Brain Health

b. Faculty of Environment (SCUS 20-39)

1. Department of Archaeology

(i) New Course Proposals:
- ARCH 105-3, The Past in the Present: Archaeology in Popular Culture
- ARCH 374-4, Research Design in Archaeology

2. Department of Geography

(i) New Course Proposal GEOG 365-4, Race, Resistance & Urban Space

c. Faculty of Science (SCUS 20-40)

1. Department of Biomedical Physiology and Kinesiology

(i) New Course Proposals:

- BPK 411-3, Advanced Topics in Vascular Physiology
- BPK 447-3, Neuroplasticity

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Senate Docushare repository at https://docushare.sfu.ca/dsweb/View/Collection-12682.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT MSE **NUMBER** 412

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Neuromodulation Technologies and Applications in Brain Health

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Neuromodulation Technology

CAMPUS where course will be normally taught: ☐ Burnaby ☑ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Introduction into neuromodulation technologies and their applications in advancing brain research, augmenting healthy functions, and treating diseases. By covering topics including basics of nervous system, bio-signal processing, existing technologies, safety, regulations and steps in designing and commercializing neuromodulation technology, students are equipped with the know-how to develop a neurotechnology device.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

By introducing this course, we achieve three key aims: 1) expanding the diversity and number of elective courses in the School of Mechatronic System Engineering, which are currently limited. 2) provide an opportunity for students to learn about a cutting edge field, neuromodulation technologies, that is projected to grow exponentially over the next decade. 3) provide an elective course that enable students apply their theoretical knowledge, and what they learned in the curriculum in the last few years, toward developing technologies that have direct application in changing human conditions and having an impact in the society.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) Spring 2021

Term in which course will typically be offered ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 40

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 3 Lecture Seminar Tutorial 1 Lab Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Faranak Farzan

WQB DESIGNATION

(attach approval from Curriculum Office)

n/a

PREREQUISITE AND / OR COREQUISITE

MSE 280

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

n/a

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

n/a

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

n/a

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

n/a

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

Remember fundamental concepts about nervous system that would enable monitoring and modulating its function through technologies

Understand the history and key applications of neuromodulation technologies

Understand how to record and analyze nervous system electrical activities with a focus on brain waves

Analyze various design requirements for transcranial neuromodulation and neuromonitoring technologies

Evaluate the design and safety of a neuromodulation technology for application in humans

Understand the key steps involved from designing a device to its commercialization

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

n/a

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Faranak Farzan

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT Archaeology **NUMBER** 105

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

The Past in the Present: Archaeology in Popular Culture

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Arch in Pop Culture

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Critical thinking using archaeology and pseudo-archaeology as examples in popular culture. Emphasis on the role that pseudo-science plays in undermining legitimate science in current society.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

Science is under attack in popular media. Archaeology is particularly subject to misuse in popular media, with pseudo-archaeology becoming increasingly bold in its attacks on archaeological data, critical thinking, and the rights of descendant communities globally. In 2019, the best-selling "non-fiction" book was a pseudo-archaeological study of a "lost" ancient civilization, created by a race of giant humans with futuristic technology, which was responsible for all subsequent ancient state level societies. Traditionally, archaeologists have laughed off such far-fetched works as nonsensical and not worthy of attention. With the current social and political climates and the rise of "fake news", archaeologists are now in the position where such works need to be not just debunked, but brought to the attention of an audience of students who need to learn how to critically assess the information they are presented with, and to grasp the underlying intentions and agendas of those who pass on conspiracy theories of lost cultures, lost races, and alien encounters in the past.

The Past in the Present is designed to present issues of critical thinking to a broad audience with little or no prior exposure to real archaeology, and to do so in a fashion both entertaining and informative. This course will use Hollywood blockbusters, pseudo-documentaries, and real documentaries to help students learn to assess the (frequently convincing-sounding) evidence they will face everyday in the real world. The approaches in this course will be useful far beyond the classroom and far beyond archaeological studies, and can (and hopefully will) be applied throughout their future lives.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) SPRING 2021

Term in which course will typically be offered ☑ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 100+

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 3 Lecture Seminar Tutorial Lab Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

David Maxwell is course developer; all CFL faculty have sufficient expertise to offer this course.

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

None

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

None

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

None

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

None

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☐ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

David Maxwell

COURSE SUBJECT Archaeology **NUMBER** 374

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Research Design in Archaeology

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Arch Research Design

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Introduction to writing a research context, creating research questions, developing hypotheses, collecting, recording and analyzing data to address hypotheses, and report writing.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

A solid research project requires a sound research design. Our undergraduate students are currently not exposed to this aspect of the research process, which is problematic for a couple of reasons. Those students who enter graduate school find themselves expected to create a research design for their thesis work and need to both learn the process and to complete their own research proposal in a single semester -- a daunting task. Further, many of our students go directly from a Bachelor degree into the consulting world, and for most, graduate school does not become part of their lives. This means that we are producing generations of students who are working on the front lines of archaeology with absolutely no training in creating a proper research design, and results in the generation of data that are not particularly useful in many cases. An undergraduate course in archaeological research design would help to alleviate this problem, providing students with key skills in formulating research contexts, developing general research questions & creating specific hypotheses, and learning how to test these hypotheses to answer research questions. There is no reason that Heritage Resource Management archaeological projects cannot be incorporated into a research context, and students need to learn how to do this.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) SPRING 2021

Term in which course will typically be offered ☑ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☑ Required ☐ Elective

What is the probable enrollment when offered? Estimate: 30

UNITS

Indicate number of units: 4

Indicate no. of contact hours: 2 Lecture 2 Seminar Tutorial Lab Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

David Maxwell; Robert Muir; Dana Lepofsky; John Welch

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

ARCH 101 (201), ARCH 284, ARCH 271 recommended.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

David Maxwell

COURSE SUBJECT GEOG **NUMBER** 365

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Race, Resistance & Urban Space

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Race, Resistance & Urban Space

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

An exploration of how race informs the aesthetics, politics and development of urban space. Examines racial formation in transnational urban contexts, and how cultural production and social movements are utilized to address racial inequities and envision urban futures.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

As of now, there are no undergraduate geography courses with a primary focus on racial inequalities. This course would complement existing 'urban' courses (ie. GEOG 261, 264, 364, 385, 424, 442, 449) by exploring the racial geographies of cities. In addition, this course will go in further depth to examine social and cultural processes explored in GEOG 241 such as racial capitalism, settler colonialism, migration, social movements, etc. Importantly, this course will also add capacity to SFU's agenda concerning equity, diversity and inclusion in Geography and in the Faculty of Environment.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) SPRING 2021

Term in which course will typically be offered ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 40

UNITS

Indicate number of units: 4

Indicate no. of contact hours: 2 Lecture Seminar 2 Tutorial Lab Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Dr. Margaret M. Ramírez; incoming faculty (Fall 2020) Dr. May Farrales

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

At least 45 units, including GEOG 100.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

In taking this course, students will:
- Develop critical analytics of how racism informs urban life
• Analyze how racism and colonialism are intertwined with capitalism, and how these systems govern urban environments
• Investigate how urban environmental and climate crises are racialized and gendered
• Employ an intersectional lens to explore how urban social movements can address multiple inequities and injustices
• Acquire a language to interpret and discuss how cultural texts can critique and reimagine political, economic and societal structures

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

n/a

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Margaret M. Ramírez

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT BPK **NUMBER** 411

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Advanced Topics in Vascular Physiology

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

ADV VASC PHYSIOL

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Examines advanced and current topics in vascular physiology, with a focus on cell structure and signal transduction pathways related angiogenesis, hypertension, diabetes and obesity. Current research methodology and the relevance of vascular physiology to human health will be considered. Tutorial sessions apply course concepts through problem-based learning and literature analysis.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

An in-depth understanding of vascular physiology is important in the discussion of the pathophysiology of various chronic diseases. This new course addresses a need for an upper division course in BPK that focuses on the vascular physiology and addresses the cell structure and signal transduction pathways related to vascular regulation and adaptation. This challenging course has well-received by students over several offerings as a special topics course. This course will serve provide application, for Kinesiology and Biomedical Physiology Major and Honours students, of material introduced and emphasized in required lower and upper division BPK courses.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) Spring 2021

Term in which course will typically be offered ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 20-30

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 2 Lecture Seminar 1 Tutorial Lab Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Damon Poburko, Victoria Claydon (partial), Thomas Claydon (partial)

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

BPK 305

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

Students who have taken BPK 420 Advanced Topics in Vascular Physiology may not take this course for further credit.

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

• relate key concepts of vascular physiology and cell biology to a variety of vascular diseases
• describe signalling pathways that regulate majors functions of each cell type in the vascular wall and interactions between different cell types
• determine appropriate methods to assess vascular function in health and disease
• communicate an analysis of current issues in vascular (patho)physiology using written and oral methods appropriate for scientific discourse.
• assess value of cardiovascular research to self and society

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

none

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Ryan Dill

COURSE SUBJECT BPK **NUMBER** 447

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Neuroplasticity

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Neuroplasticity

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Explores how plasticity of the mammalian brain affects development, learning and adaptation, e.g. to blindness, poverty, stress and technology. Reading 2-4 scientific papers/week, students will learn about important context like peer review and strengthen their ability to read and communicate like a scientist.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

This new course addresses the need for an upper division course in neuroplasticity, a central concept in neuroscience relevant to development, learning, recovery from injury and disease, and aging. It also addresses the need for more upper division neuroscience courses for Behavioural Neuroscience majors.

This course complements but does not significantly overlap with existing upper-division neuroscience courses. For example, it examines the experience-dependent changes to sensory and motor maps in the brain that make possible the sensory-guided motor behaviour discussed in BPK 415 and the rehabilitative processes and interventions that are the focus of BPK 448. Rehabilitation is a major component of BPK 448 but only one of a number of plastic processes covered in the proposed course, so the overlap is minimal.

This course provides students with substantial practice reading, analyzing, critiquing, and communicating about papers and data. Students are taught not only about techniques and mechanisms of plasticity but also about peer review and ethics and constraints of using research animals and human participants. Many assigned papers are technical and dense, but through first working alone, and then in teams, the students uncover the central arguments of the articles. Over 3 offerings as a special topics course, students have found the course difficult but rewarding, noting their increased confidence in approaching the scientific literature and making oral presentations.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) FALL 2020

Term in which course will typically be offered ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 20-30

UNITS

Indicate number of units: 3

Indicate no. of contact hours: Lecture 3 Seminar Tutorial Lab Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Dylan Cooke, Dan Marigold

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

BPK 306 or BISC 305

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

Students who have taken BPK 423 Neuroplasticity may not take this course for further credit.

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

1. Effectively communicate the important findings and methods of a scientific paper in a presentation.
2. Analyze and critique scientific papers and graphical data with confidence.
3. Discriminate the most important findings in a scientific paper and describe how they were obtained.
4. Demonstrate metacognition.
   4.1 Identify the most important gaps in their own understanding of a paper.
   4.2 Formulate questions to address those gaps.
5. Convince themselves and others using data.
6. Write clearly and concisely.
7. Critically evaluate scientific literature on neuroplasticity.
   7.1 Critique data collection methods and assumptions.

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

none

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Dylan Cooke