SFU GRADUATE AND POSTDOCTORAL STUDIES

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MEMORANDUM

ATTENTION Senate

DATE March 14, 2019

FROM Jeff Derksen,
Chair of Senate Graduate Studies Committee (SGSC)

RE: New Course Proposals

For information:

Acting under delegated authority at its meeting of March 5, 2019, SGSC approved the following curriculum items, effective **Fall 2019:**

Faculty of Science

Biomedical Physiology and Kinesiology

1) Creation of new acronym: NEUR
2) New courses: NEUR 800 Foundations of Cellular and Molecular Neuroscience
   NEUR 801 Foundations of Systems Neuroscience
   NEUR 802 Translational and Integrative Neuroscience Workshop

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
FACULTY OF SCIENCE
Dean of Science

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MEMORANDUM

ATTENTION	Senate Graduate Studies Committee	DATE	February 13, 2019
FROM	Michael Silverman, Associate Dean of Research and Graduate Studies	PAGES	1
RE:	Calendar Entry for Translational and Integrative Neuroscience Specialization		

The following curriculum items have been approved by the Faculty of Science and are forwarded to the Senate Graduate Studies Committee for approval. These curriculum items should be effective for **Fall 2019.** Please include them on the next SGSC agenda.

Faculty of Science

Department of Biomedical Physiology and Kinesiology

1) Motion to create a new acronym: NEUR
2) New courses: NEUR 800 – Foundations of Cellular and Molecular Neuroscience
   NEUR 801 – Foundations of Systems Neuroscience
   NEUR 802- Translational and Integrative Neuroscience Workshop
3) ~~Calendar Entry (standalone): Translational and Integrative Neuroscience Specialization~~
4) ~~Calendar revisions: Biomedical Physiology and Kinesiology MSc and PhD~~
5) ~~Course changes (deletion): BPK 825~~
   ~~BPK 861~~
   ~~BPK 865~~

~~Department of Biological Sciences~~

1) ~~Calendar revisions: Biological Sciences MSc and PhD~~

Michael A. Silverman

Michael Silverman, Ph.D.
Faculty Graduate Chair

Enclosure

cc:

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MEMORANDUM

ATTENTION	Senate Graduate Studies Committee	**DATE**	February 13, 2019
FROM	Michael Silverman, Associate Dean of Research and Graduate Studies	**PAGES**	1
RE:	New Acronym - NEUR		

This submission includes the proposal for the Translational and Integrative Neuroscience (TRAIN) specialization being offered jointly by the Faculty of Arts and Social Sciences and the Faculty of Science. TRAIN is not specific to BPK. The goal is to establish a neuroscience graduate specialization for all of SFU. This is a standalone specialization and it is important that it has its own acronym.

Motion:
That SGSC approve the creation of the new acronym NEUR effective **Fall 2019.**

Michael A. Silverman

Michael Silverman, Ph.D.
Faculty Graduate Chair

Enclosure

cc:

Cover Memo to FSGC

To: Faculty of Science Graduate Studies Committee
From: Tom Claydon, Graduate Program Committee Chair BPK
Re: new TRAIN graduate specialization
Date: June 27th, 2018

The following new Translational and Integrative (TRAIN) graduate specialization with associated new courses and course deletions have been approved by the Department of Biomedical Physiology and Kinesiology and are forwarded to the Senate Graduate Studies Committee for approval. These curriculum items should be effective for Fall 2019. Please include them on the next SGSC agenda.

Department of Biomedical Physiology and Kinesiology

~~*New calendar entry to create the TRAIN specialization.*~~

New courses: NEUR 800 (3), NEUR 801 (3), NEUR 802 (0)

~~*Course deletions: BPK 861 (3), BPK 865 (3), BPK 825 (3)*~~

The proposal includes the generation of a new specialization (TRAIN), which is similar in structure to the current existing Interdisciplinary Oncology Graduate Specialization (IOGS). The new specialization will be taught by instructors from multiple departments and faculties at SFU and offers courses to graduate students in different units. It is expected that the specialization will be attractive to students working in multiple areas within the neuroscience field and will provide a rich and stimulating graduate education experience. Interested students will be admitted to a home department and will then register in the specialization, which will be overseen by a steering committee. Listing the specialization in the calendar as a separate entry, outside of departmental entries, allows the description to appear (and be managed) in a single place in the calendar. The attached proposed new calendar entry describing the TRAIN specialization and new courses have been approved by the Department of Biological Sciences and the Department of Physchology, both of whom see enrollment interest from graduate students in their own programs.

T.C

Tom Claydon
Graduate Program Committee Chair, BPK

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) NEUR	Number (eg. 810) 800	Units (eg. 4) 3

Course title (max. 100 characters)

Foundations of Cellular and Molecular Neuroscience

Short title (for enrollment/transcript - max. 30 characters) **Cell & Molecular Neuroscience**

Course description for SFU Calendar (course descriptions should be brief and should never begin with phrases such as "This course will..." or "The purpose of this course is..." If the grading basis is satisfactory/unsatisfactory include this in the description)

Covers fundamental concepts related to the basic cellular neurobiology of neurons and other nervous system cells, neuronal pathfinding, electrophysiology, dendritic organization, axonal transport, plasticity, and signal transduction, as well as the integration of neurons into neural circuits and diseases of the nervous system. This course can only be taken once, either during a Masters or Doctoral program.

Rationale for introduction of this course

This course will be part of the curriculum for a new proposed multi-department, graduate specialization in translational and integrative neuroscience. It will also serve to provide education on cellular and molecular neuroscience for graduate students outside of this program, as needed.

Term of initial offering (eg. Fall 2019) Fall 2019	Course delivery (eg. 3 hrs/week for 13 weeks) 4 hrs/week for 13 weeks
Frequency of offerings/year 1x every 2 years	Estimated enrollment per offering 6 - 10

Equivalent courses (courses that replicates the content of this course to such an extent that students should not receive credit for both courses)

None.

Prerequisite and/or Corequisite None.

Criminal record check required? ☐ Yes if yes is selected, add this as prerequisite

Additional course fees? ☐ Yes ☑ No

Campus where course will be taught ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

Course Components * ☐ Lecture ☑ Seminar ☐ Lab ☐ Independent ☐ Capstone ☐ _____

Grading Basis ☑ Letter grades ☐ Satisfactory/ Unsatisfactory ☐ In Progress / Complete

Repeat for credit? ☐ Yes ☑ No	Total repeats allowed? _____	Repeat within a term? ☐ Yes ☑ No
Required course? ☑ Yes ☐ No	Final exam required? ☐ Yes ☑ No	Capstone course? ☐ Yes ☑ No

Combined with a undergrad course? ☐ Yes ☑ No If yes, identify which undergraduate course and the additional course requirements for graduate students:

* See important definitions on the curriculum website.

RESOURCES

If additional resources are required to offer this course, provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course
Charles Krieger, Michael Silverman, Harald Hutter
Additional faculty members, space, and/or specialized equipment required in order to offer this course
Applicable faculty members from various departments will teach some lectures. Classroom, projector and projection screen.

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
BPK	Daniel Marigold	daniel_marigold@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Tom Claydon	Signature T.C.	Date June 27th 2018
Department Chair Angela Brooks-Wilson	Signature	Date June 28, 2018

FACULTY APPROVAL

The course form and outline must be sent by FGSC to the chairs of each FGSC (fgsc-list@sfu.ca) to check for an overlap in content

Overlap check done? ☑ YES

This approval indicates that all the necessary course content and overlap concerns have been resolved. The Faculty/Academic Unit commits to providing the necessary resources.

Faculty Graduate Studies Committee	Signature	Date
Brent Ward for Claire Cupples	Brent Ward	JUL 05 2018

A library review will be conducted. If additional funds are necessary, DGS will contact the academic unit prior to SGSC.

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee	Signature	Date
Jeff Derksen		MAR 14 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: DEC 14 2018
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

If different from regular units:
Academic Progress Units: _____
Financial Aid Progress Units: _____

NEUR 800 – Foundations of Cellular and Molecular Neuroscience

Course Description:
Covers fundamental concepts related to the basic cellular neurobiology of neurons and other nervous system cells, neuronal pathfinding, electrophysiology, dendritic organization, axonal transport, plasticity, and signal transduction, as well as the integration of neurons into neural circuits and diseases of the nervous system. This course can only be taken once, either during a Masters or Doctoral program.

Instructors:
Core = Drs. Charles Krieger, Michael Silverman, and Harald Hutter
Additional = depends on year and availability (will draw from multiple departments)

Format and Contact hours:
- Lecture and seminar style; 4 hrs/week for 13 weeks

Recommended Textbook(s):
Kandel ER, Schwartz JH, Jessell TM, Siegelbaum SA, Hudspeth AJ (eds). Principles of Neural Science, 5th Edition. McGraw-Hill Companies, Inc, 2013.

Course Learning Outcomes:
By the end of the course, students should be able to:
1. Understand, communicate, critically evaluate, and design experiments for hypothesis testing across a broad range of cellular and molecular neuroscience topics.
2. Integrate and synthesize material to generate new perspectives, hypotheses, and translational applications in cellular and molecular neuroscience.
3. Understand principles of cell-cell communication and how to apply neuroimaging, neurophysiological, and neurochemical methods for their investigation.
4. Integrate information regarding different parts of the nervous system to explain how cells and circuits have specific properties.
5. Understand how brain circuitry is organized, measured, and how these properties determine nervous system function.

Topics/content:
Principles of neuronal organization
- Course introduction
- Ligand-gated and ion channels of nervous system cells, neuron and synaptic structure, axon transport, motor proteins, axonal pathfinding, establishment of synaptic connections, structure of the synapse, neurotransmission, growth factors, asymmetric cell division, and stem cells

Core Modules (3, 3-week blocks; 9 weeks total):
Ion channels and cellular neurophysiology
- Action potential generation, repetitive firing

Axon transport and axonal function
- Pathfinding, myelination, axon organization

Neural stem cells, development, maintenance and death
- Neural development and plasticity

Secondary Modules (1- or 2-week blocks; 3 weeks total):
*Mental health, addiction, and neuromodulation: Psychopharmacology (dopamine and dopamine-mediated reward)
*Memory from a cellular/molecular perspective
*Sleep and circadian rhythms from a cellular/molecular perspective
*Other cellular/molecular-level neuroscience content

*These will depend on the year and instructor availability.

Grading:
25% for each of 3 core modules (total = 75%) + 25% for combined secondary modules = 100 %

Module breakdown:
- Written module exam = 10%
- Participation = 5%
- Blog assignment, executive summary for research proposal, student presentation, and/or translational/dissemination strategy assignment = 10%*

*The exact details and make-up of this grade component will depend on the module/instructor

Blog assignment:
- Students will use a concept in the module or a scientific article related to the module and write a one-page science blog geared towards the public
- This assignment emphasizes the importance of science communication

Research proposal executive summary:
- Students will propose an experiment based on the content and concepts in the module and write a 1 – 2 page summary that includes a rationale, objective(s), specific aim(s), hypotheses, methods, and significance
- This assignment enables students to practice grant writing

Student presentation:
- Students will give a presentation based on a journal article related to the module
- This component emphasizes the importance of communication and allows students to practice their presentation skills

Translational/dissemination strategy assignment:
- Students will propose (in 1 – 2 pages) how the concepts related to the module can be translated into clinical practice or a technology
- This assignment emphasizes the importance of translation and dissemination in science and will require students to formulate a strategy to ensure it is achieved

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) NEUR	Number (eg. 810) 801	Units (eg. 4) 3

Course title (max. 100 characters)

Foundations of Systems Neuroscience

Short title (for enrollment/transcript - max. 30 characters) **Systems Neuroscience**

Course description for SFU Calendar (course descriptions should be brief and should never begin with phrases such as "This course will..." or "The purpose of this course is..." If the grading basis is satisfactory/unsatisfactory include this in the description)

Fundamental concepts related to information processing (sensing, encoding, planning, decision-making, execution) by neural circuits are discussed. Topics include: neural communication, sensorimotor control of movement, neuroplasticity, and diseases of the brain. Issues of experimental design and application of modern neuroscience methods will be integrated across these topics. Additional topics will vary depending on the year. This course can only be taken once, either during a Masters or Doctoral program.

Rationale for introduction of this course

This course will be part of the curriculum for a new proposed multi-department, graduate specialization in translational and integrative neuroscience. It will also serve to provide education on systems neuroscience for graduate students outside of this program, as needed.

Term of initial offering (eg. Fall 2019) Fall 2019	Course delivery (eg. 3 hrs/week for 13 weeks) 4 hrs/week for 13 weeks
Frequency of offerings/year 1x every 2 years	Estimated enrollment per offering 6 - 10

Equivalent courses (courses that replicates the content of this course to such an extent that students should not receive credit for both courses)

None.

Prerequisite and/or Corequisite None.

Criminal record check required? ☐ Yes if yes is selected, add this as prerequisite

Additional course fees? ☐ Yes ☑ No

Campus where course will be taught ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

Course Components * ☐ Lecture ☑ Seminar ☐ Lab ☐ Independent ☐ Capstone ☐ _____

Grading Basis ☑ Letter grades ☐ Satisfactory/ Unsatisfactory ☐ In Progress / Complete

Repeat for credit? ☐ Yes ☑ No	Total repeats allowed? _____	Repeat within a term? ☐ Yes ☑ No
Required course? ☑ Yes ☐ No	Final exam required? ☐ Yes ☑ No	Capstone course? ☐ Yes ☑ No

Combined with a undergrad course? ☐ Yes ☑ No If yes, identify which undergraduate course and the additional course requirements for graduate students:

* See important definitions on the curriculum website.

RESOURCES

If additional resources are required to offer this course, provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course
Daniel Marigold, Dylan Cook, and Sam Doesburg
Additional faculty members, space, and/or specialized equipment required in order to offer this course
Applicable faculty members from various departments will teach some lectures. Classroom, projector and projection screen.

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
BPK	Daniel Marigold	daniel_marigold@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Tom Claydon	Signature T.C.	Date June 27th 2018
Department Chair Angela Brooks-Wilson	Signature	Date June 28, 2018

FACULTY APPROVAL

The course form and outline must be sent by FGSC to the chairs of each FGSC (fgsc-list@sfu.ca) to check for an overlap in content

Overlap check done? ☑ YES

This approval indicates that all the necessary course content and overlap concerns have been resolved. The Faculty/Academic Unit commits to providing the necessary resources.

Faculty Graduate Studies Committee	Signature	Date
Brent Ward for Claire Cupples		JUL 05 2018

A library review will be conducted. If additional funds are necessary, DGS will contact the academic unit prior to SGSC.

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee	Signature	Date
Jeff Derksen		MAR 14 2019

ADMINISTRATIVE SECTION (for DGS office only)
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Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

If different from regular units:
Academic Progress Units: _____
Financial Aid Progress Units: _____

NEUR 801 – Foundations of Systems Neuroscience

Course Description:
Fundamental concepts related to information processing (sensing, encoding, planning, decision-making, execution) by neural circuits are discussed. Topics include neural communication, sensorimotor control of movement, neuroplasticity, and diseases of the brain. Issues of experimental design and application of modern neuroscience methods will be integrated across these topics. Additional topics will vary depending on the year. This course can only be taken once, either during a Masters or Doctoral program.

Instructors:
Core = Drs. Dylan Cooke, Sam Doesburg, and Dan Marigold
Additional = depends on year and availability (will draw from multiple departments)

Format and Contact hours:
- Lecture and seminar style; 4 hrs/week for 13 weeks

Recommended Textbook(s):
Kandel ER, Schwartz JH, Jessell TM, Siegelbaum SA, Hudspeth AJ (eds). Principles of Neural Science, 5th Edition. McGraw-Hill Companies, Inc, 2013.

Course Learning Outcomes:
By the end of the course, students should be able to:
1. Understand, communicate, critically evaluate, and design experiments for hypothesis testing across a broad range of systems neuroscience topics.
2. Integrate and synthesize material to generate new perspectives, hypotheses, and translational applications in systems neuroscience.
3. Understand principles of system communication and dynamics and how to apply neuroimaging methods for their investigation.
4. Integrate information regarding different parts of the nervous system to explain how we perform specific movements.
5. Understand how brain organization is measured, affects perception and behaviour, and changes with experience.

Topics/content:
Principles of neuronal organization and encoding (1 lecture)
- Course introduction
- Receptive fields, tuning curves, lateral inhibition, hierarchical organization, reference frame encoding, and gain field modulation

Core Modules (3, 3-week blocks; 9 weeks total):
Neural communication and neuroimaging
- Action potential propagation
- Synchronization and dynamics
- Network neuroscience
- Neuroimaging (MEG, EEG, MRI)

Control of movement
- Neural control of walking

- Neural control of reaching
- Gaze behaviour
- Theories of movement control

Sensory processing and plasticity
- Sensory systems (e.g., somatosensory, auditory, visual)
- Multi-sensory integration
- Cortical mapping
- Neural development and plasticity

Secondary Modules (1- or 2-week blocks; 3 weeks total):
*Mental health, addiction, and neuromodulation from a systems perspective
*Memory and attention from a systems perspective
*Sleep and circadian rhythms from a systems perspective
*Other systems-level neuroscience content

*These will depend on the year and instructor availability.

Grading:
25% for each of 3 core modules (total = 75%) + 25% for combined secondary modules = 100 %

Module breakdown:
- Written module exam = 10%
- Participation = 5%
- Blog assignment, executive summary for research proposal, student presentation, and/or translational/dissemination strategy assignment = 10%*

*The exact details and make-up of this grade component will depend on the module/instructor

Blog assignment:
- Students will use a concept in the module or a scientific article related to the module and write a one-page science blog geared towards the public
- This assignment emphasizes the importance of science communication

Research proposal executive summary:
- Students will propose an experiment based on the content and concepts in the module and write a 1 – 2 page summary that includes a rationale, objective(s), specific aim(s), hypotheses, methods, and significance
- This assignment enables students to practice grant writing

Student presentation:
- Students will give a presentation based on a journal article related to the module
- This component emphasizes the importance of communication and allows students to practice their presentation skills

Translational/dissemination strategy assignment:
- Students will propose (in 1 – 2 pages) how the concepts related to the module can be translated into clinical practice or a technology
- This assignment emphasizes the importance of translation and dissemination in science and will require students to formulate a strategy to ensure it is achieved

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) NEUR	Number (eg. 810) 802	Units (eg. 4) 0

Course title (max. 100 characters)

Translational and Integrative Neuroscience Workshop

Short title (for enrollment/transcript - max. 30 characters) **TRAIN workshop**

Course description for SFU Calendar (course descriptions should be brief and should never begin with phrases such as "This course will..." or "The purpose of this course is..." If the grading basis is satisfactory/unsatisfactory include this in the description)

Workshops focus on providing students with skills to facilitate the translation of neuroscience, broadly defined, for the benefit of society. Faculty members at SFU as well as relevant clinicians and company representatives will run these workshops. Topics may include: how to translate fundamental questions into clinical-oriented questions; how to perform clinical research; how to start a spin-off company; how to pitch ideas for commercialization; how to work with industry; how drug-discovery works; and how to communicate to different audiences. All topics will relate specifically to neuroscience.

Rationale for introduction of this course

These workshops will be part of the curriculum for a new proposed multi-department, graduate specialization in translational and integrative neuroscience (TRAIN). Through these workshops, students will gain valuable tips, resources, and understanding to start careers within and outside of academia.

Term of initial offering (eg. Fall 2019) Fall 2019	Course delivery (eg. 3 hrs/week for 13 weeks) 1, 3 hr workshop
Frequency of offerings/year 2 - 4x / year	Estimated enrollment per offering 6 - 10

Equivalent courses (courses that replicates the content of this course to such an extent that students should not receive credit for both courses)

None

Prerequisite and/or Corequisite: Enrolment in translational and integrative neuroscience graduate specialization or permission from lead workshop organizer.

Criminal record check required? ☐ Yes if yes is selected, add this as prerequisite

Additional course fees? ☐ Yes ☑ No

Campus where course will be taught ☑ Burnaby ☑ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

Course Components * ☐ Lecture ☑ Seminar ☐ Lab ☐ Independent ☐ Capstone ☐ _____

Grading Basis ☐ Letter grades ☐ Satisfactory/ Unsatisfactory ☑ In Progress / Complete

Repeat for credit? ☑ Yes ☐ No	Total repeats allowed? 24	Repeat within a term? ☑ Yes ☐ No
Required course? ☑ Yes ☐ No	Final exam required? ☐ Yes ☑ No	Capstone course? ☐ Yes ☑ No

Combined with a undergrad course? ☐ Yes ☑ No If yes, identify which undergraduate course and the additional course requirements for graduate students:

* See important definitions on the curriculum website.

RESOURCES

If additional resources are required to offer this course, provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course
Depends on workshop. Can include Daniel Marigold, Dylan Cooke, Sam Doesburg, other faculty at SFU.
Additional faculty members, space, and/or specialized equipment required in order to offer this course
Classroom, projector and projection screen.

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
BPK	Daniel Marigold	daniel_marigold@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Tom Claydon	Signature T.C.	Date June 27th 2018
Department Chair Angela Brooks-Wilson	Signature	Date June 28, 2018

FACULTY APPROVAL

The course form and outline must be sent by FGSC to the chairs of each FGSC (fgsc-list@sfu.ca) to check for an overlap in content

Overlap check done? ☑ YES

This approval indicates that all the necessary course content and overlap concerns have been resolved. The Faculty/Academic Unit commits to providing the necessary resources.

Faculty Graduate Studies Committee	Signature	Date
Brent Ward for Claire Cupples	Brent Ward	JUL 05 2018

A library review will be conducted. If additional funds are necessary, DGS will contact the academic unit prior to SGSC.

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee	Signature	Date
Jeff Derksen		MAR 14 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: DEC 14 2018
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

If different from regular units:
Academic Progress Units: 0
Financial Aid Progress Units: 0

NEUR 802 – Translation and Integrative Neuroscience Workshop

Course Description:
Workshops focus on providing students will skills to facilitate the translation of neuroscience, broadly defined, for the benefit of society. Faculty members at SFU as well as relevant clinicians and company representatives will run these workshops. Topics may include: how to translate fundamental questions into clinical-oriented questions; how to perform clinical research; how to start a spin-off company; how to pitch ideas for commercialization; how to work with industry; how drug-discovery works; and how to communicate to different audiences. All topics will relate specifically to neuroscience.

Instructors:
Will vary based on the workshop.

Format and Contact hours:
3-hour workshop. Will be offered at different times throughout the year.

Recommended Textbook(s):
None.

Learning Outcome(s):
Students should be able to understand and suggest ways to translate neuroscience for clinical, industry, and/or communication purposes.

Topics/content:
Will vary based on the workshop. Examples include:

- How to translate fundamental questions into clinical-oriented questions
- How to perform clinical research
- How to start a spin-off company
- How to pitch ideas for commercialization
- How to work with industry
- How drug-discovery works
- How to communicate neuroscience to different audiences

Grading:
Completed/not completed.