SFU GRADUATE AND POSTDOCTORAL STUDIES

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MEMORANDUM

ATTENTION Senate

DATE June 20, 2019

FROM Zoë Druick,
Acting Chair of Senate Graduate Studies Committee (SGSC)

RE: New Course Proposals

For information:
Acting under delegated authority at its meeting of June 20, 2019, SGSC approved the following curriculum items, effective **Spring 2020:**

Faculty of Applied Sciences

1) New course: CMPT 631 Industrial Internship (effective Fall 2019)
2) New course: ENSC 704 Industrial Internship (effective Fall 2019)
3) New course: MSE 795 Industrial Internship (effective Fall 2019)

School of Computing Science

4) New course: CMPT 712 Approximation and Randomized Algorithms
5) New course: CMPT 720 Robotic Autonomy: Algorithms and Computation
6) New course: CMPT 727 Statistical Machine Learning
7) New course: CMPT 762 Computer Vision
8) New course: CMPT 763 Biomedical Computer Vision
9) New course: CMPT 766 Computer Animation and Simulation
10) New course: CMPT 770 Parallel & Distributed Computing

Faculty of Arts and Social Sciences

Department of Urban Studies

11) New course: URB 601 Urban Professional Development I
12) New course: URB 602 Urban Professional Development II

Faculty of Communications, Art and Technology

13) New course: CMNS 835 Communication and Cultural Policies, Power and Governance

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
OFFICE OF THE DEAN
Faculty of Applied Sciences
Simon Fraser University

MEMORANDUM

Attention Dr. Jeff Derksen
Dean, Graduate Studies

Date May 28, 2019

From Dr. Parvaneh Saeedi psaeedi@sfu.ca
Faculty of Applied Science, Graduate Studies Committee

Re: FAS-CMPT, ENSC, MSE Calendar/new course proposal

The following new courses are approved by the Faculty of Applied Sciences 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.

Currently our graduate students only have the option of enrolling in standard co-op courses. Most often, research students locate internship opportunities on their own and/or in consultation with their Senior Supervisor. These opportunities tend to fit better within their educational background and career goals than those available through co-op. These courses are designed to allow students and academic supervisors to easily manage this process and establish a more direct relationship between the supervisor and industrial partner. Another reason for creating this course is to ensure that students inform their senior supervisor about their intention to apply or accepting an internship offer allowing their supervisor to be more closely involved in the process.

Our existing co-op programs will be still available for our professional Masters degree where the GPC chair plays the role of academic advisor.

School of Computing Science

CMPT 631 – Industrial Internship

School of Engineering Science

ENSC 704 – Industrial Internship

School of Mechatronics System Engineering

MSE 795 – Industrial Internship

Best Regards,

Parvaneh Saeedi,
Faculty of Applied Science, Graduate Studies Committee

SFU
OFFICE OF THE DEAN
Faculty of Applied Sciences
Simon Fraser University

MEMORANDUM

Attention Dr. Jeff Derksen
Dean, Graduate Studies

Date May 16, 2019

From Dr. Ghassan Hamarneh hamarneh@sfu.ca
Graduate Program Director, School of Computing Science

Re: CMPT Calendar / new course proposal

The following new course ~~are~~ is approved by the CMPT GPC and ~~are~~ is 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.

Rationale: Currently our graduate students only have the option of enrolling in standard co-op courses and, most often, research students locate internship opportunities directly and/or in consultation with their Senior Supervisor. These courses are designed to allow for students and academic supervisors to easily manage this process and establish a more direct relationship between the academic supervisor and industrial partner. Another reason for creating this set of courses is that often students do not inform the academic supervisor about their intention to apply or accepting an internship offer and therefore such courses allows a more direct path for academic supervisor to be involved in the process.

Our existing co-op programs will be still available for our professional master's programs (PMP) degree students and the graduate dual degree program (GDDP) where the GPC chair plays the role of academic advisor.

1. CMPT 631 – Industrial Internship

Best Regards,

Dr. Ghassan Hamarneh
Graduate Program Director,
School of Computing Science

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 631	Units (eg. 4) 3

Course title (max. 100 characters)
Industrial Internship

Short title (for enrollment/transcript - max. 30 characters) Industrial Internship

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)
See attached.

Rationale for introduction of this course
See attached.

Term of initial offering (eg. Fall 2019) Fall 2019	Course delivery (eg. 3 hrs/week for 13 weeks) 13 weeks of full or part time work
Frequency of offerings/year 3 times/year	Estimated enrollment per offering 2-3 per semester

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

Prerequisite and/or Corequisite 12 units of CMPT course work with an SFU CGPA of at least 3.0. Approval of supervisor and a GPC representative is required prior to applying for, or accepting an internship

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 ☑ Internship

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

Repeat for credit? ☑ Yes ☐ No	Total repeats allowed? 2	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
N/A
Additional faculty members, space, and/or specialized equipment required in order to offer this course
None required

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Computing Science	Ghassan Hamarneh	hamarneh@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Ghassan Hamarneh	Signature	Date 2019-May-15
Department Chair Mohamed Hefeeda	Signature	Date 17 May 2019

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 Parvaneh Saeedi	Signature	Date May 28/2019

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 Zoe Druick	Signature	Date JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY 27 2019
Course Attribute: NCDR
Course Attribute Value: Internship
Instruction Mode:
Attendance Type:

If different from regular units:
Academic Progress Units: 6
Financial Aid Progress Units: 6
Billing Factor: 1

631-633

CMPT 631

Course description

An internship in industry or a research environment for graduate research students. A final report will be submitted and graded by the student's supervisor. Units of this course do not count towards computing science breadth requirements. Graded on a satisfactory/unsatisfactory basis. Prerequisite: 12 units of CMPT course work with an SFU CGPA of at least 3.0. Approval of supervisor and a GPC representative is required prior to applying for, or accepting an internship.

Rationale

Currently students only have the option of enrolling in standard Coop courses and most often, research students locate internship opportunities directly and/or in consultation with their Academic Supervisor. The course(s) are being created to allow for students and Supervisors to easily manage this process.

SFU

SCHOOL OF ENGINEERING SCIENCE

MEMO

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Web: www.sfu.ca/engineering

ATTENTION Parvaneh Saeedi, Associate Director

FROM Bonnie Gray, Graduate Program Committee Chair

RE New Course proposals

DATE May 17, 2019

Please accept our submission for new Engineering Graduate course proposals:

ENSC 704: Industrial Internship

If you have any questions, please let me know.

Dr Bonnie Gray

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) ENSC	Number (eg. 810) 704	Units (eg. 4) 3 cWB

Course title (max. 100 characters)

Industrial Internship

Short title (for enrollment/transcript - max. 30 characters) Industrial Internship

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)

The first term of an internship in industry or a research environment for MASc, PhD and MEng students. A final report will be submitted and graded by the student's Supervisor. Graded on a satisfactory/unsatisfactory basis.

Rationale for introduction of this course

Currently students only have the option of enrolling in standard Co-op courses and most often, research students locate internship opportunities directly and/or in consultation with their Senior Supervisor. The course(s) are being created to allow for students and Supervisors to easily manage this process.

Term of initial offering (eg. Fall 2019) Fall 2019	Course delivery (eg. 3 hrs/week for 13 weeks) 13 weeks of full or part-time paid work
Frequency of offerings/year 3 times per year	Estimated enrollment per offering estimate 2-5 per term

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

Prerequisite and/or Corequisite 12 units of ENSC course work at the 800-level or higher with an SFU CGPA of at least 3.0. Approval of supervisor and a GPC representative is required prior to applying for, and accepting an internship.

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 ☑ Internship

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

Repeat for credit? ☑ Yes ☐ No	Total repeats allowed? Two	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 Internship that requires prior approval by Senior Supervisor.
Additional faculty members, space, and/or specialized equipment required in order to offer this course None required

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Engineering Science	Dr Bonnie Gray	enscgpcc@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Dr Bonnie Gray	Signature	Date May 16/19.
Department Chair Dr Glenn Chapman	Signature Glenn Chapman	Date May 16'19

FACULT Y 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? ☑XXYES

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
Parvaneh Saeedi		May 28/ 2019

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
Zoë Druick		JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY 2 2 2019
Course Attribute: NCPR
Course Attribute Value: Internship
Instruction Mode:
Attendance Type:

If different from regular units:
Academic Progress Units: 6
Financial Aid Progress Units: 6
Billing factor 1

SFU SIMON FRASER UNIVERSITY
SURRREY

SCHOOL OF MECHATRONIC SYSTEMS ENGINEERING

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Fax: 778-782-7514

May 27, 2019

Memorandum

From: Dr. Mehrdad Moallem, MSE Graduate Program Committee Chair

To: Dr. Parvaneh Saeedi, Associate Dean, Faculty of Applied Sciences

Subject: New course proposal for new course entitled "MSE 795: Industrial Internship"

We are hereby proposing introduction of the above optional course for our MASc and PhD programs.

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) MSE	Number (eg. 810) 795	Units (eg. 4) ~~6~~ 3 DVB

Course title (max. 100 characters)

Industrial Internship

Short title (for enrollment/transcript - max. 30 characters) Industrial Internship

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)

Internship in industry or a research environment for graduate research students. A final report will be submitted and graded by the student's Supervisor on a satisfactory/unsatisfactory basis.

Rationale for introduction of this course

Currently students only have the option of enrolling in standard Coop courses and most often, research students locate internship opportunities directly and/or in consultation with their Senior Supervisor. The course(s) are being created to allow for students and Supervisors to easily manage this process.

Term of initial offering (eg. Fall 2019) Fall 2019	Course delivery (eg. 3 hrs/week for 13 weeks) 13 weeks of full or part-time work
Frequency of offerings/year 3 times/year	Estimated enrollment per offering 2-5 per semester

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

Prerequisite and/or Corequisite 12 units of MSE course work at the 700-level or higher with a minimum SFU CGPA of 3.0. Approval of supervisor and a GPC representative is required prior to applying for and accepting an internship."

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 ☑ Internship

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

Repeat for credit? ☑ Yes ☐ No	Total repeats allowed? 2	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 Internship that requires prior approval by Senior Supervisor and a GPC representative.
Additional faculty members, space, and/or specialized equipment required in order to offer this course None required

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Mechatronics	M. Moallem	mmoallem@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee M. Moallem	Signature	Date May 15, 19
Department Chair Ahmad Rad (Acting)	Signature	Date May 15, 2019

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? XXYES

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 Parvaneh Saeedi	Signature	Date May 28/2019

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: Zoe Druick	Signature	Date JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY 2 2 2019
Course Attribute: NCPR
Course Attribute Value: Internship
Instruction Mode:
Attendance Type:

If different from regular units:
Academic Progress Units: 6
Financial Aid Progress Units: 6
Billing Factor 1

795-796

SFU
OFFICE OF THE DEAN
Faculty of Applied Sciences
Simon Fraser University

MEMORANDUM

Attention Dr. Jeff Derksen
Dean, Graduate Studies

Date April 17, 2019

From Dr. Parvaneh Saeedi psaeedi@sfu.ca
Faculty of Applied Science, Graduate Studies Committee

Re: FAS-CMPT Calendar/course changes

The following new courses are approved by the Faculty of Applied Sciences and are forwarded to the Senate Graduate Studies Committee for approval. These curriculum items should be effective for **Spring 2020**. Please include them on the next SGSC agenda.

School of Computing Science

1. CMPT 712 – Approximation/Randomized Algorithms
2. CMPT 720 – Robotic Autonomy: Algorithms and Computation
3. CMPT 727 – Statistical Machine Learning
4. CMPT 762 – Computer Vision
5. CMPT 763 – Biomedical Computer Vision
6. CMPT 766 – Computer Animation and Simulation
7. CMPT 770 - Parallel and Distributed Computing

Best Regards,

Parvaneh Saeedi,
Faculty of Applied Science, Graduate Studies Committee

SFU

COMPUTING SCIENCE

SpMEMO

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ATTENTION	Pavarneh Saeedi, Associate Director
FROM	Ghassan Hamarneh, Graduate Director
RE	Calendar/course changes – Effective Spring 2020 New 700 Level Course Proposals
DATE	March 21, 2019

COURSE PROPOSALS – effective Spring 2020

Our School of Computing Science is currently offering many highly-specialized, low-enrollment specialized topics (ST) graduate courses and relatively much fewer foundational core CMPT graduate courses. Our graduate students are thus having difficulty choosing relevant courses, especially given increased demands from our growing graduate population, especially our Professionals Masters (Prof MSc) programs. We propose to create new 700-level courses that cover foundational, core graduate-level computing science topics, which are appealing to our broad graduate student population (Theses and Prof MSc), and even to some senior undergraduates (e.g. Accelerated Masters). We foresee this will strengthen our graduate program, provide better support for our growing Prof MSc specializations, and increase enrollment in graduate classes.

CMPT 712 – Approximation/Randomized Algorithms

CMPT 720 – Robotic ~~Decision Making~~ Autonomy: Algorithms and Computation DUB

CMPT 727 – Statistical Machine Learning

CMPT 762 – Computer Vision

CMPT 763 – Biomedical Computer Vision

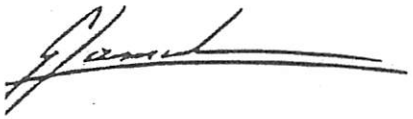
CMPT 76~~6~~ – Computer Animation and Simulation

SFU

COMPUTING SCIENCE

CMPT 770 – Parallel and Distributed Computing

If you have any questions, please let me know.



Ghassan Hamarneh
Graduate Chair, School of Computing Science

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 712	Units (eg. 4) 3

Course title (max. 100 characters)

Approximation and Randomized Algorithms

Short title (for enrollment/transcript - max. 30 characters) Approx /Random Algorithms

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)

Discrete optimization of nondeterministic polynomial time (NP) hard problems, design and analysis of approximation and randomized algorithms, and the applications of theoretical analysis to the study of heuristics will be covered in this course.

Rationale for introduction of this course

Discrete optimization problems appear in every area of computing science and ICT (information and communication technology). Approximation and randomized algorithms play a central role in the study of algorithms and heuristics for solving optimization problems. This course will cover the design and analysis of approximation and randomized algorithms. This course has been offered as a special topics in theoretical computer science. It is more appropriate to offer the course as 700 level fundamental course.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year One/year	Estimated enrollment per offering 50

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

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? 0	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
Igor Shinkar, Qianping Gu, Valentine Kabanets
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Computing Science	Ghassan Hamarneh	harmarneh@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Ghassan Hamarneh	Signature	Date 2018-Nov-20
Department Chair Mohamed Hefeeda	Signature	Date NOV 20 18

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 Parvaneh Saeedi	Signature	Date May 28/2019

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 Zoë Druick	Signature	Date JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY - 6 2019
Course Attribute:
Course Attribute Value:
Instruction Mode:
Attendance Type:

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

CMPT 712 - Approximation and Randomized Algorithms - Area I

Instructors: I. Shinkar, Q. Gu, V. Kabanets

Calendar Description:

Discrete optimization of nondeterministic polynomial time (NP) hard problems, design and analysis of approximation and randomized algorithms, and the applications of theoretical analysis to the study of heuristics will be covered in this course.

Course Objectives

Discrete optimization problems appear in every area of computing science and ICT (information and communication technology). Most interesting optimization problems are NP-hard. For an NP-hard problem, it is impossible to have an algorithm which gives an optimal solution efficiently (in polynomial time) for any input instance of the problem unless P=NP. Approximation are powerful and widely used approaches for tackling hard optimization problems. An approximation algorithm finds a near-optimal solution with guaranteed accuracy efficiently for any input instance. Randomized algorithms are another powerful and widely used approach to tackle problems for which efficient deterministic algorithms are not known. This course will cover the fundamentals on the design and analysis of approximation and randomized algorithms for discrete optimization problems. By completing this course, students are expected to be able to design approximation and randomized algorithms for their own problems, prove and analyze the correctness and efficiency of their algorithms, and apply theoretical analysis to the study of heuristics.

Topics

Approximation Algorithms:
Introduction to approximation algorithms
Paradigms for approximation algorithms
- Greedy, local search, dynamic programming and scaling data
- Linear and integer programming
- Deterministic rounding of linear programming
  - Random sampling and randomized rounding of linear programming
  - Semidefinite programs and randomized rounding
- Primal-dual method

Hardness of approximation

Randomized Algorithms:
Introduction to randomized algorithms
Paradigms for randomized algorithms
- Game-theoretic techniques
- Random sampling
- Load balancing
- Probabilistic method and existence proofs
- Markov chains and random walks
- Algebraic Techniques

Other topics (e.g., sublinear algorithms) selected by instructors

Grading

Homework/participation-30%

Midterm - 30%
Final - 40%

Text/reference books:

David P. Williamson and David B. Shmoys
The Design of Approximation Algorithms,
R. Motwani and P. Raghavan
Randomized Algorithms, Cambridge University Press
M. Mitzenmacher and E. Upfal
Probability and Computing: Randomized Algorithms and Probabilistic Analysis, Cambridge University Press

Prerequisites/co-requisites

None

An undergraduate course in algorithms (e.g., these equivalent to SFU cmpt307/cmpt405); basic knowledge of mathematical proofs and analysis for correctness and efficiency of algorithms, probability theory and NP-completeness will be assets.

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 720	Units (eg. 4) 3

Course title (max. 100 characters)
Robotic Autonomy: Algorithms and Computation

Short title (for enrollment/transcript - max. 30 characters) Robotic Autonomy

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 in robotics and related fields, including computational methods for solving decision making, and algorithms for robots to understand their environment. Topics include modeling and simulation of robotic systems, optimization, optimal control, robotic safety, reinforcement learning, and robotic perception. Applications of the material include unmanned aerial vehicles and self-driving cars.

Rationale for introduction of this course

The material taught in this course is essential for robotics research and development in the industry and academia.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year once per year	Estimated enrollment per offering 30

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

Prerequisite and/or Corequisite N/A

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? n/a	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
Mo Chen, Angelica Lim, Richard Vaughan
Additional faculty members, space, and/or specialized equipment required in order to offer this course
N/A

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Computing Science	Ghassan Hamarneh	hamarneh@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Ghassan Hamarneh	Signature	Date 2019-Apr-17
Department Chair Mohamed Hefeeda	Signature	Date Apr 17, 2019

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
Parvaneh Saeedi		May 23/2019

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
Zoë Druick		JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY - 6 2019
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

CMPT 720

Title
Robotic Autonomy: Algorithms and Computation

Calendar Description

Fundamental concepts in robotics and related fields, including computational methods for solving decision making, and algorithms for robots to understand their environment. Topics include modeling and simulation of robotic systems, optimization, optimal control, robotic safety, reinforcement learning, and robotic perception. Applications of the material include unmanned aerial vehicles and self-driving cars.

Topics
- Modelling and simulation
- Optimization
- Optimal control
- Robotic safety
- Reinforcement learning
- Robotic perception

Grading
- Assignments – 40%
- Project proposal – 10%
- Project presentation and report – 50%

Materials
- Course notes

Optional supplementary material
- R. Siegwart, I. R. Nourbakhsh, and D. Scaramuzza, *Introduction to Autonomous Mobile Robots*. The MIT Press, 2011, 9780262015356.
- S. M. LaValle, *Planning Algorithms*. Cambridge University Press, 2006, 9780521862059.
- S. Boyd and L. Vandenberghe, *Convex Optimization*. Cambridge University Press, 2008, 9780521833783.
- D. P. Bertsekas, *Dynamic Programming and Optimal Control*. Athena Scientific, 2017, 1886529434.
- R. S. Sutton and A. G. Barto, *Reinforcement Learning: An Introduction*. MIT Press, 2018.

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 727	Units (eg. 4) 3

Course title (max. 100 characters)

Statistical Machine Learning

Short title (for enrollment/transcript - max. 30 characters) **Stat Mach Learning**

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)

Statistical foundation for machine learning algorithms, emphasizing bias-variance tradeoff. Students will learn principles for choosing effective methods and tailoring them to fit a given learning problem. Potential topics include· probabilistic graphical models, maximum likelihood estimation, latent variables and the EM algorithm, convex optimization, and variational and sampling-based methods.

Rationale for introduction of this course

There is great demand for grad courses on machine learning, driven by the may fields (visual computing, NLP, biology, etc) that apply ML and the data science masters program. A primary weakness in our existing machine learning course offerings is the lack of a course that helps students understand machine learning at a deep level; this course aims to address this weakness. I spoke with Thomas Loughlin about whether this course overlaps with STAT 852 or other material in that department; we agreed that the 2 courses would be complimentary.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year once per year	Estimated enrollment per offering 80

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

N/A

Prerequisite and/or Corequisite N/A

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? n/a	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
Maxwell Libbrecht, Oliver Schulte, Greg Mori
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
CMPT	Maxwell Libbrecht	maxwl@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee: Ghassan Hamarneh	Signature	Date: Feb 19/19
Department Chair: Mohamed Hefeeda	Signature	Date: Feb 19/19

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
Parvaneh Saeedi		May 28/2019

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
Zoe Druick		JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY - 6 2019
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

CMPT 727 - Statistical Machine Learning -Breadth Area Ill

Instructors: Maxwell Libbrecht, Oliver Shulte, Greg Mori

Course Description

Statistical foundation for machine learning algorithms, emphasizing bias-variance tradeoff. Students will learn principles for choosing effective methods and tailoring them to fit a given learning problem. Potential topics include; probabilistic graphical models, maximum likelihood estimation, latent variables and the EM algorithm, convex optimization, and variational and sampling-based methods.

Topics

Discrete and continuous modeling; maximum likelihood estimation; the exponential family; latent variables and the EM algorithm; probabilistic graphical models; convex optimization.

Grading

Grading will be based on written assignments, a midterm and a final as follows:

50% Assignments

45% Exams

5% Participation

Materials and Readings

Machine Learning: A Probabilistic Perspective" by Kevin P. Murphy

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 762	Units (eg. 4) 3

Course title (max. 100 characters)
Computer Vision

Short title (for enrollment/transcript - max. 30 characters) Computer Vision

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)
Selected topics in computer vision including cameras, edge detection, feature matching, optical flow, alignment, epipolar geometry, stereo, structure-from-motion, recognition, segmentation, detection, and deep learning.

Rationale for introduction of this course
Computer Vision is the discipline of "teaching computers to see", becoming an essential field of study for numerous emerging technologies such autonomous cars, drones, robotics, augmented reality, virtual reality, visual effects, digital mapping and surveillance.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year once per year	Estimated enrollment per offering 25

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

Prerequisite and/or Corequisite N/A

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? n/a	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
Yasutaka Furukawa, Ping Tan, Greg Mori
Additional faculty members, space, and/or specialized equipment required in order to offer this course
None

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
CMPT	Yasutaka Furukawa	furukawa@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee: Ghassan Hamarneh	Signature	Date: 2018-Nov-15
Department Chair: Mohamed Hefeeda.	Signature	Date: Nov 20 18.

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: Parvaneh Saeedi	Signature	Date: May 28/2019

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: Zoe Druick	Signature	Date: JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY - 6 2019
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

CMPT 762 – Computer Vision

Calendar Description

Selected topics in computer vision including cameras, edge detection, feature matching, optical flow, alignment, epipolar geometry, stereo, structure-from-motion, recognition, segmentation, detection, and deep learning.

Course Description

Computer vision is the process of automatically extracting information from images and videos. The course covers various aspects of Computer Vision, for example, imaging geometry (camera calibration, stereo, and panoramic image stitching), video surveillance (motion detection and tracking), image segmentation, object recognition, and more. The course teaches both traditional techniques and more recent learning-based approaches such as deep neural networks.

Topics

Camera
Features
Image stitching
Photometric stereo
Optical flow
Face
Segmentation
Object detection
Recognition
Reconstruction
Deep Learning

Grading

Coding projects: 60% (15% x 4)
Final project report: 35%
Final project presentation: 5%

Textbooks*

Computer Vision: Algorithms and Applications
Richard Szeliski
Springer
9781848829350

*suggested but not required

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 763	Units (eg. 4) 3

Course title (max. 100 characters)
Biomedical Computer Vision

Short title (for enrollment/transcript - max. 30 characters) Biomedical Computer Vision

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)

Selected Topics in biomedical imaging. Computer visions, medical data and image representation, file formats, segmentation, registration, classification, anatomical shape modeling, machine and deep learning tools and methods.

Rationale for introduction of this course

Medical imaging (et MRI, CT, ultrasound) provides indispensable data for disease diagnosis and treatment, yet dimenstionality, complexity and amount of data generated hinders manual interpretation and necssitates computational methods like the ones covered in this course.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year once per year	Estimated enrollment per offering 25

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

Prerequisite and/or Corequisite N/A

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? n/a	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
Ghassan Hamarneh
Additional faculty members, space, and/or specialized equipment required in order to offer this course
none

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
CMPT	Ghassan Hamarneh	hamarneh@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Ghassan Hamarneh	Signature	Date 2019-Apr-10
Department Chair Mohamed Hefeeda	Signature	Date April 10/19

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 Parvaneh Saeedi	Signature	Date May 28, 2019

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 Zoe Druick	Signature	Date JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY 28 2019
Course Attribute:
Course Attribute Value:
Instruction Mode:
Attendance Type:
If different from regular units:
Academic Progress Units:
Financial Aid Progress Units:

CMPT 763 - Biomedical Computer Vision – Breadth Area V

Instructors: Ghassan Hamarneh

Calendar Description
Selected Topics in biomedical imaging. Computer visions, medical data and image representation, file formats, segmentation, registration, classification, anatomical shape modeling, machine and deep learning tools and methods.

Students with credit for ENSC 474 and ENSC 895 may not take this course for further credit.**Course Description**
The course introduces the students to the foundations of biomedical computer vision and biomedical image computing

Topics
Biomedical imagine modalities / data acquisition
Manifold-valued 3D images (beyond RGB pixels)
Medical imaging file formats (beyond PNG, TIFF)
Segmentation (focus on deformable contours and meshes)
Prior knowledge for medical image segmentation (e.g. statistical geometrical and topological models)
Rigid and non-rigid spatial transformation
Medical image registration
Sample clinical applications
Intro to machine learning and deep learning for medical image analysis

Grading

40% Final
30% Assignments
20% Midterm
10% Quizzes

Materials and Readings
Course notes
Guide to Medical Image Analysis: Methods and Algorithms (Toennies) – Springer Nature - 144717318X
Insight Into Images - A K Peters/CRC Press - 978-1568812175
Medical Image Analysis (Dhawan) Wiley-IEEE Press - 978-0471451310
Biomedical Imaging, Visualization, and Analysis (Robb) - Wiley-Liss - 978-0471283539
Biomedical Image Analysis (ed. Rangayyan and Neuman) - CRC Press - 978-0849396953
Medical Image Analysis Methods (ed. Costaridou) - CRC Press - 978-0849320897

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 766	Units (eg. 4) 3

Course title (max. 100 characters)
Computer Animation and Simulation

Short title (for enrollment/transcript - max. 30 characters) Computer Animation

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)

Selected topics in computer animation and simulation, including 3D character animation and control, facial animation, simulation of natural phenomena (i.e. fluids, crowd simulation, and deformation of pliant materials).

Rationale for introduction of this course

Currently "CMPT 466 Animation" teaches the basics of animation, such as interpolation, simple physics-based animation and motion capture. There is not enough time to cover more advanced topics and anim_ation systems, such as fluid animation, facial animation and character animation.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year once per year	Estimated enrollment per offering 20-40

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

Prerequisite and/or Corequisite N/A

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? n/a	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
KangKang Yin, Eugune Flume
Additional faculty members, space, and/or specialized equipment required in order to offer this course
none.

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
school of computing science	Ghassan Hamarneh	hamarneh@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Ghassan Hamarneh	Signature	Date 2018-Oct-27
Department Chair Mohamed Hefeeda.	Signature	Date Nov 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 Parvaneh Saeedi	Signature	Date May 28 2019

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 Zoë Druick	Signature	Date JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check MAY - 6 2019
Course Attribute:
Course Attribute Value:
Instruction Mode:
Attendance Type:

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

CMPT 766 - Computer Animation and Simulation

CALENDAR DESCRIPTION:

Selected topics in computer animation and simulation, including 3D character animation and control, facial animation, simulation of natural phenomena (i.e. fluids, crowd simulation, and deformation of pliant materials).

COURSE DETAILS:

This course focuses on simulation-based and learning-based animation methods, such as physics-based character animation, facial animation, and animation of deformable objects. These animation topics can better prepare senior undergraduate students and master's students for future employment in related industry, such as computer games and visual effects, virtual and augmented reality, and medical and engineering simulation and training. They also provide knowledge building blocks for PhD students in related fields such as computer graphics, computer vision, human computer interaction, and human robot interaction. Basic animation methods such as traditional animation and keyframe animation taught in CMPT466 will not be covered in this course. Potential students are expected to be strong in math and programming.

Topics

- Physics-based animation and simulation
- 3D character animation
- Learning-based animation methods
- Facial animation
- Simulation of natural phenomena
- Simulation of deformable objects

Grading

participation 10%; class presentations 20%; assignments 20%; term project 50%

Materials

- Recommend book: Computer Animation: Algorithms and Techniques (third edition), Rick Parent.
- Relevant papers in SIGGRAPH Proceedings and ACM Transactions on Graphics Journal.

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 770	Units (eg. 4) 3

Course title (max. 100 characters)

Parallel and Distributed Computing

Short title (for enrollment/transcript - max. 30 characters) **Parallel Distributed Computing**

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)

Principles involved in designing modern parallel and distributed software systems. The course focuses on covering key concepts like concurrency, synchronization, consistency models and fault tolerance. Involves multiple programming projects and reading articles on recent trends in parallel and distributed computing.

Rationale for introduction of this course

Parallel and distributed computing is fundamental to develop software solutions that extract maximum performance from modern parallel systems.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year once per year	Estimated enrollment per offering 30

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

N/A

Prerequisite and/or Corequisite N/A

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? n/a	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
Keval Vora
Additional faculty members, space, and/or specialized equipment required in order to offer this course
Mohamed Hefeeda, Arrvindh Shriraman, Jiangchuan Liu

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
CMPT	Keval Vora	keval@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Ghassan Hamarneh	Signature	Date Oct. 27, 2018
Department Chair Mohamed Hefeeda	Signature	Date Nov. 20/18

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 Parvaneh Saeedi	Signature	Date May 28/ 2019

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 Zoë Druick	Signature	Date JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY - 6 2019
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

CMPT 770 - Parallel & Distributed Computing

Calendar Description

Principles involved in designing modern parallel and distributed software systems. The course focuses on covering key concepts like concurrency, synchronization, consistency models and fault tolerance. Involves multiple programming projects and reading articles on recent trends in parallel and distributed computing.

Topics

- Principles of Parallel Algorithm Design
- Shared Memory Parallel Programming
- Concurrent Data Structures
- Distributed Memory Model & Programming
- Memory Consistency Models
- Fault Tolerance
- GPU: Massive Parallelism
- Real World Parallel & Distributed Systems

Grading Scheme

Assignments 35%, Project 35%, Exam 30%

Reading List:

None.

Reference Textbooks:

- The Art of Multiprocessor Programming. Maurice Herlihy and Nir Shavit. 2008. Morgan Kaufmann Publishers Inc.
- Distributed Systems: Principles and Paradigms. Andrew S. Tanenbaum and Maarten van Steen. 2006. Prentice-Hall, Inc.

SFU

FACULTY OF
ARTS AND SOCIAL SCIENCES

MEMO

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sean_zwagerman@sfu.ca
www.sfu.ca/fass

ATTENTION: Jeff Derksen, Dean
Graduate & Postdoctoral Studies

FROM : Sean Zwagerman, Chair
Faculty of Arts and Social Sciences Graduate Studies Committee

RE: FASSGSC Proposals

DATE: May 15, 2019

The Faculty of Arts and Social Sciences Graduate Committee met on May 2, 2019 and passed the attached motions. Please place these items on the agenda for the next SGSC meeting.

1. ~~**Department of Economics**~~
   a) ~~The calendar change of the MA program and associated calendar changes~~ 9
   b) ~~The deletion of ECON 988 and associated calendar changes~~
2. ~~**Department of Political Science**~~
   a) ~~The calendar changes for POL 804~~
3. ~~**Department of English**~~
   a) ~~The deletion of ENGL 890 and associated calendar changes~~
4. **Urban Studies Program**
   a) The new course URB 601
   b) The new course URB 602
5. ~~**Department of Psychology**~~
   a) ~~The proposed TRSS program~~
   b) ~~The minor changes to CRIM/TRSS courses~~

We would like the above changes to become effective Spring 20~~19~~ 20 DVB.

Sean Zwagerman
Associate Dean, Faculty of Arts and Social Sciences

SFU SIMON FRASER UNIVERSITY
URBAN STUDIES

FASSGSC 19-9

Urban Studies Program
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24 April 2019

To: Sean Zwagerman, Associate Dean
Faculty of Arts and Social Sciences

From: Meg Holden, Director
Urban Studies

New course proposals, Urban Studies 601 and 602

The Urban Studies Program steering committee has approved a new pair of graduate courses related to professional and intellectual development. We request consideration of these proposed courses by the FASS Graduate Studies Curriculum Committee at its next meeting.

The rationale for this pair of new two-credit graduate seminar courses is as follows:

- The Urban Studies Program has a tradition of offering in-depth professional development activities and seminars on a non-credit basis. We have built strong relationships with relevant units at the University as well as throughout our alumni network to develop and maintain these. This year, on March 8th, Urban Studies faculty member Karen Ferguson along with the Urban Studies graduate student association organized, convened and hosted ACCESS BC, the most ambitious effort yet in professional development offerings in Urban Studies. ACCESS BC consisted of an afternoon of interactive programming offered to international graduate students across the university, with a focus on the skills and resources our students need to find good work in BC. It was designed and offered in partnership with SFU Career and Volunteer Services and the Arts and Social Sciences Co-op, with external and alumni partners also presenting and it was sponsored by the Graduate Student Society, office of the Vice President Academic and the Faculty of Arts and Social Sciences. URB 602 allows a means for this event to be repeated in the future, with hosting responsibilities undertaken by students and instructor of this course.

- In order to consider what would be in keeping with work in this vein in other FASS units, we reviewed descriptions and outlines for comparable graduate courses in Sociology & Anthropology (SA 840) and English (ENGL 880) and requested and reviewed the syllabi for comparable pair of courses in GSWS (811&812). These inputs were drawn upon to develop the course outlines represented in this proposal.

- The 2-credit, 2 course structure is preferred because this will allow the key targeted student groups, international students and graduate students who enter Urban Studies directly from their undergraduate degree, to have full-time status in our fee-per-credit system when they take this course along with a seminar course. The courses are designed as a pair and we will strongly recommend that they be taken this way by international students. At the same time, these will not be required courses in order to maintain flexibility within Urban Studies and because we do not see these courses as providing necessary value to all of our students. Each course can also be taken alone; so 601 is not prerequisite for 602.

New course proposal forms and outlines for URB 601 and 602 are attached.

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) URB	Number (eg. 810) 601	Units (eg. 4) 2

Course title (max. 100 characters)

Urban Professional Development I

Short title (for enrollment/transcript - max. 30 characters) **Urb Pro Dev I**

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)

Designed to assist and support urban studies student professional development as practitioners and change-agents in a range of possible career paths.

Rationale for introduction of this course

The Urban Studies Program has offered high-quality professional development non-credit programming to great success. Regularizing this pair of credit courses will allow students and faculty to dedicate time and attention to this work that is commensurate to success in connecting urban research and professional practice.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 2 hrs/week for 13 weeks
Frequency of offerings/year once	Estimated enrollment per offering 12

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
Karen Ferguson
Additional faculty members, space, and/or specialized equipment required in order to offer this course
Meg Holden, other faculty

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Urban Studies	Meg Holden	mholden@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Meg Holden	Signature	Date 16 April 2019
Department Chair Meg Holden	Signature	Date 16 April 2019

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
SEAN ZWAGERMAN		14 MAY 2019

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
Zoë Druick		JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: APR 2 4 2019
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

URBAN PROFESSIONAL DEVELOPMENT I

TERM I: URB 601 (2 credits)

COURSE DESCRIPTION

This is the first of a two-course series designed to assist and support urban studies student professional development as urbanists and researchers in a range of possible career paths.

LEARNING OBJECTIVES

In this course, we will:

- Create and foster an inclusive professional social network beginning with new student habits of peer support and extending into mentorship opportunities with alumni, adjuncts, faculty and associates
- Understand and map the evolving landscape of urban professions in Canada
- Learn to articulate our own urban professional and research skills and to relate these to the articulated needs of local organizations
- Develop an effective professional CV
- Gain practice in professional writing and referencing and in peer review
- Gain practice in job search skills and interview preparation
- Practice skills necessary for healthy work-life balance during graduate school
- Backcast urban studies research results into a professional request for qualifications necessary to complete the research within the scope of a selected public or private sector organization

COURSE EVALUATION

15 % Mapping myself into the urban professional landscape in Canada
30 % Professional CV, including peer review and feedback
30 % Participation and hosting role
25 % Urban professional development logbook and reflections*

* In addition to attending and participating in class, attendance and reflection on other relevant seminars and workshops offered throughout the university are required.

READINGS

Flyvbjerg, B. 2012. Why mass media matter, and how to work with them: phronesis and megaprojects. In *RealSocialScience: Applied Phronesis*. Flyvbjerg, B., Schram, S. and Landman, T. (eds). London: Cambridge University Press, p. 113-71.

Forester, J. 2013. *Planning in the Face on Conflict: the surprising possibilities of facilitative leadership*. Chicago: APA Planners Press.

Jackson, J. 2017. Neoliberalism and urban planning in Toronto: how seasoned planners adjust to their changing circumstances. *International Planning Studies* 23(2): 144-162.

Taşan-Kok, T. and Oranje, M. (eds) 2018. *From Student to Urban Planner: Young Practitioners' Reflections on Contemporary Ethical Challenges*. New York: Routledge.

OUTLINE OF CLASS MEETINGS

SESSION 0: New Graduate Student Orientation (an essential precursor to the course, typically held on a Saturday before the semester begins)

SESSION 1: How to survive and thrive as an Urban Studies student, foreshadowing your professional future as an urbanist (Guests: Eva Lewis, FASS Coop; Ricky Tu, Transition Case Manager for International Students, Health and Counselling Services)

SESSION 2: Urban NGO and social and economic justice work in the city (Guest: Adjunct Professor Seth Klein)

SESSION 3: Urban NGO work in Canada debrief and discussion

SESSION 4: Urban governance work in Canada (Guests: Urban Studies alumni panel of municipal professionals)

SESSION 5 : Urban governance work in Canada debrief and discussion

SESSION 6: Urban development and design work in Canada (Guests: Urban Studies alumni panel of urban development professionals)

SESSION 7 : Urban development and design work in Canada debrief and discussion

SESSION 8 : Crafting and workshopping a professional CV (Guest: Penny Freno)

SESSION 9 : Networking and job search skills practice (Guest: Penny Freno)

SESSION 10 : The soft skills of "fitting in": networking, translating international skills and experience workshop

SESSION 11 : Defining new fields of urban work

SESSION 12 : Your professional future as an urbanist

SESSION 13: Your professional future as an urbanist

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) URB	Number (eg. 810) 602	Units (eg. 4) 2

Course title (max. 100 characters)

Urban Professional Development II

Short title (for enrollment/transcript - max. 30 characters) Urb Pro Dev II

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)

Designed to assist and support urban studies student professional development as researchers in a range of possible career paths.

Rationale for introduction of this course

The Urban Studies Program has offered high-quality professional development non-credit programming to great success. Regularizing this as a pair of credit courses will allow students and faculty to dedicate time and attention to this work that is commensurate to success in connecting urban research and professional practice.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 2 hrs/week for 13 weeks
Frequency of offerings/year once	Estimated enrollment per offering 12

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? 0	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
Karen Ferguson
Additional faculty members, space, and/or specialized equipment required in order to offer this course
Meg Holden, other faculty

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Urban Studies	Meg Holden	mholden@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Meg Holden	Signature	Date 16 April 2019
Department Chair Meg Holden	Signature	Date 16 April 2019

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
SEAN ZWAGERMAN		14 MAY 2019

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
Zoë Druick		JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: APR 2 4 2019
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

URBAN PROFESSIONAL DEVELOPMENT II

TERM II: URB 602 (2 credits)

COURSE DESCRIPTION

This is the second of a two-course series designed to assist and support urban studies student professional development as urbanists and researchers in a range of possible career paths.

LEARNING OBJECTIVES

During this course, we will:

- Create and foster an inclusive professional social network beginning with new student habits of peer support and extending into mentorship opportunities with alumni, adjuncts, faculty and associates
- Learn to articulate and make connections between our own urban professional and research skills and interests and those of our classmates and professional associates within the urban studies community
- Understand and map the evolving landscape of urban academic professions in Canada
- Gain exposure to grant writing, conference presentation, and the publication process for academic audiences
- Develop an effective academic CV portfolio that could serve as the basis of a future PhD or funding application
- Practice skills necessary for healthy work-life balance during graduate school

COURSE EVALUATION

15 % Mapping myself into the urban academic landscape in Canada
30 % Academic portfolio, including peer review and feedback
30 % Participation and hosting role ACCESS BC
25 % Urban professional development logbook and reflections*

* In addition to attending and participating in class, attendance and reflection on other relevant seminars and workshops offered throughout the university are required.

READINGS

Calhoun, C. 2008. Foreword. In Engaging Contradictions: Theory, politics and method of activist scholarship (C.R.Hale, ed) Berkeley: University of California Press.

Chatterton, P. 2008. Demand the possible: journeys in changing our world as a public activist-scholar. Antipode 40: 421-28.

Gans, H. 2009. A sociology for public sociology: some needed disciplinary changes for creating public sociology. In A Handbook of Public Sociology, I. Jeffries (ed). Lanham, MD: Rowman & Littlefield, p. 123-34.

Gurran, N. 2018. Public cities, public scholars? Questioning urban policy and research in Australia. Urban Policy and Research 36(1): 1-10.

Piven, F.F. 2010. Reflections on scholarship and activism. Antipode 42: 806-10.

Siemiatycki, M. 2012. The role of the planning scholar: research, conflict, and social change. JPER 32: 147-59.

Hurley, J. et al. 2016. Exchange between researchers and practitioners in urban planning. Planning Theory & Practice 17(3): 447-473.

OUTLINE OF CLASS MEETINGS

SESSION 1: Your academic future as an urbanist (Guest: Research Commons)

SESSION 2: How to survive and thrive as an Urban Studies student redux

SESSION 3: Introduction to ACCESS BC event, establishing hosting role for students

SESSION 4: Seminar on the academic landscape for urbanists in Canada (Guests: Urban Studies faculty, adjuncts, associates)

SESSION 5: Debrief on the academic landscape for urbanists in Canada

SESSION 6: Urban research proposals, grant opportunities, best practices

SESSION 7: Writing a grant application (Guests: Urban Studies CGS-M winning students and alumni)

SESSION 8: Preparing an academic portfolio

SESSION 9: Academic networking : conference-going tips and abstract writing practice

SESSION 10: Hosting ACCESS BC event

SESSION 11: Creating and maintaining an effective online presence (Guests: Urban Studies alumni)

SESSION 12: Peer review of portfolio work

SESSION 13: Presentation of the portfolio

SFU FACULTY OF COMMUNICATION, ART AND TECHNOLOGY
Office of the Dean

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Burnaby, BC V5A 1S6
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MEMORANDUM

ATTENTION:	Senate Graduate Studies Committee
FROM:	Stuart Poyntz, Chair, FCAT Graduate Studies Committee
RE:	New Graduate Course (CMNS 835) and MFA Program Name Change
DATE:	May 16, 2019

The following new course has been approved by the Faculty of Communications, Art and Technology and is forwarded to the Senate Graduate Studies Committee for approval.

This course covers a key area of research in Communication Studies and is necessary for both foundational training and training for students specializing in this area. This curriculum item should be effective for ~~Fall~~ 2020.
Spring 20

School of Communication
New Course: CMNS 835 - Communication and Cultural Policies, Power and Governance

~~FCAT GSC has also voted to approve the change of the MFA program offered by the School for the Contemporary Arts from *"MFA in Interdisciplinary Studies"* to *"MFA in Interdisciplinary Arts"* to better reflect the nature of the program as a research creation and practice-based study rather than a scholarly studies one. The change is to take effect for Fall 2019.~~

~~**School for the Contemporary Arts**~~
~~*Program name change from "MFA in Interdisciplinary Studies" to "MFA in Interdisciplinary Arts".*~~

Please include both items in the next SGSC agenda.

In addition to this memo, please find enclosed the syllabus, the New Graduate Course Proposal form, the name change memo from SCA, as well as a calendar entry change form.

Sincerely,

Stuart Poyntz, Ph.D.
Associate Dean, Academic, FCAT
Chair, FCAT Graduate Studies Committee

cc: Arne Eigenfeldt, Graduate Program Chair, SCA
Kirsten McAllister, Graduate Program Chair, CMNS

db/SP

SFU SCHOOL OF COMMUNICATION

Shrum Science Centre K9671
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Memorandum

To: The Faculty Graduate Studies Committee in the Faculty of Communication, Art and Technology
From: Dr. Kirsten McAllister, Graduate Chair, School of Communication
Re: Proposal for a New Graduate Course in the School of Communication, CMNS 835
Date: April 19, 2019

The following new course, CMNS 835, "Communication and Cultural Policies, Power and Governance", which has been designed by Dr. Sarah Ganter and Prof. Alison Beale, has been approved by the School of Communication and its Graduate Program Committee and is being forwarded to FCAT's Faculty Graduate Studies Committee for approval. This course covers a key area of research in Communication Studies and is necessary for both foundational training and also training for students specializing in this area. This curriculum item should be effective for ~~Fall~~ Spring 2020. Please include it on the next FGSC agenda. KG

School of Communication: *CMNS 835*

In addition to this memo, please find enclosed the syllabus and the New Graduate Course Proposal form.

Kirsten McAllister
Communication Graduate Chair

April 19, 2019

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) CMNS	Number (eg. 810) 835	Units (eg. 4) 3

Course title (max. 100 characters)

Communication and Cultural Policies, Power and Governance

Short title (for enrollment/transcript - max. 30 characters) Communic and Cultural Policies

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)

The governance of communication and culture in Canada and globally. Issues in and approaches to communication and cultural policies as a field of international scholarly inquiry in cultural and communication studies.

Rationale for introduction of this course

Advanced study of the domestic and global governance of communication and culture, complementing existing CMNS courses on cultural topics and on the political economy of communication through the examination of current policy issues and policy research methods.

Term of initial offering (eg. Fall 2019) Spring 2020	Course delivery (eg. 3 hrs/week for 13 weeks) 3hrs/week for 13 weeks
Frequency of offerings/year 1 a year	Estimated enrollment per offering 12

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

Prerequisite and/or Corequisite

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? 0	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
Dr. Alison Beale, Dr. Sarah Ganter, Dr. Zoe Druick
Additional faculty members, space, and/or specialized equipment required in order to offer this course
none

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
CMNS Graduate Program	Dr. Kirsten McAllister	kirsten_mcallister@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

Graduate Program Committee Kirsten McAllister	Signature	Date April 11, 2019
Department Chair Peter Chow-White	Signature	Date April 11, 2019

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 Stuart Poyntz	Signature	Date May 17, 2019

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 Zoe Druick	Signature	Date JUN 2 0 2019

ADMINISTRATIVE SECTION (for DGS office only)
Library Check: MAY 2 2 2019
Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

11.06.2019
sganter@sfu.ca

School of Communication
Simon Fraser University
CMNS Graduate Course Proposal

Communication and Cultural Policies, Power, and Governance

Course Overview:
Political uncertainties and fast technological change have challenged media and communication policy research and lead in the last decade to a range of scholarly meta-reflections that discuss the relevance of policy for the broader field of media and communication studies. Many scholars have addressed ideological and analytical barriers of research, criticized the neglect of context, and raised awareness of how different philosophy of science traditions shape policy research in media and communication studies. In this course, we revisit policy as a field of scholarly inquiry in media and communication studies as it has developed over the years, and discuss its value for current academic, public, and political discussions. We will discuss ways and motives with which scholars analyze questions of policy, power and governance to understand the rise of different normative foundations of modes of policy formation, articulation and interpretation over time and across countries.

Learning Outcomes:
Students will learn about different perspectives and approaches in media and communication policy research, current epistemological and ontological discussions and the different implications those have on the development of the field within media and communication studies.

Seminar Format:
This is a weekly participatory seminar. The course is a seminar based on reading and discussion with comments and guidance from the instructor. The aim is to engage with the material, aiming for intellectual independence, critical engagement, synthesis and evaluation rather than regurgitation. There will be issue based team presentations, research workshops on current policy issues and students will have the opportunity to discuss their take home essays in class before the final submission.

Required Readings:
Braman, S. (2006). Change of State. Information, Policy and Power. Cambridge, Massachusetts: The MIT Press.
Mueller, M. (2010) Networks and states: The global politics of Internet governance. Information revolution and global politics. Cambridge, Massachusetts: The MIT Press.

Additional Readings:
Freedman, D. (2008). The Politics of Media Policy. Cambridge, UK. Malden, USA: Polity.

11.06.2019
sganter@sfu.ca

Schedule for the Seminar:

Week 1: Foundations in Media and Communication Policy Research

Ball, S.J. (1993). What Is Policy? Texts, Trajectories and Toolboxes. Discourse: Studies in the Cultural Politics of Education. 13 (2), 10-17. DOI:10.1080/0159630930130203.

Braman, S. (2006). Change of State. Information, Policy, and Power. Chapter 1: An Introduction to Information Policy. (p.1-9). Cambridge, Massachusetts: The MIT Press.

Freedman, D. (2008). The Politics of Media Policy. *Chapter 1 Introducing Media Policy.* P. 1-23. Cambridge, UK. Malden, USA: Polity.

Week 2: Media and Communication Policy as Research Field- Critique and ways Forward

Braman, S. (2004). Where has media policy gone? Defining the field in the twenty-first century. *Communication Law and Policy,* 9 (2), 153-182.

Just, N. & Puppis, M. (2018). Moving Beyond Self-Castigation: Let's Reinvigorate Communication Policy Research Now! In Communication Research 68 (2). P. 327-336.

Padovani, C. (2018). Gendering Media Policy Research and Communication Governance. Javnost/The Public 25(3), 256-264.

Picard, R. (2016). Isolated and Particularised: The State of Contemporary Media and Communications Policy Research. Javnost- The Public. Journal of European Institute for Communucation and Culture. 23(2): 135-152.

Week 3: Media and Communication Governance- concept, approach or theory?

Colebatch, H. K. (2009). Governance as a conceptual development in the analysis of policy. Critical Policy Studies, 3 (1), 58-67. doi: 10.1080/19460170903158107.

Puppis, M. (2010). Media Governance: A New Concept for the Analysis of Media Policy and Regulation. Communication, Culture & Critique, 3 (2), 134–149. doi: 10.1111/j.1753-9137. 2010.01063.x.

Müller, M. (2010). Networks and States: The Global Politics of Internet governance. Information revolution and global politics. Chapter 1 (p. 1-31). Cambridge, Massachusetts: The MIT Press.

Hofmann, J. Katzenbach, C., & Gollatz, K. (2017). Between coordination and regulation: Finding the governance in Internet governance. New Media and Society 19 (9), 1406-1423.

Week 4: Technology as challenge or analytical perspective?

Just, N. & Latzer, M (2017). Governance by algorithms: reality construction by algorithmic selection on the Internet. Media, Culture & Society, 39(2), 238-258.

Mueller, M. (2010) Networks and states: The global politics of Internet governance. Information revolution and global politics Chapter 3. Cambridge: MIT Press.

Wu, Tim & Yoo, Christopher (2007). Keeping the Internet Neutral? Debate. Federal Communications Law Journal, Vol. 59, No.3. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=953989

Week 5: Market centered approaches in policy research

Baker, E.C. (2002). Media, Markets, and Democracy. Cambridge, UK; New York, US; Oakleight, [Introduction] Australia; Madrid, Spain; Cape Town, South Africa: Cambridge University Press.

Becerra, M. & Mastrini, G. (2011). Global Financial Crisis. What Crisis? Argentine Media in View of the 2008 International Financial Crisis. International Journal of Communication 4(19), 611-629.

George L.M, & Hogendorn, C. (2012). Aggregators, search and the economics of new media institutions. Information Economics and Policy. 24(2012). Pp. 40-51.

Just, N. (2018). Governing online platforms: Competition policy in times of platformization. Telecommunications Policy, 42 (2018): 386-394.

Picard, R. (2005). Media, Money and the Public Interest. In: Geneva Overholser & Kathleen Hall Jamieson (Eds). Institutions of American Democracy. (p. 337-350). Oxford: Oxford University Press.

Week 6: Historical context and analysis

Book review

Bannerman, S. & Haggart, B. (2014). Historical institutionalism in communication studies. Communication Theory 25(1). 1-22.

Braman, S. (2006). Change of State. Information, Policy and Power. Chapter 3: Bounding the Domain: Information Policy for the Twenty-First Century. (p. 39-79). Cambridge, Massachusetts: The MIT Press.

Löblich, M. (2018). The History of Media Policy Based on mediatization: A Theoretical Perspective. International Journal of Communication 12 (2018), 4468-4487.

Week 7: Power formations and diffusions

Braman, S. (2006). Change of State. Information, Policy, and Power. Chapter 2: Forms and Phases of Power: The Bias of the Informational State. Chapter 9: Information, Policy, and Power in the Informational State. (p. 9-38; p. 313-328). Cambridge, Massachusetts: The MIT Press.

Freedman, D. (2008). The Politics of Media Policy. Chapter 4 Dynamics of the Media Policymaking Process. (p. 80-104).

Kreiss, D. (2015). The problem of citizens: E-democracy for actually existing democracy. Social Media + Society 1(2), 1-11.

Sarikakis, K., & Ganter, S.A (2014). Priorities in global media policy transfer: Audio-visual and digital policy mutations in the EU, MERCOSUR and the U.S. triangle. European Journal of Communication, 29 (1), 17-33.

Schmidt, V. (2008). Discursive Institutionalism: The Explanatory Power of Ideas and Discourse. Annu. Rev. Polit. Sci, 11, 303-3026. Doi:10.1146/annurev.polisci.11.060606.135342.

Week 8: Values, beliefs and principles

Cuilenburg van, J., & McQuail, D. (2003). Media policy paradigm shifts: towards a new communications policy paradigm. European Journal of Communication, 18 (2), 181-207.

Freedman, D. (2008). The Politics of Media Policy. Chapter 2: Pluralism, Neo-liberalism and Media Policy. Chapter 3 Reinterpretation of Media Policy principles (p. 24-79). Cambridge, UK. Malden, USA: Polity.

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Week 9: Media and Communication Policy and State Identity

Braman, S. (2006). Change of State. Information, Policy, and Power. Chapter 4: Constitutional Principles and the Information Spaces They Create. (p.79-116), Chapter 5 Information Policy and Identity (p. 115-166). Cambridge, Massachusetts: The MIT Press.

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Padovani, C. & Santaniello, M. (2018). Digital constitutionalism: Fundamental rights and power limitation in the Internet eco-system. *The International Communication Gazette, 80*(4), pp. 295-301

Week 10: Policy as discourse and policy discourses
Research workshop 1: Project definition

Ali, C. & Puppis, M. (2018). When the Watchdog Neither Barks Nor Bites: Communication as a Power Resource in Media Policy and Regulation. Communication Theory, 28(3): 270-291

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Cohen, N.S. & Shade, L.R. (2008). Gendering Facebook: privacy and commodification. Feminist Media Studies 8(2), 210-214.

Streeter. T. (2013). Policy, Politics, and Discourse. Communication, Culture & Critique, 6 (2013), 488-501.

Week 11: Between Global Perspectives and the De-Westernization of a research field
Research workshop 2: Project discussion and feedback

Chenoi. J.-M., Rojas Fuerte, J.S. (2018). The difficult path to the insertion of the global south in internet governance. In: D. Opperman (Ed.). Internet Governance in the Global South. History, Theory, and Contemporary Debates (p. 42-73). São Paulo: Núcleo de Pesquisa em Relaçoes Internacionais (NUPRI). Available online: www.nupri.prp.usp.br

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Flew T. & Waisbord, S. (2015). The ongoing significance of national media systems in the context of media globalization, Media, Culture & Society, 37 (4), 620-636. DOI: 0.1177/0163443714566903.

Manokha, I. (2009). Foucault's Concept of Power and the Global Discourse of Human Rights. Journal of Global Society. 23(4), p. 429-452.

Raboy, M., & Mansell, R. (2011). The Handbook of Global Media and Communication Policy. New York: Wiley-Blackwell. [Introduction]

Week 12: Media and Communication Policy: citizens as analysts

Mueller, M. (2010) Networks and states: The global politics of Internet governance. Information revolution and global politics Chapter 2. Cambridge: MIT Press.

Gillespie, Tarleton (2018). *Chapter 3: Community Guidelines or the Sound of No.* In: Custodians of the Internet. Platforms, content moderation, and the hidden decisions that shape social media.

Lentz, B. (November 8, 2016). Funding policy advocacy: An interview with the founder and director of the Media Democracy Fund. In Working for Internet Freedoms: Network Neutrality and the Labors of Policy Advocacy in the U.S. [Special Section]. International Journal of Communication, Vol 10: 5811-5826.

Segura. S. & Waisbord, S. (2016) Media movements: Civil society and media policy reform in Latin America. Chapter 2: The field of media activism:organizations and demands. Zed Books Ltd.

Wildavsky, A. (1979). The art and craft of policy analysis. Palgrave Macmillan. Chapter 11 citizens as analysts. p. 269-297.

Week 13: Normativity and evidence
Research workshop 3: Final presentations

Braman, S. (2008). Policy Research in an Evidence-Averse Environment. International Journal of Communication. 2 (2008), 433-449. Available from: http://ijoc.org/index.php/ijoc/article/view/322/0

Just, N. (2009). Measuring media concentration and diversity: New approaches in Europe and the USA. Media, Culture & Society, 31(1), 97-117.

Winseck, D. & Cuthbert, M. (1997). From communication to democratic norms: reflections on the normative dimensions of international communication policy. *Gazette*, 59 (1): 1-20.

Week 14: Knowledge-making in the field: questions and approaches
Feedback on essay drafts

N. Just & M. Puppis. Trends in Communication Policy Research. New Theories, Methods and Subjects. Bristol: Intellect. [Introduction and Conclusion].

Mueller, M. (1995). Why Communication Policy is passing "Mass Communications" by: Political Economy as the Missing Link. *Critical Studies in Mass Communication*. 12 (4): 457-72.

Vennesson, P. (2008). Case studies and process tracing: theories and practices, In: Donatella Della Porta. & Michael Keating (Eds.), Approaches and Methodologies in Social Sciences. A Pluralist Perspective. (pp. 223-239). Cambridge: CUP.

11.06.2019
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Grading:

Attendance	20%
Research workshop presentation	25%
Book Review	25%
Final Paper	30%
(2000-3000 words for MAs; 4000-5000 words for PhDs)	

Note: All students **need to hand in all assignments to pass the course.** Students are expected to attend each class. However, if a student must miss a class, they must notify the instructor before the class starts. Students **missing more than two classes** will be **evaluated with F in their participation mark.** You are strongly advised to complete your readings prior to each class. *The School expects that the grades awarded in this course will bear some reasonable relation to established university-wide practices with respect to both levels and distribution of grades. In addition, the School will follow Policy S10.01 with respect to Academic Integrity, and Policies S10.02, S10.03 and S10.04 as regards Student Discipline. [Note: as of May 1, 2009, the previous T10 series of policies covering Intellectual Honesty (T10.02), and Academic Discipline (T10.03) have been replaced with the new S10 series of policies.]*

Grading Guidelines:

A- to A+	Thorough knowledge of concepts and/or techniques, with a high degree of skill and/or originality in satisfying the requirements of an assignment or course. A comprehensive knowledge of the subject matter and principles taught in the course. A high degree of originality in approach and independence of thought. A superior ability to organize and analyze ideas, and an outstanding ability to communicate (including excellent writing skills).
B+	Very good level of knowledge of concepts and/or techniques, together with considerable skill in using them to satisfy the requirements of an assignment or course. Some originality.
B- to B	A substantial knowledge of the subject matter. A moderate degree of originality and independence of thought. A good ability to organize and analyze ideas and an ability to communicate clearly and fluently.
C to C+	Acceptable level of knowledge of concepts and/or techniques, together with some skill in using them to satisfy the requirements of an assignment or a course.
C-	Acceptable grasp of the subject matter. Demonstrates understanding of assignment. Some ability to organize and analyze ideas, and ability to communicate adequately.
D	Minimum knowledge of concepts and/or techniques needed to satisfy the requirements of an assignment or a course. Rudimentary knowledge of the subject matter. Some evidence that organizational and analytic skills have been developed, but with significant weaknesses in some areas, and significant weaknesses in communication.

The school expects that the grades awarded in this course will bear some reasonable relation to established university-wide practices with respect to both levels and distribution of grades. In addition, the School will follow Policy S10.01 with respect to Academic Integrity, and Policies S10.02, S10.03 and S10.04 as regards Student Discipline (note: as of May 1, 2009 the previous T10 series of policies covering Intellectual Honesty (T10.02) and Academic Discipline (T10.03) have been replaced with the new S10 series of policies). For further information see: www.sfu.ca/policies/Students/index.html