S.18-24

SFU GRADUATE AND POSTDOCTORAL STUDIES

Simon Fraser University
Maggie Benston Centre 1100
8888 University Drive
Burnaby, BC V5A 1S6

TEL 778.782.3042
FAX 778.782.3080

gradstudies@sfu.ca
www.sfu.ca/grad

MEMORANDUM

ATTENTION Senate

DATE January 18, 2018

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

RE: New Course Proposals

For information:

Acting under delegated authority at the meeting of January 8, 2018, SGSC approved the following new courses, effective **Fall 2018:**

Faculty of Applied Sciences

1) CMPT 742 Practices in Visual Computing 1
2) CMPT 743 Practices in Visual Computing 2
3) CMPT 757 Frontiers of Visual Computing

Faculty of Environment

4) REM 697 MRM Thesis

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

MEMORANDUM

Attention Dr. Jeff Derksen
Dean, Graduate Studies

Date December 14, 2017

From Dr. Mirza Faisal Beg mfbeg@sfu.ca
Faculty of Applied Science, Graduate Studies Committee

Re: Calendar change for courses for the Professional Master's in Computing Science with specialization in Visual Computing

---

The faculty of Applied Sciences Graduate Studies Committee would like to send the attached course proposals for the Professional Masters in Computing Science with a specialization in Visual Computing for consideration by SGSC. These have been approved by FGSC by electronic vote.

I request you to please place these on the agenda for the next SGSC meeting.

Cc: Dr. Greg Mori, Director, School of Computing Science
Dr. Glenn Chapman, Director, School of Engineering Science
Dr. Farid Golnaraghi, Director, School of Mechatronic Systems Engineering

SFU

COMPUTING SCIENCE

BURNABY
9971 Applied Sciences Building
8888 University Drive
Burnaby BC V5A 1S6
Canada

SURREY
250-13450 102 Avenue
Surrey, BC V3T 0A3
Canada

Tel: 778-782-4277
Fax: 778-782-3045
Web: www.cs.sfu.ca

Dr. Hamarneh:
Office: TASC1: 9417
Tel: +1.778.782.3007
VOIP: +1.778.782.2214
http://www.cs.sfu.ca/~hamarneh
http://mial.cs.sfu.ca (lab)

Date: 14 December 2017

Dear Faisal and FAS GPC,

Please kindly accept the attached Course Proposals for the new Professional Master's in Visual Computing Courses. This has been approved by the CMPT GPC and discussed at CMPT school meeting and retreat.

Best regards,

Ghassan Hamarneh, PhD

Associate Director for Graduate Studies at the School of Computing Science

BACKGROUND AND RATIONALE

The province of British Columbia currently has the fastest-growing technology sector in Canada, with annual revenue of $26 billion. About 150,000 are employed in tech companies in BC, making it the fastest-growing tech workforce in Canada. Major companies such as Microsoft, Amazon, Boeing, Disney, Sony, and EA are increasingly attracted to BC. To meet the high demand for well-trained and well-qualified graduate students in the tech sector in BC, Canada, and beyond, the School of Computing Science has created a **Professional Masters Program in Computer Science**. The program current has a Big Data specialization, training highly qualified personnel specializing in computational methods dealing with Big Data.

In recent years, the digital media and **visual computing** sector is gaining prominence in BC. Currently, there are 900 companies in the province in this sector. In particular, there are over 60 visual effects (VFX) and animation studios in Vancouver alone, comprising the world's largest cluster of domestic and foreign-owned studios. This is in part due to a special Interactive Digital Media Tax Credit that has been in place in BC, which provides strong incentives for digital media and visual computing companies to operate in the province.

Most recently in 2017, alternative realities (augmented, virtual, and mixed realities) are reaching a critical mass. Within the past six months, Google, Apple, and Sony have all released major hardware devices and software toolkits (ARKit from Apple, ARCore from Google, and 3D Creator from Sony) that are pushing the boundaries in AR/VR technology. Google Daydream (their AR/VR division) and Apple have been in a "hiring spree" recently, going after qualified personnel with expertise in **computer graphics, computer vision, and human-computer interaction (HCI)**. Vancouver's AR/VR market is estimated to reach $100 billion by 2025, according to Brad Smith, President of Microsoft Corp. SFU has a large and growing number of researchers working on AR/VR and related technologies. There is on-going effort to build an **SFU AR/VR Ecosystem** to position SFU as one of the leading Canadian universities on AR/VR research and innovation. A first meeting of minds will happen in early January of 2018.

All of these trends and developments provide strong motivation for the School of Computing Science to expand their Professional Masters Program in Computer Science to the visual computing domain, hence the proposal for a new **Specialization in Visual Computing**.

We would identify three core areas of research and teaching offering under visual computing: **computer graphics, computer vision, and HCI**. Other areas that are tied to visual computing include medical imaging, visualization, and robotics. Applications domains for visual computing are numerous, including but are not limited to AR/VR, design and manufacturing, education, medicine, geographical information systems, autonomous driving, robotics, computer games, VFX in games and other media and entertainment fronts.

The School of Computing Science has tremendous strength in visual computing. We have at least 12 faculty members who conduct research in the core and related areas. A prominent computer science ranking website (csrankings.org), which ranks universities and individual researchers based on their publication records in the very top venues in computer science, ranks SFU visual computing highly. Specifically, counting top publications in computer graphics and computer vision, SFU ranks #12 in the world. See:

http://csrankings.org/#/index?vision&graph&world

Furthermore, SFU Computing Science has a strong track record in training highly qualified personnel in visual computing. For example, doctoral graduates in computer graphics, computer vision, HCI, and visualization from SFU are holding faculty positions in Waterloo, Western, Calgary, Victoria, Carleton, Boston University, and University of Florida, etc. All in all, we believe that our School is strongly positioned to offer a high-quality Professional Masters Program under the Visual Computing Specialization.

Finally, we remark that specialty programs in visual computing now exist in top institutions in the US and Europe; these include Stanford, CMU, University College London, TU Darmstadt, Saarland, Stuttgard, and Swansea. If our Visual Computing Specialization is launched in Fall 2018, it will be the first of its kind in Canada. We are well aware of an existing program in the Center for Digital Media: Master of Digital Media (MDM). However, the goals of that program and our proposed program are clearly different. MDM aims the train project manger type of personnel, in the domain of digital media. This is evident from the six "core competencies" MDM aims to develop: teamwork, design process, self-awareness, time management, articulation, and information literacy. In contrast, our new specialization aims to train technical personnel with algorithmic and software development skills in visual computing.

SFU SIMON FRASER UNIVERSITY
GRADUATE STUDIES & POSTDOCTORAL FELLOWS

New Graduate Course Proposal

Attach a separate document if more space is required.

Course Subject (eg. PSYC)	Number (eg. 810)	Units (eg. 4)
CMPT	742	6

Course title (max. 100 characters including spaces and punctuation)
Practices in Visual Computing 1

Short title (for enrollment/transcript - max. 30 characters)
Visual Computing Lab 1

Course description for SFU Calendar *
Lab practices, combined with instructional offerings, for students to acquire the hands-on experience necessary for a successful career in Visual Computing in the information technology sector. Topics covered will include fundamental and prevalent problems from application domains in the fields of computer graphics, computer vision, human-computer interaction, medical image analysis, as well as visualization.

Rationale for introduction of this course
This is the first of two lab courses for students enrolled into the new Visual Computing Specialization of the Professional Master's program in Computer Science.

Term of initial offering	Course delivery (eg. 3 hrs/week for 13 weeks)
Fall 2018	12 hrs/week for 13 weeks
Frequency of offerings/year	**Estimated enrollment/offering**
once per year	25

Equivalent courses (These are previously approved courses that replicate the content of this course to such an extent that students should not receive credit for both courses.)
None.

Prerequisite and/or Corequisite **
This course is only available to students enrolled into the Visual Computing Specialization of the Professional Master's program in Computer Science

Criminal record check required? ☐ Yes ***	Additional course fees? ☐ Yes ☑ No

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

Course Components ☐ Lecture ☐ Seminar ☑ Lab ☐ Research ☐ Practicum ☐ Independent ☐ _____

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

Repeat for credit? **** ☐ Yes ☑ No	Total repeats allowed? _____	Capstone course? ☐ Yes ☑ No

* 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.
** If a course is only available to students in a particular program, that should be stated in the prerequisite.
*** *If yes, then add this requirement as a prerequisite.*
**** This applies to a Special Topics or Directed Readings course.

Required course? ☑ Yes ☐ No	Final exam required? ☐ Yes ☑ No	Repeat within a term? ☐ Yes ☑ No
Combined with an undergrad course? ☐ Yes ☑ No If yes, identify which undergraduate course and what the additional course requirements are for graduate students:		

RESOURCES

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

Faculty member(s) who will normally teach this course
Limited term faculty member
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Department / School / Program	Contact name	Contact email
School of Computing Science	Richard Zhang	haoz@sfu.ca

DEPARTMENTAL APPROVAL

Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee Ghassan Hamarneh	Signature	Date Dec. 7, 2017
Department Chair Greg Mori	Signature	Date Dec 8, 17

OVERLAP CHECK

Overlap check done? ☑ YES

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.

FACULTY APPROVAL

This approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds and any other necessary resources.

Faculty Graduate Studies Committee (FGSC) Mirza Faisal Beg	Signature	Date 12/14/2017

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC) Jeff Derksen	Signature	Date JAN 18 2017

ADMINISTRATIVE SECTION (for DGS office only)

Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

Course Outline - CMPT 742 – Practices for Visual Computing 1

Information

Subject:	CMPT
Catalog number:	742
Section:	D100
Semester:	2018 Fall (1187)
Title:	Practices for Visual Computing 1
Instructors(s):	Limited Term Faculty Member
Campus:	Burnaby Mountain Campus

Calendar Objective/Description

Lab practices, combined with instructional offerings, for students to acquire the hands-on experience necessary for a successful career in Visual Computing in the information technology sector. Topics covered will include fundamental and prevalent problems from application domains in the fields of computer graphics, computer vision, human-computer interaction, medical image analysis, as well as visualization.

Over 13 weeks of lab work and 12 hours per week of lab time, the students will obtain solid and practical problem-solving skills for visual computing.

Topics

- Model-driven vs. data-driven techniques for visual computing
- Geometric machine learning: application of machine learning techniques to model and process 3D shapes and scene data.
- Deep learning techniques for image classification and object recognition.
- Large-scale information visualization
- Interaction techniques for 3D data and environments
- Physics-based modeling and simulation

Grading

12 assignments (100% of grade)

Recommended books

- *Visual Computing: Geometry, Graphics, and Vision.* Frank Nielsen. Charles River Media 2005.

- *Information Visualization: Perception for Design.* Colin Ware. Third Edition. Morgan Kaufmann 2012.

- *Computer Animation: Algorithms and Techniques.* Richard Parent. Third Edition. Morgan Kaufmann 2012.

- *Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies, and Emerging Applications.* Edited by Julie Jacko. Third Edition. CRC Press 2012.

Academic Honesty Statement

Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).

SIMON FRASER UNIVERSITY
GRADUATE STUDIES & POSTDOCTORAL FELLOWS

New Graduate Course Proposal

Attach a separate document if more space is required.

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 743	Units (eg. 4) 6

Course title (max. 100 characters including spaces and punctuation)
Practices in Visual Computing 2

Short title (for enrollment/transcript - max. 30 characters)
Visual Computing Lab 2

Course description for SFU Calendar *
Lab practices, combined with instructional offerings, for students to acquire the hands-on experience necessary for a successful career in Visual Computing in the information technology sector. Topics covered will include fundamental and prevalent problems from application domains in the fields of computer graphics, computer vision, human-computer interaction, medical image analysis, as well as visualization.

Rationale for introduction of this course
This is the second of two lab courses for students enrolled into the new Visual Computing Specialization of the Professional Master's program in Computer Science.

Term of initial offering: Fall 2018	Course delivery (eg. 3 hrs/week for 13 weeks): 12 hrs/week for 13 weeks
Frequency of offerings/year: once per year	Estimated enrollment/offering: 25

Equivalent courses (These are previously approved courses that replicate the content of this course to such an extent that students should not receive credit for both courses.)
None.

Prerequisite and/or Corequisite ** CMPT 742

Criminal record check required? ☐ Yes ***	Additional course fees? ☐ Yes ☑ No

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

Course Components ☐ Lecture ☐ Seminar ☑ Lab ☐ Research ☐ Practicum ☐ Independent ☐ _____

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

Repeat for credit? **** ☐ Yes ☑ No	Total repeats allowed? _____	Capstone course? ☐ Yes ☑ No

* 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.
** If a course is only available to students in a particular program, that should be stated in the prerequisite.
*** *If yes, then add this requirement as a prerequisite.*
**** This applies to a Special Topics or Directed Readings course.

Required course? ☑ Yes ☐ No	Final exam required? ☐ Yes ☑ No	Repeat within a term? ☐ Yes ☑ No
Combined with an undergrad course? ☐ Yes ☑ No If yes, identify which undergraduate course and what the additional course requirements are for graduate students:		

RESOURCES

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

Faculty member(s) who will normally teach this course
Limited term faculty member
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Department / School / Program	Contact name	Contact email
School of Computing Science	Richard Zhang	haoz@sfu.ca

DEPARTMENTAL APPROVAL

Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date
Ghassan Hamarneh		Dec. 7, 2017
Department Chair Greg Mori	Signature	Date Dec 8, 17

OVERLAP CHECK

Overlap check done? ☑ YES

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.

FACULTY APPROVAL

This approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds and any other necessary resources.

Faculty Graduate Studies Committee (FGSC)	Signature	Date
Mirza Faisal Beg		12/14/2017

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)	Signature	Date
Jeff Derksen		JAN 18 2017

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

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

Course Outline - CMPT 743 – Practices for Visual Computing 2

Information

Subject:	CMPT
Catalog number:	743
Section:	D100
Semester:	2018 Fall (1187)
Title:	Practices for Visual Computing 2
Instructors(s):	Limited Term Faculty Member
Campus:	Burnaby Mountain Campus

Calendar Objective/Description

Lab practices, combined with instructional offerings, for students to acquire the hands-on experience necessary for a successful career in Visual Computing in the information technology sector. Topics covered will include fundamental and prevalent problems from application domains in the fields of computer graphics, computer vision, human-computer interaction, medical image analysis, as well as visualization.

Over 13 weeks of lab work and 12 hours per week of lab time, and building on the previous lab course CMPT 742, the students will obtain solid and practical problem-solving skills for visual computing.

Topics

- Machine learning in medical image analysis and diagnosis
- Computational photography
- SLAM and UAV for visual data acquisition
- Interaction designs
- Data-driven motion controllers in character animation
- Mobile interactions and augmented reality

Grading

12 assignments (100% of grade)

Recommended books

- *Visual Computing: Geometry, Graphics, and Vision.* Frank Nielsen. Charles River Media 2005.
- *Information Visualization: Perception for Design.* Colin Ware. Third Edition. Morgan Kaufmann 2012.

- *Computer Animation: Algorithms and Techniques.* Richard Parent. Third Edition. Morgan Kaufmann 2012.

- *Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies, and Emerging Applications.* Edited by Julie Jacko. Third Edition. CRC Press 2012.

- *Interaction Design: Beyond Human-Computer Interaction.* Jenny Preece, Helen Sharp, and Yvonne Rogers. Fourth edition. John Wiley & Sons 2015.

Academic Honesty Statement

Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).

SFU SIMON FRASER UNIVERSITY
GRADUATE STUDIES & POSTDOCTORAL FELLOWS

New Graduate Course Proposal

Attach a separate document if more space is required.

Course Subject (eg. PSYC) CMPT	Number (eg. 810) 757	Units (eg. 4) 3

Course title (max. 100 characters including spaces and punctuation)
Frontiers of Visual Computing

Short title (for enrollment/transcript - max. 30 characters)
Frontiers of Visual Computing

Course description for SFU Calendar *
A seminar-oriented course covering the latest technological advances and trends in visual computing and relevant domains. The focus is on relating fundamental visual computing concepts and techniques to the inception, evolution, and future prospects of these trend-setting technologies.

Rationale for introduction of this course
This is a new course created to introduce current popular topics such as AR/VR/MR, digital fabrication, autonomous driving, etc., to students enrolled into the new Visual Computing Specialization of the Professional Master's program in Computer Science.

Term of initial offering: Fall 2018	Course delivery (eg. 3 hrs/week for 13 weeks): 3 hrs/week for 13 weeks
Frequency of offerings/year: once per year	Estimated enrollment/offering: 25

Equivalent courses (These are previously approved courses that replicate the content of this course to such an extent that students should not receive credit for both courses.)
None.

Prerequisite and/or Corequisite **
This course is only available to students enrolled into the Visual Computing Specialization of the Professional Master's program in Computer Science

Criminal record check required? ☐ Yes ***	Additional course fees? ☐ Yes ☑ No

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

Course Components ☐ Lecture ☑ Seminar ☐ Lab ☐ Research ☐ Practicum ☐ Independent ☐ _____

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

Repeat for credit? **** ☐ Yes ☑ No	Total repeats allowed? _____	Capstone course? ☐ Yes ☑ No

* 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.
** If a course is only available to students in a particular program, that should be stated in the prerequisite.
*** *If yes, then add this requirement as a prerequisite.*
**** This applies to a Special Topics or Directed Readings course.

Required course? ☑ Yes ☐ No	Final exam required? ☑ Yes ☐ No	Repeat within a term? ☐ Yes ☑ No
Combined with an undergrad course? ☐ Yes ☑ No If yes, identify which undergraduate course and what the additional course requirements are for graduate students:		

RESOURCES

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

Faculty member(s) who will normally teach this course
Yasu Furukawa, Ghassan Hamarneh, Kangkang Yin, Richard Zhang
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Department / School / Program	Contact name	Contact email
School of Computing Science	Richard Zhang	haoz@sfu.ca

DEPARTMENTAL APPROVAL

Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee Ghassan Hamarneh	Signature	Date Dec. 7, 2017
Department Chair Greg Mori	Signature	Date Dec. 8 17

OVERLAP CHECK

Overlap check done? ☑ YES

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.

FACULTY APPROVAL

This approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds and any other necessary resources.

Faculty Graduate Studies Committee (FGSC) Mirza Faisal Beg	Signature	Date 12/14/2017

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC) Jeff Derksen	Signature	Date JAN 18 2017

ADMINISTRATIVE SECTION (for DGS office only)

Course Attribute: _____
Course Attribute Value: _____
Instruction Mode: _____
Attendance Type: _____

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

Course Outline - CMPT 757 – Frontiers in Visual Computing

Information

Subject:	CMPT
Catalog number:	757
Section:	D100
Semester:	2018 Fall (1187)
Title:	Frontiers in Visual Computing
Instructors(s):	Yasu Furukawa, Ghassan Hamarneh, Kangkang Yin, and Richard Zhang, as well as potential guest lecturers.
Campus:	Burnaby Mountain Campus

Calendar Objective/Description

A seminar-oriented course covering the latest technological advances and trends in visual computing and relevant domains. The focus is on relating fundamental visual computing concepts and techniques to the inception, evolution, and future prospects of these trend-setting technologies.

Topics

Topics covered will evolve over time, depending on the latest technological trends in visual computing and related fields. Current topics include but are not limited to:

- Virtual, augmented, and mixed reality basics and their applications in design, medicine, and entertainment
- Computational design and fabrication, including advances and trends in both additive and subtractive manufacturing technologies
- Cutting-edge technologies in computational medicine
- Interaction capture and their applications in animation, AR/MR
- Autonomous driving and the enabling technologies

Grading

3 assignments (45%); one midterm (20%); one final project (35%).

Recommended books

None. Course material will consist of latest research papers, lecture notes, and articles appearing in technology publications.

Academic Honesty Statement

Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).

SFU FACULTY OF ENVIRONMENT

OFFICE OF THE DEAN

TEL +1 778 782 8787; FAX +1 778 782 8788; Building TASC2-8800
Faculty of Environment www.sfu.ca/fenv
Simon Fraser University, 8888 University Drive, Burnaby
BC Canada V5A 1S6

To: Dr. Jeff Derksen, Dean of Graduate Studies / Chair of SGSC

From: Dr. Dongya Yang, Chair, Faculty of Environment Graduate Studies Committee

cc: Dr. Sean Markey, Chair, REM Graduate Program Committee

Date: Dec 14, 2017

Re: A new thesis stream for the MRM program in REM

The Faculty of Environment Graduate Studies Committee has approved the proposal from the School of Resource and Environmental Management (REM) to create a thesis stream to add to the existing MRM program.

I am submitting the document package to the SGSC committee for approval

1. Memo from the Graduate Chair of REM
2. New Graduate Course Proposal Form REM697
3. ~~Graduate Course Change Form REM899~~ , REM 699
4. ~~Revised Calendar Entry~~

Should you have any questions or concerns, please feel free to contact.

Dongya Yang, Ph.D., Professor
Associate Dean of Research and Graduate Studies

SFU FACULTY OF ENVIRONMENT | RESOURCE AND ENVIRONMENTAL MANAGEMENT

TEL +1 778 782 4659
FAX +1 778 782 4968
rem.sfu.ca

TO: Dongya Yang, Associate Dean, Faculty of Environment
FROM: Sean Markey, REM Grad Chair
RE: MRM Thesis option
DATE: November 24, 2017

Dear Dongya,

Attached, please find a calendar entry for the proposed MRM (Thesis) stream (recently approved by the REM GSC and REM Exec). The thesis stream is a long-discussed option within the School of Resource and Environmental Management (REM). The department is motivated to introduce the thesis stream option now for a variety reasons, including student interest, faculty interest in having more dedicated research-intensive students, and considerations regarding completion times for our existing MRM program (i.e. that having a dedicated thesis option will create more realistic parameters for the course-based MRM program, specifically related to the scale and scope of the capstone project).

The thesis stream required courses are intended to preserve and ensure the REM identity for our thesis students related to cross-disciplinary foundations in ecosystem functioning, ecological economics, and policy/social dimensions of resource management. The program meets the commonality requirement as stipulated by the University.

Please note that REM 698 – Field Resource Management Workshop, is a three-day intensive field trip at the start of the program for both thesis and course-based students. REM 801 – Principles of Research Methods, is spread out over the first two terms, with a core deliverable of a research design proposal at the end of the second term.

Also attached: 1) the new course form for the MRM thesis; and 2) revised PhD thesis course to match credits (so that the MRM thesis, optically, does not carry more credits).

We would appreciate if you could facilitate review and vote by the FENV GSC in time to meet the SGSC December 14th materials deadline.

Our thanks to Krista Gerlich-Fitzgerald and the team at Grad Studies for their helpful consultations throughout the development process.

Best,
Sean Markey
Graduate Chair
School of Resource and Environmental Management

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) REM	Number (eg. 810) 697	Units (eg. 4) 18

Course title (max. 100 characters)
MRM Thesis

Short title (for enrollment/transcript - max. 30 characters) MRM Thesis

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)
Thesis course for the MRM - thesis stream degree

Rationale for introduction of this course
Thesis course for the new MRM thesis stream degree

Term of initial offering Fall 2018	Course delivery (eg. 3 hrs/week for 13 weeks) n/a
Frequency of offerings/year 3/year	Estimated enrollment/offering n/a

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 | 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? 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:

* 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 important definitions on the curriculum website.
*** If yes, then add this requirement as a prerequisite.

RESOURCES

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

Faculty member(s) who will normally teach this course
various
Additional faculty members, space, and/or specialized equipment required in order to offer this course
none

CONTACT PERSON

Department / School / Program	Contact name	Contact email
REM	Iris Schischmanow	gradasst@sfu.ca

DEPARTMENTAL APPROVAL

Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date
Sean Markey		Nov 24, 2017
Department Chair	**Signature**	**Date**
Sean Cox	(Acting)	Nov 24, 2017

OVERLAP CHECK

Overlap check done? ☑ YES

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.

FACULTY APPROVAL

This approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds and any other necessary resources.

Faculty Graduate Studies Committee (FGSC)	Signature	Date
Dongya Yang	Dongya Yang Digitally signed by Dongya Yang DN: cn=Dongya Yang, o=Simon Fraser University, ou=Archaeology, email=donyang@sfu.ca, c=CA Date: 2017.12.14 10:59:58 -08'00'	

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)	Signature	Date
Jeff Derksen		JAN 18 2017

ADMINISTRATIVE SECTION (for DGS office only)

Course Attribute: GCAP
Course Attribute Value: Thesis
Instruction Mode: _____
Attendance Type: _____

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