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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

MEMORAND	UM		
ATTENTION	Senate	DATE	March 21, 2024
FROM	Mary O'Brien, Chair of Senate Graduate Studies Committee (SGSC)		
RE:	New Courses	/	May tea Tren

For information:

Acting under delegated authority at its meeting of March 5, 2024, SGSC approved the following new courses, effective **Fall 2024**:

Beedie School of Business

- 1) New Course: BUS 609 Communications in Indigenous Business
- 2) New Course: BUS 613 Human Resources in Indigenous Business
- 3) New Course: BUS 617 Indigenous Business Ethics
- 4) New Course: BUS 619 Financial Accounting for Leaders in Indigenous Business
- 5) New Course: BUS 620 Managerial Accounting for Leaders in Indigenous Business

Faculty of Applied Sciences

School of Computing Science

1) New Course: CMPT 800 3D Computer Vision

Faculty of Science

Department of Molecular Biology and Biochemistry

- 1) New Course: MBB 747 Stem Cell Biology and Applications
- 2) New Course: MBB 763 Forensic Genomics
- 3) New Course: MBB 765 Cancer Genomics



Segal Graduate School

Office of the Associate Dean 500 Granville Street Vancouver, BC V6C 1W6

TEL 778.782.9255 FAX 778.782.5122 bsbgrade@sfu.ca

Memo to SGSC

To: Senate Graduate Studies Committee

From: Sudheer Gupta, Associate Dean, Graduate Programs

Course Change forms for Beedie Grad Re:

Date: February 5, 2024

The following curriculum revisions have been approved by the Beedie School of Business and are forwarded to the Senate Graduate Studies Committee for approval.

Please include them on the next SGSC agenda.

- Course description two way equivalency statements for EMBA Applied Project courses 696 & 605
- New course proposals and course changes for the Indigenous Business and Leadership Certificate, • Diploma and Executive MBA: 609, 613, 617, 619, 620 & 630

Thank you for your attention herein. Should you have any questions or concerns, please do not hesitate to contact me.

Sudheer Gupta Associate Dean, Graduate Programs, Beedie School of Business



SFU GRADUATE STUDIES NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC) BUS	Number (eg. 810) 609	Units (eg. 4) 4				
Course title Communications in Indigenous Business (max. 100 characters)						
Short title (for enrollment/transcript - max 30 characters) Indig Bus Commun	ications					
Course description for SFU Calendar *(course descriptions shoul "The purpose of this course is" If the grading basis is satisfactory/u	d be brief and should never beg nsatisfactory include this in the	in with phrases such as "This course will" or edescription. Max. 50 words)				
Designed to assist Indigenous students in improving their written and learners to navigate and master the essentials of effective business co- preparation and practice, analysis of communication challenges, and o	verbal communication skills ir mmunication. Topics covered v cultivating the skills needed for	business settings, this course empowers vill include writing efficiency, presentation successful collaboration.				
Rationale for introduction of this course						
This course is being developed by the program area to meet a compet in MBA skills should be able to communicate their communities plan	ency that is not being meet in t s, and decisions.	ne IBL EMBA program. Students being trained				
Course delivery 7hrs/ week for 4 weeks 7hrs/ week for 4 weeks 7hrs/ week for 4 weeks						
Frequency of offerings/year 2 Estimated enrollment 35						
Prerequisite and/or Corequisite						
Criminal record check required? Yes (if yes is selected, add the	is 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 Research Practicum Online Other:						
Grading Basis 🖌 Letter grades 🗌 Satisfactory or Unsatisfactory 🗌 In Progress/Complete						
Repeat for credit? Yes No Total repeat	s allowed?	Capstone course? 🗌 Yes 🗹 No				
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, provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course	
Kevin Stewart, Leanne Barlow	
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)		
Beedie Grad	Stephanie Merinuk	Email	smerinuk@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date
Department Chair	Signature	Date

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? **V**ES

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 (FGSC)				
Sudheer Gupta	Signature	3MM	Date	March 11, 2024

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)		-
Mary O'Brien	Signature July Head Then	Date March 21, 2024

ADMINISTRATIVE SECTION (for Graduate S	tudies office only)
Course Attribute:	If different from regular units:
Course Attribute Value:	Academic Progress Units:
Instruction Mode:	Financial Aid Progress Units:
Attendance Type:	

BUS 609: Communications in Indigenous Business

Instructor: Office Phone: Email: Semester: LMS: canvas.sfu.ca

Course Description

Designed to assist students to improve their written and verbal communication skills in business settings, students will gain confidence in learning and navigating the essentials of effective business communication. These skills will strengthen interpersonal and business relationships. Topics include, writing efficiency, preparing and practicing for presentations, analysis of communication problems, message media and the skills necessary to successfully collaborate. Exercises will include individual and group communication along with presentations.

Objectives

Participants should be able to do accomplish the following upon completing the course:

- 1. Plan, draft, and revise business documents to produce writing that is ethical, accurate, clear, and concise.
- 2. Use oral and written communication to successfully manage relationships, information and decisions.
- 3. Apply critical thinking skills to successfully address business problems.
- 4. Work collaboratively in teams and support your peers by giving and receiving feedback in a confident, constructive, and non-defensive manner.
- 5. Create business presentaions, inclusive of data and storytelling.
- 6. Project a strong professional image for yourself through your communication.

Workload Expectations

You can expect 8 - 10 hours of work weekly for each course you are registered in. These activities will include participating in online activities, preparing readings and cases, answering practice questions, doing library research and working on group assignment with other students. Courses may be scheduled in a compressed format where classes are held in intensive session, but expectations of consistent preparation and participation remain for the length of the course.

Books and Materials

Required Text

• Reynolds, Garr. Presentation Zen: Simple Ideas on Presentation Design and Delivery. 2nd Edition. New Riders: 2011.(second or third edition acceptable)

Additional Open Source (i.e. free)

• Communication at Work (Open Source text)

available through Open Learning websites or posted on Canvas.

Assessment Summary

Assessment Summary

Evaluation in this course will be based on a combination of group and individual work.

Individual Letter for Submission 1 Submission 2 LEARNING OUTCOME	or Case Topic (2 submissions) (Initial Draft) (Revised Final Letter) S ASSESSED: 1- 3 and 5	(15%) (20%)	35%
Peer Feedback LEARNING OUTCOME	(3 submissions) S ASSESSED: 1- 3 and 5		15%
Team Case Topic I	Report (3 submissions)		40%
Submission 1	(Initial Research)	(15%)	
Submission 2	(Final Presentation)	(25%)	
Submission 3	(Team Evaluations)	,	10%
	Team Evaluation #1	(5%)	
	Team Evaluation #2	(5%)	
LEARNING OUTCOME	S ASSESSED: 1- 5	、 /	
Total			100%

Individual Letter for Case Topic - 35%

Each student will provide two drafts of a letter expressing their interest and proposed work schedule for the case topic provided in week 1. Feedback on an initial draft will be provided before final draft is revised.

Peer Feedback - 15%

Each student will be asked to provide feedback on initial drafts and final letters for two of the other students in the class. The feedback will be marked based on a rubric provided. Students are asked to be critical and collaborative and work towards improving the letters.

Team Case Topic Report – 40%

Case topics will be chosen in the first class and team members will be assigned. An email outlining the team case topic and organization for the research project will be due by the 3rd class section. A preliminary case topic submission will be required for the 4th course section and feedback will be provided. The final submission is due in Week 6 before the team presentations. Presentation feedback will be provided through the 6 weeks and will include instructor and peer feedback.

Team Collaboration Feedback – 10%

Team members will commit to providing two evaluations of each team member's contribution and overall performance. Feedback are expected to be professional with the objective of development. Lectures will cover elements of providing effective feedback.

Course Structure

Students work individually and as part of a group to complete course requirements.

Session 1

Introduce communication principles and provide tools for planning your communication. Discuss effective research strategies and develop case topics for your team research. Focus on construction of direct messages (email, memo, letter) and communicating effectively with team members.

Session 2

Focus on writing clearly with examples and short communication exercises (verbal and written). Review methods and need for bibliographic referencing. Discuss delivering and receiving difficult news in preparation for feedback. The use of appropriate feedback to support collaboration will be highlighted.

Session 3

Persuasive communication strategies are discussed and exercises (written and verbal) are provided. Verbal presentations supported by visuals (powerpoint) are discussed and techniques to support effective presentations are introduced. Feedback in regard to verbal presentations is also discussed.

Session 4

The discussion on persuasive communication strategies is extended and further examples are provided. Teams will meet to provide verbal feedback exercises for team members. Examples of verbal communication are provided and discussed. Options and strategies for effective feedback are also discussed based on the communications provided. Storytelling techniques are introduced along with cognitive tools to support story development.

Session 5

Effective storytelling is discussed further along and more sophisticated cognitive tools that support effective storytelling are provided. Aligning images, words and emotions in presentations is further discussed. Participants are encouraged to share incomplete presentations with others for feedback and support.

Session 6

Team presentations are provided and peer feedback collected for each presentation.

Academic Integrity

SFU's Academic Integrity website <u>http://www.sfu.ca/students/academicintegrity.html</u> is filled with information on what is meant by academic dishonesty, where you can find resources to help with your studies and the consequences of cheating. Check out the site for more information and videos that help explain it. Each student is responsible for his or her conduct as it affects the University community. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University. Furthermore, it is unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University. <u>http://www.sfu.ca/policies/gazette/student/s10-01.html</u>

Use of Zoom

Lectures delivered on Zoom may be recorded by your instructor. As a result, Simon Fraser University may collect your image, voice, name, personal views and opinions, and course work under the legal authority of the University Act and the Freedom of Information and Protection of Privacy. This information is related directly to and needed by the University to support student learning only (i.e., posting in the Learning Management System for students to review). If you have any questions about the collection and use of this information please contact your instructor.

Inclusiveness and Accommodations

Read the Diversity and Inclusion Community Guidelines and operate from these guidelines while in class, tutorials and any team meetings outside class. All of us have different access needs; some of these may be readily apparent, while others may not. Each student is equally important to the success of the course, so we will work together to make sure that everyone can participate. I want all students to have the opportunity to perform at their highest potential. If you have a disability that may require accommodations, please notify the Centre for Accessible Learning (https://www.sfu.ca/students/accessible-learning.html) as soon as possible. The Centre for Accessible Learning exists to ensure that fair and reasonable accommodations are made for students who need them.

SFU GRADUATE STUDIES NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC) BUS	Number (eg. 810) 613	Units (eg. 4) 2				
Course title Human Resources in Indigenous Business (max. 100 characters)						
Short title (for enrollment/transcript - max 30 characters) HR in Indig Busine	SS					
Course description for SFU Calendar *(course descriptions shoul "The purpose of this course is" If the grading basis is satisfactory/	d be brief and should never bea insatisfactory include this in th	in with phrases such as "This course will" or e description. Max. 50 words)				
Considers the HR lifecycle from recruiting to succession planning an Responds to the current Human Resource (HR) needs of Indigenous knowledge, expertise and education required for guiding decision ma	d how organizations can plan f organizations. Provides a comp king, strategic planning and res	or smooth transitions and organizational change. rehensive overview of the HR skills, sourcing of this functional area.				
Rationale for introduction of this course						
Based on student feedback on what is missing from the IBL EMBA, required in the IBL EMBA program designation. The IBL EMBA ha	a course in human resources was s been offering this as a special	as highlighted as a necessary competency topics. We would like to offer this regularly.				
Course delivery 7hrs/week for 2 weeks 7hrs/week for 2 weeks 7hrs/week for 2 weeks						
Frequency of offerings/year 2 Estimated enrollment per offering 35						
Students with credit for BUS 653 under the title "Managing People and Organizations" may not take this course for further credit. 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 Research Practicum Online Other:						
Grading Basis 🖌 Letter grades 🗌 Satisfactory or Unsatisfactory 🗌 In Progress/Complete						
Repeat for credit? Yes No Total repeat	s allowed?	Capstone course? Yes No				
Required course? Yes 🗌 No Final exam	required? 🗌 Yes 🖌 No	Repeat within a term? Tyes I 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

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Kevin Stewart, Leanne Barlow	
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CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)		
Beedie Grad	Stephanie Merinuk	Email	smerinuk@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

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Department Graduate Program Committee	Signature	Date
Department Chair	Signature	Date

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overlap check done? **V**ES

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Sudheer Gupta	Signature	BUL	Date	March 11, 2024

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Mary O'Brien	Signature March 21, 2024	

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Course Attribute Value:	Academic Progress Units:
Instruction Mode:	Financial Aid Progress Units:
Attendance Type:	

BUS 613: Human Resources in Indigenous Business

Instructor:

Semester:

TA:

Synchronous Session Platform: Zoom

Course Objectives

This course is designed to enhance understanding of how individuals and groups effectively function in organizational contexts. We will discuss individual factors related to organizational behaviour, such as motivation and strengths, how to support team development and communication, as well as organizational structure and culture and how to support organizational change.

Books and Materials

A course pack with chapters and articles will be provided.

Assessment Summary

Evaluation in the course will be based on a combination of group and individual work. As in all large courses in the Beedie School of Business, grading norms will be observed. Students with the top marks relative to the class average will receive the top grades.

Participation: individual contributions and responses in class	20%
Team Cases (15%, 30%)	45%
Individual Reflections (10%, 15%)	25%
Discussion posts in canvas (2 x 5%)	10%
Total (55% individual; 45% team)	100%

A Note of Group Participation

Most of the deliverables in this course will be done by teams of students submitting assignments on almost a weekly basis. It is highly encouraged that any groups or individuals having challenges in their group make that known to the TA at the earliest opportunity. Teams are intended to be idea-sharing forums, with everyone participating. At the end of the course, you will be asked to complete an assessment of the participation of each member of your team. If there is a consensus that one or more members did not do their share of the work, the professor, at his/her discretion, may decrease the grades given to the member/s for the case assignments. This decrease may negatively affect the final grade given in the course.

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Assignments

Case Assignments (45%)

Cases provide you with real life situations for analysis and recommended action. In this course you will be asked to prepare and present two cases, as a team. Your cases will be worth: 15% and 30%. Each paper is a **maximum of 3 pages, single spaced, 11-point Arial font with one-inch margins**. Feel free to use subheadings, underlining, bold, to highlight subsections and theories (I recommend this). Some of the cases feature people. It is not your job to solve the people's problems – think at the <u>organizational</u> level. I highly recommend you reread this before beginning and completing each of your case assignments. Please pay attention to grammar and structure.

A. SIZE-UP - ORGANIZATION and HR (out of 5)

- Organization e.g. strategy, market position, profitability, leadership
- This is a brief snapshot

B. SYMPTOMS (out of 10)

- "WHAT IS WRONG IN THIS CASE & WHAT IS GOING WELL?"
- stick to the data in the case no interpretation, just like a doctor
- e.g. who is upset, what is not working, what is going well

C. PROBLEMS & OPPORTUNITIES (out of 25)

- "WHAT CAUSED THE SYMPTOMS TO OCCUR?" positive (opportunities) and negative (problems)
- you interpret what could have caused the symptoms positive and negative
- e.g. lack of planning, lack of training, poor leadership, excellent motivation

D. SUMMARY OF SITUATION: (out of 10)

WHAT PROBLEMS ARE CRITICAL THAT I WILL I FOCUS ON

BEEDIE SCHOOL OF BUSINESS

- SFU SEGAL GRADUATE SCHOOL
 - WHAT CRITERIA WILL I USE TO EVALUATE ALTERNATIVES
 - These criteria are often a mix of strategic and tactical items
 - This section ends the first part of the case analysis and lays the groundwork for the rest of it. Discuss the evaluative criteria clearly since they will drive the solution.

E. ALTERNATIVES (out of 30)

- Create a set of alternatives around this issue: make these alternatives wide ranging & identify the advantages and disadvantages of each, <u>using the criteria</u> identified above
- If applicable, create a set of complementary alternatives that would have to be considered to implement any of the primary alternatives: E.g. decentralize decision making, create a steering committee. Beware of 'magic bullets' that appear to solve all of your problems, but are only surface

F. RECOMMENDATION and IMPLEMENTATION (out of 20)

- WHAT ALTERNATIVES ARE RECOMMENDED AND WHY
- separate out short- and long-term recommendations
- discuss any issues in implementation necessary to ensure success (aka how will you solve the cons you identify?)

THERE ARE MANY "RIGHT ANSWERS" TO ANY CASE SITUATION. JUST KEEP YOUR "LINE OF REASONING" CLEAR AND STRATEGIC THROUGHOUT THE ANALYSIS. DO NOT EXCEED THE PAGE LIMIT. TO BE FAIR TO OTHER STUDENTS WE CANNOT READ PAST PAGE 3.

Class Participation (20%)

Discussion is an important way for you to discuss what you are learning in class and how it applies to your work and life. Our class time together will be much more interesting and the content more relevant if everyone engages by discussing how the course content resonates with them, telling their stories about relevant experiences, asking questions, or making comments about the reading material. This will help us all learn together and allow us to bring life to the topic area.

Participation will be recorded by your Teaching Assistant and marks posted to Canvas. There is a maximum of 5 marks per class. In order to receive marks for a class, you must attend the class. Please notify the TA and instructor if you are unable to attend a class.

Participation is judged not just on quantity, but also on <u>quality</u>. Class comments/questions/stories should be thoughtful, bring in new ideas and readings, examples from your work, and reflect on the applicability of the course material to your work and community. Participation grades are subjective, but the following guidelines are considered:

- Comments show evidence of knowledge and understanding of course content
- Comments demonstrate applicability to personal/professional practice
- Comment extend the learning of the class
- Comments elicit responses and reflections from other learners
- Responses build upon and integrate multiple views from other learners to take the discussion deeper

Reflections (10%, 15%)

After the second- and fourth-class sessions, reflect upon the material covered in the course, discussed in the class sessions, and assignments that you worked on that week. Consider questions such as:

- What resonated with you the most?
- What did you disagree with? Agree? Where did you feel torn?
- Which discussions/assignments/readings had the most impact on you and why?
- What did you learn related to your group functioning?

SFU SEGAL GRADUATE SCHOOL

- How did your StrengthsFinder themes feel to you? If you did the optional exercises, what stood out for you? What will you do with this knowledge in the future?
- What course concepts did you reflect upon the most? Why?
- What insights from the course content or discussions will I use and how?

Format: Each reflection should be 3 pages double-spaced, 11-point Arial font with 1" margins.

Online Discussions (10%)

You will have two graded discussions in the class, graded out of 10 and each worth 5%. The first is due on the day of our first class and the second before our second class. As with class participation, online discussions are judged not just on quantity, but also on <u>quality</u>. Online discussion grades are subjective, but the following guidelines are considered:

- Quantity/timeliness. Your post (2 pts) and comment on at least two classmates' posts (2 x 2 pts) = 6
- Comments elicit responses and reflections from other learners; responses build upon and integrate multiple views from other learners to take the discussion deeper (up to 4 pts).

Please keep posts to a maximum of 150 words each, as it allows others to better engage with your posts. Feel free to have multiple posts for multiple thoughts.

SFU GRADUATE STUDIES NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC) BUS	Number (eg. 810) 617	Units (eg. 4) 2			
Course title Indigenous Business Ethics (max. 100 characters)					
Short title (for enrollment/transcript - max 30 characters) Indig Business Ethi	Short title (for enrollment/transcript - max 30 characters) Indig Business Ethics				
Course description for SFU Calendar *(course descriptions shoul "The purpose of this course is" If the grading basis is satisfactory/u	d be brief and should never beg insatisfactory include this in the	in with phrases such as "This course will" or e description. Max. 50 words)			
Indigenous Business Ethics explores the intersection of Indigenous va- into ethics and epistemology, crucial for decision-making in various r understand and navigate complex ethical and epistemological dimens	alues with business, emphasizin oles. Recognizing diverse cultu ions in business and community	g self-expression through storytelling. Delves ural frameworks, this course offers tools to y contexts.			
Rationale for introduction of this course This course, in its previous form, Philosophy of Management, was a foundation IBL EMBA became a standalone program in 2020. Ethics and how we are more aware of, especially in the Indigenous context when collective community pro- This course is essential to the development of business leaders. As such, we are	on course of the IBL EMBA when it ivated to make decisions based on tocols and laws are also needing to e hoping to have it reincluded, und	first started in 2012. This course was removed as the our personal ethics is critical to understand and to be be included as part of the decision making process. er a new name.			
Term of initial offering (eg. Fall 2019) Fall 2024	Course delivery (eg 3 hrs/week for 13 w	veeks) 7 hrs/week for 2 weeks			
Frequency of offerings/year 2	Estimated enrollment per offering	35			
Prerequisite and/or Corequisite					
Criminal record check required? Yes (if yes is selected, add the selected) Yes (if yes is selected) add the selected of the s	is 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 □Research □ Practicum □Online □Other:					
Grading Basis ✓ Letter grades Satisfactory or Unsatisfactory In Progress/Complete					
Repeat for credit? Yes No Total repeat	s allowed?	Capstone course? 🗌 Yes 🖌 No			
Required course? Yes No Final exam	required? 🗌 Yes 🖌 No	Repeat within a term? 🗌 Yes 🗹 No			
Combined with an undergrad course? Yes I No If yes, iden are for graduate students:	tify which undergraduate cours	e and what the additional course requirements			

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	
Kevin Stewart, Leanne Barlow	
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)		
Beedie Grad	Stephanie Merinuk	Email	smerinuk@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date
Department Chair	Signature	Date

FACULTY APPROVAL

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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 (FGSC)				
Sudheer Gupta	Signature	BUL	Date	March 11, 2024

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)		-01	/	
Mary O'Brien	Signature	Mary	Head Then	Date March 21, 2024
				•

ADMINISTRATIVE SECTION (for Graduate	Studies office only)
Course Attribute:	If different from regular units:
Course Attribute Value:	Academic Progress Units:
Instruction Mode:	Financial Aid Progress Units:
Attendance Type:	

BUS 617: Indigenous Business Ethics

Instructor(s):

TA:

Semester:

Synchronous Session Platform: Zoom

COURSE DESCRIPTION

What is Ethics of Indigenous Business Management? We take it to refer to the underlying beliefs, values and assumptions that guide business practice. These can be personal in the sense that you can ask someone what their philosophy of management is, meaning how do they personally approach management challenges. But they can also be more general, referring to the beliefs, values and assumptions that guide business generally. This course is intended to support students to think through what happens when Indigenous values and ways of understanding the world interact with business. In some cases, as we have all seen, this can lead to conflict and/or a failure to cooperate or build effective relationships. On the other hand, there are success stories where businesses build effective partnerships with Indigenous peoples or where Indigenous peoples use business as a way of accomplishing their goals or expressing their own sense of identity.

The course will begin with a focus on who we are in the classroom and on stories as a way of expressing ourselves. We will then be guided by three texts described in the section on books and materials.

At one time, all knowledge in the western tradition was included under the label "philosophy." Gradually, as more specific fields of knowledge developed, they split off and became independent disciplines. This is part of why western knowledge seems so specialized and siloed in comparison to the holistic approach typical of indigenous knowledge. What remained under the label of philosophy in the western tradition is ethics (the study of right and wrong or decision-making about what to do), epistemology (the study of knowledge and knowledge claims), logic (the structure of language and inference), aesthetics (the study of beauty), and ontology (the nature of reality). In our course, we will focus on the first two, ethics and epistemology. As managers in business or government or as leaders in a community, we are constantly facing tough decisions about policy or people or finances or any other number of things. People will have different opinions about what the facts are, or even if they agree about the facts, they may come to different conclusions about what should be done. Sometimes, especially in the context of aboriginal business and community issues, people may be using very different knowledge frameworks (or cultures) which bring out different aspects of the situation. In this sense people with different cultural traditions may actually see the situation differently. Our course is intended to cast light on these issues - not to answer specific questions about who is right but to give you some additional tools for understanding the ethical and epistemological dimensions of such issues. In addition, the course should help you in considering how to apply some of the knowledge that you learn in the program.

Books and Materials

1. Badaracco Jr., Joseph L. Defining Moments: When Managers Must Choose between Right and

Right. (1997). Boston: Harvard Business Press.

2. Borrows, John (Kegedonce). Drawing Out Law: A Spirit's Guide. (2010). Toronto: University of Toronto

Press.

3. Umeek • E. Richard Atleo. Tsawalk. (2004). Vancouver: University of British Columbia Press

There will also be online articles and resources in the canvas shell.

Assessment Summary

Evaluation in the course will be based on a combination of group and individual work. As in all large courses in the Beedie School of Business, grading norms will be observed. In other words, students with the top marks relative to the class average will receive the top grades.

Due dates for the final two papers will be set in class. Due dates are important. Failure to meet due dates without notice and approval by the instructor will result in reduced grades.

Alternative assignments will be considered. They need to be approved by the instructor.

Draft assignments will be accepted before the due date and will be reviewed and comments provided time permitting.

Stories	10%
Participation	15%
Brief Essay	30%
Final Paper	45%
Total	100%

Academic Integrity

SFU's Academic Integrity website <u>http://www.sfu.ca/students/academicintegrity.html</u> is filled with information on what is meant by academic dishonesty, where you can find resources to help with your studies and the consequences of cheating. Check out the site for more information and videos that help explain it. Each student is responsible for his or her conduct as it affects the University community. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University. Furthermore, it is unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University. <u>http://www.sfu.ca/policies/gazette/student/s10-01.html</u>

Use of Zoom

Lectures delivered on Zoom may be recorded by your instructor. As a result, Simon Fraser University may collect your image, voice, name, personal views and opinions, and course work under the legal authority of the University Act and the Freedom of Information and Protection of Privacy. This information is related directly to and needed by the University to support student learning only (i.e., posting in the Learning Management System for students to review). If you have any questions about the collection and use of this information please contact your instructor.

Inclusiveness and Accommodations

Read the Diversity and Inclusion Community Guidelines and operate from these guidelines while in class, tutorials and any team meetings outside class. All of us have different access needs; some of these may be

readily apparent, while others may not. Each student is equally important to the success of the course, so we will work together to make sure that everyone can participate. I want all students to have the opportunity to perform at their highest potential. If you have a disability that may require accommodations, please notify the Centre for Accessible Learning (https://www.sfu.ca/students/accessible-learning.html) as soon as possible. The Centre for Accessible Learning exists to ensure that fair and reasonable accommodations are made for students who need them.

Assignments

First Assignment (Stories) – 10% Due in our second meeting

Please write a story, either your own story or one from someone else that you are re-telling that captures something important about who you are and why you want to do this program. The story should be short – no longer than the story that E Richard Atleo uses in the introduction to Tsawalk – two pages at most. Then I'd also like you to write a page or so saying why the story is important and what it has to say about your interest in the program. These stories will help me get to know you and will help us understand what you are hoping to get out of the program.

Please make sure that the story and explanation is one that you are willing to share with others in the program and please bring at least 5 copies on paper to share with your group in our second meeting in class and submit it to Canvas.

Remaining assignments will be explained during the first class.

SFU GRADUATE STUDIES NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC) BUS	Number (eg. 810) 619	Units (eg. 4) 4			
Course title Financial Accounting for Leaders in Indigenous Business (max. 100 characters)					
Short title (for enrollment/transcript - max 30 characters) Fin Acct for Indig	Bus				
Course description for SFU Calendar *(course descriptions shou. "The purpose of this course is" If the grading basis is satisfactory/	d be brief and should never be unsatisfactory include this in th	gin with phrases such as "This course will" or ne description. Max. 50 words)			
Provides an overview of financial accounting through an Indigenous decision-making tool, addresses the limitations of accounting inform accounting policies. Students will study the financial reporting of a c	lens. The course emphasizes t ation, and encourages a critica hosen real company or First N	the use of financial accounting information as a l evaluation of choices made in selecting ation to understand and interpret the information.			
Rationale for introduction of this course					
This course is being developed to increase financial literacy of Indigenous lea faced with managing wealth at unprecedented rates and significant amounts of students with understanding the use of financial accounting information as a	ders working for their Nations, or ue to transfer funds, resource roya decision-making tool.	ganizations and communities. Indigenous leaders are lties and own source revenue. This course will provide			
Term of initial offering (eg. Fall 2019)Fall 2024Course delivery (eg 3 hrs/week for 13 weeks)7 hrs/week for 4 weeks					
Frequency of offerings/year 2	Estimated enrollmen per offering	t 35			
Prerequisite and/or Corequisite					
Criminal record check required? Tes (if yes is selected, add t	nis as prerequisite)	Additional course fees? 🗌 Yes 🗹 No			
Campus where course will be taught Burnaby Surrey	□ Vancouver □ Great Nort	hern Way 🖌 Off campus			
Course Components* Lecture Seminar Lab Research Practicum Online Other:					
Grading Basis 🖌 Letter grades 🗌 Satisfactory or Unsatisfactory 🗌 In Progress/Complete					
Repeat for credit? Yes No Total repeat	ts allowed?	Capstone 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, provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course	
Kevin Stewart, Leanne Barlow	
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)		
Beedie Grad	Stephanie Merinuk	Email	smerinuk@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date
Department Chair	Signature	Date

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? **V**ES

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 (FGSC)				
Sudheer Gupta	Signature	BUL	Date	March 11, 2024

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)	not le sur	
Mary O'Brien	Signature March 21, 2024	
-		

ADMINISTRATIVE SECTION (for Graduat	e Studies office only)
Course Attribute:	If different from regular units:
Course Attribute Value:	Academic Progress Units:
Instruction Mode:	Financial Aid Progress Units:
Attendance Type:	

BUS 619: Financial Accounting for Leaders in Indigenous Business

Instructor:

Semester:

TA:

Synchronous Session Platform: Zoom

Course Description

BUS 619 provides an introductory view of financial accounting through an Indigenous lens. The course emphasizes the use of financial accounting information as a decision-making tool, addresses the limitations of accounting information, and encourages a critical evaluation of choices made in selecting accounting policies. Throughout the course, students will study the financial reporting of a chosen real company or First Nation and learn to understand and interpret the information provided.

Objectives

- Discuss fundamental accounting concepts including terminology, double-entry accounting, and financial statements
- Perform all steps within the accounting cycle: from quantifying business transactions by applying debits and credits, to posting to the general ledger, generating a trial balance and preparing financial statements
- Interpret financial statements and analyze corporate financial performance
- Be able to make educated decisions through critical evaluation of financial information
- · Cooperatively evaluate financial scenarios and communicate findings in a public setting

Books and Materials

Textbook

Christopher D. Burnley, <u>Understanding Financial Accounting (2nd Canadian Edition)</u>, John Wiley & Sons Canada, Ltd., 2018.ISBN 9781119406983.

This provides access to WileyPLUS, which includes an on-line e-text and extra publisher's resources. Access to WileyPLUS is mandatory, as homework assignments will use this resource.

Technology Requirements

A <u>computing device</u> with a functioning <u>camera and microphone</u> for videoconferencing and live assessment monitoring/proctoring.

Assessment Summary

Evaluation in the course will be based on a combination of group and individual work. As in all large courses in the Beedie School of Business, grading norms will be observed. Students with the top marks relative to the class average will receive the top grades.

SFU SEGAL GRADUATE SCHOOL

Individual	Homework Assignments	20%	Assigned questions (generally technical in nature) will be accessible from Canvas. Late assignments will not be accepted.
	Midterm	25%	Midterm exam will be administered through Canvas.
	Final Exam	30%	Comprehensive (covers Ch.1-12), although more heavily weighted to Ch.8-12.
Group	Group Project	25%	In the first class, each group will sign up for one project to be completed during the semester. Students will present in groups of 3.
	Total	<u>100</u> %	

Academic Integrity

SFU's Academic Integrity website <u>http://www.sfu.ca/students/academicintegrity.html</u> is filled with information on what is meant by academic dishonesty, where you can find resources to help with your studies and the consequences of cheating. Check out the site for more information and videos that help explain it. Each student is responsible for his or her conduct as it affects the University community. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University. Furthermore, it is unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University. <u>http://www.sfu.ca/policies/gazette/student/s10-01.html</u>

Use of Zoom

Lectures delivered on Zoom may be recorded by your instructor. As a result, Simon Fraser University may collect your image, voice, name, personal views and opinions, and course work under the legal authority of the University Act and the Freedom of Information and Protection of Privacy. This information is related directly to and needed by the University to support student learning only (i.e., posting in the Learning Management System for students to review). If you have any questions about the collection and use of this information please contact your instructor.

Virtual Attendance

Virtual attendance in class and tutorials is expected. In the unfortunate event that a class is missed, it is the student's responsibility to catch up on missed material. Students are responsible for any concepts or examples discussed in class or during tutorial. These concepts or examples may appear on examinations. Students are expected to actively participate in tutorial discussions.

Inclusiveness and Accommodations

Read the Diversity and Inclusion Community Guidelines and operate from these guidelines while in class, tutorials and any team meetings outside class. All of us have different access needs; some of these may be



readily apparent, while others may not. Each student is equally important to the success of the course, so we will work together to make sure that everyone can participate. I want all students to have the opportunity to perform at their highest potential. If you have a disability that may require accommodations, please notify the Centre for Accessible Learning (https://www.sfu.ca/students/accessible-learning.html) as soon as possible. The Centre for Accessible Learning exists to ensure that fair and reasonable accommodations are made for students who need them.

Assignments

Individual Homework Assignments

As part of the course grading, you will be required to do homework assignments which will focus on the mastery of technical skills and can be accessed via Canvas. These are often marked automatically via the online system. Solutions will be available after the assignment due date for review. Over the semester you may also be assigned conceptual or application homework questions, which will require written answers, and will be evaluated by either myself or the TA. Late assignments will not be accepted.

Group Project

Throughout the semester, group projects will be used to analyze the financial statements of a public company or First Nation. The group project questions will be posted through Canvas.

About the Course Instructor

TBC

SFU GRADUATE STUDIES NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC) BUS	Number (eg. 810) 620	Units (eg. 4) 4			
Course title Managerial Accounting for Leaders in Indigenous Business (max. 100 characters)					
Short title (for enrollment/transcript - max 30 characters) Mngr Acct for Ind	g Bus				
Course description for SFU Calendar *(course descriptions shou "The purpose of this course is" If the grading basis is satisfactory/	d be brief and should never b unsatisfactory include this in t	egin with phrases such as "This course will" or he description. Max. 50 words)			
Reviews the fundamental concepts of managerial accounting and how decision making, and planning, control and performance evaluation	v information from manageria within First Nations and publi	al accounting systems is used in product costing, c companies.			
Rationale for introduction of this course					
This course is being developed to increase financial literacy of Indig course will provide students with the tools of managerial accounting	enous leaders working for the to ensure financially healthy	ir Nations, organizations and communities. This organizations.			
Course delivery (eg 3 hrs/week for 13 weeks) 7 hrs/week for 4 weeks					
Frequency of offerings/year 2	Estimated enrollment per offering	nt 35			
Prerequisite and/or Corequisite					
Criminal record check required? Tes (if yes is selected, add t	his 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 Research Practicum Online Other:					
Grading Basis 🖌 Letter grades 🗌 Satisfactory or Unsatisfactory 🗌 In Progress/Complete					
Repeat for credit? Yes No Total repea	ts allowed?	Capstone course? Yes No			
Required course? 🖌 Yes 🗌 No Final exam	required? 🗌 Yes 🖌 No	Repeat within a term? Tyes I 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, provide information on the source(s) of those additional resources.

Faculty member(s) who will normally teach this course	
Kevin Stewart, Leanne Barlow	
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)		
Beedie Grad	Stephanie Merinuk	Email	smerinuk@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date
Department Chair	Signature	Date

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? **V**ES

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 (FGSC)				
Sudheer Gupta	Signature	ENIN	Date	March 11, 2024

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)			
Mary O'Brien	Signature My Head Them	Date	March 21, 2024

ADMINISTRATIVE SECTION (for Graduate Stu	idies office only)	
Course Attribute:	If different from regular units:	
Course Attribute Value:	Academic Progress Units:	
Instruction Mode:	Financial Aid Progress Units:	
Attendance Type:		

BUS 620: Managerial Accounting for Leaders in Indigenous Business

Instructor:

Semester:

TA:

Synchronous Session Platform: Zoom

Course Description

BUS 620 introduces students to the fundamental concepts of managerial accounting and how information from managerial accounting systems is used in product costing, decision making, and planning, control and performance evaluation within First Nations and public companies.

Objectives

- Recognize the importance of management accounting in an organisation and understand what accounting can do for decision-makers via its use for planning and control functions
- Identify the characteristics and behaviour of different types of costs and analyse decisions that influence these costs
- Recognize the application contexts of various cost accounting systems and variance analysis
- Use of cost-volume-profit analysis to determine the break-even point, the safety margin and potential profit in a given situation
- Describe management's decision-making process and the concept of incremental analysis.
- · Identify and apply different pricing methods
- Describe budgetary planning and control and preparing of budgets

Books and Materials

Textbook

Weygandt, Kimmel, Kieso and Aly, <u>Managerial Accounting, Tools for Business Decision-Making, 6th</u> <u>Canadian Edition</u>. Ebook: WIleyPLUS student package (WileyPLUS access with a built in etext): ISBN 978-1-119-73152-8

This provides access to WileyPLUS, which includes an on-line e-text and extra publisher's resources. Access to WileyPLUS is mandatory, as homework assignments will use this resource.

Technology Requirements

A <u>computing device</u> with a functioning <u>camera and microphone</u> for videoconferencing and live assessment monitoring/proctoring.

Assessment Summary

Evaluation in the course will be based on a combination of group and individual work. As in all large courses in the Beedie School of Business, grading norms will be observed. Students with the top marks relative to the class average will receive the top grades.



Individual	Homework Assignments	20%	Weekly assignments and additional assigned questions (generally technical in nature) will be accessible from Canvas. Late assignments will not be accepted.
	Midterms	25%	Midterm exam will be administered through Canvas.
	Final Exam	30%	Comprehensive (covers all chapters), although more heavily weighted to later chapters.
Group	Group Project	25%	In the first class each group will sign up for a group project to be completed during the semester.
	Total	<u>100</u> %	

Academic Integrity

SFU's Academic Integrity website <u>http://www.sfu.ca/students/academicintegrity.html</u> is filled with information on what is meant by academic dishonesty, where you can find resources to help with your studies and the consequences of cheating. Check out the site for more information and videos that help explain it. Each student is responsible for his or her conduct as it affects the University community. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University. Furthermore, it is unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University. <u>http://www.sfu.ca/policies/gazette/student/s10-01.html</u>

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Inclusiveness and Accommodations

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we will work together to make sure that everyone can participate. I want all students to have the opportunity to perform at their highest potential. If you have a disability that may require accommodations, please notify the Centre for Accessible Learning (https://www.sfu.ca/students/accessible-learning.html) as soon as possible. The Centre for Accessible Learning exists to ensure that fair and reasonable accommodations are made for students who need them.

Assignments

Individual Homework Assignments

As part of the course grading, you will be required to do homework assignments which will focus on the mastery of technical skills and can be accessed via Canvas. These are often marked automatically via the online system. Solutions will be available after the assignment due date. Over the semester you may also be assigned conceptual or application homework questions, which will require written answers, and will be evaluated by either myself or the TAs. Late assignments will not be accepted.

You will be given two attempts at each question. The assignment solution will be visible after the due date/time for the assignment.

Group Project

Group projects will be used to analyze the financial statements of one First Nation or public company based on publicly available information.

Peer feedback will be requested from all groups. Students receiving unsatisfactory feedback from their peers will have their group project marks adjusted downwards. Concerns with group member contributions must be brought to the attention of the instructor as early as possible to allow for positive adjustment to student contributions.

About the Course Instructor

TBC

MEMORANDUM

Attention: Dr. Mary O'Brien Dean, Graduate Studies Date: Jan 24, 2024

From: Dr. Parvaneh Saeed, <u>psaeedi@sfu.ca</u> Faculty of Applied Science, Graduate Studies Committee

Re: FAS-CMPT 800 3D Computer Vision

The faculty of Applied Sciences Graduate Studies Committee would like to propose a new graduate course, CMPT 800 3D Computer Vision, which will be cross listed with CMPT 400.

The course covers topics in 3D vision covering topics including acquisition, processing, and synthesis of 3D content. It introduces 3D representations amenable to computer vision (from classical polygonal meshes to neural fields), and fundamentals of non-linear optimization to effectively tackle inverse 3D vision problems.

We request the course to be effective in Fall 2024.

Regards, Parvaneh Saeedi



COMPUTING SCIENCE

MEMO

BURNABY

10700 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

ATTENTION	Dr. Parvaneh Saeedi Associate Dean, Research & Graduate Studies, FAS
FROM	Dr. Igor Shinkar School of Com <u>puting</u> Science GPC Chair
RE	CMPT 800 New Course Proposal
DATE	August 23, 2023

COURSE PROPOSAL CMPT 800 – Effective Fall 2024

CMPT 800 – 3D Computer Vision

The School of Computing Science is proposing a new graduate course effective Fall 2024 – CMPT 800 3D Computer Vision. This course will be cross-listed with CMPT 400.

The course covers topics in 3D vision covering topics including acquisition, processing, and synthesis of 3D content. It introduces 3D representations amenable to computer vision (from classical polygonal meshes to neural fields), and fundamentals of non-linear optimization to effectively tackle inverse 3D vision problems.

If you have any questions, please let me know.

Dr. Igor Shinkar Graduate Chair, School of Computing Science



New Graduate Course Proposal

Course Subject (eg. PSYC) CMPT	Number (eg. 810)	800	Units (eg. 4) 3
Course title (max. 100 characters)			
3D Computer Vision			
Short title 3D C (for enrollment/transcript, max. 30 characters)	Computer Vision		
Course description for SFU Calendar (course descrip "The purpose of this course is" If the grading basis	ptions should be brief is satisfactory/unsat	and should never be isfactory include this	gin with phrases such as "This course will…" or s in the description. Max. 50 words)
Covers topics including acquisition, proces representations amenable to computer vis fundamentals of non-linear optimization to en	ssing, and synthes sion (from classic ffectively tackle inv	is of 3D content. al polygonal me erse 3D vision pro	The course introduces 3D shes to neural fields), and oblems.
Rationale for introduction of this course			
The proposes course introduces the collection of mathematie estimating a 3D scene from 2D or 2+1/2D measurements), ar is (much) less than 10%, as can be confirmed by their prima	cal tools (i.e. numerical o nd the use of neural netwo ary lecturers (respectively	ptimization) needed for i orks as malleable 3D rep Prof. Hao Zhang and Pr	nverse modelling of ill-posed problems (i.e. presentations. Topic overlap with CMPT412 / 464 rof. Yasutaka Furukawa).
Term of initial offering (eg. Fall 2019)		Course delivery (eg	. 3 hrs/week for 13 weeks)
		3hrs/week for 13	weeks
Frequency of offerings/year 1 Estimated enrollment per offering 20			ent per offering 20
Equivalent courses (courses that replicates the cont	ent of this course to s	uch an extent that stu	idents should not receive credit for both
courses) Students who have taken CMPT 400 and CM not take this course for further credit.	1PT 985 - Special Topic	s in Graphics, HCI, Vis	sualization, Vision, Multimedia in Spring 2024 may
Prerequisite and/or Corequisite			
Criminal record check required? Yes if yes is sele	ected, add this as prer	equisite	Additional course fees? Yes No
Campus where course will be taught 🖉 Burnaby	Surrey Vanc	ouver Great N	Northern Way Off campus
Course Components * 🕅 ecture Semina	ւ 🗖նոր		
Grading Basis Detter grades	Satisfactory/U	nsatisfactory	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			Capstone course? 🛛 Yes 🔽 No
Combined with an undergrad course? Ves No If yes, identify which undergrad course and the additional course requirements for graduate students			
CMPT 400			
In CMPT 800 students will be required to complete a seminar-style presentation (10% of grade) of technical paper			
during exam period	a to complete a seri	iniai-siyie presenta	and to to or grade, or lectifical paper

* 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

Andrea Tagliasacchi

Additional faculty members, space, and/or specialized equipment required in order to offer this course

Yasutaka Furukawa, Richard Hao Zhang

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Computing Science	Igor Shinkar	igor_shinkar@sfu.ca

ACADEMIC UNIT APPROVAL

 \square A course outline / syllabus is included

Non-departmentalized faculties need not sign

Graduate Program Committee Igor Shinkar	Signature	Date August 22, 2023
Department Chair Robert D. Cameron	Signature Polestoner	Date Sep. 11, 2023

Δ

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?

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.



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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee	Signature	Date
Mary O'Brien	Mary Head Then	March 21, 2024

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

Course Outline CMPT 800/400 – 3D Computer Vision

The course covers 3D vision: the process of inferring 3D structure from 2D observations. It covers the basics of non-linear optimization for inverse problems, and discusses 3D representations that are appropriate for the task. In particular, it introduces classical "Polygonal Mesh" representations, as well as the emerging "Neural Fields" (i.e. coordinate neural networks): a new representation of signals that has revolutionized computer vision/graphics. We will discuss acquisition, processing, and synthesis of 3D content, with applications to 3D vision, robotics, real-time 3D graphics, computational design, medical imaging, AR/VR, as well as digital art.

Notes

- The language of choice for practical exercises is Python/Numpy

Topics

- The history of 3D scanning (and Neural Radiance Fields)
- Basics of differential geometry (Laplace Beltrami operator)
- Fairing and reconstruction (basics of Variational Calculus)
- Inverse modeling (maximum likelihood and maximum a-posteriori)
- Registration (robust least squares optimization)
- Deformation (sparse linear systems, matrix factorization)
- Compression (singular value decomposition, and transforms)
- Neural Fields (auto-decoding, neural hashing, ...)

Grading

<u>CMPT 400:</u>

- Midterm 30%
- In class coding exercises 10%
- Homework 15%+15%
- Final project 30%

<u>CMPT 800:</u>

- Midterm 30%
- Seminar-style presentation of technical paper 10%
- Homework 15%+15%
- Final project 30%

Textbook

- N/A

Weekly schedule (12 weeks)

- 1. intro, 3D scanning, and linear algebra refresher
- 2. least squares optimization, normal computation
- 3. surface reconstruction and iso-surfacing
- 4. meshes, acceleration data structures, and decimation

- 5. non-linear least squares, constrained and robust optimization
- 6. registration, optimization on manifolds (lie algebra)
- 7. dealing with noise (smoothness, curvature, and fairing)
- 8. surface and volume deformation, efficient linear solvers
- 9. neural fields (architectures, positional encoding)
- 10. neural fields (hybrid models, generalization, auto-decoding)
- 11. neural fields (editing, generative modeling)
- 12. research day (guest speakers)

Courses with similar content in other Tier1 institutions:

- ML4360 @ University of Tubingen (<u>homepage</u>)
- 6.S980 @ MIT (<u>homepage</u>)
- CS 205A @ Stanford (homepage)



MEMO ATTENTION: Senate Graduate Studies Committee

Faculty of Science FROM: Vance Williams, Associate Dean Graduate Studies, Faculty of Science

RE: Proposed Program Changes and Course Changes and Additions for Fall 2024, Faculty of Science

DATE: February 22, 2024

Dear SGSC,

The following curriculum changes have been approved by the Faculty of Science and are being submitted to the Senate Graduate Studies committee for approval.

The following course changes are being proposed: MBB 700 Selected Topics in Biotechnology and Business MBB 715 Advanced Microbial Pathogenesis MBB 778 Molecular Epidemiology of Infectious Disease

The following *new courses* are being proposed: **MBB 747** Stem Cell Biology and Applications **MBB 763** Forensic Genomics **MBB 765** Cancer Genomics

The following program change is being proposed:

WBB Accelerated Waster's Program

Enclosed are the documents in support of these changes.

Sincerely,

Vonce Willion

Vance Williams Associate Dean Graduate Studies, Faculty of Science

MOLECULAR BIOLOGY AND BIOCHEMISTRY Memorandum

To: Vance Williams, Chair, Faculty Graduate Studies Committee, Faculty of Science	From: Christopher Beh, MBB Graduate Program Chair
Re: Program Change: Accelerated Master's Program Graduate Course Changes: MBB 700, 745, 778 New Graduate Course: MBB 747, MBB 763, MBB 765	Date: February 20, 2024

We are requesting approval of the following:

-1. PROCRAM CHANCE: Accelerated Master's Program

-2. CRADUATE COURSE CHANGES

 a. MBB 700: Selected Topics in Biotechnology and Business — Course title— (form attached)
 b. MBB 745: Advanced Microbial Pathogenesis — Course title (form attached)

3. NEW GRADUATE COURSE PROPOSAL

- a. MBB 747: Stem Cell Biology and Applications (form and outline attached)
- b. MBB 763: Forensic Genomics (form and outline attached)
- c. MBB 765: Cancer Genomics (form and outline attached)

Sincerely,

MBB Graduate Program Chair

SFU GRADUATE STUDIES NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC) MBB	Nun	nber (eg. 810) 747		Units (eg. 4) 3	
Course title Stem Cell Biology and Applications (max. 100 characters)					
Short title (for enrollment/transcript - max 30 characters) Stem	Cells - Current Tren	ds			
Course description for SFU Calendar *(course descrifted "The purpose of this course is" If the grading basis is	riptions should be bi satisfactory/unsatis	rief and should never factory include this in	begin with the descri	phrases such as "This course will" or phrases such as "This course will" or phrases and phrases and phrases are such as the phrases of the phrases are such as the phrases of the phrases are such as the phrases are su	
Foundational biology of stem cell populations, technolo	gical advances, curr	ent and potential there	apeutic ap	plications.	
Rationale for introduction of this course The creation of this course reflects the expansion of exp cross-listed courses that are taught by members of both Units support the creation of MBB 747	pertise and student in units and that have	nterest in stem cells. N an almost equal distr	1BB and I ibution of	BISC have a long standing tradition of Students from both units enrolled. Both	
Course delivery 3 hrs/week for 13 weeks 3 hrs/week for 13 weeks 3 hrs/week for 13 weeks					
Frequency of offerings/year 1 Estimated enrollment 5 per offering 5					
Equivalent courses (courses that replicates the content	t of this course to su	ch an extent that stude	ents should	d not receive credit for both courses)	
Students with credit for MBB 447 or BISC 447 may not 839 or BISC 881 under the title "Stem Cell Biology and	t take this course for l Applications" may	further credit. Studen not take this course f	nts with cr	edit for MBB 440, BISC 472, MBB credit.	
Prerequisite and/or Corequisite					
Permission of the department. Recommended: MBB 32	2 or BISC 333 or ec	quivalent			
Criminal record check required? Tes (if yes is se	elected, add this as p	rerequisite)	Ado	litional course fees? 🗌 Yes 🛛 No	
Campus where course will be taught M Burnaby	Surrey Van	couver 🗌 Great No	rthern Wa	y 🗌 Off campus	
Course Components* Z Lecture Seminar	ab Research		ine 🗌	Other:	
Grading Basis 🖌 Letter grades 🗌 Satisfactory or Unsatisfactory 🔲 In Progress/Complete					
Repeat for credit? 🗌 Yes 🖌 No	Total repeats allow	ved?	Capst	one course? 🗌 Yes 🗹 No	
Required course? Yes Yes					
Combined with an undergrad course? Ves No If yes, identify which undergraduate course and what the additional course requirements are for graduate students:					
MBB 447 - grad course grading is different. See course outline attached.					

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			
Lorena Braid - MBB; Lisa Julian - BISC			
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)	Graduate Program Chair)	
МВВ	Christopher Beh	Email	ctbeh@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

Non-departmentalized faculties need not sign

			nr. n.a	C : 4	Department Graduate Program Committee
	Feb 5, 2024	Date	huton Del	Signature	Christopher Beh
-	Feb. 1, 2024				Department Chair
		Date	- Cing	Signature	Lisa Craig
		Date	- my	Signature	Lisa Craig

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? \bigvee 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 (FGSC)		11	1. 0.	Date	
Vance Williams	Signature	Van	, Uli	Date	February 8, 2024

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)	nt le sui	
Mary O'Brien	Signature May Head Them	Date March 21, 2024

ADMINISTRATIVE SECTION (for Graduate Studies office on	ıly)
Course Attribute:	If different from regular units:
Course Attribute Value:	Academic Progress Units:
Instruction Mode:	Financial Aid Progress Units:
Attendance Type:	

Course Outline: MBB 747-3 (Stem Cell Biology and Applications)

Prerequisites: MBB 322 or BISC 333 or equivalent

Calendar Description: Consideration of recent literature concerning selected contemporary research topics. Can be taken more than once with permission of instructor.

Course Description: This course will begin with a historical review of key discoveries in stem cell biology and is structured into three modules. In *module 1*, we will explore the foundational biology of stem cell populations: the defining characteristics and physiological relevance of natural and reprogrammed stem cell types including embryonic, neonatal, adult and induced pluripotent stem cells. In *module 2*, cutting-edge technological advances involving these various stem cell populations will be explored, including current state-of-the-art approaches in modeling tissue development and genetic diseases. *Module 3* will focus on current and impending therapeutic applications of stem cells: implications toward human health, barriers to regulatory approval or commercialization, and ethical considerations in stem cell research and therapies.

Topics include:

- What defines a "stem cell"
- The breadth of embryonic and adult stem cell types
- Stem cells as founders of tissue development, maintenance, and regeneration
- Strategies to obtain pluripotent and somatic stem cells in vitro
- Experimental approaches to examine cell fate decisions
- How to manipulate stem cells to promote tissue development and regeneration
- Modeling genetic diseases in a dish
- The potential of human stem cell therapies
- Ethical considerations in stem cell research and therapies
- Examining fact from fiction in stem cell-based literature and popular press

Grading:

- Writing Assignment 50%
- Presentation 25%
- Assignments (3 x 5% each) 15%
- Weekly quizzes 10%

MBB 447-3 STEM CELLS - CURRENT TRENDS

PREREQUISITES:

MBB 322 or BISC 333, with a minimum grade of C.

CALENDAR DESCRIPTION:

Foundational biology of stem cell populations, technological advances, current and potential therapeutic applications. Students with credit for BISC 447 may not take this course for further credit. Students with credit for MBB 440 or BISC 472 under the title "Stem Cell Biology and Applications" may not take this course for further credit.

Grading

Tests (20% each) 60%

Writing project 20%

Assignments and quizzes 20%

SFU GRADUATE STUDIES NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC)	Num	163 (eg. 810)	Units	(eg. 4) ³			
Forensic Genomics Course title (max. 100 characters)							
Short title (for enrollment/transcript - max 30 characters)	Forensic Genomics Short title (for enrollment/transcript - max 30 characters)						
Course description for SFU Calendar *(course descrip "The purpose of this course is" If the grading basis is s A focus on the molecular and genomic biology assoc analysis of DNA fingerprints, DNA data bases and Co	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. Max. 50 words) A focus on the molecular and genomic biology associated with forensic science, including genome structure, genotyping, genetic analysis of DNA fingerprints, DNA data bases and CODIS, Y STRs. mtDNA and ethical considerations of DNA typing.						
Rationale for introduction of this course The proposed course provides graduate students wit biology. New methods of analysing genomic data in t revolutionising the way we approach crime scene an	th the chance to e the past five year alysis. This cours	explore an exciting and s have led to the soluti se is expected to be ve	rapidly deve on of decade ry attractive	eloping application of molecular es-old cold cases and is to graduate students.			
Fall 2024 Term of initial offering (eg. Fall 2019)		Course delivery (eg 3 hrs/week for 13 w	3 hrs/ eeks)	week for 13 weeks			
Frequency of offerings/year		Estimated enrollment per offering	4				
Equivalent courses (courses that replicates the content of this course to such an extent that students should not receive credit for both courses) MBB 463 Prerequisite and/or Corequisite Permission of the department. Recommended: MBB 331 or equivalent							
Criminal record check required? Tes (if yes is sele	ected, add this as p	rerequisite)	Additional	course fees? 🗌 Yes 🛛 No			
Campus where course will be taught Ø Burnaby] Surrey 🗌 Van	couver 🔲 Great Northe	ern Way 🔲 C)ff campus			
Course Components* Lecture Seminar La	b 🗌 Research	Practicum Online	Other:				
Grading Basis 🖌 Letter grades 🗌 Satisfactory or U	nsatisfactory	In Progress/Complete					
Repeat for credit? Yes No	Repeat for credit? Yes No Total repeats allowed? Capstone course? Yes No						
Required course? 🗌 Yes 🖉 No	Final exam require	ed? 🗌 Yes 🖌 No	Repeat withi	n a term? 🗌 Yes 🗹 No			
Combined with an undergrad course? Ves No If yes, identify which undergraduate course and what the additional course requirements are for graduate students: MBB 463 Forensic Genomics Graduate students are required to research and present on a selected topic in class (20% of grade)							

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		
Sophie Sneddon, Ryan Mo	vrin		
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)	ctbeh@sfu.ca
Molecular Biology & Biochemistry	Chris Beh	Email

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date Feb 5, 2024
Department Chair Lisa Craig	Signature Com	Jan. 18, 2024 Date

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? \bigvee 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 (FGSC)		11	a. D.	_	
Vance Williams	Signature	Van	agi	Date	February 8, 2024

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)		
Mary O'Brien	Signature	May Head Then Date March 21, 2024

ADMINISTRATIVE SECTION (for Graduate Studies office onl	y)
Course Attribute:	If different from regular units:
Course Attribute Value:	Academic Progress Units:
Instruction Mode:	Financial Aid Progress Units:
Attendance Type:	

Proposed Course Outline for MBB 763

Calendar Description (from MBB 463):

A focus on the molecular and genomic biology associated with forensic science, including genome structure, genotyping, genetic analysis of DNA fingerprints, DNA data bases and CODIS, Y STRs. mtDNA and ethical considerations of DNA typing.

Course details:

Examining the field of genomics as it applies to crime investigation. Topics covered include the history of forensic science, types of evidence, and the analysis and interpretation of DNA fingerprinting, STR, Y-STR, mitochondrial DNA, next generation sequencing and genetic genealogy. Practices for the collection, generation and storage of DNA profiles will be explored with a focus on ethical considerations.

Grading

Exam 1 (20%) Exam 2 (20%) Group assignment – presentation (15%) Individual report (25%) Special topic presentation for graduate students (20%)

MBB 463-3 FORENSIC GENOMICS

PREREQUISITES:

MBB 331, with a minimum grade of C.

CALENDAR DESCRIPTION:

A focus on the molecular and genomic biology associated with forensic science, including genome structure, genotyping, genetic analysis of DNA fingerprints, DNA data bases and CODIS, Y STRs. mtDNA and ethical considerations of DNA typing.

COURSE DETAILS:

Background and history of forensic science
Evidence
DNA typing
Genome structure and genetics
DNA fingerprinting
STR analysis
Y STR/paternity testing
Mitochondrial DNA
DNA databases
Public DNA services
Genetic genealogy
Advances in forensic genomics
Applications of forensic genomics
Ethical considerations of DNA collection

Grading

Exam 1 20%

Exam 2 20% Exam 3 20% Group assignment: Individual Report 20% Group assignment: Presentation 15% Participation 5%

SFU GRADUATE STUDIES

NEW GRADUATE COURSE PROPOSAL

Course Subject (eg. PSYC) MBB	Number (eg. 810) 76	5	Units (eg. 4) ³	
Cancer Genomics Course title (max. 100 characters)				
Cancer Genor	mics			
(for enrollment/transcript - max 30 characters)				
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. Max. 50 words)				
Our understanding of the role of genetic and epigenetic changes technologies. Current techniques for studying cancer genomes a	and how heritable changes can l	ead to treatme	s to be advanced by genomic ent resistance will be discussed.	
Rationale for introduction of this course This course was recently regularlized at the undergraduate level, MBB 465, and is expected to be of considerable interest to MBB graduate students.				
Fall 2024 Term of initial offering (eg. Fall 2019)	Course delivery (eg 3 hrs/week fo	r 13 weeks)	4 hr/week for 13 weeks	
Frequency of offerings/year	Estimated enrol per offering	lment	4	
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 Permission of the department. Recommended: MBB 331 and MBB 342 or equivalent.				
Criminal record check required? Tes (if yes is selected,	add this as prerequisite)	Add	litional 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 Online Other:				
Grading Basis 🖌 Letter grades 🗌 Satisfactory or Unsatisfactory 📋 In Progress/Complete				
Repeat for credit? 🗌 Yes 🖌 No Total r	Total repeats allowed?		Capstone course? 🗌 Yes 🗹 No	
Required course? 🗌 Yes 🖌 No Final of	Final exam required? 🗌 Yes 🖌 No		t 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:				
Combined with MBB 465. MBB 765 students are not required to write the quizzes. For presentations, the MBB 465 students present as a group (pairs or larger group) and are assigned a paper whereas students in MBB 765 present solo and must select their own paper to present. For the written assignment, MBB 465 students critique a published research paper as mock peer reviewers. MBB 765 students perform the same assignment but are expected to perform additional analysis of data from the paper to highlight statistical or methodological problems.				

* 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 normal	lly teach this course		
Ryan Morin			
Additional faculty members, space, and/or specialized equipment required in order to offer this course			
None			
Additional faculty members, space, None	and/or specialized equipment required in order to offer this course		

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	ctbeh@sfu.ca		
Molecular BIology & Biochemistry	Chris Beh	Email		

ACADEMIC UNIT APPROVAL

A course outline / syllabus is included

Non-departmentalized faculties need not sign

Department Graduate Program Committee Chris Beh	Signature	Date Feb 5, 2024
Department Chair		Jan. 18, 2024
Lisa Craig	Signature	Date

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? \bigvee 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 (FGSC)	.	11	a. A.		F 1 0.0004
Vance Williams	Signature	Van	alli	Date	February 8, 2024

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)			
Mary O'Brien	Signature Mary Acad Then	Date	March 21, 2024

ADMINISTRATIVE SECTION (for Grad	uate Studies office only)
Course Attribute:	If different from regular units:
Course Attribute Value:	Academic Progress Units:
Instruction Mode:	Financial Aid Progress Units:
Attendance Type:	

MBB 765-3 Cancer Genomics

Calendar description

Current techniques for studying cancer genomes and how genetic and epigenetic changes can lead to treatment resistance will be discussed.

Course Details

Our understanding of the role of genetic and epigenetic changes in the formation of human cancers continues to be advanced by genomic technologies such as DNA sequencing and gene expression profiling. This course will cover the multitude of genomic alterations that accrue during the formation and treatment of human cancer. We will discuss the role of mutations and epigenetic in the onset and progression of human cancer including treatment resistance. Based on the recent literature, we will study the modern technologies that allow these changes to be detected and how they are interpreted clinically.

Topics include:

- Cancer sequencing
- Tumour heterogeneity
- DNA repair
- Mutational processes and signatures
- Regulatory mutations in cancer
- Hereditary cancer
- Treatment and genetic mechanisms of resistance
- Cancer epigenomics
- Circulating tumour DNA
- Gene expression and alternative splicing in cancer
- Personalized oncogenomics

Grading

In class presentation 30% Written assignment 40% Class Participation 30%

MBB 465-3 Cancer Genomics

PREREQUISITES:

MBB 331 and MBB 342 with a minimum grade of C or permission of the instructor.

CALENDAR DESCRIPTION:

Our understanding of the role of genetic and epigenetic changes in the formation of human cancers continues to be advanced by genomic technologies. Current techniques for studying cancer genomes and how heritable changes can lead to treatment resistance will be discussed. Students with credit for MBB 460 under the title "Cancer Genomics" may not take this course for further credit.

COURSE DETAILS:

An examination of the genomic changes that accrue during the formation and treatment of human cancer.

The course will examine the role that genetic mutations play in the development of human cancer and tumour formation. We will study the spectrum of different types of genetic alterations that accrue and their distribution across different cancer types. We will study the technologies that allow these changes to be detected and how they are interpreted clinically. Students with credit for MBB 460 under the title "Cancer Genomics" may not take this course for further credit.

Topics include:

Cancer sequencing Tumour heterogeneity DNA repair Hereditary cancer Treatment resistance Neo-antigens and immunotherapy CART-therapies Cancer epigenomics Gene expression and alternative splicing in cancer Personalized oncogenomics

Mutational signatures

Grading

Quizzes 40% In-class presentation 20% Written assignment 30% Class participation 10%