S.22-26

SFU GRADUATE AND POSTDOCTORAL STUDIES

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MEMORANDUM

ATTENTION Senate

DATE January 14, 2022

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

RE: New Course Proposals

For information:
Acting under delegated authority at its meeting of January 11, 2022, SGSC approved the following new courses, effective **Fall 2022:**

Beedie School of Business

1) New Course: BUS 890 Research Methods I
2) New Course: BUS 891 Theory of Financial Markets

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

SFU BEEDIE SCHOOL OF BUSINESS

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Memo to SGSC

To: **Senate Graduate Studies Committee**
From: **Andrew Gemino, Associate Dean, Graduate Programs**
Re: **MSc Finance Calendar Changes for Fall 2022**
Date: **October 28, 2021**

The following curriculum revisions have been approved by the Beedie School of Business and are forwarded to the Senate Graduate Studies Committee for approval. These curriculum items should be effective for **Fall 2022**.

Please include them on the next SGSC agenda.

- ~~**Calendar Description Change for MSc Finance: Introduction of a Research Stream to the Program Requirements**~~
- **New Course Proposals for BUS 890 and BUS 891**
- ~~**Course outlines to accompany proposals**~~
- ~~**Course Change form for BUS 752**~~

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

Andrew Gemino
Associate Dean, Graduate Programs, Beedie School of Business

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC)	Number (eg. 810)	Units (eg. 4)
BUS	890	3

Course title (max. 100 characters)

Research Methods I

Short title (for enrollment/transcript - max. 30 characters) Research Methods I

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

Econometrics and statistics provide the tools of choice to carry out quantitative research. With a focus on laying the groundwork for industry as well as academic applications, much stress is placed on fostering a good understanding of the uses, limitations and potential pitfalls of the most commonly employed methods.

Rationale for introduction of this course

This course is being introduced as part of a new research stream within the MSc Finance program. High level research in the industry as well as much of the finance research in academia critically depend on a wide range of advanced statistical and econometric methods. While the basics of some of these methods are covered in the core of the curriculum, other courses focus on straight-forward applications to standard problems without delving into technical details or more challenging applications. This is fine for the practitioner-oriented streams but falls far short of what would be expected from a qualified high-level researcher. This course provides a foundation for the type of advanced research that is carried out in the finance industry and academia, and thus forms an important part of a comprehensive curriculum in this area.

Term of initial offering (eg. Fall 2019)	Course delivery (eg. 3 hrs/week for 13 weeks)
Fall 2022	3 hrs/week for 13 weeks
Frequency of offerings/year	**Estimated enrollment per offering**
1/year	10

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

Prerequisite and/or Corequisite Students need permission from academic unit.

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

Additional course fees? ☐ Yes ☑ No

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

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

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

Repeat for credit? ☐ Yes ☑ No

Total repeats allowed? _____

Repeat within a term? ☐ Yes ☑ No

Required course? ☑ Yes ☐ No

Final exam required? ☑ Yes ☐ No

Capstone course? ☐ Yes ☑ No

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

* See important definitions on the curriculum website.

RESOURCES

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

Faculty member(s) who will normally teach this course
Eduardo Schwartz, Christina Atanasova, Frederick H. Willeboordse, Deniz Anginer, Victor Song, Ying Duan
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Beedie Grad Programs	Ariel Johnson	busgrcrd@sfu.ca

ACADEMIC UNIT APPROVAL

A course outline must be included.

Non-departmentalized faculties need not sign

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

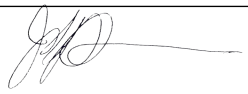
Overlap check done? ☑ YES

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

Faculty Graduate Studies Committee	Signature	Date
Andrew Gemino		October 28, 2021

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

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee	Signature	Date
Jeff Derksen		January 14, 2022

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

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

BUS 890: Research Methods I

Instructor:	Semester: Fall 2022
Email: your SFU email only	Note: (classroom #, blogs, etc.)
Phone:	Office:

Course Description

Quantitative research is essential for many decisions in finance. Indeed, to many funds, it is superior research that is the key to establishing and maintaining a competitive advantage. This course is designed to familiarize participants with the fundamental methods from econometrics and statistics to carry out quantitative research, with a focus on laying the groundwork for industry as well as academic applications. Much stress is placed on fostering a good understanding of the uses, limitations and potential pitfalls of the commonly employed methods.

Objectives

The objective of this course is to provide you with the knowledge to carry out quantitative research in finance. Upon completion of the course, you will be able to:

- use nonlinear techniques of estimation
- understand maximum likelihood and the generalized method of moments
- carry out diagnostic tests for parameter consistency, series correlation and heteroskedasticity
- construct models for time-series and cross-sectional data
- understand unit roots and co-integration
- do simulations and employ Monte Carlo methods

Expectations for Instructor

I will follow the course outline as closely as possible and will notify you of modifications in the outline if they happen. I will attempt to create and maintain a class atmosphere in which you feel free to both listen to others and express your views and ask questions to increase your learning. Please talk with me before or after class or make an appointment to connect with me if there is anything you want to discuss or about which you are unclear. I want to be supportive of your learning and growth.

Course Structure

This course will consist of a mixture of case study discussions, small group exercises, case analysis, and group assignments. (See Learning and Assessments below for grade breakdown).

Books and Materials

1. Davidson & McKinnon, *Estimation and Inference in Econometrics* (1993). Oxford University Press.
2. Selected readings may be provided on Canvas or through external links

Learning and Assessments

Assessment summary

Evaluation in the course will be based on a combination of group and individual work. As in all 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.

Individual	Weekly Quizzes	40%
	Final Exam	40%
Group	Group Project	20%
	Total	**100%**

Grading Policies

All assignments must be submitted by **11:59pm (PST) the day before class, unless otherwise specified**. Late assignments may be penalized at **5% per day** (or portion of) if it is late.

All assignments will be submitted to the Canvas website, where submission time is recorded. If the Canvas site is down, the assignment must be submitted by email to the instructor no later than the set deadline and you will need to upload to Canvas when the site is active again. Late assignments will not be accepted by email.

Extensions and Missed Assignments

If you need an extension on an assignment, you must submit a written request to me by email. You must present a compelling reason for the request, including the length of the extension required. The request must be received at least 3 days before the assigned due date. You will receive a reply via email (and if an extension is granted, the student will be asked to attach a copy of the instructor's reply to the assignment).

Missed Exams

If you miss an exam for a compelling reason, you are to contact your professor immediately to determine if you can schedule a make-up exam. More information about make-up exam policies are included in the Exam Guidelines in your Student Resources canvas page.

Course Policies

Use of Turnitin.com

Written work for this course will be submitted via Turnitin, a third-party service licensed for use by SFU. Turnitin is used for originality checking to help detect plagiarism. Students will be required to create an account with Turnitin, and to submit their work via that account, on the terms stipulated in

the agreement between the student and Turnitin. This agreement includes the retention of your submitted work as part of the Turnitin database. Any student with a concern about using the Turnitin service may opt to use an anonymous identity in their interactions with Turnitin.

Students who do not intend to use Turnitin in the standard manner must notify the instructor at least two weeks in advance of any submission deadline. In particular, it is the responsibility of any student using the anonymous option (i.e. false name and temporary e-mail address created for the purpose) to inform the instructor such that the instructor can match up the anonymous identity with the student.

For more information see the Protection of Privacy section of the SFU calendar.

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 a student has 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.

Reading and Course Schedule

TBA

Academic Integrity

SFU's Academic Integrity website http://www.sfu.ca/students/academicintegrity.html 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 the issues in plain English.

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. http://www.sfu.ca/policies/gazette/student/s10-01.html

ACADEMIC INTEGRITY: YOUR WORK, YOUR SUCCESS

About the Course Instructor

TBA

SFU GRADUATE AND POSTDOCTORAL STUDIES

New Graduate Course Proposal

Course Subject (eg. PSYC) BUS	Number (eg. 810) 891	Units (eg. 4) 3

Course title (max. 100 characters)

Theory of Financial Markets

Short title (for enrollment/transcript - max. 30 characters) **Theory of Financial Markets**

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)

Continuous time is used for the celebrated Black-Scholes Model for pricing derivatives and is also often the most intuitive way to tackle asset pricing, term structure theory and portfolio selection. Through first laying the foundations in discrete time to illustrate the basic mechanisms, continuous time is gently introduced by working out its analogs that form a cornerstone of much of modern finance.

Rationale for introduction of this course

This course is being introduced as part of a new research stream within the MSc Finance program and addresses the need for a more advanced dive into the theory of financial markets when compared to the core and elective courses in the program. Within Finance, the financial markets play an essential role so that an in-depth understanding of the theory of these markets is essential as well. Very broadly speaking, the theory can be in discrete time or continuous time. While some discrete time theories are covered in other courses, the current curriculum only contains a minimal amount of continuous-time theory. While that may be sufficient for the Investment Stream, this is significantly insufficient for the research stream. This course fills the gaps left in the core curriculum and covers the advanced continuous-time theories that form a cornerstone of modern finance.

Term of initial offering (eg. Fall 2019) Fall 2022	Course delivery (eg. 3 hrs/week for 13 weeks) 3 hrs/week for 13 weeks
Frequency of offerings/year 1/year	Estimated enrollment per offering 10

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

Prerequisite and/or Corequisite: Students need permission from the program before entering the research stream.

Criminal record check required? ☐ Yes if yes is selected, add this as prerequisite — Additional course fees? ☐ Yes ☑ No

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

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

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

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

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

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RESOURCES

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Faculty member(s) who will normally teach this course
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CONTACT PERSON

Academic Unit / Program	Name (typically, Graduate Program Chair)	Email
Beedie Grad Programs	Ariel Johnson	busgrcrd@sfu.ca

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A course outline must be included.

Non-departmentalized faculties need not sign

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Overlap check done? ☑ YES

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Faculty Graduate Studies Committee	Signature	Date
Andrew Gemino		October 28, 2021

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ADMINISTRATIVE SECTION (for DGS office only)

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

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

BUS 891: Theory of Financial Markets

Instructor:	Semester: Fall 2022
Email: your SFU email only	Note: (classroom #, blogs, etc.)
Phone:	Office:

Course Description

The theory of continuous-time finance is essential for a realistic description of financial markets. For example, the celebrated Black-Scholes Model for pricing derivatives is based on continuous time. Furthermore, continuous time is often also the most intuitive way to tackle asset pricing, term structure theory and portfolio selection.

This course will gently introduce continuous time by first laying the foundations in discrete time to illustrate the basic mechanisms, and then work out the continuous-time analogs that form a cornerstone of much of modern finance.

Objectives

The objective of this course is to provide you with a solid insight into some of the currently most prominent theories of financial markets. Upon successful completion of this course, you will be able to understand:

- the basics of stochastic calculus
- equilibrium pricing
- Brownian motion and Itô processes
- dynamic and global optimizations applied to portfolio choice
- heterogenous expectations
- risk-neutral pricing

Furthermore, you will be able to do computational work that uses the concepts and methods from continuous-time finance.

Course Expectations

It should also be noted that we will expand on the mathematical and econometric methods introduced earlier in the MSc in Finance curriculum. While the materials are as such self-contained, affinity with Mathematics and programming are important.

Expectations for Instructor

I will follow the course outline as closely as possible and will notify you of modifications in the outline if they happen. I will attempt to create and maintain a class atmosphere in which you feel free to both listen to others and express your views and ask questions to increase your learning. Please talk with me before or after class or make an appointment to connect with me if there is anything you want to discuss or about which you are unclear. I want to be supportive of your learning and growth.

Course Structure

This course will consist of a mixture of case study discussions, small group exercises, case analysis, and group assignments. (See Learning and Assessments below for grade breakdown).

Books and Materials

1. Dumas and Luciano, *The Economics of Continuous-Time Finance* (2017). MIT Press.
2. Selected readings may be provided on Canvas or through external links

Learning and Assessments

Assessment summary

Evaluation in the course will be based on a combination of group and individual work. As in all 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.

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integrity is required of all members of the University. http://www.sfu.ca/policies/gazette/student/s10-01.html

ACADEMIC INTEGRITY: YOUR WORK, YOUR SUCCESS

About the Course Instructor

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