SFU GRADUATE AND POSTDOCTORAL STUDIES

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MEMORANDUM

ATTENTION Senate

DATE September 12, 2017

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

RE: New Course Proposals

For information:
Acting under delegated authority and at its meeting of September 11, 2017 SGSC approved the following new course proposals effective **summer 2018:**

Faculty of Arts and Social Sciences

1) PLCY 830 Law, Public Policy and Dispute Resolution

Faculty of Communications, Art and Technology

2) IAT 890 PhD Comprehensive Exam

Faculty of Science

3) STAT 602 Analysis of Experimental and Observational Data
4) STAT 605 Biostatistical Methods

SFU

MEMO

Faculty of Arts and Social Sciences

Office of the Dean

ATTENTION: Wade Parkhouse, Dean
Graduate Studies

FROM: Lisa Shapiro, Chair
Faculty of Arts and Social Sciences Graduate Studies Committee

RE: Curricular Revisions: School of Public Policy

DATE: February 3, 2015

At its meeting of January 29, 2015, the Faculty of Arts and Social Sciences Graduate Studies Committee approved the curricular revisions, as submitted by the School of Public Policy (FASSGSC 14-15):

- New course proposals for PLCY ~~815~~ 830 and ~~PLCY 816~~ ~~831~~

Would you please place these items on the agenda of the next SGSC meeting.

LS:jsh
Att.

FASSGSC 14-15

SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

Graduate Public Policy Program
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Canada V6B 5K3
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E-mail: mpp@sfu.ca
http://www.sfu.ca/mpp/

MEMO

To: Jane Pulkingham, Associate Dean FASS
From: Doug McArthur, Director
Date: 16 December 2014
Re: Curriculum changes for the School of Public Policy in support of the proposal For two new courses

At its meeting of 31 October 2014 all the members of the School of Public Policy approved the attached new course proposal for PLCY ~~815~~ 830 :

Would you please place this proposal on the agenda of the next meeting of the Faculty of Arts and Social Sciences Graduate Studies Curriculum Committee.

Thank you,

Doug McArthur

SIMON FRASER UNIVERSITY
GRADUATE STUDIES & POSTDOCTORAL FELLOWS

New Graduate Course Proposal

Please save the form before filling it out to ensure that the information will be saved properly.

Course Subject (eg. PSYC)	PLCY	Number (eg. 810)	830	Units (eg. 4)	5

Course title (max 100 characters including spaces and punctuation)
Law, Public Policy and Dispute Resolution

Short title (for enrollment/transcript - max 30 characters)
Law & Dispute Resolution

Course description for SFU Calendar *
A range of contemporary public policy issues in law and governance are examined in this course. Students will explore different methodologies employed in resolving major policy conflicts including: environmental, family and criminal justice, aboriginal land claims and treaties. Case studies and role plays are used extensively throughout the course.

Rationale for introduction of this course
For three years the School of Public Policy has offered this course as a special topics course. It has proved popular among our students. Given the importance of law in public policy issues and the increasing pressure to manage dispules appropriately this will be of real assistance to our students in whatever field of public policy they enter.

Effective term and year	Summer 2018	Course delivery (eg 3 hrs/week for 13 weeks)	4hrs/week for 13 weeks
Frequency of offerings/year	1	Estimated enrollment/offering	capped at 15

Equivalent courses (These are previously approved courses that replicate the content of this course to such an extent that students should not receive credit for both courses.)

Prerequisite and/or Corequisite **

Criminal record check required? ☐ Yes ☑ No If yes, then add this requirement as a prerequisite.

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

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

Grading Basis ☑ Letter grades ☐ Satisfactory/Unsatisfactory ☐ In Progress/Complete | Capstone course? ☐ Yes ☑ No

Repeat for credit? *** ☐ Yes ☑ No | Total completions allowed? _____ | Repeat within a term? ☐ Yes ☑ No

Required course? ☐ Yes ☑ No | Final exam required? ☐ Yes ☑ No | Additional course fees? ☐ 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:

* Course descriptions should be brief and should never begin with phrases such as "This course will..." or "The purpose of this course is..." If the grading basis is satisfactory/unsatisfactory include this in the description.
** If a course is only available to students in a particular program, that should be stated in the prerequisite.
*** This mainly applies to a Special Topics or Directed Readings course.

RESOURCES

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

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

CONTACT PERSON

Department / School / Program	Contact name	Contact email
School of Public Policy	Maureen Maloney	mmaloney@sfu.ca

DEPARTMENTAL APPROVAL

REMINDER: New courses must be identified on a cover memo and confirmed as approved when submitted to FGSC/SGSC. Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee	Signature	Date
School of Public Policy	D. McArthur	Dec 15, 2014
Department Chair	Signature	Date
Douglas McArthur	D. McArthur	Dec 15/2014

LIBRARY REVIEW

Library review done? ☑ YES

Course form, outline, and reading list must be sent by FGSC to lib-courseassessment@sfu.ca for a review of library resources.

OVERLAP CHECK

Overlap check done? ☑ YES

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

FACULTY APPROVAL

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

Faculty Graduate Studies Committee (FGSC)	Signature	Date
Lisa Shapiro		4 Feb 2015

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)	Signature	Date
Jeff Derksen		SEP 12, 2017

ADMINISTRATIVE SECTION (for DGS office only)

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

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

Public Policy, Law and Dispute Resolution
PLCY ~~816~~ 830

Instructor: Maureen Maloney
E Mail: mmaloney@sfu.ca
Phone: 778 782 9066
Office: Rm.3303 Harbour Centre

Required Texts:

- Coursepack – available at the SFU Bookstore

Course Description

The course examines a range of contemporary issues of governance and concentrates on different methodologies utilised in resolving public policy conflicts. It focuses on the interaction of legislative, judicial, and administrative institutions and processes as they respond to such pressures as the demand for enhanced representation; public participation and direct democracy; access to justice and alternative dispute resolution; aboriginal self-government; fiscal restraint; public accountability; and ethics. The course draws from a wide array of research and experiences in using different methods of resolving public policy conflicts drawn from a variety of areas including: environmental disputes, residential school issues, family conflicts, criminal matters and aboriginal land claims and treaties.

Methodology

Seminar-style discussions and lectures, student participation and in role plays with student presentations. Expert guests may also be invited.

Evaluation Criteria

- No final examination
- 65% Research paper: : 4,000-5,0000 words;
  - Marks deducted for excess words. In addition, words in excess of 5,000 will not be marked..
  - Research paper is due **MONDAY April 16 no later than 3 p.m.,**
  - Grade reduced by four percentage points for each day (or part thereof) that paper is late. Days include Sat, Sun, and holidays. NB. Papers must be submitted both in Hard Copy and Electronic Copy. **Fax transmittal of papers is not permitted.**
- 25% Class presentations
  - Each student must prepare a seminar of 30 minutes on a topic allotted by the professor plus prepare:
    (a) three – four questions on the topic; *or*
    (b) prepare one – short role play around that topic. (Maximum 15 minutes)
- 10% Participation in class

  General Evaluation Criteria – see attached

Public Policy, Law and Dispute Resolution
PLCY ~~816~~ 830

PLEASE NOTE; That taping, photographing or recording of presentations or activities in the classroom is prohibited without the express permission of the Professor and the student or students who may be captured by such taping, photography or recording

APPENDIX A:
Objectives, Expectations & Evaluation Criteria for Research Paper
Criteria for Class Presentations
Criteria for Class Participation
Academic Integrity

SFU
FACULTY OF COMMUNICATION, ART AND TECHNOLOGY
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MEMORANDUM

ATTENTION	Jeff Derksen, Acting Dean of Graduate Studies	DATE	August 10, 2017
FROM	Zoë Druick, FCAT Associate Dean & Chair, FCAT-Graduate Studies Committee	PAGES	
RE:	SGSC Agenda Item – SIAT Calendar entry		

On behalf of the Faculty of Communication, Art and Technology, I am forwarding for SGSC's consideration the following calendar changes from SIAT. These changes, approved by the FCAT GSC electronically on August 4, follow on course changes that were approved by the GSC in July 2016 and by SGSC in September 2016.

~~1) The addition of previously required courses to a list of electives for MA, MSc, and PhD;~~
2) The addition of a course number for the PhD Comprehensive Examination (IAT 890);
~~3) A change to the title of IAT 899;~~
~~4) A revision of the PhD degree calendar entry to include the previous three changes~~.

Thank you for your attention to this matter.

Zoë Druick
Associate Dean, FCAT
Chair, FCAT Graduate Studies Committee

cc: Bernhard Riecke, Graduate Program Chair, SIAT

/encl

ZD/ld

SFU SIMON FRASER UNIVERSITY
GRADUATE STUDIES & POSTDOCTORAL FELLOWS

New Graduate Course Proposal

Attach a separate document if more space is required.

Course Subject (eg. PSYC) IAT	Number (eg. 810) 890	Units (eg. 4) 0

Course title (max 100 characters including spaces and punctuation)
PhD Comprehensive Exam

Short title (for enrollment/transcript - max 30 characters)
PhD Comprehensive Exam

Course description for SFU Calendar *
With the consent of their supervisory committee, students may sit the Comprehensive Examination following completion of required course work. Upon passing the student will be admitted to full degree candidacy. Graded on a satisfactory/unsatisfactory basis. The examination may be retaken once.

Rationale for introduction of this course
To formalize comprehensive examination process.

Term of initial offering 1184	Course delivery (eg 3 hrs/week for 13 weeks) N/A
Frequency of offerings/year 3	Estimated enrollment/offering

Equivalent courses (These are previously approved courses that replicate the content of this course to such an extent that students should not receive credit for both courses.)
N/A

Prerequisite and/or Corequisite **
Enrolment in SIAT PhD Program and completion of Annotated Bibliography.

Educational Goals (optional)

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

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

Course Components ☐ Lecture ☐ Seminar ☐ Lab ☐ Research ☐ Practicum ☐ Online ☑ IND

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

Repeat for credit? **** ☑ Yes ☐ No	Total repeats allowed? 3	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:

* Course descriptions should be brief and should never begin with phrases such as "This course will..." or "The purpose of this course is..." If the grading basis is satisfactory/unsatisfactory include this in the description.
** If a course is only available to students in a particular program, that should be stated in the prerequisite.
*** If yes, then add this requirement as a prerequisite.
**** This applies to a Special Topics or Directed Readings course.

RESOURCES

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

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

CONTACT PERSON

Department / School / Program	Contact name	Contact email
SIAT	Tiffany Taylor	siatgrad@sfu.ca

DEPARTMENTAL APPROVAL

REMINDER: New courses must be identified on a cover memo and confirmed as approved when submitted to FGSC/SGSC. Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee Bernhard Riecke	Signature	Date July 21 2017
Department Chair Thecla Schiphorst	Signature	Date July 21 2017

LIBRARY REVIEW

Library review done? ☐ YES ✓ N/A

Course form, outline, and reading list must be sent by FGSC to lib-courseassessment@sfu.ca for a review of library resources.

OVERLAP CHECK

Overlap check done? ☐ YES ✓ NA

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

FACULTY APPROVAL

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

Faculty Graduate Studies Committee (FGSC)	Signature Z Druick	Date Aug 10, 2017

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC) Jeff Derksen	Signature	Date SEP 12 2017

ADMINISTRATIVE SECTION (for DGS office only)

Course Attribute: _____

Course Attribute Value: _____

Instruction Mode: _____

Attendance Type: _____

If different from regular units:

Academic Progress Units: 6.00

Financial Aid Progress Units: _____

SFU

MEMO

Faculty of Science

ATTENTION Wade Parkhouse, Dean, Graduate Studies

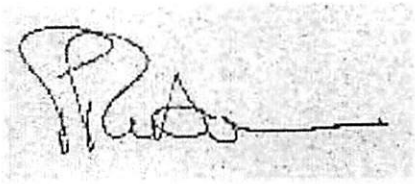
FROM Peter Ruben, Associate Dean, Research and Graduate Studies, Faculty of Science

RE New courses - Statistics

DATE April 24, 2017

TIME 12:12 PM

The Department of Statistics and Actuarial Science seeks to offer two new courses, Statistics 602 and Statistics 605, intended for graduate students from other Faculties and Departments outside of Statistics. They will be cross-listed with undergraduate courses, Statistics 302 and Statistics 305, respectively, both of which are targeted at undergraduate Statistics majors. These new courses have been approved by the Faculty of Science Graduate Committee and are forwarded for approval by the Senate Graduate Studies Committee. Please include this item on the next SGSC agenda.



P. Ruben

SFU

faculty of science

Statistics & Actuarial Science

contact information
Tim Swartz
Professor
T:(778) 782-4579
F:(778) 782-4368
tim@stat.sfu.ca

mailing address
Dept of Stats/Actsci
8888 University Drive
Burnaby, BC Canada
V5A 1S6

March 29, 2017

To: Peter Ruben
Faculty of Science Graduate Studies Committee

Re: Course Proposals - STAT 602-3 and STAT 605-3

We propose the introduction of the courses STAT 602-3 (Analysis of Experimental and Observational Data) and STAT 605-3 (Biostatistical Methods for Health Sciences). These courses are intended for graduate students outside of the Department of Statistics and Actuarial Science and will be cross-listed with STAT 302-3 and STAT 305-3, respectively.

The proposal is in keeping with our Department's objective to facilitate more quantitative research expertise across the university.

This proposal is to be presented to the Faculty of Science Graduate Curriculum Committee for consideration of having the course added to the Calendar.

The course was approved by the Department of Statistics and Actuarial Science at the February 10/17 Departmental meeting.

Tim Swartz
Graduate Chair, Stats/ActSci

SIMON FRASER UNIVERSITY
GRADUATE STUDIES & POSTDOCTORAL FELLOWS

New Graduate Course Proposal

Attach a separate document if more space is required.

Course Subject (eg. PSYC) STAT	Number (eg. 810) 602	Units (eg. 4) 3

Course title (max 100 characters including spaces and punctuation)
Analysis of Experimental and Observational Data

Short title (for enrollment/transcript - max 30 characters)
Analysis of Exp and Obs Data

Course description for SFU Calendar *
The standard techniques of multiple regression analysis, analysis of variance, and analysis of covariance, and their role in experimental research.

Rationale for introduction of this course
Graduate students across the university are becoming more involved with the analysis of data. This course introduces some of the fundamental data analysis techniques.

Term of initial offering Summer 2018	Course delivery (eg 3 hrs/week for 13 weeks) 3hrs/week for 13 weeks
Frequency of offerings/year once per year	Estimated enrollment/offering 15

Equivalent courses (These are previously approved courses that replicate the content of this course to such an extent that students should not receive credit for both courses.)
STAT 302

Prerequisite and/or Corequisite **
Any course in Statistics. Open only to students in departments other than Statistics and Actuarial Science.

Educational Goals (optional)

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

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

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

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

Repeat for credit? **** ☐ Yes ☑ No	Total repeats 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:
STAT 302. No additional requirements for graduate students

* Course descriptions should be brief and should never begin with phrases such as "This course will..." or "The purpose of this course is..." If the grading basis is satisfactory/unsatisfactory include this in the description.
** If a course is only available to students in a particular program, that should be stated in the prerequisite.
*** If yes, then add this requirement as a prerequisite.
**** This applies to a Special Topics or Directed Readings course.

RESOURCES

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

Faculty member(s) who will normally teach this course
Altman, Bingham, Campbell, Graham, Hu, Lockhart, Loughin, McNeney, Schwarz, Swartz, Tang, Tho
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Department / School / Program	Contact name	Contact email
Statistics and Actuarial Science	Sadika Jungic	sjungic@sfu.ca

DEPARTMENTAL APPROVAL

REMINDER: New courses must be identified on a cover memo and confirmed as approved when submitted to FGSC/SGSC. Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee Tim Swartz	Signature	Date Mar 29/17
Department Chair Tom Loughin	Signature	Date Mar 29/17

LIBRARY REVIEW

Library review done? ☑ YES

Course form, outline, and reading list must be sent by FGSC to lib-courseassessment@sfu.ca for a review of library resources.

OVERLAP CHECK

Overlap check done? ☑ YES

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

FACULTY APPROVAL

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

Faculty Graduate Studies Committee (FGSC)	Signature	Date
Peter Ruben	Peter C Ruben	6 April 2017

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)	Signature	Date
Jeff Derksen		SEP 12 2017

ADMINISTRATIVE SECTION (for DGS office only)

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

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

SPRING 2018 - STAT 602 G100

ANALYSIS OF EXPERIMENTAL AND OBSERVATIONAL DATA (3)

PREREQUISITES:

Any course in Statistics. Open only to students in departments other than Statistics and Actuarial Science

CALENDAR DESCRIPTION:

The standard techniques of multiple regression analysis, analysis of variance, and analysis of covariance, and their role in experimental research.

COURSE DETAILS:

Lab Instructor: Marie Loughlin

Course Outline:

TOPICS

1. Introduction to Regression Analysis

Simple regression, regression and causality, assumptions of linear regression, measuring adequacy of assumptions, estimation of error variance, inferences concerning slope and intercept, inferences concerning the simple regression line, interpretation of estimated regression lines, prediction with regression line.

2. Correlation and its Relationship to Regression

Definition of the correlation coefficient, R, measures of association, the bivariate normal distribution, what R does not measure, estimation and testing with R.

3. Analysis of Variance

One- and two-way analysis of variance, the analysis of variance table and related tests, fixed and random effects, multiple comparison

procedures and contrasts.

4. Multiple Regression Analysis
Using more than one independent variable, graphical considerations for this problem, assumptions, collinearity, estimation of the best regression equation, analysis of variance table, overall and partial F tests.

5. The General Linear Model
Multiple regression and analysis of variance as special cases of the general linear model. The general procedure for constructing F-tests by fitting restricted models. Applications to analysis of covariance and comparison of two regression models.

6. Correlations: Multiple, Partial and Multiple-Partial
Correlation matrix, multiple correlation coefficient, the multivariate normal distribution, partial correlation coefficient, F-tests for multiple and partial correlations.

7. Analysis of Residuals
Checking on the assumptions of regression and analysis of variance models, effects of departures from the assumptions, transformations.

SIMON FRASER UNIVERSITY
GRADUATE STUDIES & POSTDOCTORAL FELLOWS

New Graduate Course Proposal

Attach a separate document if more space is required.

Course Subject (eg. PSYC) STAT	Number (eg. 810) 605	Units (eg. 4) 3
Course title (max 100 characters including spaces and punctuation) Biostatistical Methods		
Short title (for enrollment/transcript - max 30 characters) Biostats Methods		
Course description for SFU Calendar * Intermediate statistical techniques for the health sciences. Review of introductory concepts in statistics and probability including hypothesis testing, estimation and confidence intervals for means and proportions. Contingency tables and the analysis of multiple 2x2 tables. Correlation and regression. Multiple regression and model selection. Logistic regression and odds ratios. Basic concepts in survival analysis.		
Rationale for introduction of this course Graduate students across the university are becoming more involved with the analysis of data. This course introduces statistical methodology particularly suited to the health sciences.		
Term of initial offering Summer 2018	Course delivery (eg 3 hrs/week for 13 weeks) 3hrs/week for 13 weeks	
Frequency of offerings/year once per year	Estimated enrollment/offering 10	
Equivalent courses (These are previously approved courses that replicate the content of this course to such an extent that students should not receive credit for both courses.) STAT 305		
Prerequisite and/or Corequisite ** Any course in Statistics. Open only to students in departments other than Statistics and Actuarial Science.		
Educational Goals (optional)		
Criminal record check required? ☐ Yes ***	Additional course fees? ☐ Yes ☑ No	
Campus where course will be taught ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus		
Course Components ☑ Lecture ☐ Seminar ☐ Lab ☐ Research ☐ Practicum ☐ Online ☐ _____		
Grading Basis ☑ Letter grades ☐ Satisfactory or Unsatisfactory ☐ In Progress/Complete		
Repeat for credit? **** ☐ Yes ☑ No	Total repeats 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: STAT 305. No additional requirements for graduate students.		

* Course descriptions should be brief and should never begin with phrases such as "This course will..." or "The purpose of this course is..." If the grading basis is satisfactory/unsatisfactory include this in the description.
** If a course is only available to students in a particular program, that should be stated in the prerequisite.
*** If yes, then add this requirement as a prerequisite.
**** This applies to a Special Topics or Directed Readings course.

RESOURCES

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

Faculty member(s) who will normally teach this course
Altman, Bingham, Campbell, Graham, Hu, Lockhart, Loughin, McNeney, Schwarz, Swartz, Tang, Tho
Additional faculty members, space, and/or specialized equipment required in order to offer this course

CONTACT PERSON

Department / School / Program	Contact name	Contact email
Statistics and Actuarial Science	Sadika Jungic	sjungic@sfu.ca

DEPARTMENTAL APPROVAL

REMINDER: New courses must be identified on a cover memo and confirmed as approved when submitted to FGSC/SGSC. Remember to also include the course outline.

Non-departmentalized faculties need not sign

Department Graduate Program Committee Tim Swartz	Signature T Swartz	Date Mar 29/17
Department Chair Tom Loughin	Signature	Date Mar 29/17

LIBRARY REVIEW

Library review done? ☑ YES

Course form, outline, and reading list must be sent by FGSC to lib-courseassessment@sfu.ca for a review of library resources.

OVERLAP CHECK

Overlap check done? ☑ YES

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

FACULTY APPROVAL

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

Faculty Graduate Studies Committee (FGSC)	Signature	Date
Peter Ruben	Peter C Ruben	6 April 2017

SENATE GRADUATE STUDIES COMMITTEE APPROVAL

Senate Graduate Studies Committee (SGSC)	Signature	Date
Jeff Derksen		SEP 1 2 2017

ADMINISTRATIVE SECTION (for DGS office only)

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

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

SPRING 2018 - STAT 605 G100

BIOSTATISTICAL METHODS

PREREQUISITES:

Any course in Statistics. Open only to students in departments other than Statistics and Actuarial Science.

CALENDAR DESCRIPTION:

Intermediate statistical techniques for the health sciences. Review of introductory concepts in statistics and probability including hypothesis testing, estimation and confidence intervals for means and proportions. Contingency tables and the analysis of multiple 2x2 tables. Correlation and regression. Multiple regression and model selection. Logistic regression and odds ratios. Basic concepts in survival analysis.

COURSE DETAILS:

Lab Instructor: Marie Loughin

Course Outline:

This course provides an opportunity for the further development of analytic skills acquired in basic courses in statistics and the health sciences. It concentrates on the relatively few techniques that are currently most used in health research, but it also seeks to provide a conceptual basis for understanding other techniques as well. An attempt is made to focus on unifying principles and widely applicable methods as opposed to presenting an array of unrelated ad hoc methods. The material is presented descriptively, from the point of view of understanding and practical use.

The emphasis of the course is on analysis (rather than design) of primarily observational studies where there is one outcome variable of primary interest and where the data are made up of multiple independent observations. Important areas not covered are: classical multivariate analysis (e.g., factor analysis, discriminant analysis, etc.), longitudinal data analysis, time series, random effects models, and experimental design considerations (e.g., Latin squares, etc.).

Objectives:

By the end of the course the participant should:

1. understand the concept of a statistical model and how such models correspond to specific hypotheses or questions,
2. be able to interpret the results of an analysis in relation to the original questions or hypotheses that motivated the analysis,
3. be familiar with data analysis methods commonly used in health sciences and understand the basic limitations of competing methods,
4. understand and be able to critique the analysis methods described in published health research papers,
5. be able to communicate effectively with statistical consultants.

Topics:

The scheduling of the following topics is approximate:

1. Review of introductory statistics: Hypothesis testing, estimation and confidence intervals for means and proportions.
2. Review of basic concepts of probability with applications including diagnostic testing, sensitivity and specificity, the relative risk and the odds ratio.
3. Contingency Tables: The Chi-square test, r x c tables, multiple 2x2 tables, Simpson's paradox, Mantel- Haenszel method.
4. Correlation and simple linear regression: Regression concepts, estimation and testing for regression coefficients, evaluation of the model.
5. Multiple linear regression: Inference for regression coefficients, confounding and interaction, indicator variables, model selection, prediction, model assumptions and checking.
6. Logistic regression: Odds ratios, inference for regression coefficients, model assumptions and checking, case-control studies.
7. Time permitting: Survival analysis including life tables, censoring, Kaplan-Meier method, log-rank test.