

**SENATE MEETING
PUBLIC SESSION
MINUTES**

February 23, 2011
3:30 – 5:30 PM
Room 7-172 Bentley Centre

Present:

E. Annis, G. Ashoughian, S. Beeler, S. Bennett, T. Binnema, C. Carriere, D. Casperson, C. Chasteauneuf, L. Chen, M. Dale, J. DeGrace (Secretary of Senate), S. Déry, H. Donker, M. Green, W. Haque, M. Hatcher, K. Hutchings (Vice Chair), G. Iwama (Chair), E. Jensen, E. Kim, D. Leighton-Stephens, J. Li, D. Macknak, S. McKenzie, C. Myers (Recording), C. O'Callaghan, M. Reid, R. Robinson, I. Uche-Ezeala, J. Van Barneveld, S. Wagner, J. Young

Regrets:

O. Adegbite, M. Archie, R. Brouwer, A. Dayanandan, G. Fondahl, R. Hoffman, M. Kizhakkeniyil, R. Lazenby, D. Nyce, D. Ryan, S. Zahir

Absent:

J. Alec

The meeting commenced at 3:30 p.m.

1.0 S-201102.01

Approval of the Agenda

Hartley / Déry

That the Agenda for the February 23, 2011 Public Session of Senate be approved as presented.
CARRIED.

2.0 S-201102.02

Approval of Senate Minutes

Déry / Beeler

That the minutes of the January 25, 2011 Public Session of Senate be approved as presented.
CARRIED.

3.0 Business Arising from Previous Minutes of Senate

No business arising was identified.

4.0 President's Report

Iwama

Dr. Iwama expressed his congratulations to Dr. Lisa Dickson, who is the recipient of a 3M Teaching Award.

The President reported that, with regard to the Year of Science, UNBC has a Working Group to develop activities because we have been awarded a couple of small grants for the event. UNBC has also received one of the signature events, which will be held in the Civic Centre on April 11 and 12.

Dr. Iwama noted that the Senate Committee on the University Budget has been meeting on a regular basis, in conjunction with the budget discussions that are currently underway. He added that, in terms of the approval process, the draft budget will be presented to Senate and the Board of Governors, and upon approval by the Board of Governors there will be a Town Hall meeting to share the budget with the University community.

Dr. Iwama reported there would be a review of the Office of the Registrar taking place on March 1 and 2.

Finally, with regard to the recent changes in the provincial government, discussions related to the Wood Innovation and Design Centre and the removal of UNBC as a Government Reporting Entity were currently on hold and that it may be April before clarity is achieved regarding moving forward on these initiatives.

5.0 Report of the Provost

Dale

As Dr. Dale was attending the meeting by teleconference while in transit, specifically for the purpose of addressing the proposed Engineering degrees, he had nothing to report.

6.0 Question Period

A Senator mentioned that at the last meeting of the Board of Governors there was discussion regarding fundraising and asked for further information about this initiative. Dr. Iwama responded that Dr. Jack Blaney, former President of Simon Fraser University, had spoken about the role of the Board in fundraising at the Board's planning session in January. Dr. Iwama added that this was a timely discussion in light of the recently developed University Plan and Action Plans, and that the first step was to determine our area of greatest need. The Vice President External Relations had recently met with some similar-sized universities in Atlantic Canada regarding the infrastructure they have in place and other components of successful fundraising.

Dr. Iwama reported that at their planning session the Board had also discussed best practices with regard to governance, notes from which he would like to make available to Senators.

A Senator reminded the President that at the December meeting of Senate he had asked for information about the number of employees in each employee group, and asked whether this would be provided. Dr. Iwama responded that he has asked Institutional Research for this report but that they indicated it would be a challenge to produce. Dr. Iwama agreed to provide a status update as soon as possible.

A Senator suggested that, given the bicameral nature of the University's governance, it might be useful in some areas to have communication between Senators and Governors of the Board. Dr. Iwama responded that he would suggest this to the Board of Governors, and added that the Senate-Board Liaison Committee would be meeting soon.

7.0 S-201102.03

Approval of Motions on the Consent Agenda

Chasteauneuf / Déry

That the motions on the consent agenda, except for those removed for placement on the regular agenda, be approved as presented.

CARRIED.

8.0 Committee Reports

8.1 Senate Committee on Academic Policy and Planning

Dale

"For Approval" Items:

An Executive Summary of the proposed new Engineering Programs was included for information.

Dr. Dale thanked those who had developed the draft documents for these Programs. He noted that these motions are for approval in principal, as mounting the Programs will depend on receiving full funding. He added that it was important, however, to make it clear to the government that UNBC is committed to these Programs and ready to move forward when the money is available, and that the government has committed to support this whether or not the Wood Innovation and Design Centre materializes.

A Senator asked for clarification on the implications of approving these motions, and questioned what would happen if the government grants 97% of the funding required. Dr. Dale responded that approval in principal enables UNBC to move forward, and that details about the curriculum depend on advice obtained regarding accreditation. A member of the gallery asked whether the programs as they are currently proposed are in alignment with current accreditation standards, and Dr. Dale replied that they are. A Senator asked what the advantage was to approving these programs in principal rather than waiting until all the details are confirmed and approving them outright. Dr. Dale explained that approval in principal demonstrates to the government a commitment to proceed, at which point the University can then enter into discussions with the Ministry.

S-201102.04

New Program Approval — Engineering Program (BASc)

Li / Donker

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the new Engineering Program (BASc) be approved in principle.

Proposed Start Date: Upon receiving appropriate funding from the Ministry, and receipt of program approval from Senate, Board and the Ministry.

CARRIED.

S-201102.05

New Program Approval — Civil Engineering Program (BASc)

Li / Donker

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the new Civil Engineering Program (BASc) be approved in principle.

Proposed Start Date: Upon receiving appropriate funding from the Ministry, and receipt of program approval from Senate, Board and the Ministry.

CARRIED.

S-201102.06

New Program Approval — Mechanical Engineering Program (BASc)

Li / Hartley

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the new Mechanical Engineering Program (BASc) be approved in principle.

Proposed Start Date: Upon receiving appropriate funding from the Ministry, and receipt of program approval from Senate, Board and the Ministry.

CARRIED.

An Executive Summary of the proposed revisions to the curriculum for the Department of Mathematics and Statistics was included for information.

S-201102.07

New Course Approval — MATH 409-3

Jensen / Reid

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the new course MATH 409-3 Mathematical Methods in Physics be approved as proposed.

Proposed semester of first offering: September 2011

CARRIED.

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

This course surveys the methods and techniques involved in the formulation and solutions of physics problems. Topics include matrix algebra and group theory, eigenvalue problems, differential equations, functions of a complex variable, Green's functions, Fourier series, integral equations, calculus of variations, and tensor analysis.

Prerequisites: permission of instructor

Co-requisites: none

Preclusions: PHYS 409-3

Course Equivalencies: PHYS 409-3

S-201102.08

Changes to Program Requirements and Calendar Description — Department of Mathematics and Statistics

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the change(s) to the program description on pages 149-151 of the 2010/2011 undergraduate calendar, be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

Mathematics (~~BSc Program~~) and Statistics

Jennifer Hyndman, Professor, and Department Chair

Iliya Bluskov, Professor

Lee Keener, Professor

Pranesh Kumar, Professor

Sam Walters, Professor

Kevin Keen, Associate Professor

~~Rob Robb~~ Fry, Adjunct Professor

Francesca Apruzzese, Adjunct Professor

Edward Dobrowolski, Adjunct Professor

~~Cristian Ivanescu, Adjunct Professor~~

Patrick Montgomery, Adjunct Professor

~~Anamaria Savu, Adjunct Professor~~

Website: <http://www.unbc.ca/math>

The Department of Mathematics and Statistics provides undergraduate and postgraduate instruction and training in pure mathematics, applied mathematics, and statistics. A Bachelor of Science degree is available in Mathematics, as well as joint BSc degrees in Mathematics and Physics, Economics and Mathematics, Chemistry and Mathematics, and Computer Science and Mathematics.

In addition, there is a minor in Mathematics and a minor in Statistics. A graduate degree (MSc – Mathematical, Computer, and Physical Sciences) is also supported by the Department of Mathematics and Statistics. Students interested in graduate studies are advised to consult the UNBC Graduate Calendar for further information.

The Department of Mathematics and Statistics offers Mathematics and Statistics service courses to students in the biological sciences, health sciences, management, economics, social sciences, and other areas.

Some sections of introductory calculus are enhanced through the use of computer software which provides exceptional computational power and high-quality graphical display. Introductory statistics courses teach the use of statistical analysis software to analyze data.

An important feature of the Mathematics degree program is the early emphasis on the development of abstract reasoning and the relation of the abstract to the concrete. The degree requirements have been chosen so as to provide students with a broad background in Mathematics while still leaving them room to pursue individual interests.

For more information please visit our website at www.unbc.ca/math.

~~Major in~~ Mathematics (BSc Program)

A major in Mathematics requires 17 mathematics courses (51 credit hours), at least 30 credit hours of which must be upper-division courses; and, of those upper-division credit hours, at least 12 must be taken at the 400 level.

MATH 342-3 (Biostatistics) may not be used for credit towards any Mathematics major, minor, or joint major.

MATH 150-3 (Finite Mathematics for Business and Economics) may not be used for credit towards any Mathematics major or joint major.

The minimum requirement for completion of a Bachelor of Science with a major in Mathematics is 120 credit hours.

Program Requirements

Note: Unless otherwise stated, students enrolling in any Mathematics courses with prerequisites are required to have completed all prerequisite courses for that course with a C- or better, or have permission to enrol from the Program Chair.

Literacy Requirement

One of:

ENGL 170-3	Writing and Communication Skills
ENGL 270-3	Expository Writing

Lower-Division Requirement

100 Level

CPSC 100-4	Computer Programming I
CPSC 141-3	Discrete Computational Mathematics
MATH 100-3	Calculus I
or MATH 105-3	Enriched Calculus
MATH 101-3	Calculus II

200 Level

MATH 200-3	Calculus III
MATH 201-3	Introduction to Complex Analysis
MATH 220-3	Linear Algebra
MATH 224-3	Foundations of Modern Mathematics
MATH 230-3	Linear Differential Equations and Boundary Value

Problems

Recommended

CPSC 101-4	Computer Programming II
CPSC 242-3	Mathematical Topics for Computer Science

General Science Requirement

Two of:

BIOL 101-4	Introductory Biology I
BIOL 102-4	Introductory Biology II
CHEM 100-3	General Chemistry I
and CHEM 120-1	General Chemistry Lab I
CHEM 101-3	General Chemistry II
and CHEM 121-1	General Chemistry Lab II
PHYS 100-4	Introduction to Physics I
or PHYS 110-4*	Introductory Physics I:
PHYS 111-4*	Introductory Physics II: Waves and Electricity

***Note:** PHYS 110-4 (Introductory Physics I: Mechanics) and PHYS 111-4 (Introductory Physics II: Waves and Electricity) are strongly recommended for all majors.

Upper-Division Requirement

300 Level

MATH 302-3	Theory of Metric Spaces
MATH 320-3	Survey of Algebra
MATH 321-3	Topology
—or MATH 326-3	Advanced Linear Algebra
MATH 336-3	Intermediate Differential Equations
or MATH 335-3	Numerical Analysis I
MATH <u>STAT</u> 371-3	Probability and Statistics for Scientists and Engineers
MATH <u>STAT</u> 372-3	Mathematical Statistics

300 or 400 Level

<u>MATH 326-3</u>	<u>Advanced Linear Algebra</u>
—or <u>MATH 405-3</u>	<u>Topology</u>

400 Level

Twelve additional credit hours of 400-level ~~Mathematics~~ MATH or STAT courses.

Elective and Academic Breadth Requirement

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours, including any

additional credits necessary to meet the Academic Breadth requirement of the University (see Academic Regulations 15).

A document outlining the requested order of motions was included for information.

S-201102.09

Change to Course Prefix, Calendar Course Description, and Preclusions — MATH 371-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 371-3 Probability and Statistics for Scientists and Engineers be changed to STAT on pages 75, 86, 87, 89, 90 (2 places), 91, 92, 112, 113, 118, 150 (2 places), 151, 218 (2 places), 243, 244 (2 places), and 245 (4 places) of the 2010/2011 undergraduate calendar and the description and preclusions be changed as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 371-3 Probability and Statistics for Scientists and Engineers This course is a calculus-based introduction to the theory and application of probability and statistics. ~~The T~~ Topics to be covered include concepts of probability, events, ~~and~~ populations, probability theorems, the concept of a random variable, continuous and discrete random variables, joint probability distributions, distributions of functions of a random variable, moments, Chebyshev's inequality, the de Moivre-Laplace theorem, the central limit theorem, sampling and statistical estimation theory, hypothesis testing, simple regression analysis, and an introduction to the design of experiments.

Prerequisites: MATH 101-3

Precluded: MATH 340-3 and MATH 341-3 if both taken, MATH 371-3

S-201102.10

Change to Course Prefix and Preclusions — MATH 240-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 240-3 Basic Statistics be changed to STAT on pages 71, 75, 78, 79, 80, 81, 82, 83, 84 (2 places), 108, 113, 118, 134, 137, 142, 145, 147, 151, 152, 153, 154, 155, 163, 165, 166, 167, 170 171, 188, 192, 218 (2 places), 229 (2 places), 243, 245 (4 places), 250, 155, and 160 of the 2010/2011 undergraduate calendar and the preclusions be changed as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 240-3 Basic Statistics This course is an introduction to the basic principles of statistics and procedures for data analysis. Topics include gathering data, displaying and summarizing data, examining relationships between variables, probability models, sampling distributions, estimation and significance tests, inference for means and proportions in one and two sample situations, contingency tables, and simple linear regression. Students register in a computer lab corresponding to their area of interest.

Precluded: MATH 242-3, MATH 342-3, MATH 240-3, ECON 205-3, and PSYC 315-4. Students who have completed STAT 371-3, MATH 341-3 or MATH 371-3 may not take MATH STAT 240-3 for credit.

S-201102.11

Change to Course Prefix, Prerequisites, and Preclusions — MATH 372-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 372-3 Mathematical Statistics be changed to STAT on pages 94, 199, 150, 151, 244 of the 2010/2011 undergraduate calendar and the prerequisites and preclusions be added as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 372-3 Mathematical Statistics This course introduces the theory of statistical inference. ~~The~~ Topics ~~to be~~ covered from likelihood theory are maximum likelihood estimation, sufficiency, and the likelihood ratio test. ~~The~~ Topics ~~to be~~ covered from frequentist theory are point estimation, unbiasedness, consistency, efficiency, confidence intervals, and small sample and large sample hypothesis tests. ~~The~~ Topics ~~to be~~ covered from Bayesian theory are risk, point estimation, and credible intervals.

Prerequisites: STAT 371-3 or MATH 371-3

Precluded: MATH 340-3 and MATH 341-3 if both taken, MATH 372-3

S-201102.12

Change to Course Prefix, Prerequisites, and Preclusions — MATH 441-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 441-3 Nonparametric Statistics be changed to STAT on pages 119, 151, and 245 of the 2010/2011 undergraduate calendar and the prerequisites be changed and a preclusion added as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 441-3 Nonparametric Statistics This course discusses the methodology and application of nonparametric statistics. ~~The~~ Topics ~~to be~~ covered include goodness-of-fit tests, contingency tables, empirical distribution function tests, the sign test, the Wilcoxon test, the Wilcoxon-Mann-Whitney test, the Kruskal-Wallis test, and rank correlation.

Prerequisites: One of the following: STAT 240-3, STAT 371-3, MATH 240-3, MATH 242-3, MATH 341-3, MATH 342-3, MATH 371-3, ECON 205-3, or PSYC 315-4

Precluded: MATH 441-3

S-201102.13

Change to Course Prefix, Prerequisites, and Preclusions — MATH 471-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 471-3 Linear Models be changed to STAT on pages 151 and 245 of the 2010/2011 undergraduate calendar and the prerequisites and preclusions be changed as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 471-3 Linear Models This course discusses the estimation of parameters in the multiple linear regression model by the least-squares method. Topics ~~to be covered~~ include the statistical properties of the least-squares estimators, the Gauss-Markov theorem, estimates of residual and regression sums of squares, distribution theory under normality of the observations, assessment of normality, variance stabilizing transformations, examination of multicollinearity, variable selection methods, logistic regression for a binary response, log-linear models for count data, and generalized linear models.

Prerequisites: One of ~~MATH 100-3 or MATH 152~~ and one of the following: STAT 240-3, STAT 371-3, MATH 150-3 or MATH 220-3, MATH 240-3, MATH 371-3, ECON 205-3, or PSYC 315-4

Precluded: MATH 471-3 ~~671-3~~, MATH 499-3 Regression

S-201102.14

Change to Course Prefix, Prerequisites, and Preclusions — MATH 472-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 472-3 Survey Sampling Design and Analysis be changed to STAT on pages 151 and 245 of the 2010/2011 undergraduate calendar and the prerequisites and preclusions be changed as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 472-3 Survey Sampling Design and Analysis This course discusses the planning and practice of sample surveys. Topics ~~to be covered~~ include simple random sampling, unequal probability sampling, stratified sampling, cluster sampling, multistage sampling, cost-effective design, analysis and control of sources of sampling and non-sampling error, ratio estimation, model-based regression estimation, resampling, and replication methods.

Prerequisites: One of ~~MATH 100-3 or MATH 152~~ and one of the following: STAT 240-3, STAT 371-3, MATH 240-3, MATH 371-3, ECON 205-3, or PSYC 315-4

Precluded: MATH 472-3 ~~672-3~~, MATH 499-3 Design of Sample Surveys

S-201102.15

Change to Course Prefix, Prerequisites, and Preclusions — MATH 473-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 473-3 Experimental Design and Analysis be changed to STAT on pages 151 and 245 of the 2010/2011 undergraduate calendar and the prerequisites and preclusions be changed as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 473-3 Experimental Design This course discusses experimental designs and analyses. Topics to be covered include basic principles and guidelines for designing experiments, simple comparative designs, single factor analysis of variance, block designs, factorial designs, response surface methods and designs, nested and split plot designs, and the analysis of covariance.

Prerequisites: One of ~~MATH 100-3 or MATH 152~~ and one of the following: STAT 240-3, STAT 371-3, MATH 150-3 or MATH 220-3, MATH 240-3, MATH 371-3, ECON 205-3, or PSYC 315-4

Precluded: MATH 473-3 ~~673-3~~, MATH 499-3 Design of Experiments

S-201102.16

Change to Course Prefix, Prerequisites, and Preclusions — MATH 475-3

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the prefix of MATH 475-3 Methods for Multivariate Data be changed to STAT on pages 151 and 246 of the 2010/2011 undergraduate calendar and a prerequisite be added and the preclusions be changed as indicated.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH STAT 475-3 Methods for Multivariate Data This course discusses practical techniques for the analysis of multivariate data. Topics ~~to be covered~~ include estimation and hypothesis testing for multivariate means and variances; partial, multiple and canonical correlations; principal components analysis and factor analysis for data reduction; multivariate analysis of variance; discriminant analysis for classification; and cluster analysis.

Prerequisites: One of MATH 150-3 or MATH 220-3, and one of STAT 471-3 or MATH 471-3

Precluded : MATH ~~475-3~~ 675-3, MATH 499-3 Applied Multivariate Analysis

S-201102.17

New Course Approval — STAT 499-(1-3)

Chasteauneuf / Déry

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the new course STAT 499-(1-3) Special Topics in Statistics be approved as proposed.

Proposed semester of first offering: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

The topic for this course varies, depending on student interest and faculty availability. The course may be taken any number of times provided that topics are distinct.

Prerequisites: permission of instructor

Co-requisites: None

Preclusions: None

Course Equivalencies: None

“For Information” Items:

SCAPP201102.07

Change to Course Prerequisites — MATH 220-3

Chasteauneuf / Déry

That the changes to the prerequisites of MATH 220-3 Linear Algebra be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH 220-3 Linear Algebra This course covers systems of linear equations, matrix algebra, determinants, vector geometry, vector spaces, eigenvalues and diagonalization.

Prerequisites: MATH 100-3 or MATH 105-3 or CPSC 141-3

SCAPP201102.08

Change to Calendar Course Description — MATH 224-3

Chasteauneuf / Déry

That the changes to the course description of MATH 224-3 Foundations of Modern Mathematics be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

This course develops the essential components of Zermelo-Fraenkel set theory and from these ideas constructs the standard number systems. Topics include basic logic and methods of proof, axioms of set theory, mathematical induction, ~~the Axiom of Choice, ordinal and cardinal numbers~~, the natural numbers, ~~elementary number theory~~, the integers, and the rational, real, and complex number systems, epsilon-delta arguments, and rigorous development of the theorems of elementary calculus.

Prerequisites: MATH 100 Minimum Grade of C- or MATH 105 Minimum Grade of C-

Precluded: MATH 222-3

SCAPP201102.09

Change to Course Prerequisite and Title — MATH 302-3

Chasteauneuf / Déry

That the changes to the course prerequisite and title for MATH 302-3 Theory of Metric Spaces be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH 302-3 – ~~Theory of Metric Spaces~~ Introductory Mathematical Analysis

This course develops the essential components of metric space topology and the related ideas of convergence, including convergence of sequences and series of functions. Topics include open, closed, bounded and compacted sets in a metric space, the Bozano-Weierstrass and Heine-Borel Theorems, continuous and uniformly continuous functions, and uniform convergence.

Prerequisites: ~~MATH 200-3~~ MATH 101-3 and MATH 224-3

Strongly recommended: MATH 201-3

Precluded: MATH 223-3 and MATH 300-3

SCAPP201102.10

Change to Course Number and Prerequisites — MATH 321-3

Chasteauneuf / Déry

That MATH 321-3 (Topology) be renumbered as MATH 405-3 Topology and that the prerequisites be changed as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH 405-3 321-3 Topology Open and closed sets, Hausdorff and other topologies, bases and sub-bases, continuous functions connectivity, product and quotient spaces, the Tychonoff and Urysohn lemmas, metrization, compact spaces.

Prerequisites: MATH 224-3 MATH 302-3

Recommended: MATH 302-3

Preclusion: MATH 321-3

SCAPP201102.11

Changes to Calendar Course Description — MATH 326-3

Chasteauneuf / Déry

That the changes to the calendar course description for MATH 326-3 Advanced Linear Algebra be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH 326-3 Advanced Linear Algebra ~~This is a second course in Linear Algebra. Topics include vector spaces, eigenvalues and diagonalization, linear transformations, inner product spaces.~~ Topics include abstract treatment of vector spaces, linear transformations, the Cayley-Hamilton theorem, inner product spaces, Gram-Schmidt orthogonalization, rational and Jordan canonical forms, and the spectral theorem.

Prerequisites: MATH 220-3

SCAPP201102.12

Changes to Calendar Course Description and Prerequisites — MATH 336-3

Chasteauneuf / Déry

That the changes to the course description and prerequisites for MATH 336-3 Intermediate Differential Equations be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH 336-3 Intermediate Differential Equations This course is a continuation of MATH 230-3 and is designed to increase the depth and breadth of students' knowledge pertaining to differential equations. Topics include existence and uniqueness theory for ordinary differential equations, series solutions of differential equations, linear system theory, phase plane analysis and stability, boundary value problems and Green's Functions. ~~general introduction to the theory of Fourier Series with an application to boundary value problems for the Heat Equation, Wave Equation and Laplace's Equation.~~

Prerequisites: MATH 220-3 and MATH 230-3

Precluded: MATH 334-3

SCAPP201102.13

Changes to Calendar Course Description and Prerequisites — MATH 402-3

Chasteauneuf / Déry

That the changes to the course description and prerequisites for MATH 402-3 Topological and Normed Linear Spaces be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH 402-3 – Topological and Normed Linear Spaces

This course focuses on the properties of topological spaces and normed linear spaces, especially Banach spaces. Topics include inner product spaces, topological spaces, compact and locally compact spaces, ~~classical~~ Banach spaces, linear functionals and dual spaces, topological vector spaces, and Hilbert space, ~~orthogonal systems and~~ ~~Fourier series.~~

Prerequisites: ~~MATH 226-3 and MATH 302-3 and MATH 321-3, or permission of the instructor.~~

SCAPP201102.14

Change to Course Preclusion — PHYS 409-3

Chasteauneuf / Déry

That a preclusion of MATH 409-3 Mathematical Methods in Physics be added to PHYS 409-3 Mathematical Methods in Physics.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

PHYS 409-3 Mathematical Methods in Physics ~~A~~ This course surveys ~~of~~ the methods and techniques involved in the formulation and solutions of physics problems. Topics include matrix algebra and group theory, eigenvalue problems, differential equations, functions of a complex variable, Green's functions, Fourier series, integral equations, calculus of variations, and tensor analysis.

Prerequisites: ~~p~~Permission of the instructor

Precluded: MATH 409-3

SCAPP201102.15

Change to Course Prerequisites — MATH 455-3

Chasteauneuf / Déry

That the change to the course prerequisite for MATH 455-3 Graphs and Algorithms be approved as proposed.

Effective date: September 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

MATH 455-3 Graphs and Algorithms

This course is an introduction to graphs and algorithms. Topics include: basic graph concepts, flows and connectivity, trees, matchings and factors, graph colouring, scheduling, planar graphs, and algorithms.

Prerequisites: ~~MATH 222-3~~ or MATH 224-3 or CPSC 142-3 or CPSC ~~241-3~~ 141-3.

8.2 Senate Committee on Research and Graduate Studies

Fondahl / Hartley

"For Approval" Items:

S-201102.18

Change in Grade Mode — COMM 799-6

Donker / Déry

That, on the recommendation of the Senate Committee on Research and Graduate Studies, the grade assignment for COMM 799-6 MBA Projects be changed from a letter grade to Pass/Fail.

Effective date: September 2011

CARRIED.

"For Information" Items:

SCRG201102.04

Change to Course Title — COMM 690-3

Chasteauneuf / Déry

That the change to the course title for COMM 690-3 Northern Business Issues on page 101 of the 2009/2010 graduate calendar, be approved as proposed.

Effective date: May 2011

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

COMM 690-3 Northern Business Issues in the Global Context This intensive seminar course explores political, economic and managerial issues that are particularly important in northern and rural areas. Guest speakers, and individual and group research, complements complement course readings and lecture content.

8.3 Senate Committee on Scholarships and Bursaries

Russell

"For Information" Items:

SCSB20110126.05

William Wilfred Kordyban Memorial Award for Cancer Service

Chasteauneuf / Déry

That the revised Terms and Conditions for the William Wilfred Kordyban Memorial Award for Cancer Service be approved.

Effective Date: 2010-2011 Academic Year

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

Value: ~~\$500~~ minimum \$1,500 (or the nearest multiple of \$100 depending on interest earned)

Eligibility: Available to a full or part time undergraduate student studying at the Prince George campus who has completed 60 credit hours. First preference will be given to a nursing student with demonstrated community involvement in the Kordyban Lodge (cancer lodge adjacent to the University Hospital of Northern British Columbia) or the cancer ward at the University Hospital of Northern British Columbia. Second preference will be given to a nursing student with demonstrated community involvement in a health related field in the north.

~~**Conditions:** Student recipient must currently be providing voluntary service to cancer care while attending UNBC.~~

~~**Application Instructions:** Fill out all sections of the Awards Application form and attach a letter outlining your volunteer service community involvement.~~

S-201102.19

Policy for Nominating UNBC Scholars

That the proposed changes to the Terms of Reference for the UNBC Scholars awards be approved as presented.

Effective Date: 2012-2013 Academic Year

A Senator outlined some concerns that had been brought to her attention regarding the proposed revisions to this motion, suggesting that the criteria as revised would favour some students over others. The Chair of the committee responded that these concerns were discussed by the committee but that they viewed numeracy as being important for a scholarship of this caliber. A Senator provided information regarding the authority delegated to SCSB by Senate, and Dr. Iwama concluded that the committee had reached a decision regarding this motion on the authority delegated to them by Senate, so no motion was required to approve this agenda item. Another Senator was of the opinion that the proposed change seemed equitable.

CARRIED (consent agenda).

9.0 Other Business

9.1 Report of the Registrar

DeGrace

The Registrar had nothing to report.

9.2 A Senator gave notice that he may propose the following motion at the next meeting of Senate:

That the Senate Committee on the University Budget be asked to investigate matters relating to the budgeting process of recent hires over the last year.

10.0 Information

There were no items for information.

11.0 S-201102.20

Move to In Camera Session

Jensen / Reid

That the meeting move In Camera.

CARRIED.

12.0 S-201102.24

Adjournment

Reid / Hartley

That the Senate meeting be adjourned.

CARRIED.

The meeting ended at 4:20 p.m.