

MEMORANDUM

TO: Ms Karen Roche
Secretary of Senate

FROM: Dr. Rhonda Koster
Chair, Senate Undergraduate Studies Committee

SUBJECT: Report of Senate Undergraduate Studies Committee

DATE: 4 May 2010

.....

A. CALENDAR CHANGES REFERRED FROM SENATE MEETING #2009-7 OF OCTOBER 2, 2009

FACULTY OF FORESTRY AND THE FOREST ENVIRONMENT – NEW DEGREE AND REVISION OF AN EXISTING DEGREE PART 1-A, PART 1-B, AND PART II – TRANSITION OPTION (NOT PART OF ORIGINAL PROPOSAL)

The Faculty of Natural Resources Management (formerly Faculty of Forestry and the Forest Environment) had previously submitted a proposal for a new Honours Bachelor of Environmental Management and revisions to the existing Honours Bachelor of Science in Forestry. At the same time, the need to revise the existing transition program was also recognized and therefore, the Senate Undergraduate Studies Committee met on April 16, 2010 to review a revised transition program (full version in Attachment #2), not part of the original proposal. The Committee recommends that Senate approve the calendar entry for the transition program as described in Attachment #1.

B. CALENDAR CHANGES REFERRED FROM SENATE MEETING #2009-8 OF NOVEMBER 6, 2009

FACULTY OF SCIENCE AND ENVIRONMENTAL STUDIES – ANTHROPOLOGY – ADJUSTMENTS, ITEMS 13, 20 AND 21

Following consultation between the Departments of Anthropology and Indigenous Learning, the Committee met on April 30, 2010 to review revisions to items 13, 20 and 21 of the Anthropology calendar change proposal, previously recommended for approval with revisions as noted in the Committee's report to the March 26th Senate meeting. The Committee recommends approval of the proposed new courses as described in Attachment #2.

C. CALENDAR CHANGES REFERRED FROM SENATE MEETING #2010-3 OF MARCH 26, 2010

The Committee met on April 16 and 30 to review calendar change submissions referred from the March 26, 2010 Senate meeting and makes the following recommendations:

1. FACULTY OF ENGINEERING

(a) Electrical Engineering – Addition of course number and description

The Committee recommends that the proposed new Electrical Engineering elective, Engineering 0654 be approved with revisions. The word "Electron" in the title should be "Electronic" and an introductory sentence should be added: "The following topics will be discussed". The Committee forwarded the recommendations to the Senate Budget Committee for their consideration.

It should be noted that this new course would not become effective until the 2011-2012 academic cycle.

2. FACULTY OF SCIENCE AND ENVIRONMENTAL STUDIES

(a) Math – Remove HBA Mathematics of Finance option

The Committee recommends that the deletion of the Mathematics of Finance Option of the HBA (Mathematical Sciences) be approved for the 2011-2012 Calendar.

(b) Physics – Additional text entry – Minor in Physics

The Committee recommends that the new Minor in Physics be approved for the 2011-2012 Calendar with wording revised as follows:

Minor in Physics

A student may obtain a minor in Physics if the following three full courses have been completed with a minimum overall average of 60%:

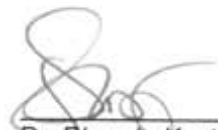
- (a) Physics 1101, or Physics 1113 and 1133, or Physics 1010 and 1030
- (b) Two of: Physics 2111, 2151, 2211, 2311, 2331, 2332
- (c) Two half-courses in Physics at the third or fourth year level

Students should be aware of the prerequisites in upper year courses when planning their program.

The Committee forwarded the recommendations to the Senate Budget Committee for their consideration.

(c) Computer Science – Comp 0433

The Committee is postponing (deferring) its recommendation regarding this proposed new course until the October Senate meeting to permit the development of new policy regarding early admission and pre-university credit.



Dr. Rhonda Koster, Chair

ATTACHMENT #1 – CALENDAR ENTRY FOR TRANSITION PROGRAM INTO HBSCF AND HBEM

PROGRAM

Transfer Opportunities

Applicants with a diploma (Technician or Technologist) in an allied discipline (e.g. Forestry, Ecosystem Management, Fish and Wildlife, Ecosystem Restoration) and a 70% average (GPA = 3.0 on a 4.0 point scale, B Grade), may, following an individual assessment, be eligible for admission to the third year of the Honours Bachelor of Science in Forestry or Honours Bachelor of Environmental Management. In order to enter the third year, applicants must successfully complete a Transition Program that starts on the day following the August Civic Holiday and runs for four weeks (Monday thru Friday). All students are required to take three courses (Natural Resource Science A, B and C). In addition, depending on the student's background and a review by a Faculty review committee, additional course(s) in specific areas may be assigned.

The Faculty of Natural Resources Management reserves the right to set the Transition course requirements it deems appropriate for each individual student.

Applicants with two or more years of relevant career experience acquired after the completion of a diploma with at least 65% (GPA = 2.5 on a 4.0 point scale, C+ Grade) in the final year of their program are eligible for admission consideration.

Note that Forestry 0290 – Writing Across the Curriculum II will be incorporated into Natural Resource Science A and B.

COURSES

Forestry 2710

Natural Resource Science A

Credit Weight: 0.0

Description:

Pt. 1 - Descriptive (measures of central tendency and dispersion) and inferential (regression, ANOVA, t-tests) statistics. Use of statistical (SPSS, DataDesk) and spreadsheet/graphing (Excel) software.

Pt. 2 - Principles of empirical and process-based models as used in natural resources management. Types of models, model development, model validation and gaming.

Grade Scheme: Pass/Fail

Offering: 2 hours/day for 22 days = 44 hours (1 hour lecture; 1 hour lab/tutorial each day)

Notes: *May only be taken by students in the Transition Program for the HBScF or HBEM.*

Forestry 2711

Natural Resource Science B

Credit Weight: 0.0

Description:

Fundamental elements of earth science as they relate to forest soils and substrates. Soil chemistry, origins, genesis, parent material, glacial processes, topography, and hydrogeology.

Grade Scheme: Pass/Fail

Offering: 2 hours/day for 22 days = 44 hours (1 hour lecture; 1 hour lab/tutorial each day)

Notes: *May only be taken by students in the Transition Program for the HBScF or HBEM.*

Forestry 2712

Natural Resource Science C

Credit Weight: 0.0

Description:

Tree growth and structure as affected by silvicultural interventions (e.g. spacing, thinning, vegetation control). Basics elements of forest economics and product valuation.

Grade Scheme: Pass/Fail

Offering: 2 hours/day for 22 days = 44 hours (1 hour lecture, 1 hour lab/tutorial each day)

**ATTACHMENT #2 – REVISIONS TO PROPOSED NEW COURSES IN ITEMS 13, 20
AND 21 OF ANTHROPOLOGY – ADJUSTMENTS CALENDAR CHANGE PROPOSAL**

Item 13

Anthropology 3716 Arctic Cultures

Credit Weight: 0.5

Prerequisite(s): One full course in anthropology or permission of the instructor

Description:

An exploration of the circumpolar Arctic with its unique regional environment and biological variability through time and across space. This frames a review of human cultural adaptations, population migrations, and historic and contemporary circumstances of Arctic peoples in Northern North America and Eurasia.

Course Offering: 3-0; or 3-0

Item 20

Anthropology 3550 Traditional Aboriginal Cultures of Canada

Credit Weight: 0.5

Prerequisite: ANTH 1034 or permission of the instructor

Description:

Students will learn about the ethnographic features of the Aboriginal peoples of Canada before sustained contact with Europeans, including the manner in which their citizens earned a livelihood, organized their social and economic affairs, and performed their ceremonies.

Offering 3-0; or 3-0

Item 21

Anthropology 3551 Treaty and Aboriginal Rights in Canada

Credit Weight: 0.5

Prerequisite: ANTH 1034 or permission of the instructor

Description:

Students will learn about the cultural aspects of selected conflicts between the Aboriginal peoples of Canada and the federal and provincial governments over treaty and aboriginal rights, including the roles these rights play in maintaining the integrity of the cultures of the Aboriginal peoples of Canada, and the ways in which other-than-Aboriginal Canadians see these rights.

Offering: 3-0; 3-0

Calendar Description of Transfer Opportunities:

Transfer Opportunities

Applicants with a diploma (Technician or Technologist) in an allied discipline (e.g. Forestry, Ecosystem Management, Fish and Wildlife, Ecosystem Restoration) and a 70% average (GPA = 3.0 on a 4.0 point scale, B Grade), may following an individual assessment be eligible for admission to the third year of the Honours Bachelor of Science in Forestry or Honours Bachelor of Environmental Management. In order to enter the third year, applicants must successfully complete a Transition Program that starts on the day following the August Civic Holiday and runs for four weeks (Monday thru Friday). All students are required to take three courses (Natural Resource Science A, B and C). In addition, depending on the student's background and a review by a Faculty review committee, additional course(s) in specific areas may be assigned.

The Faculty of Natural Resources Management reserves the right to set the Transition course requirements it deems appropriate for each individual student.

FORE 2XXX –Natural Resource Science A

Pt. 1 - Descriptive (measures of central tendency and dispersion) and inferential (regression, ANOVA, t-tests) statistics. Use of statistical (SPSS, DataDesk) and spreadsheet/graphing (Excel) software.

Pt. 2 - Principles of empirical and process-based models as used in natural resources management. Types of models, model development, model validation and gaming.

Learner outcomes:

- a. Distinguish between descriptive and inferential statistical analyses.
- b. Utilize descriptive statistics to determine basic properties of data.
- c. Utilize inferential statistics to distinguish meaningful differences and make predictions using typical natural resources data.
- d. Demonstrate competence using Excel to create tables, charts and figures.
- e. Demonstrate competence using SPSS/Datadesk to enter data correctly, assign data characteristics (e.g. continuous vs. discrete, independent vs. dependant variables), choose appropriate tests (e.g. regression vs. ANOVA) and interpret results.
- f. Differentiate among sampling strategies.
- g. Distinguish between various types of models used in natural resources management.
- h. Describe the process of model development and constraints on model use.
- i. Develop an empirical model (e.g. growth and yield curve) based on raw data.
- j. Employ a process-based model (e.g. CENTURY) to predict ecosystem response to anthropogenic and natural disturbance agents.
- k. Demonstrate ability to assess the quality of model output.

Hours: 2 hours/day = 44 hours.

Course delivery – 1 hour lecture; 1 hour lab/tutorial each day.

Pt. 1 - Assessment tools: lab assignments, mid-term and final examination. Text: Deveaux et al. 2006
Stats: Data and models.

Pt. 2 - Group project, group report and one individual written assignment. Text: Kimmins 1997 (Chapter 17), CENTURY v4 model software and manual (free online).

Note: for all three transfer courses, many of the Learner Outcomes are in agreement with those approved by the Canadian Forestry Accreditation Board as the basis for the new national forestry certification program.

FORE 2XXX – Natural Resource Science B

Fundamental elements of earth science as they relate to forest soils and substrates. Soil chemistry, origins, genesis, parent material, glacial processes, topography, and hydrogeology.

Learner outcomes:

- a. Identify and explain the origin and role of typical topographical features in the northern landscape
- b. Describe the role of trees and forests in local and regional water cycles
- c. Describe impacts of natural resource extraction on water cycles
- d. Describe basic chemical characteristics of mineral and organic soils (pH, cation exchange capacity, nutrient availability)
- e. Demonstrate competence in measuring basic chemical soil features (pH, CEC, available nutrients)
- f. Explain impact of natural resource extraction on soil properties.
- g. Describe the soil forming factors (time, vegetation, climate, parent material, relief), their interactions and relationship to soil productivity
- h. Describe the constituents and role of organic matter in soil productivity
- i. Describe the consequences of glacial processes for natural resource productivity.

Hours: 2 hours/day = 44 hours

Course delivery – 1 hour lecture; 1 hour lab/tutorial each day.

Assessment tools: lab assignments, mid-term and final examination. Text: Brady and Weil 1996

FORE 2XXX – Natural Resource Science C

Tree growth and structure as affected by silvicultural interventions (e.g. spacing, thinning, vegetation control). Basics elements of forest economics and product valuation.

Learner outcomes:

- a. Describe how typical management practices affect the growth and development of trees, and by extension, forests.
- b. Describe important elements of tree physiology (hormones, cell development) that govern tree growth and development (e.g. response to environment, seasonality, competition, carbon allocation).
- c. Describe basic principles of macroeconomics and their application for forest resources.
- d. Describe important elements of economic decision making and product valuation using forest products (timber and non-timber) as examples.
- e. Describe relationships between the economic, social and ecological pillars of natural resource management from the perspective of economics. (discuss the concept of balancing environmental, social and economical considerations in resources management planning.)
- f. Explain the processes that have influenced the size, health and vigour of a tree
- g. Recognize the range of values found in a stand.
- h. Describe how values and competing interests are or can be weighted/balanced in decision making.
- i. Explain the influence of global trends on regionally specific forest management
- j. Describe effects of labour relations on forestry.
- k. Explain the effects of certification programs on forestry
- l. Discuss concepts of best end-use and value-added products as related to forest resources.
- m. Plan and implement a project with emphasis on human resources, production schedules and budgeting.
- n. Explain the role of performance measures (e.g. human resources, financial, timelines and production)
- o. Describe Forest tenure systems and some of their influences on forest product valuation

Hours: 2 hours/day for every other day = 44 hours.

Course delivery – 1 hour lecture, 1 hour lab/tutorial each day.

Assessment tool: assignments, mid-term, final examination.

FORE0290 WAC 2

Will be incorporated into Natural Resource Science A and B.

Financial Implications:

At this time, there are no additional financial costs to offer this transfer program. We will cover the material utilizing existing personnel and expertise. At such time that we are attracting sufficient students, we anticipate receiving a share of the associated income to offset the cost of additional teaching.

DIPLOMA + TRANSITION PROGRAM + 2 YEARS = HBScF or HBEM DEGREE

Applicants with two or more years of relevant career experience acquired after the completion of a diploma with at least 65% (GPA = 2.5 on a 4.0 point scale, C+ Grade) in the final year of their program are eligible for admission consideration.

...end of calendar entry

*****8

Additional information:

- a) The three transition courses will follow the model of field school – pass or fail. The courses will commence on Tuesday August 3, 2010 and terminate on Monday August 30, 2010.
- b) The transition program coordination will be carried by a Faculty member as part of his/her regular load (same practice as field school).
- c) The transition program will be team taught by Faculty members as part of regular loads (same practice as field school).
- d) The transition program will be subject to tuition and ancillary fees as follows:

FORE2xxx – Natural Resource Science A – Tuition of \$485.50 (subject to change and \$47.34 Ancillary fee (subject to change)

FORE2xxx – Natural Resource Science B – Tuition of \$485.50 (subject to change and \$47.34 Ancillary fee (subject to change)

FORE2xxx – Natural Resource Science C – Tuition of \$485.50 (subject to change and \$47.34 Ancillary fee (subject to change)

Total Summer Transition Fees: \$1607.52 (subject to change)

- e) The transition fees are eligible for OSAP funding in a single academic year (OSAP starts the academic year on August 1) – confirmed by the Office of Student Financial Aid & Awards (Phyllis Bosnick)
- f) Transition students will be able to use residence services for the month of August and will be offered an extended nine-month contract (regular contract is for 8 months). See attached "Forestry Contract" as presented by David Hare and Daphne DiPaolo of Residence Services.
- g) Admission procedures will follow the established procedures used by the Faculty of Engineering (from consultation with Heather Moynihan and Dr. Henri Saliba in Engineering). Students interested in the transfer program will apply through the Ontario Universities' Application Centre in Guelph, Ontario on OUAC 105 forms. Upon receipt at Lakehead the Admissions &

Recruitment office will forward the files to the Faculty of Natural Resources Management for individual assessments. After the Faculty assessments the files will go back to Admissions & Recruitment for the preparation of admission offers (conditional or non-conditional) or rejections.

- h) The design of our transfer program is in line with our CFAB accreditation standards and core competency levels for entry into the Ontario Professional Foresters Association.
- i) The majority of the "extra" work with transfer students falls on the Faculty and we do not anticipate any budget implications.
- j) There are 10 technology programs in Ontario alone and we view these programs as excellent opportunities for significant increase to our undergraduate enrollment with qualified students with high levels of retention.

Ulf Runesson