

The following proposals, received on DAP between June 16-30, 2016, have been approved. For more information on the DAP process, [see the Academic Handbook here](#).

FACULTY OF ARTS AND HUMANITIES

FILM STUDIES

Effective **September 1, 2016**, the following courses be revised.

Film Studies 3371F/G – Film Theory

Course description: No change.

Prerequisite(s): ~~Film Studies 2200F/G~~ At least 60% in Film Studies 1020E or Film Studies 1022, or permission of the Department.

1-3 hour lecture/screening, 2 lecture/seminar hours, 0.5 course.

FACULTY OF ENGINEERING

CHEMICAL AND BIOCHEMICAL

Effective **September 1, 2016**, the following courses be revised.

~~CBE 4432A/B – Energy and Fuels Production Systems~~ **Oil Refining and Processing**

~~This course introduces students to different sources of energy and fuels and their production systems, operations, feedstock and products characteristics. Description of main conversion processes and their evolution will be discussed in the context of environmental and economic considerations. Current trends and future of the industry will be addressed.~~

~~An introduction to petroleum refining processes, operations, feedstocks and products. Configurations of refinery processes and their evolution will be discussed in view of environmental efficiency and economic considerations. Current trends and future of the industry will be addressed.~~

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~~GPE 3386A/B – Sustainable Engineering Life Cycle Analysis and Case Studies~~

~~Course Description: No change.~~

~~Prerequisite(s): GPE 3382A/B.~~

~~Corequisite(s): GPE 3382A/B.~~

~~3 lecture hours, 1 tutorial hour, 0.5 course.~~

CIVIL AND ENVIRONMENTAL

Effective **September 1, 2016**, the following course be revised.

CEE 2217A/B – Introduction to Environmental Engineering

Course Description: No change.

Antirequisite(s): Chemistry 2210A/B.

Prerequisite(s): **Chemistry 1302A/B or the former** Chemistry 1024A/B, 1050 or 1020.

3 lecture hours, 2 tutorial hours, 0.5 course.

ELECTRICAL AND COMPUTER

Effective **September 1, 2016**, Software Engineering 4453A/B – Software Quality, Reliability and Maintenance be withdrawn.

Effective **September 1, 2016**, the following course be introduced.

Software Engineering 4455A/B – Cloud Computing: Concepts, Technologies and Applications

The course concentrates on the fundamental elements of cloud computing such as resource virtualization and distributed systems including the main concepts of cloud infrastructures. Laboratory activities will allow students to be exposed to fundamental technologies used by cloud computing such as virtual machines, virtual machine monitors, resource allocations, etc. Prerequisite(s): ECE 4436A/B, SE 3313A/B, SE 3314A/B. 3 lecture hours, 2 laboratory hours, 0.5 course.

Effective **September 1, 2016**, the following course be revised.

Software Engineering 3351A/B – Software Project and Process Management

Project Management and Software Process life cycles. Includes detailed analysis of components of each process. Metrics, tools and related standards associated with those components. Integration into a complete software plan **project planning including software effort, scheduling and cost estimation, software quality management, and software risk management.**

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Software Engineering 4452A/B – Software **Testing and Maintenance ~~Verification and Validation~~**

The course focuses on software **testing**, verification and validation, **and maintenance issues.** **Topics include review/inspection, testing techniques, levels of testing (unit, integration, system, acceptance, regression, etc.), and testing tools (static and dynamic). Review of software tools/techniques to manage changes in software and to control the evolution of a software project. throughout the software life cycle, including reviews (inspections and walkthroughs), testing techniques (functional and structural), levels of testing (unit, integration, system, and acceptance), and testing tools (static and dynamic).**

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Effective **September 1, 2016**, the following modules be revised.

A. SOFTWARE ENGINEERING PROGRAM

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Fourth Year Program

SE 4450, SE 4452A/B, ~~SE 4453A/B~~, **SE 4455A/B**, SE 4472A/B, ES 4498F/G, four 0.5 technical electives from the list below, 1.0 non-technical elective*.

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B. SOFTWARE ENGINEERING AND BUSINESS OPTION

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Fifth Year Program

SE 4450, SE 4452A/B, ~~SE 4453A/B~~, **SE 4455A/B**, SE 4472A/B, ES 4498F/G,

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C. SOFTWARE ENGINEERING AND LAW OPTION

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Fifth and Sixth Year Programs

SE 4450, SE 4452A/B, SE 4453A/B, SE 4455A/B, SE 4472A/B.

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E. SOFTWARE – HEALTH INFORMATICS OPTIONS

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Fourth-Year Program

Medical Health Informatics 4100F, 4110G, Physics 2600A/B, SE 4450, SE 4452A/B, SE 4453A/B, SE 4455A/B, SE 4472A/B, ES 4498F/G, One 0.5 technical elective, 1.0 non-technical elective*.

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FACULTY OF SCIENCE**BIOLOGY***Effective September 1, 2016, Biology 4582 – Investigative Techniques in Genetics be withdrawn.**Effective September 1, 2016, the following course be introduced.***Biology 4583F/G – Molecular Genetics Laboratory**

Project-based inquiry focused on refining the laboratory skills of senior genetics students. Experimental approaches will include analysis of gene expression using modern tools and techniques.

Antirequisite(s): The former Biology 4582.

Prerequisite(s): A minimum mark of 70% in each of Biology 3596A/B and 1.0 course from: Biology 3466B, 3592A, 3593B, 3594A, 3595A, 3597A/B, 3598A/B; and registration in year 4 of an Honors Specialization in Genetics or permission of the Genetics Undergraduate Coordinator.
4 laboratory hours, 0.5 course.

*Effective September 1, 2016, the following courses be revised.***Biology 3326F/G – Cell Biology Laboratory**

Course Description: No change.

Prerequisite(s): Biology 2290F/G, Biochemistry 2280A; a minimum mark of 70% in Biology 2382A/B.

5 laboratory hours, 0.5 course.

(Enrolment may be limited)

Biology 3603A/B – Ecophysiology of Plants

This course introduces students to the physiological mechanisms governing the success and distribution of plants in different environments. Specific topics covered will include leaf energy balance, photosynthesis, water transport and mineral nutrition. This course will provide background information for further courses in plant ecology or plant physiology responses of plants to their environment. Specific topics covered include water balance, mineral nutrition, phytohormones, plant defenses and environmental stress. The material covered provides valuable background information for students planning to take further courses in either plant physiology or plant ecology.

Prerequisite(s): Biology 2601A/B.
2 lecture hours, 3 laboratory hours, 0.5 course.

Biology 3625F/G – Techniques in Physiology & Biochemistry

Course Description: No change.

Prerequisite(s): Biochemistry 2280A; **Biology 2290F/G**; Biology 2382A/B; one of Biology 2601A/B, Physiology 3120 or 3140A.

1 lecture/tutorial hour, 5 laboratory hours, 0.5 course.

Biology 3660A/B – **Plant Metabolism Advanced Plant Physiology**

Plants are photoautotrophs and biosynthesize all of their metabolites using CO₂, water, micronutrients and sunlight. This course surveys the major metabolic pathways of plants, including primary (C, N, S and P assimilation, amino acid and nucleotide biosynthesis) and secondary (alkaloids, phenolics, terpenoids) metabolism, with emphasis on enzyme and pathway regulation. ~~Physiology and biochemistry of plants with emphasis on primary plant metabolism, including: photosynthesis, respiration, photorespiration, and nutrient assimilation. Other topics include plant-soil relationships, herbicides, phytoremediation, photomorphogenesis, medicinal plants, plant products and alternative fuels.~~

Prerequisite(s): Biology 2601A/B or permission of the Department.

3 lecture hours, 0.5 course.

Biology 4243G – Political Biology

Course Description: No change.

Prerequisite(s): ~~Biochemistry 2280A; Biology 2382B; Biology 2483A; and C~~ Completion of at least 1.5 Biology courses at the 3000 level or above.

2 lecture hours, 3 tutorial hours, 0.5 course.

Biology 4259F/G – Research Hypothesis Testing

Course Description: No change.

Prerequisite(s): Biology 2244A/B or ~~one of~~ Statistical Sciences 2035, 2141A/B, 2244A/B **(see note)**; ~~or Psychology 2810~~ and completion of at least 1.5 Biology courses at the 3000-level or above.

2 lecture hours, 3 laboratory hours, 0.5 course.

Note: Statistical Sciences 2035, 2141A/B or Psychology 2810 will be acceptable for this requirement until September 18, 2018.

Biology 4410F/G – Restoration Ecology

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3 lecture/lab hours, ~~2 lecture hours, 3 lab/tutorial hours~~, 0.5 course.

Effective **September 1, 2016**, the following modules be revised.

HONORS SPECIALIZATION IN BIODIVERSITY AND CONSERVATION

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Module

10.5 courses:

2.5 courses: Biology 2483A/B, 2601A/B, 2581B, 2290F/G, 2382A/B.

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1.0 course from: Biology **3435F/G**, 3436F/G, 3446B, 3475A/B, 4200A/B, 4230A/B, 4243G, 4259F/G, 4944F/G, 4970F/G, 4999E, Geography 2133A/B, 3352A/B, 3441F/G, 3445F/G, or

courses above if not already taken.

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HONORS SPECIALIZATION IN BIOLOGY

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Module

10.0 courses:

2.5 courses: Biochemistry 2280A, Biology 2290F/G, 2382A/B, 2483A/B, 2581B.

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0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B. ~~Students may substitute Statistical Sciences 2035 or Psychology 2810 for this 0.5 course.~~

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Notes:

1. ~~If students take Statistical Sciences 2035 or Psychology 2810 instead of Biology 2244A/B or Statistical Sciences 2244A/B, the module becomes 10.5 courses.~~
2. Many 4000-level Biology courses require the completion of 1.5 Biology courses at the 3000-level or above.
3. Students with specific Biology interests should visit the departmental website for course recommendations in various disciplines or contact a Biology Academic Counsellor.

HONORS SPECIALIZATION IN GENETICS

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Module

10.0 courses:

0.5 course: Biochemistry 2280A.

4.0 **3.5** courses: Biology 2290F/G, 2382A/B, 2483A/B, 2581B, 3596A/B, 4582, **4583F/G**, 4950F/G.

0.5 course: Chemistry 2213A/B.

0.5 course: Biology 2244A/B, Statistical Sciences 2244A/B. ~~Students may substitute Statistical Sciences 2035 or Psychology 2810 for this 0.5 course.~~

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4.5 **2.0** courses from: Biology 4289A/B, 4355F/G, 4510F/G, 4540G, 4560B, 4561F, 4562B, 4970F/G, 4999E, the former Microbiology and Immunology 4700B.

Notes:

1. In addition to the normal progression requirements for Honors Specializations, students must obtain a minimum mark of 70% in each of Biology 2581B, 2290F/G and 3596A/B and 1.0 of the 3000 level Biology courses listed above.
2. ~~If students take Statistical Sciences 2035 or Psychology 2810 instead of Biology 2244A/B or Statistical Sciences 2244A/B, the module becomes 10.5 courses.~~

MAJOR IN BIOLOGY

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Module

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2.0 courses: Biology 2290F/G, 2382A/B, 2483A/B, 2581B.

0.5 course: Chemistry 2213A/B.

0.5 course: Biology 2601A/B (see note 2)

0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B. ~~Students may substitute Statistical Sciences 2035 or Psychology 2810 for this 0.5 course.~~

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Notes:

1. ~~If students take Statistical Sciences 2035 or Psychology 2810 instead of Biology 2244A/B or Statistical Sciences 2244A/B, the module becomes 6.5 courses.~~

2. 1. Students registered in an honors double major degree must complete a minimum of 1.0 at the 3000 level for each module.

2. Physiology 2130 can be taken instead of Biology 2601A/B to satisfy the physiology requirement for the module. However, students must make up the 0.5 course represented by 2601A/B with an alternate Biology course from the 2200 level or above.

MAJOR IN ECOSYSTEM HEALTH

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Module

6.0 courses:

2.0 courses: Biology 2483A/B, 3484A/B, 4230A/B, 4405F/G, or the former Biology 2484A.

0.5 course from: Biology 2485B, Medical Biophysics 3336F/G.

0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B ~~(students may substitute Statistical Sciences 2035 or Psychology 2810 for this 0.5 course and this would make the module 6.5 courses).~~

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MAJOR IN GENETICS

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Module

6.0 courses:

0.5 course: Biochemistry 2280A.

1.5 courses: Biology 2290F/G, 2382A/B, 2581B.

0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B. ~~Students may substitute Statistical Sciences 2035 or Psychology 2810 for this 0.5 course.~~

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Notes:

1. ~~Biology 3596A/B requires a minimum mark of 70% in each of Biology 2581B and 2290F/G.~~

2. ~~Biology 3595A requires a minimum mark of 70% in Biology 2581B.~~

3. ~~If students take Statistical Sciences 2035 or Psychology 2810 instead of Biology 2244A/B or Statistical Sciences 2244A/B, the module becomes 6.5 courses.~~

1. In addition to the normal progression requirements for a Major in Genetics, students must obtain a minimum mark of 70% in each of Biology 2581B, 2290F/G before taking Biology 3595A or 3596A/B.

4. 2. A degree containing this module normally requires 4 years to complete.

SPECIALIZATION IN BIOLOGY

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Module

9.0 courses:

2.5 courses: Biochemistry 2280A, Biology 2290F/G, 2382A/B, 2483A/B, 2581B.

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0.5 course from: Biology 2244A/B, Statistical Sciences 2244A/B. ~~Students may substitute Statistical Sciences 2035 or Psychology 2810 for this 0.5 course.~~

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FACULTY OF SOCIAL SCIENCE

ECONOMICS

Effective **September 1, 2016**, the following course be revised.

Economics 3325F/G/A/B – Economic Development II

A continuation of Economics 3324F/G. The focus will be on income distribution, international aspects of economic development, and problems of financing economic development. Examples will be drawn from a variety of countries. This course takes a macroeconomic approach to development with an emphasis on models of economic growth. The course will cover the Malthusian model through the Industrial Revolution and into modern economic growth focusing on explaining differences in income per capita across countries.

Antirequisite(s): Economics 2125A/B

Prerequisite(s): Economics 3324F/G, Economics 2221A/B and Economics 2261A/B.

3 lecture hours, 0.5 course

GEOGRAPHY

Effective **September 1, 2016**, the following courses be revised.

Geography 3210A/B – Quantitative Analysis in Geography

Course description: No change.

Antirequisite(s): All other senior level statistics courses numbered 2000 or above.

Prerequisite(s): Geography 2210A/B or Biology 2244A/B or Statistical Sciences 2244A/B and enrolment in a geography program or permission from the instructor.

2 lecture hours, 2 laboratory hours, 0.5 course.

Geography 2041F/G/A/B – Geography of China

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2 lecture hours, 4 tutorial hour, 0.5 course.

Effective **September 1, 2017**, the following module be revised.

HONORS SPECIALIZATION IN URBAN DEVELOPMENT – BA

Admission Requirements

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Note: If 2100 level Economics courses are selected in the module, MCV4U or Mathematics 0110A/B is required for registration; if senior Sociology courses are selected, Sociology 1020 or 1021E is required.

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PSYCHOLOGY

Effective **September 1, 2016**, Psychology 3190F/G – Special Topics in Cognitive Psychology will be withdrawn.

Effective **September 1, 2016**, the following course be introduced.

Psychology 3195F/G- Special Topics in Cognitive Psychology

Topic available in Department.

Prerequisite(s): Psychology 2820E or both Psychology 2800E and 2810, and one of Psychology 2115A/B, 2134A/B, 2135A/B. Minimum grade of 60% required in all prerequisites courses.

3 lecture hours, 0.5 course

Effective **September 1, 2016**, the following modules be revised.

HONORS SPECIALIZATION IN DEVELOPMENTAL COGNITIVE NEUROSCIENCE – BA

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Module

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2.0 courses from: Psychology 3141F/G, **3223F/G**, 3440F/G, 3441F/G, 3442F/G, 3443F/G, **3444F/G**.

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HONORS SPECIALIZATION IN PSYCHOLOGY – BSc

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Module

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1.0 course from: Psychology 3130A/B, 3138F/G, 3139A/B, 3140F/G, 3209F/G, ~~3220A/B~~, 3221F/G, **3223F/G**, 3224A/B, 3225A/B, 3226A/B, **3228A/B**, ~~3229A/B~~, 3230F/G, 3440F/G, 3441F/G, 3442F/G, 3443F/G, **3444F/G**.

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1.0 course **from** in Science/~~approved~~ Basic Medical Sciences ~~approved list~~ **course** numbered 2100 or above (see additional science requirement below).

1.0 course: Psychology 4850E, 4851E.

Note: To fulfill the BSc requirements within the Honors Specialization in Psychology - BSc module, 6.0 of the Psychology courses must be selected from the following list: Psychology 2115A/B, 2134A/B, 2135A/B, 2210A/B, 2220A/B, 2221A/B, 2800E, 2810, 3130A/B, 3138F/G, 3139A/B, 3140F/G, 3141F/G, 3184F/G, 3185F/G, **3195F/G**, 3209F/G, ~~3220A/B~~, 3221F/G, **3223F/G**, 3224A/B, 3225A/B, 3226A/B, ~~3229A/B~~, **3228F/G**, 3230F/G, 3285F/G, **3295F/G**, 3440F/G, 3441F/G, 3442F/G, 3443F/G, **3444F/G**, 3485F/G, 3800F/G, **4190F/G**, **4195F/G**, 4222F/G, 4223F/G, **4224F/G**, **4290F/G**, **4295F/G**, 4851E.

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MAJOR IN PSYCHOLOGY

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Notes:

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2. Combination with a Major module in Science or the Basic Medical Sciences may allow graduation with a 4 year BSc. To qualify for a 4 year BSc degree, 11.0 Science and/or Science-equivalent courses are required. When taken within this module, up to 3.0 of the following Psychology courses count towards meeting the requirement of 11.0 Science courses in a 4-Year BSc:

Psychology 2115A/B, 2134A/B, 2135A/B, 2210A/B, 2220A/B, 2221A/B, 2800E, 2810, 2820E, 3130A/B, 3138F/G, 3139A/B, 3140F/G, 3141F/G, 3209F/G, ~~3220A/B~~, 3221F/G, **3223F/G**, 3224A/B, 3225A/B, 3226A/B, **3228F/G**, ~~3229A/B~~, 3230F/G, 3285F/G, 3440F/G, **3441F/G**, 3442F/G, 3443F/G, 3444F/G, 3485F/G, 3800F/G, 4222F/G, ~~and~~ 4223F/G, **and** **4224F/G**.

BRESCIA UNIVERSITY COLLEGE**FRENCH**

Effective **September 1, 2016**, French 3800A/B – French Applied Linguistics be withdrawn.

Effective **September 1, 2016**, the following courses be introduced.

French 3890A/B - French Applied Linguistics

This course provides students with relevant research in second language acquisition by explaining how languages are learned. It introduces some theories and discusses various approaches, outcomes and issues related to teaching.

Antirequisite(s): the former French 3800A/B

Prerequisite(s): French 2900 or by permission of the Department.

3 lecture hours, 0.5 course.

(Brescia)

French 3894/B - French Pronunciation I

French 3894A/B introduces students to the analysis of the sound system of the French language and the differences between the English and the French phonetic systems. Students will learn to identify and adjust non-native patterns of pronunciation through comparative analysis, listening exercises, phonetic transcriptions, pronunciation practice in class and recordings.

Prerequisite(s): French 2900, or permission of the Department.

3 lecture hours, 0.5 course

(Brescia)

DAP UPDATE: MINOR CHANGES**FACULTY OF SOCIAL SCIENCE**

Effective **September 1, 2016**, the following course be revised.

First Nations Studies 2919F/G – The Iroquoians: Their History and Culture

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Prerequisite(s): Registration in second year **or higher** of any program.

KING'S UNIVERSITY COLLEGE

Effective **September 1, 2016**, the following course be revised.

Psychology 2840F/G – Research Methods in Psychology

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Prerequisite(s): At least 60% in a 1000 level Psychology course; Mathematics 1228A/B and Statistical Sciences 1024A/B.

