THE UNIVERSITY OF BRITISH COLUMBIA

April 28, 2010

CURRICULUM COMMITTEE
Vancouver Senate
2016 - 1874 East Mall
Vancouver, B.C. Canada V6T 1Z1

To: Vancouver Senate

From: Senate Curriculum Committee

Re: May Curriculum Proposals **(approval)**

The Senate Curriculum Committee has reviewed the material forwarded to it by the faculties, and encloses those proposals it deems as ready for approval.

As such, the following is recommended to Senate:

Motion: *That the new and changed courses and programs brought forward by the Faculties of Applied Science, Arts, Commerce and Business Administration, Graduate Studies (Arts, Commerce and Business Administration, Education, Medicine and Science), and Science be approved.*

Respectfully submitted,

Peter Marshall, Chair
Senate Curriculum Committee

THE UNIVERSITY OF BRITISH COLUMBIA

Enrolment Services
Senate and Curriculum Services
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T: 604-822-9134; F: 604-822-5945

28 April 2010

To: Vancouver Senate

From: Senate Curriculum Committee

Re: **CURRICULUM PROPOSALS FROM THE FACULTY OF APPLIED SCIENCE**

Attached please find submitted category 1 curriculum proposals for your consideration.

New Courses:
CHBE 243 (1)
CHBE 244 (2)
EECE 424 (3)
MECH 423 (3)
MTRL 472 (3)

Program Change:
B.A.Sc. > Academic Regulations> Academic Performance Evaluation > modify criteria

Faculty: Applied Science **Department: Chemical & Biological Engineering** **Faculty Approval Date: March 11, 2010** **Effective Session: September 2010**	**Date: January 20, 2010** **Contact Person: Mark Martinez** **Phone: 822-2693** **Email: martinez@chbe.ubc.ca**
CHBE: Undergraduate New Course	
Proposed Calendar Entry: **CHBE 243 (1) Introduction to Chemical and Biological Engineering Process Technology** Processes used in chemical and biological industries, which emphasize underlying physical, chemical and biological principles. Prerequisite CHBE 241 [1-0-0]	**URL:** Will be required **Present Calendar Entry:** None **Type of Action:** New Course **Rationale:** CHBE 242 is being divided into two separate courses to reflect the material being currently taught. **Category 1**

Faculty: Applied Science **Department: Chemical & Biological Engineering** **Faculty Approval Date: March 11, 2010** **Effective Session: September 2010**	**Date: March 11, 2010** **Contact Person: Mark Martinez** **Phone: 822-2693** **Email: martinez@chbe.ubc.ca**
CHBE: Undergraduate New Course	
Proposed Calendar Entry: **CHBE 244 (2) Chemical and Biological Engineering Thermodynamics I** Energy and the first law; second law of thermodynamics; entropy; availability analysis; application of power systems, biological and electrochemical systems. Prerequisite CHBE 241 [2-0-2*]	**URL:** Will be required **Present Calendar Entry:** **Type of Action:** New Course **Rationale:** CHBE 242 is being divided into two separate courses to reflect the material currently being taught. **Category 1**

Faculty: Applied Science **Department: Electrical & Computer Engineering** **Faculty Approval Date:** **Effective Session: September 2010**	**Date: February 16, 2010** **Contact Person: Nick Jaeger** **Phone: 822--5673** **Email: nickj@ece.ubc.ca**
EECE: Undergraduate ~ New Course	
Proposed Calendar Entry: Proposed Calendar Entry: **EECE 424 (3) BIOMECHATRONICS** Design of mechatronic systems to measure and manipulate biological materials and processes; compliant structures; bioelectronic circuits; biomedical embedded systems and BioMEMS. Example applications from clinical medicine and biomedical research. Credit will be granted for only one of MECH 423 or EECE 424. [2-2-0] *Prerequisite:* All of EECE 251, EECE 253, EECE 254, EECE 256, EECE 259, EECE 360 or all of EECE 201, EECE 202, EECE 360 or all of EECE 201, EECE 203, EECE 360.	**URL:** will be required **Present Calendar Entry:** **Type of Action**: New Course **Rationale**: Mechatronics is a quickly evolving field, and Biomechatronics is becoming increasingly important at the core of the field. Course to be co-listed with MECH 423 **Category 1**

Faculty: Applied Science **Department: Mechanical Engineering** **Faculty Approval Date: March 11, 2010** **Effective Session: September 2010**	**Date: February 1, 2010** **Contact Person: Peter Ostafichuk** **Phone: 604-822-9614** **Email: ostafichuk@mech.ubc.ca**
MECH: Undergraduate Course Change	
Proposed Calendar Entry: **MECH 423 (3) BIOMECHATRONICS** Design of mechatronic systems to measure and manipulate biological materials and processes; Compliant structures; bioelectronic circuits; biomedical embedded systems and BioMEMS. Example applications from clinical medicine and biomedical research. Credit will be granted for only one of MECH 423 or EECE 424. [2-2-0] ***Prerequisite:*** **All of EECE 363, MECH 366.** ***Corequisite***: EECE 355.	URL: will be required **Present Calendar Entry**: None **Type of Action**: New Course **Rationale**: Mechatronics is a quickly evolving field, and Biomechatronics (new course MECH 423) is becoming increasingly important at the core of the field. Course to be co-listed with EECE 424. **Category 1**

Faculty: Applied Science **Department: Material Engineering** **Faculty Approval Date:** **Effective Session: September 2010**	**Date: January 15, 2010** **Contact Person: Goran Fernlund** **Phone: 822-3673** **Email: goran@composites.ubc.ca**
MTRL: Undergraduate ~ New Course	
Proposed Calendar Entry: **MTRL 472 (3) WELDING AND JOINING OF MATERIALS.** Case studies addressing temperature modelling in welding and joining, material selection for welds and joints, calculation of properties for welds and joints, mechanical analysis of joints and design of welding and joining procedures. [2-0-2] Prerequisites: All of MTRL 365, MTRL 378.	**URL:** http://www.students.ubc.ca/calendar/courses.cfm?code=MTRL **Present Calendar Entry**: None **Type of Action**: New Course **Rationale**: There is significant demand from students and industry to obtain deeper knowledge of welding and joining of materials. Students will learn about welding and joining through three state-of-the-art case studies. Students will appreciate the significance of welding and joining in manufacturing and will be able to apply their prior physical/mechanical metallurgy knowledge in analysis and design of welds and joints. **Category 1**

Faculty: Applied Science **Department: APSC** **Faculty Approval Date: March 11, 2010** **Effective Date: September 2010**	**Date: January 27, 2010** **Contact Person: Bruce Dunwoody** **Phone: 822-6556** **Email: bruce.dunwoody@ubc.ca**
APSC: Undergraduate Program Change(s)	
Proposed Calendar Entry: **Academic Performance Evaluation** A student will be evaluated at the end of each winter session. The student must receive a credit-weighted average of at least 55% and must have passed at least 65% of the total credits taken over the winter session in order to pass the year. Courses taken during a summer session are not included. Students who do not meet this standard will be required to discontinue from the Faculty for at least one year. A student who fails the year a second time will be required to withdraw from the University and will not normally be readmitted. For more information, please see Advancement Regulations (*http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,43,0,0*).	**URL:** http://www.students.ubc.ca/calendar/index.cfm?tree=12,195,272,29 **Present Calendar Entry:** **Academic Performance Evaluation** ~~A student will be evaluated for academic progress once he or she has completed at least 12 credits of coursework, excluding co-op courses, since last evaluated.~~ ~~One of three academic standings is assigned as a result of an academic performance evaluation: in Good Standing, on Academic Probation, or Failed.~~ ~~All students are in Good Standing when first admitted to the Faculty.~~ ~~A student in Good Standing who achieves a credit-weighted average of at least 55% over all courses taken since the last academic performance evaluation and who passes at least 65% of those credits will remain in Good Standing. A student in Good Standing who does not achieve at least a 55% average or who does not pass at least 65% of the credits taken will be placed on Academic Probation.~~ ~~A student on Academic Probation who achieves a credit-weighted average of at least 60% and passes all courses taken since the last academic performance evaluation will be placed in Good Standing. Otherwise, the student will be assigned a standing of Failed.~~ ~~A student assigned an academic standing of Failed will be required to discontinue his or her studies for one year prior to an appeal for readmission. (Note: a student required to discontinue studies will be allowed to complete any courses already begun at the time of the requirement to discontinue studies.)~~ ~~A student who is assigned an academic standing of Failed for a second time will be required to withdraw from the University and will not normally be readmitted.~~ **Type of Action:** Modify the criteria.

	Rationale: The software support for the modified academic performance criteria is not available. Without this support, the new academic performance criteria are too labour-intensive so cannot be sustained. The older, simpler criteria are being reintroduced as a result. **Category 1**

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28 April 2010

To: Vancouver Senate

From: Senate Curriculum Committee

Re: **CURRICULUM PROPOSALS FROM THE FACULTY OF ARTS**

Attached please find submitted category 1 curriculum proposals for your consideration.

New Minor:
Minor in Environment and Society

New and Changed Courses:
VISA 241 (3)
ANTH 215 (3)
ANTH 228 (3)
ANTH 301 (3)
ANTH 405 (3)
ANTH 414 (3)
ANTH 425 (3)
ASIA 361 (3)
ASIA 363 (3)
ASIA 365 (3)
ASIA 389 (3)
ASIA 399 (3)
ASIA 451 (3)
ASIA 456 (3)
PUNJ 400 (6)
ENGL 489 (3)
FNSP 300 (3)
FREN 280 (3)
FREN 336 (3)
FREN 484 (3/6)d
ITST 245 (3)
ITST 385 (3)
RMST 234 (3)
HIST 106 (3)
HIST 273 (3)
HIST 313 (3)
HIST 419 (3)
HIST 460 (3)
HIST 487 (3)

HIST 488 (3/6)d
FIST 445 (3)
FIST 449 (6)

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: Dean of Arts Office** **Faculty Approval Date:** **Effective Session _____ Term ___ Year___ for Change**	**Date: Nov. 18, 2009** **Contact Person: Kathryn Harrison** **Phone: 822-6701** **Email:** kathryn.harrison@ubc.ca
Proposed Calendar Entry: The **Minor in Environment and Society** allows students to complement their Major program of study with an interdisciplinary minor drawn from the large number of relevant courses offered by Arts, Science and other faculties. Students enrolled in faculties other than Arts who are interested in the Minor in Environment and Society should consult an advisor in their home faculty. The Minor in Environment and Society consists of 15 credits from List A and 6 credits from List B, specified below, at least 18 credits of which must be at the 300-level or above. All courses credited toward the Minor must be drawn from disciplines other than the concurrent Major or Honours degree. Courses taken outside the Faculty of Arts and Science will count toward the maximum of 18 such credits allowed for the Bachelor of Arts degree. Credits in List B may be used to satisfy the Faculty of Arts science requirement, though students should consult the relevant section of the calendar to confirm that particular courses qualify. Some courses listed below may not be offered every year. Moreover, many of the courses listed below have prerequisites. Students should therefore plan their courses of study in advance. **A) Environment and Society** (15 credits) ANTH 360 ANTH 461 ANTH 462 CONS 101 CONS 200 CONS 440 ECON 371 ECON 374 ECON 471 ECON 472 FRST 415 FRST 470	**URL:** **Present Calendar Entry:** N/A **Type of Action:** New Minor **Rationale:** The Faculty of Arts offers courses related to environment and sustainability in many departments, from Anthropology to Sociology. Students in Arts can currently complete a disciplinary major or minor in Geography with a focus on environment and sustainability, but there is no interdisciplinary program that invites students to combine related courses across the many disciplines in Arts. The proposed Minor in Environment and Society will provide such an opportunity. The curriculum draws entirely on existing courses, giving students maximum flexibility to combine courses of particular interest to them. The interdisciplinary minor will complement students' normally discipline-based major.

THE UNIVERSITY OF BRITISH COLUMBIA

GEOG 310 GEOG 312 GEOG 316 GEOG 317 GEOG 318 GEOG 319 GEOG 410 GEOG 412 GEOG 419 GEOG 423 HIST 106 HIST 396 PHIL 435 POLI 351 POLI 375 PSYC 321 SOCI 360 SOCI 420 **B) Environmental Sciences** (6 credits) APBI 244 ASIC 200 BIOL 121 BIOL 304 or BIOL 230 BIOL 343 BIOL 345 BIOL 346 CONS 330 ENVR 200 EOSC 112 EOSC 314 EOSC 315 FRST 303 FRST 304 GEOB 102 GEOB 103 GEOB 204 GEOB 207 GEOB 307 MICB 300 or MICB 301 The Faculty of Science offers many other courses relevant to the environment that have significant prerequisites. Students with adequate prerequisites should consult the program Chair for permission to have these courses satisfy the list B requirement.	

THE UNIVERSITY OF BRITISH COLUMBIA

Listed below are items to consider when completing the UBC Curriculum Proposal Form

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Art History, Visual Art and Theory **Faculty Approval Date:** **Effective Session _W___ Term __1_ Year_2010_ for Change**	**Date:** October 31st, 2009 **Contact Person:** Barrie Jones **Phone:** 604-822-1223 **Email:** barriej@interchange.ubc.ca
Proposed Calendar Entry: VISA 241 (3) INTRODUCTION TO DIGITAL PHOTOGRAPHY Introduction to digital photography image creation in relation to contemporary art. Emphasis on digital camera use, file management and digital print production. Prerequisites: an average of at least 72% in VISA 180 or 182, VISA 183 and VISA 110. Only one of VISA 240 and VISA 241 may be used toward the program requirements of the BFA Visual Art and the BA Visual Art programs.	**URL:** **Present Calendar Entry:** **Type of Action:** Category One change to introduce a new, 200-level VISA course to meet the demand for an introduction to digital photography. **Rationale:** The Introduction to Digital Photography course is a necessary addition to our course offerings because digital technology is increasingly dominating all aspects of image and recording, storage, manipulation and print production in the field of photographic art. This course responds to a significant shift in technology and theory in the field of photography and the corresponding student demand. The Introduction to Digital Photography course will provide students with hands on training in digital camera use, necessary aspects of image storage, transfer and manipulation, and digital print production. This course will facilitate an enhanced learning experience and lead to an increased ability for the students to succeed at the 300 and 400 levels of VISA photography study that we offer.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: Anthropology** **Faculty Approval Date:** **Effective Session winter Term 1 Year 2010 for Change**	**Date: September 30, 2009** **Contact Person: Bill McKellin** **Phone: 822-2756** **Email: mcke@interchange.ubc.ca**
Proposed Calendar Entry: ANTH 215 (3) JAPANESE POPULAR CULTURE Television shows, dramas, movies, advertising, marketing, manga (Japanese style "comics"), anime (Japanese animation), theatrical forms, popular literature, popular music, fashion fads, tourism, toys, and sports.	**Present Calendar Entry:** ANTH 215 (3/6) d Introduction to Japanese Society Survey of contemporary Japanese life, with a focus on social organization and cultural patterns. Topics may include family, kinship, rural and urban conditions, economic organization, class and other inequalities, ethnic relations, and introduction of Western culture and value systems. Equivalency: SOCI 215. **Type of Action:** • Change credit options to 3 from 3/6. • Change title • Rewrite description to better reflect course content • Delete sociology equivalency. **Rationale:** The existing title and description do not differentiate the course adequately from ANTH 315. Neither do they represent current teaching practice. This course description has been reviewed by the department in the context of an overall program review resulting from the recent creation of Anthropology as a separate department. The deletion of the sociology equivalency reflects the separation of the former Dept. of Anthropology and Sociology.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: Anthropology** **Faculty Approval Date:** **Effective Session __Winter__ Term _1__ Year_2010__ for Change**	**Date: 4 November, 2009** **Contact Person: Bill McKellin** **Phone: 2-2756** **Email: mcke@interchange.ubc.ca**
ANTH 228 (3) Forensic Anthropology **Proposed Calendar Entry:** The application of methods from biological anthropology and archaeology to the identification, recovery, and analysis of skeletal remains from crime scenes, mass disasters and unexplained deaths.	**URL:** N/a **Present Calendar Entry:** N/a **Type of Action:** New course **Rationale:** There is a need for a course in this rapidly expanding area of biological anthropology. Currently none of the existing courses covers this topic.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form

Category (1) Change to Course or Program

Faculty: Arts **Department: Anthropology** **Faculty Approval Date:** **Effective Session: winter, term 1, 2010**	**Date:** **Contact Person:** **Phone:** **Email:**
Proposed Calendar Entry: **ANTH 301(3) Ethnography of Eurasia** Eurasia, including the Russian Federation, Central Asia, and Mongolia, with an emphasis on issues of power, identities, and transnational mobility in the region.	**Present Calendar Entry:** N.A.. **Type of Action**: Create a new course number for a course that has been previously taught as a "special areas" course (ANTH 403). **Rationale:** The ethnography of Eurasia is a growing area of research and teaching encompassing the region of the former Soviet Union and its bordering regions. This course will complement offerings in the Department of History, the Department of Sociology, and the Department of Asian Studies.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: Anthropology** **Faculty Approval Date:** **Effective Session _Winter_ Term _1__ Year_2010__ for Change**	**Date: 30/09/09** **Contact Person: Bill McKellin** **Phone: 2-2756** **Email: mcke@interchange.ubc.ca**
ANTH 405 (3) Archaeological and Anthropological Mapping **Proposed Calendar Entry:** Current methods in mapping spatial information in archaeology and related subfields of anthropology.	**URL:** N/A – new course **Present Calendar Entry:** N/A – new course **Type of Action:** New course **Rationale:** This course covers emerging technologies and methods essential to archaeological and anthropological research.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form

Category (1) Change to Course or Program

Faculty: Arts **Department: Anthropology** **Faculty Approval Date:** **Effective Session: winter, term 1, 2010**	**Date:** **Contact Person: Bill McKellin** **Phone: 2-2756** **Email: mcke@interchange.ubc.ca**
Proposed Calendar Entry: **ANTH 414 (3) Anthropology of Globalization** Theories on the global flow of people, commodities, images, and ideas with critical ethnographic attention to the different ways people respond to globalization.	**Present Calendar Entry:** N.A. **Type of Action**: Create a new course. **Rationale:** This course has been previously taught as Anth470, "Topics in Contemporary Theory," for five of the past eight years. Anthropological attention to the study of globalization and the meaning it has for people is thriving, with its focus on "global cities," uneven access to globalized forms of power and mobility, and the role of nation-states in regulating migration. At least three of our current faculty could teach this course (Bloch, Gordillo, Menzies). This course complements offerings in the Department of Geography, Department of Sociology, and Department of Economics. It will also add to the list of courses that may satisfy requirements for the newly established undergraduate minor in Globalization and Migration Studies.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: Anthropology** **Faculty Approval Date:** **Effective Session _Winter_ Term _1__ Year_2010__ for Change**	**Date: 5 October 2009** **Contact Person: Bill McKellin** **Phone: 2-2756** **Email: mcke@interchange.ubc.ca**
ANTH 425 (3) Nutritional Archaeology **Proposed Calendar Entry:** The archaeological evidence for the change of human diets over time and the methods used to reconstruct past diets.	**URL:** N/A – new course **Present Calendar Entry:** N/A – new course **Type of Action:** New course **Rationale:** There is a need for additional 4th year courses in the department that addresses the relationship between archaeology and biological anthropology. This course has a broad appeal across the sub-fields of anthropology, and has attracted students from other departments and faculties

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** Oct 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** October 18, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: **ASIA 361 (3)** MODERN CHINESE FICTION IN TRANSLATION II A thematic survey of modern Chinese fiction and film in translation.	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** UBC currently only has one course on the books for modern Chinese literature (MCL) in translation: ASIA 351: "Modern Chinese Fiction in Translation." This course proposal is intended to enhance UBC's curriculum so that interested students may take a two-semester course of study in MCL. (Currently, their own option is to repeat ASIA 351, which looks like the same course on their transcript even if the content is different.) In the future, ASIA 351 will be offered in the fall and ASIA 361 in the spring and have complementary thematic foci (e.g., "the city in literature"/"the rural imagination"), such that students may either take both courses as a two-part series or just one course a la carte. Student demand for MCL survey courses at this level is high, and ASIA351 is consistently oversubscribed.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** Oct 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** October 18, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: **ASIA 363 (3)** FICTION AND FILM FROM MODERN TAIWAN A reading-intensive survey of literary and cinematic culture in Taiwan since the early 20th century: colonialism, the national divide, nativism, trauma, cosmopolitanism, and utopian imaginings. In English.	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** This new course will enhance UBC's course offerings on modern Asia with a focus on the outsized literary and cinematic accomplishments of the small island of Taiwan. It traces a literary, cinematic, and cultural history of Taiwan in the context of the island's modern history and links to other parts of Asia and the world by focusing on notable writers and filmmakers from the Japanese occupation period (1895-1945) to the post-martial law (post-1987) present. Student demand for such a course is strong, especially given the large population of UBC students with a family link to Taiwan. (Over forty students from a diversity of backgrounds enrolled in this course this term when it was advertised under the generic title "A Specific Asian Literature in Translation" (ASIA 360A) and subtitled "Fiction and Film from Modern Taiwan.") All readings will be in English translation, and all films will have English subtitles.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
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Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** Oct 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** November 1, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: ASIA 365(3) Punjabi Cinema Punjabi culture, history, and social values through films. The class includes film viewings and seminar discussions. Films will be screened with English subtitles.	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** With the emergence of strong markets for Punjabi films in the diasporic Punjabi communities all over the world, the Punjabi film making has gained a powerful momentum in recent decades. On one hand, this momentum is increasing the number of Punjabi films made per year, on the other hand it is influencing the subject matter of Punjabi films. For example, in the beginning, most of the Punjabi films were made about classical Punjabi love stories such as Heer Ranjha, Sassi Pannu, Sohni Mehiwal etc., and now a days many Punjabi films deal with the lives of Punjabis living in western countries such as USA and Canada. In addition to strong diasporic markets for Punjabi films, the thriving *Bhangra* music industry has greatly influenced the Punjabi films in recent decades. A number of Bhangra stars have entered the business of Punjabi films production. In some instances, the plots of Punjabi films have been woven around 5-6 six songs sung by a popular singer. The students of this course will be able to gain a significant insight in to Punjabi, language, culture and history by viewing and analyzing Punjabi films made during different time periods (i.e. pre-partition, partition to early 1960s, 1970s to mid-1990s, and from mid-1990s to the present).

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UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** October 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** October 25, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: **ASIA 389 (3) Introduction to Classical Chinese I** The basics of classical Chinese grammar, with short illustrations from texts of the Warring States and early Han Period. Prerequisite: Students must have completed the equivalent of first-year modern Chinese, first-year modern Japanese or Korean 301, or otherwise demonstrate a basic knowledge of Chinese characters.	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** Classical Chinese has served as the literary lingua franca of East Asia for millennia, and a reading knowledge of this language is required for working with pre-modern materials from throughout East Asia. There is currently no course at UBC dedicated to providing students who are not advanced speakers of a modern Chinese dialect with an ability to work directly with classical Chinese materials—a serious impediment to the training of advanced undergraduate and graduate students.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** October 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** October 25, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: **ASIA 399 (3) Introduction to Classical Chinese II** Practice and expansion of the grammar skills learned in Asia 389; reading of additional and longer passages from the classical canon. Prerequisite: ASIA 389	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** Classical Chinese has served as the literary lingua franca of East Asia for millennia, and a reading knowledge of this language is required for working with pre-modern materials from throughout East Asia. There is currently no course at UBC dedicated to providing students who are not advanced speakers of a modern Chinese dialect with an ability to work directly with classical Chinese materials—a serious impediment to the training of advanced undergraduate and graduate students.

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Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** Oct 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** October 18, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: **ASIA 451 (3)** MODERN CHINESE AUTHORS IN TRANSLATION One influential modern Chinese author, such as Lu Xun, Shen Congwen, Eileen Chang, Yu Hua, Mo Yan, or Wang Anyi. Prerequisite: ASIA 351, ASIA 361, or ASIA 363.	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** UBC currently offers no fourth-year-level course on modern Chinese literature (MCL) in English translation, despite high student demand. This course is designed for Asian Studies majors and minors, as well as for students with a strong interest in MCL who have already taken course offerings at the third-year level. Whereas existing (and proposed) third-year MCL courses offer a broad thematic survey of modern Chinese fiction, this fourth-year course will take an in-depth look at the corpus of a single author, focusing on such issues as: biography, literary influences and antecedents, historical and cultural milieu, aesthetics, politics, inclusion/exclusion from different literary canons, legacy and cultural impact. Enough modern Chinese writers have been translated into English as to make at least a dozen unique iterations of this course possible.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** Oct 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** December 16, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: **ASIA 456 (3)** HISTORY AND CULTURE OF TAIWAN The major social, economic, political, and cultural changes in Taiwan since the seventeenth century; the post-World War II process of democratization and Taiwan's place in the contemporary world.	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** Taiwan (the Republic of China on Taiwan) is an increasingly important player in world economics, politics and culture with vital links to Canada, the U.S., Japan, and especially China. There is no such course in the Faculty of Arts. This course is being proposed in fulfillment of the agreement—Enhancing Taiwan Studies—reached in 2008 with the ROC Ministry of Education by the University, the Faculty of Arts and the Department of Asian Studies.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form

Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** October 29, 2009 **Effective Session** 2010W **Term** 1 **Year** 2010 **for Change**	**Date:** October 27, 2009 **Contact Person:** Lonnie Chase **Phone:** 822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: PUNJ 400 (6) The Punjabi Novel (Advanced Punjabi) Prerequisite: PUNJ 300	**URL:** n/a **Present Calendar Entry:** none **Type of Action:** New course **Rationale:** This course will aim to introduce students to the novel in modern Punjabi, building upon the knowledge acquired in the first, second, and third year courses in Punjabi and to develop students' reading and writing skills in modern Punjabi at an intermediate and advanced level.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: ARTS **Department: English** **Faculty Approval Date:** **Effective Session_W__ Term 1___** **Year_2010__ for Change**	**Date:** November 2, 2009 **Contact Person:** Glenn Deer **Phone:** 2-4469 **Email:** gdeer@interchange.ubc.ca
Proposed Calendar Entry: ENGL 489 (3) Language Majors Seminar Required of all Language Majors. See Department Website (http://www.english.ubc.ca/ugrad/majors/compl_lang.htm) for options. This course may not be taken for Credit/D/Fail Standing.	**URL:** http://www.students.ubc.ca/calendar/courses.cfm?code=ENGL **Present Calendar Entry:** none **Type of Action:** New course **Rationale:** ENGL 489 fulfills the recent Faculty of Arts "research experience" requirement with a specialized research course for Language Majors.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: First Nations Studies Program** **Faculty Approval Date:** **Effective Session: Winter Term 1; Year for Change: 2010-2011**	**Date: 11-26-2009** **Contact Person: Dory Nason** **Phone: 604-827-5688** **Email: dory.nason@ubc.ca**
Proposed Calendar Entry: FNSP 300 (3): Writing First Nations A writing-intensive course examining approaches to writing Indigenous research: Representation & the Other; Indigenous critiques of research & representation; Indigenous, feminist and cultural studies approaches to writing ethnography, oral history and related research methods.	**URL:** **Present Calendar Entry:** **Type of Action:** New Course **Rationale:** To augment current core course offerings with a writing-intensive course in order to provide a foundation for the high level of analysis and writing expected in the major's research practicum. The course is not duplicated elsewhere nor is it designed as a writing skills course. While the course subject is focused on issues of writing methods and related representational practices/issues for First Nations studies research, it is also highly relevant for students at UBC in traditional disciplines whose research focuses on Aboriginal peoples or students who are working within interdisciplinary programs which focus on difference.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: FHIS (Fren Hisp & Ital)** **Faculty Approval Date:** **Effective Session _W_ Term _1_ Year_10 for Change**	**Date: October 20, 2009** **Contact Person: Prof. R. Hodgson** **Phone: 2-4007** **E-mail: rhodgson@interchange.ubc.ca** **Proponent: R. Hodgson**
Proposed Calendar Entry: **FREN 280 (3) Introduction to Québécois Literature in Translation** **An overview of the novel and theatre of Quebec in the 1960s, 70s and 80s.**	**URL:** **Present Calendar Entry:** None **Type of Action:** Introduce new course **Rationale:** This course will provide students with an overview of the novel and theatre of Quebec in the 1960s, 70s and 80s. Because the texts on the syllabus are studied with reference to their socio-cultural and historical contexts, this course should be of interest to students of Canadian history as well as of Canadian literature, and of course to students specializing in Canadian Studies. The 3 credits involved will help students satisfy the literature requirement of the Faculty of Arts. The course is aimed at students whose level of knowledge of French is insufficient to allow them to study the works involved in the original language. Pls. see the sample syllabus attached.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** French, Hispanic and Italian Studies **Faculty Approval Date:** **Effective Session W Term 1 Year 2010**	**Date:** November 29, 2009 **Contact Person:** Dr. Richard Hodgson **Phone:** 2 4007 **Email:** rhodgson@interchange.ubc.ca
Proposed Calendar Entry: **FREN 336 (3) THE FRANCOPHONE WORLD IN IMAGES.** A socio-cultural study of francophone communities of Canada, the Caribbean, Europe and North and Sub-Saharan Africa as seen through their films. Prerequisite: FREN 223.	**URL:**http:/www.students.ubc.ca/calendar/courses.cfm?code=FREN **Present Calendar Entry:** None **Type of Action:** Create New Course **Rationale:** This course is designed to provide students with the conceptual tools for discovering the world's most important francophone communities. Some emphasis will be put on basic analytical tools for understanding the visual language of film (narration, characterization, point of view, treatment of time, genre etc.) but since film trends are crucial to an understanding of a culture, the main objective of the course will be to focus on each selected film as a lens for exploring the socio-cultural context from which it emerged.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: FHIS (Fren Hisp & Ital)** **Faculty Approval Date:** **Effective Session _W_ Term _1_ Year_10 for Change**	**Date: October 20, 2009** **Contact Person: Prof. R. Hodgson** **Phone: 2-4007** **E-mail: rhodgson@interchange.ubc.ca** **Proponent: R. Hodgson**
Proposed Calendar Entry: **FREN 484 (3/6) d Studies in Book Culture: the Author, the Public and the Book** A historical approach to the social transformations of the book trade in France. Prerequisite: One of FREN 320 or FREN 321 or FREN 330.	**Present Calendar Entry:** None **Type of Action:** Introduce new course **Rationale:** This course fills a gap in our undergraduate programs in French by giving advanced students the opportunity to familiarize themselves with the role of institutions and social practices in literary activities in France. Topics will vary but may include questions like the professionalization of writers, transformations of the literary market and the institutionalization of criticism.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: FHIS (Fren Hisp & Ital)** **Faculty Approval Date:** **Effective Session _W_ Term _1_ Year_10_ for Change**	**Date: November 12, 2009** **Contact Person: Prof. R. Hodgson** **Phone: 2-4007** **E-Mail: rhodgson@interchange.ubc.ca** **Proponent: Prof. C. Testa**
Proposed Calendar Entry: ITST 245 (3) ITALIAN FASCISM IN INTERDISCIPLINARY PERSPECTIVE The cultural, literary, philosophical roots of Fascism and its evolution: its policies in literature, sports, cinema, architecture, racial legislation, and colonial adventures.	**Present Calendar Entry:** None **Type of Action:** Introduce new course **Rationale:** Italian Fascism (1919-1943 and then 1945) ushered in a tragic paradigm shift in the modern polity and fully matched its claim to have created the new, modern and (in Mussolini's own word) "totalitarian" society. This course explores the cultural, literary, philosophical, political roots of Fascism and its evolution, considering and discussing its policies in fields as diverse as literature, sports, cinema ("Cinema is the greatest weapon of all" - again Mussolini), architecture, after-work clubs for the masses, summer camps, racial (= racist) legislation, colonial adventures etc., until the fatal "Axis" alliance with Nazi Germany. The course has been tested and offered 3 times with increasing enrollments in a slightly more international form (as RMST 222, *Literatures and Cultures of the Romance World II: Modern to Post-Modern*) and, given its success, the Department now feels that it ought to have a specific label identifying it more precisely.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: FHIS (Fren Hisp & Ital)** **Faculty Approval Date:** **Effective Session _W_ Term _1_ Year_10_ for Change**	**Date: September 16, 2009** **Contact Person: Prof. R. Hodgson** **Phone: 2-4007** **E-mail: rhodgson@interchange.ubc.ca** **Proponent: C. Testa**
Proposed Calendar Entry: ITST 385 (3) ITALIAN CINEMA: NEOREALISM	**URL:** **Present Calendar Entry:** None **Type of Action:** Introduce new course **Rationale:** Italian Neorealism was a worldwide *cause célèbre* — an artistic movement exemplary both in aesthetic achievements and ethical commitment. Over the decades it has had an enormous impact on filmmakers the world over: from young Kurosawa's Japan, to the United States, to countries (Brazil, India, Eastern Europe, Spanish America) previously known as "third world" who reached artistic maturity by absorbing and re-elaborating the great Neorealist masters' legacy. The Italian program and FHIS wish to reach out to all students in Arts (not least in cooperation with the new FILM - FIST Audio-Visual Resource Centre in Lasserre 206), alternately offering this intermediate third-year course with the extant entry-level second-year survey ITST 234, "Intro to Italian Cinema."

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: FHIS (Fren Hisp & Ital)** **Faculty Approval Date:** **Effective Session _W_ Term _1_ Year_10 for Change**	**Date: November13, 2009** **Contact Person: Prof. R. Hodgson** **Phone: 2-4007** **E-mail: rhodgson@interchange.ubc.ca** **Proponent: C. Testa**
Proposed Calendar Entry: **RMST 234 (3) INTRODUCTION TO ROMANCE LANGUAGE CINEMA**	**URL:** **Present Calendar Entry:** None **Type of Action:** Introduce new course **Rationale:** This course presents students with a general introduction to comedy in the cinema of Romance Language nations. It explores the ways in which popular comic films for the masses — cinematic comedy, that is — has been able to continue a gloriously ancient theatrical genre aimed at playing a pedagogical role, up to and including an important pro-democratic one. By using the greatest diversity of sub-genres, settings, themes, characterization, comic devices etc., such comedies have harnessed laughter to the illustration of major social, economic, or political issues of their days / our day. In so doing, they have decisively contributed to fostering a better informed and more solid citizenry. This course is an expanded version of the extant entry-level second-year survey ITST 234, "Introduction to Italian Cinema," and it wishes to go beyond that in order to cater to the interests of all majors and minors in FHIS, actual or potential, as well as to the curiosity of the general public.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: History** **Faculty Approval Date:** **Effective Session W; Term 1** **Year 2010 for Change**	**Date:** Thursday, 10 September 2009 **Contact Person:** Tina Loo **Phone:** 604 822-5173 **Email:** tina.loo@ubc.ca
Proposed Calendar Entry: HIST 106 (3) Global Environmental History The impact humans have had on the environment, and the ways in which the physical environment has shaped human history: climate, agriculture, energy use and urbanization.	**Type of Action:** new course **Rationale:** HIST 106 is a first year course designed to present contemporary environmental issues in historical perspective. In covering the issues of climate change, agriculture, energy, and urbanization, it will draw on examples from around the globe and across time, though it is largely focused on the nineteenth and twentieth centuries. Although it will provide the context for upper division courses in environmental history, it is also designed to appeal and be accessible to students from other disciplines and departments with an interest in environmental studies and sustainability, areas of university-wide focus and strength.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: History** **Faculty Approval Date:** **Effective Session W; Term 1** **Year 2010 for Change**	**Date:** Wednesday, 16 September 2009 **Contact Person:** John Roosa **Phone:** 604 822-5175 **Email:** jroosa@interchange.ubc.ca
Proposed Calendar Entry: HIST 273 (3) Major Issues in South Asian History Some of the major debates in the political, economic, and military history of South Asia from ancient times to the present: state formation, commerce, empire, nationalism, and partition.	**Type of Action:** new course **Rationale:** This course is meant to be at the 200-level. As a regional survey, it is similar to current courses 237 (Major Themes in American History) and 250 (Major Issues in Latin American History). It is designed to attract 1st and 2nd year students. At present, both of the department's courses on South Asia are at the 300-level. As a one-term, 3-credit course, it will give the department more flexibility in scheduling South Asia courses. Now the department's only survey course on South Asia is 2-terms, six credits (Hist 385). We don't have the teaching person-hours to routinely offer Hist 385. As a course that includes material on ancient India, it expands the department's coverage. At present, we only cover the Mughal and modern periods.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: History** **Faculty Approval Date:** **Effective Session W; Term 1** **Year 2010 for Change**	**Date:** Thursday, 17 September 2009 **Contact Person:** Jeffrey Byrne **Phone:** 604 822-5194 **Email:** jeffrey.byrne@ubc.ca
Proposed Calendar Entry: HIST 313 (3) Africa from Imperialism to Independence The history of Africa in the 19th and 20th Centuries: the growth of Islam and Christianity, the impact of European colonialism, the development of nationalism, and the variety of different political and social outcomes after independence.	**Type of Action:** New Course **Rationale:** The course would meet the need for an offering on modern African history. Additionally, the course would introduce students to several important themes in the history of imperialism and the developing world: colonialism as (at least) a bi-directional experience, the formation of national identities, and the question of elite formation. Gives global context to Africa.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: History** **Faculty Approval Date:** **Effective Session W; Term 1** **Year 2010 for Change**	**Date:** Thursday, 17 September 2009 **Contact Person:** Tamara Myers **Phone:** 604 822-5161 **Email:** tamara.myers@ubc.ca
Proposed Calendar Entry: HIST 419 (3) Crime and Punishment in Canadian History The relationship between law and society; the development of legal institutions and the evolving character of crime in Canada.	**Type of Action:** new course **Rationale:** This course on legal history is intended to both expand the course offerings in the Canadian area and contribute to the new Law and Society Minor. It conforms to the thematic emphasis of the 400-level History courses.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: History** **Faculty Approval Date:** **Effective Session W; Term 2** **Year 2010 for Change**	**Date:** Friday, 18 September 2009 **Contact Person:** Jeffrey Byrne **Phone:** 604 822-5194 **Email:** jeffrey.byrne@ubc.ca
Proposed Calendar Entry: HIST 460 (3) Revolution and Resistance in the Third World Revolutionary movements in the Third World during the second half of the twentieth century; the radicalisation of anticolonial nationalism; the impact of anticolonial radicalism in the developed world; the decline of Marxism as a revolutionary inspiration.	**Type of Action:** New Course **Rationale:** The course would complement existing international relations courses that focus on the great powers and the Northern Hemisphere, and also offers an important survey of the post-colonial era in the developing world. Particular attention is paid to Africa and to the Middle East, regions with relatively little coverage. Teaches students to connect different regions through theory.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: History** **Faculty Approval Date:** **Effective Session W; Term 1** **Year 2010 for Change**	**Date:** Saturday, 12 September 2009 **Contact Person:** Carla Nappi **Phone:** 604 822-5176 **Email:** carla.nappi@ubc.ca
Proposed Calendar Entry: HIST 487 (3) Medicine and Healing in Chinese History Health and healing in China's history; the modern re-imagining of a Chinese medical tradition in contemporary society.	**Type of Action:** new course **Rationale:** This course is proposed as part of the Department's fourth-year curriculum offerings, which are largely historical treatments of specific temporal periods or thematic foci.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Arts **Department: History** **Faculty Approval Date:** **Effective Session W; Term 1** **Year 2010 for Change**	**Date:** Thursday, 17 September 2009 **Contact Person:** Carla Nappi **Phone:** 604 822-5176 **Email:** carla.nappi@ubc.ca
Proposed Calendar Entry: HIST 488 (3/6) D Special Topics in Asian History	**Type of Action:** new course **Rationale:** Many postdoctoral fellows, new instructors, senior doctoral candidates, and visiting professors wish to teach Asian history courses in our department but cannot find a particular course extant in the calendar that describes the topic, theme, or period they wish to teach. We have topics courses in Canadian, U.S., and Latin American history; we should certainly have one in our signature field of Asian history.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: Theatre and Film** **Faculty Approval Date:** **Effective Session _Winter___ Term __1_ Year_2010__ for Change**	**Date: November 10, 2009** **Contact Person: Brian McIlroy** **Phone: 2-9194** **Email: bmcilroy@interchange.ubc.ca**
Proposed Calendar Entry: FIST 445 (3) Majors and Honours Seminar	**Present Calendar Entry:** None **Type of Action:** New Course **Rationale:** This seminar will provide archive research experience for our majors and honours students. It will also satisfy the Faculty's research requirements.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department: Theatre and Film** **Faculty Approval Date:** **Effective Session _Winter___ Term __1_ Year_2010__ for Change**	**Date: November 10, 2009** **Contact Person: Brian McIlroy** **Phone: 2-9194** **Email: bmcilroy@interchange.ubc.ca**
Proposed Calendar Entry: FIST 449 (6) Honours Essay A course allowing honours students to work with a faculty member on a major research paper.	**Present Calendar Entry:** None **Type of Action:** New Course **Rationale:** This course provides Honours students the opportunity of working with a faculty member on a significant research project.

THE UNIVERSITY OF BRITISH COLUMBIA

Enrolment Services
Senate and Curriculum Services
2016–1874 East Mall
Vancouver, BC V6T 1Z1
lindsey.lipovsky@ubc.ca
T: 604-822-9134; F: 604-822-5945

28 April 2010

To: Vancouver Senate

From: Senate Curriculum Committee

Re: **CURRICULUM PROPOSALS FROM THE FACULTY OF COMMERCE AND BUSINESS ADMINISTRATION**

Attached please find submitted category 1 curriculum proposals for your consideration.

New Courses:
COMM 101 (3)
COMM 285 (3)
COMM 390 (3)

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Sauder School of Business **Department: Undergraduate Office** **Faculty Approval Date: March 5, 2010** **Effective Session 10W Term 1** **Year 2010 for Change**	**Date: February 1, 2010** **Contact Person: Pam Lim/ Paola Baca** **Phone: 604-822-9216/ 604-822-8447** **Email:** **Pam.lim@sauder.ubc.ca/paola.baca@sauder.ubc.ca**
Proposed Calendar Entry: COMM 101 (3) **Business Fundamentals** The different disciplines of business and their combination in management planning and decision-making. Cannot be taken for Credit/D/Fail	**URL:** http://www.students.ubc.ca/calendar/courses.cfm?code=COMM **Present Calendar Entry:** None **Type of Action:** New course **Rationale:** This course is intended to fulfill the following needs: a) Accreditation body requirements that the Bachelor of Commerce curriculum better reflect the stated values of the Sauder School of Business. This course is a first move towards meeting learning objectives established for the BCom program. b) An integration of social and environmental sustainability, ethics and global citizenship in the curriculum; c) A desire from students and Divisions that undergraduate students are exposed to all commerce disciplines from the start of their degree; d) An integration of other Sauder School of Business priorities for undergraduates, including career centre guidance, and research skills that will outline a more complete roadmap of the Bachelor of Commerce experience. This course is currently being piloted as an elective from January to April 2010 as COMM 486G in response to the growing demands by undergraduate students for commerce-related curricula in their first year. The course outline is attached.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Sauder School of Business **Department:** **Faculty Approval Date: January 18, 2008** **Effective Session 2010W Term1**	**Date: January 16, 2009** **Contact Person: Pam Lim** **Phone: 2-8447** **Email: pam.lim@sauder.ubc.ca**
Proposed Calendar Entry: **COMM 285 (3) Ch'nook 2 Applied business problems**. Business problems of concern to Aboriginal business. Particular attention will be given the identification and application of best practices in an Aboriginal context.	**URL: NA** **Present Calendar Entry:** NA **Type of Action:** New Course **Rationale:** To provide business education course for the Chinook Diploma Program. The Chinook program was approved in 2004, but this course was not approved at that time. It has not been offered, but we would like to start offering it next year.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Sauder School of Business **Department: Undergraduate Office** **Faculty Approval Date: March 5, 2010** **Effective Session 10W Term 1** **Year 2010 for Change**	**Date: February 1, 2009** **Contact Person: Pam Lim** **Phone: 604-822-9216** **Email: pam.lim@sauder.ubc.ca**
Proposed Calendar Entry: **COMM 390 (3) Business Writing** Principles of written communication in business and professional activities, and practice in the preparation of executive summaries, proposals, reports and correspondence for multiple audiences. Prerequisite: A minimum grade of 60% or 'C' in one of ENGL 112, ASTU 150, ENGL 100, Arts One, or a Coordinated Arts Program satisfying the 3-credit writing component of the Faculty of Arts Writing and Research Requirement.	**URL:** http://www.students.ubc.ca/calendar/courses.cfm?code=COMM **Present Calendar Entry:** None **Type of Action:** New Course **Rationale:** This is a required course to satisfy the Bachelor of Commerce English requirement. In order to satisfy the Faculty's English requirement students must obtain credit for English 112 (or equivalent) and COMM 390 with a minimum of 60% for each of the two required English courses. This course was successfully piloted in classroom-based and wholly online formats in 08W and 09W as COMM 486W.

THE UNIVERSITY OF BRITISH COLUMBIA

Enrolment Services
Senate and Curriculum Services
2016–1874 East Mall
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T: 604-822-9134; F: 604-822-5945

28 April 2010

To: Vancouver Senate

From: Senate Curriculum Committee

Re: **GRADUATE PROPOSALS**

Attached please find submitted category 1 curriculum proposals for your consideration.

Arts

New Courses
ASIA 524 (3)
CNRS 535 (3)

Commerce and Business Administration

New Option
International Business Stream for Master of Management - Early Career Masters Students

New Course
BA 550 (1.5)

Education

Calendar Change
Counselling Psychology > Ph.D. > Program Requirements > make number of credits of coursework variable

Medicine

New Course
SPPH 570 (6)

Science

Changed Courses
CHEM 534 (3)
CHEM 569 (3)
MATH 513 (3)
MATH 515 (3)
MATH 561 (3)
MATH 613 (2-15)d

New Courses
MATH 563 (3)
MATH 564 (3)
MATH 566 (3)
MATH 567 (3)
MATH 592 (2-15)d
MATH 614 (2-15)d
MATH 615 (2-15)d
MATH 616 (2-15)d

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts **Department:** Asian Studies **Faculty Approval Date:** Oct 29, 2009 **Effective Session 2010W Term 1 Year 2010 for Change**	**Date:** October 18, 2009 **Contact Person:** Lonnie Chase **Phone:** 604-822-9266 **Email:** lchase@interchange.ubc.ca
Proposed Calendar Entry: **ASIA 524 (3)** Japanese for Specialists of China and Korea. Reading seminar in Japanese scholarly material dealing with China and/or Korea for graduate students who have a reading knowledge of Chinese and/or Korean and some knowledge of Japanese.	**URL:** n/a **Present Calendar Entry:** n/a **Type of Action:** New course **Rationale:** The aim of this course is to prepare students whose studies focus on areas other than Japan but who need to be able to read academic Japanese in order to conduct research or further their studies. Even four years of undergraduate language studies in Japanese is insufficient training for graduate students to be able to conduct research using Japanese scholarship, which is often vital to the success of their research. While undergraduate training focuses largely on the spoken language and everyday use of non-academic language (newspaper reading, fiction, etc.), students are inadequately prepared to tackle scholarly materials and incorporate them into their own research. This course aims to rectify this problem. Similar courses exist at our peer institutions. Course materials will largely be made up of academic articles and essays by Japanese scholars; the objectives are to teach students how to locate relevant articles; how to “navigate” their way through them; how to interpret them for an Anglophone audience; and how to improve reading comprehension and translation abilities of high-level academic Japanese (a task that requires in excess of 1200 hours of prior classroom instruction to undertake). Students will have to present on Japanese materials in their field in class and will prepare a final essay (20-30 pages) that combines translation and analysis of and research on this scholarship vis-à-vis their own projects, and which could very well become a part of a thesis and/or an article. In other words, while reading strategies are a primary focus, students will still be required to tie their course work to research that furthers their studies and exposes them to research in related fields as well.

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Arts Department: CNERS Faculty Approval Date: 25 April 2008 Effective Session 2010 S (if possible, otherwise 2010W)	Date: May 4, 2009 Contact Person: Thomas Hikade Phone: 2-4054 Email: thikade@interchange.ubc.ca
Proposed Calendar Entry: CNRS 535 (3) Practicum in Classical or Near Eastern Archaeology Training in excavation techniques and interpretation through participation in the excavation of a Greek, Roman, or Near Eastern site in Europe or the Middle East. The minimum length of the course is three weeks.	URL: none Present Calendar Entry: none Type of Action: new course Rationale: A graduate course in archaeological field work is desirable to ensure that our MA and PhD students wherever practicable have a basic competence in archaeological excavation techniques (including basic survey and photography), processing of finds (especially pottery), and interpretation of results.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Commerce **Department: Sauder School of Business** **Faculty Approval Date: March 5, 2010** **Effective Session 2010W Term 1 Year 2010 for Change**	**Date: 22 December 2009** **Contact Person: Alina Yukhymets / Brian Bemmels** **Phone: 2-8243 / 2-0156** **Email: alina.yukhymets@sauder.ubc.ca / brian.bemmels@sauder.ubc.ca**
Proposed Calendar Entry: **International Business Stream** The International Business Stream is available to any student on the Master of Management - Early Career Masters (ECM) Program. Students are required to take part in an international study experience, either an exchange program or a study tour, and pass two 1.5 credit international business modules. Details of International Business modules are available from the MBA & ECM Programs Office.	**URL:** N/A **Present Calendar Entry:** N/A **Type of Action:** Introduce International Business Stream for Master of Management - Early Career Masters (ECM) students. **Rationale:** Students in the Master of Management Program have a set curriculum; this Stream would be available to students who wish to take part in an international exchange program or a study tour in addition to their program requirements. Twenty students out of the current class of 55 have expressed an interest in taking an International Business Stream if it were available. This proposal would enable students to have an international study experience noted on their transcript. No credit is attached to the International Business Stream, but successful completion would be noted on students' transcripts. This Stream is restricted to students in the Master of Management - Early Career Masters (ECM) Program.

THE UNIVERSITY OF BRITISH COLUMBIA

	No other departments or faculties will be affected by this proposal.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Sauder School of Business **Department: MBA and ECM Programs Office, Robert H. Lee Graduate School** **Faculty Approval Date: 5 November 2009** **Effective Session: Winter 2009 Term 2** **Year: 2010 for Change**	**Date: 11 September 2009** **Contact Person: Fran Hannabuss; Brian Bemmels** **Phone: 2-3426; 2-0156** **Email: fran.hannabuss@sauder.ubc.ca; brian.bemmels@sauder.ubc.ca**
Proposed Calendar Entry: **BA 550 (1.5) Business Immersion** ▪ This course is restricted to students the MM Program.	**URL:** N/A **Present Calendar Entry:** N/A **Type of Action:** New course. Pass/fail grading. **Rationale:** The Master of Management Early Career Masters Program will commence with BA *550 Business Immersion*, which will serve as an introduction to integrated learning and working with business cases. The Business Immersion Course was successfully piloted in September 2009 with the second cohort of MM ECM students. It was designed in response to feedback from the first cohort of students. The course outline and materials are attached. Grading will be on a Pass/Fail basis. This course is only available to students in the MM ECM program. No other departments or faculties will be affected by this proposal.

THE UNIVERSITY OF BRITISH COLUMBIA

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1)

Faculty: Education **Department: ECPS** **Faculty Approval Date: March 23, 2010** **Effective Session W Term 1 Year 2009 for change**	**Date: March 3, 2010** **Contact Person: Lynn Miller** **Phone: 822-8321** **Email: lynn.miller@ubc.ca**
Proposed Calendar Entry: The 51 credit CNPS doctoral (PhD) program requires 4 years of full time study, including on campus courses, supervised training and pre-doctoral internship. The Ph.D. program is designed to educate counselling psychologists as researchers, practitioners, and educators. The focus of the program is on developing doctoral level competence in research, counselling theory and counselling skills. **In exceptional circumstances up to 15 credits of course work may be waived in recognition of previous course work**. The program involves completion of 36 to 51 credits of coursework, theory and specialty comprehensive examinations, a 1600 hour internship and a dissertation meeting the Faculty of Graduate Studies requirements. In order for students to meet deadlines for comprehensive examinations and candidacy, the department requires students to be engaged in full time study prior to advancement to candidacy.	**URL:** **Present Calendar Entry:** The Ph.D. program is designed to educate counselling psychologists as researchers, practitioners, and educators. The focus of the program is on developing doctoral level competence in research, counselling theory and counselling skills. The program involves completion of 51 credits of coursework, theory and specialty comprehensive examinations, a 1600 hour internship and a dissertation meeting the Faculty of Graduate Studies requirements. In order for students to meet deadlines for comprehensive examinations and candidacy, the department requires students to be engaged in full time study prior to advancement to candidacy. **Type of Action:** The number of credits of course work will be made variable, from 36 to 51 credits. (Please note: The CNPS PhD program did not remove any courses). **Rationale:** Students sometimes enter the doctoral program having completed equivalent course work prior to beginning the program. In exceptional circumstances up to 15 credits of course work may be waived in recognition of previous course work. Having variable credits will allow students to waive courses within a program that accreditation standards require to be considerably longer than the 30 credit minimum required by the university.

UBC Curriculum Proposal Form
Change to Course or Program

Category: (1) New course / 6 credits

Faculty: Medicine Department: School of Population and Public Health Faculty Approval Date: 20 Oct 2009 Effective Session: Term 1, Year 2010/2011	Date: 05 January 2010 Contact Person: Monika Naus Phone: 604-707-2540 Email: monika.naus@bccdc.ca
Proposed Calendar Entry: **SPPH 570 (6) Current Issues in Community Medicine and Public Health Practice**	URL: Type of Action: New course, 6-credits, 500-level This course is directed towards assisting Community Medicine residents with meeting the learning objectives for speciality training in Community Medicine as outlined by the Royal College of Physicians and Surgeons of Canada. Its focus is on applying public health methods and principles in the real world practice of Community Medicine/ Public Health. Participation in the non-credit equivalent of this course (SPPH 710) is mandatory for all Community Medicine residents (except those in PGY-2/3 who are undergoing residency training in clinical or family medicine). However, residents may formally register in SPPH 570 if they wish to obtain academic credit as part of the MPH program. The course curriculum repeats on a two-year cycle, although residents who wish to receive academic credit for this course may only register in SPPH 570 for one year to obtain a maximum of 6 academic credits. Students or residents in other programs are welcome audit this course (or parts of this course) with the permission of the instructors. However, they are expected to perform the same amount of course work and participate in the seminar as fully as residents registered for credit. This course is intended to be complimentary to other courses offered as part of the MHSc or MPH programs at SPPH (see section on “other courses” below). The Students are expected to engage actively in this course to develop a broad working knowledge of applied community medicine practice.

Contact: Dr. Bill Ramey Phone: 822-3300	Faculty Approval Date: Email: wramey@interchange.ubc.ca
CHEMISTRY	
Effective Date for Change: 10W **Proposed Calendar Entry:** CHEM 534 (3) **Principles of Chemical Separation**	**Present Calendar Entry:** CHEM 534 (3) ~~Chromatography and Mass Spectrometry~~ ~~Gas, liquid and supercritical fluid chromatography. Mass spectrometry: ionization processes, mass analyses, ion molecule reactions, fragmentation processes.~~ **Action:** Change course title to better reflect content. Remove course description. **Rationale:** The course is being generalized to include separation techniques in addition to chromatography and mass spectrometry. The new title reflects this change. In keeping with the current protocol, the detailed course description for this graduate course has been eliminated. **Supporting Documents: SCI-09-2-CHEM 534**
Effective Date for Change: 10W **Proposed Calendar Entry:** CHEM 569 (3) **Advanced Bioorganic Chemistry** Credit will be given for only one of CHEM 569, CHEM 413, or BIOC 403.	**Present Calendar Entry:** CHEM 569 (3) ~~Advanced Mechanistic Enzymology~~ Credit will be given for only one of CHEM 569, CHEM 413, or BIOC 403. **Action:** Change course title **Rationale:** The course is being updated with more modern content and the new title reflects this. **Supporting Documents: SCI-09-2-CHEM 569**

MATHEMATICS	
Effective Date for Change: 10W T1 **Proposed Calendar Entry:** MATH 513 (3) **Mathematical Classical Mechanics**	**Present Calendar Entry:** MATH 513 (3) ~~Statistical Mechanics~~ **Action:** Delete current course. Add new course with current course number. **Rationale:** "Statistical Mechanics" has not been taught for at least fourteen years. "Mathematical Classical Mechanics" is a fundamental course that is essential background for all students planning to study Mathematical Physics. The subject of Mathematical Classical Mechanics is itself an active and beautiful research area with strong connections to Differential Geometry, Symplectic Geometry, Calculus of Variations, Dynamical Systems and Physics. In addition, this course provides its students with a number of techniques that must be in the toolboxes of all Mathematical Physicists, even those not working in the area. It has been offered reasonably regularly in the past as a topics course and has always attracted a substantial audience. **Supporting Documents: SCI-09-2-MATH 513**

Effective Date for Change: 10W T1 **Proposed Calendar Entry:** MATH 515 (3) **Partial Differential Equations of Fluid Mechanics**	**Present Calendar Entry:** MATH 515 (3) ~~Ordinary Differential Equations II~~ **Action:** Delete current course. Add new course with current course number. **Rationale:** "Ordinary Differential Equations II" has not been taught for at least fourteen years. Fluid mechanics is fundamental to science, and the analysis of the partial differential equations (PDE) arising there can verify the applicability of various models, and provide the groundwork for predictions and numerical computation. The study of such PDE has broad connections to the fields of mathematical physics and fluid mechanics, and has furnished much important machinery in the study of PDE more generally, such as the concepts of weak solutions and partial regularity. Students with interests in PDE, fluids, or mathematical physics, after taking a basic courses in PDE (such as MATH 516), should benefit from exposure to this fundamental area. **Supporting Documents: SCI-09-2-MATH 515**

Effective Date for Change: 10W **Proposed Calendar Entry:** **MATH 561 (3) Mathematics of Infectious Diseases and Immunology** **Mathematical models for disease spread in populations. Within-host infectious disease dynamics. Models of the immune system and immune cells.**	**Present Calendar Entry:** MATH 561 (3) ~~Mathematical Biology II~~ ~~Advanced techniques and models in mathematical biology, with applications.~~ ~~Prerequisite: MATH 560 and ordinary and partial differential equations.~~ **Action:** Delete current course. Add new course with current course number. **Rationale:** This course is an essential part of the mathematical biology graduate curriculum. It is proposed to be taught every other year. The proposed MATH 561 was most recently offered under MATH 612 (Topics in Mathematical Biology) and attracted students from mathematics, statistics and physics departments. The proposed course will be taught in alternate years. Giving the course a dedicated course number and calendar entry will (i) potentially attract more students from outside mathematics; (ii) put the course title on student transcripts and (iii) make the calendar accurately reflect a regularly scheduled graduate course in mathematics. **Supporting Documents: SCI-09-2-MATH 561**

Effective Date for Change: 10W **Proposed Calendar Entry:** MATH 613 **(2-15) D** Topics in Number Theory	**Present Calendar Entry:** MATH 613 ~~(3)~~ Topics in Number Theory **Action:** Change credits. **Rationale:** Through a past oversight, the credit listing is currently "(3)". Our intention is that MATH 613 be the same as all the other MATH 600-level "Topics" courses; different instances of the course will cover distinct and separate topics, so that the course can be taken by students multiple times for credit. Changing the credits listing will put MATH 613 in line with the other "Topics" courses and reflect the true role of the course. It is impossible for any science student to learn everything a professional researcher needs to know in a small set of fixed fundamental courses. Many sciences have a substantial laboratory component, where students gain exposure and practice with the essential tools of research in their discipline. In mathematics, topics courses are our laboratories. They are where we expose our students to the current research frontier, and they are where students explore the research-level tools of their discipline in a guided setting. Consequently, advanced topics courses are both an important part of our course offerings and a natural result of the expansion of our graduate program. As in all sciences, the research frontier in mathematics is incredibly broad yet delicately interconnected. The majority of our department's research groups will regularly offer one topics course (sometimes even two) per year. All graduate students in the corresponding discipline would benefit from taking these courses at every opportunity, and it is standard for a student to be registered in the Ph.D. program for four or five years. Allowing students to enrol in these topics courses each time they are offered would allow the transcripts of these students to accurately reflect the amount of work they have invested in this key element of their research training. This course will be offered for 2 or 3 credits each time it is run, depending on the number of lecture hours each week.

Effective Date for Change: 10W **Proposed Calendar Entry:** **MATH 563 (3) Modeling of Cell-Scale Biology** **Concepts and techniques for modeling cellular and subcellular dynamics in biological systems. Topics may include complex biochemical systems, biopolymers in cell motility and division, continuum mechanics and membrane dynamics.**	**Present Calendar Entry:** None **Action:** Create a new course. **Rationale:** This course is an essential part of the mathematical biology graduate curriculum. It is proposed to be taught every other year. The proposed MATH 563 was most recently offered under MATH 612 (Topics in Mathematical Biology) as a two-term course that attracted students from mathematics and physics departments. The proposed course will be taught in one term, in alternate years. Giving the course a dedicated course number and calendar entry will (i) potentially attract more students from outside mathematics; (ii) put the course title on student transcripts and (iii) make the calendar accurately reflect a regularly scheduled graduate course in mathematics. **Supporting Documents: SCI-09-2-MATH 563**
Effective Date for Change: 10W T1 **Proposed Calendar Entry:** **MATH 564 (3) Evolutionary Dynamics** **Mathematical models of evolution and evolutionary game theory. Stochastic dynamics in finite populations, dynamics in spatially structured populations and adaptive dynamics. Applications include the origin of species and the problem of cooperation.**	**Present Calendar Entry:** None. **Action:** Create a new course. **Rationale:** This course is an essential part of the mathematical biology graduate curriculum. It is proposed to be taught every other year. The proposed MATH 564 is a new course that reflects closely the research interests and expertise of two faculty (Hauert and Doebeli) and will likely attract students from mathematics, zoology and economics. Having this course in the calendar rather than as a topics course will advertise it to non-mathematics students and put the course title on student transcripts. **Supporting Documents: SCI-09-2-MATH 564**

Effective Date for Change: 10W **Proposed Calendar Entry:** **MATH 566 (3) Theory of Optimal Transportation**	**Present Calendar Entry:** None. **Action:** Create a new course. **Rationale:** The basic ideas in optimal transportation theory are rather simple, but its applications are powerful and it sometimes gives surprising connections between things that are not seemingly related. This is why more researchers in science in general are becoming interested in the subject, and it will be beneficial for students, especially those who are pursuing research in analysis, geometry and partial differential equations, to get used to some of the essential ideas in optimal transportation as their general backgrounds. The course material is suitable for first or second year graduate students and prepares them to do their own research in the subject and related fields. **Supporting Documents: SCI-09-2-MATH 566**
Effective Date for Change: 10W **Proposed Calendar Entry:** **MATH 567 (3) Nonlinear Wave Equations**	**Present Calendar Entry:** None. **Action:** Create a new course. **Rationale:** The subject of nonlinear wave equations is a rapidly developing area in the field of partial differential equations, with broad connections to the fields of mathematical physics, harmonic analysis, geometric analysis, and applied mathematics. Students in the above- mentioned fields, after taking a basic courses in partial differential equations (such as MATH 516), should benefit from the exposure to new ideas, applications, mathematical tools, and possible research directions found in this course. **Supporting Documents: SCI-09-2-MATH 567**

Effective Date for Change: 2010W **Proposed Calendar Entry:** **MATH 592 (2-15) D Topics in Automorphic Forms**	**Present Calendar Entry:** None. **Action:** Create a new course. **Rationale:** Automorphic forms is a central field of modern number theory. Conducting research in this field requires a considerable background compared to many other fields. Merely defining the basic objects of study requires tools from algebraic number theory, the theory of algebraic groups, the structure theory of Lie groups and the theory of partial differential equations. Recently mathematical logic and ergodic theory have become essential tools in deriving new results. MATH 592 is designed to help students bridge the gaps in their backgrounds. It has run every semester save one for the past several years, using the generic course number MATH 620 (Directed Studies in Mathematics), and will continue to be offered every semester thanks to our active representation theory research group. The large number of different topics, which will change from one instance of the course to the next, indicates the appropriateness of taking MATH 592 multiple times for credit. Creating this course will allow the more accurate title to appear on student transcripts and in the official UBC calendar, appropriately signalling the department's strength in this area. It is impossible for any science student to learn everything a professional researcher needs to know in a small set of fixed fundamental courses. Many sciences have a substantial laboratory component, where students gain exposure and practice with the essential tools of research in their discipline. In mathematics, topics courses are our laboratories. They are where we expose our students to the current research frontier, and they are where students explore the research-level tools of their discipline in a guided setting. Consequently, advanced topics courses are both an important part of our course offerings and a natural result of the expansion of our graduate program. As in all sciences, the research frontier in mathematics is incredibly broad yet delicately interconnected. The

	majority of our department's research groups will regularly offer one topics course (sometimes even two) per year. All graduate students in the corresponding discipline would benefit from taking these courses at every opportunity, and it is standard for a student to be registered in the Ph.D. program for four or five years. Allowing students to enrol in these topics courses each time they are offered would allow the transcripts of these students to accurately reflect the amount of work they have invested in this key element of their research training. This course will be offered for 2 or 3 credits each time it is run, depending on the number of lecture hours each week. **Supporting Documents: SCI-09-2-MATH 592**

Effective Date for Change: 10W **Proposed Calendar Entry:** **MATH 614 (2-15) D Topics in Mathematical Finance**	**Present Calendar Entry:** None. **Action:** Create a new course. **Rationale:** The successful Mathematical Finance program has taught topics courses for some time now, always with a substantial audience. Before now, these courses ran under the too-general MATH 605 (Topics in Applied Mathematics). The creation of MATH 614 will allow these topics courses to be easily distinguished from other topics courses in applied math; moreover, it will appropriately signal the ongoing presence of the Mathematical Finance program within the Mathematics Department. It is impossible for any science student to learn everything a professional researcher needs to know in a small set of fixed fundamental courses. Many sciences have a substantial laboratory component, where students gain exposure and practice with the essential tools of research in their discipline. In mathematics, topics courses are our laboratories. They are where we expose our students to the current research frontier, and they are where students explore the research-level tools of their discipline in a guided setting. Consequently, advanced topics courses are both an important part of our course offerings and a natural result of the expansion of our graduate program. As in all sciences, the research frontier in mathematics is incredibly broad yet delicately interconnected. The majority of our department's research groups will regularly offer one topics course (sometimes even two) per year. All graduate students in the corresponding discipline would benefit from taking these courses at every opportunity, and it is standard for a student to be registered in the Ph.D. program for four or five years. Allowing students to enrol in these topics courses each time they are offered would allow the transcripts of these students to accurately reflect the amount of work they have invested in this key element of their research training. This course will be offered for 2 or 3 credits each time it is run, depending on the number of lecture hours each week.

Effective Date for Change: 10W **Proposed Calendar Entry:** **MATH 615 (2-15) D Topics in Algebraic Geometry**	**Present Calendar Entry:** None. **Action:** Create a new course. **Rationale:** Algebraic geometry is a central field in mathematics. It has a long and distinguished history as an important field in its own right, and it is also becoming more and more relevant to other subjects both within mathematics (Number Theory, Topology, Discrete Mathematics), and outside, especially theoretical physics (String Theory). The research group in algebraic geometry at UBC is large and active, and has been teaching topics courses in algebraic geometry for many years under the guise of MATH 602 "Topics in Geometry". This has resulted in severe overuse of the course number 602. It is impossible for any science student to learn everything a professional researcher needs to know in a small set of fixed fundamental courses. Many sciences have a substantial laboratory component, where students gain exposure and practice with the essential tools of research in their discipline. In mathematics, topics courses are our laboratories. They are where we expose our students to the current research frontier, and they are where students explore the research-level tools of their discipline in a guided setting. Consequently, advanced topics courses are both an important part of our course offerings and a natural result of the expansion of our graduate program. As in all sciences, the research frontier in mathematics is incredibly broad yet delicately interconnected. The majority of our department's research groups will regularly offer one topics course (sometimes even two) per year. All graduate students in the corresponding discipline would benefit from taking these courses at every opportunity, and it is standard for a student to be registered in the Ph.D. program for four or five years. Allowing students to enrol in these topics courses each time they are offered would allow the transcripts of these students to accurately reflect the amount of work they have invested in this key element of their research training. This course will be offered for 2 or 3 credits each time it is run, depending on the number of lecture hours each week.

Effective Date for Change: 2010W T1 **Proposed Calendar Entry:** **MATH 616 (2-15) D Topics in Discrete Mathematics**	**Present Calendar Entry:** None. **Action:** Create a new course. **Rationale:** Topics courses in discrete mathematics have been offered regularly over the past several years, but always using the general course number MATH 610, Topics in Pure Mathematics. Over the same period, our discrete mathematics group has grown in size and activity. Creating MATH 616 would provide a dedicated course number for courses that are easily identifiable as discrete mathematics, as well as lighten the load on the course number MATH 610. It is impossible for any science student to learn everything a professional researcher needs to know in a small set of fixed fundamental courses. Many sciences have a substantial laboratory component, where students gain exposure and practice with the essential tools of research in their discipline. In mathematics, topics courses are our laboratories. They are where we expose our students to the current research frontier, and they are where students explore the research-level tools of their discipline in a guided setting. Consequently, advanced topics courses are both an important part of our course offerings and a natural result of the expansion of our graduate program. As in all sciences, the research frontier in mathematics is incredibly broad yet delicately interconnected. The majority of our department's research groups will regularly offer one topics course (sometimes even two) per year. All graduate students in the corresponding discipline would benefit from taking these courses at every opportunity, and it is standard for a student to be registered in the Ph.D. program for four or five years. Allowing students to enrol in these topics courses each time they are offered would allow the transcripts of these students to accurately reflect the amount of work they have invested in this key element of their research training. This course will be offered for 2 or 3 credits each time it is run, depending on the number of lecture hours each week. **Supporting Documents: SCI-09-2-MATH 616**

THE UNIVERSITY OF BRITISH COLUMBIA

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28 April 2010

To: Vancouver Senate

From: Senate Curriculum Committee

Re: **CURRICULUM PROPOSALS FROM THE FACULTY OF SCIENCE**

Attached please find submitted category 1 curriculum proposals for your consideration.

Biology

New Courses
BIOL 230 (3)
BIOL 234 (3)
BIOL 260 (3)
BIOL 342 (2)

Chemistry

New Courses
CHEM 315 (1)
CHEM 325 (2)
CHEM 335 (1)
CHEM 341 (3)
CHEM 345 (2)

Changed Course
CHEM 413 (3)

Earth & Ocean Sciences

New Course
EOSC 442 (1)

Changed Courses
EOSC 424 (3)
EOSC 472 (3)

Math

New Course
MATH 305 (3)

Science

New Courses
SCIE 113 (3)

SCIE 300 (3)

Program & Specialization Changes

Bachelor of Science, Honours in Biotechnology
Amendment to Degree Listing on Parchment

Biology
New Major Specialization
Biology Honours Specialization & Biology Major

Combined Major in Science
New Combined Major Specialization
Combined Major in Science

Contact: Dr. Bill Ramey **Faculty Approval Date: March 4, 2010**
Phone: 822-3300 **Email: wramey@interchange.ubc.ca**

BIOLOGY

Effective Date for Change: 10W

Proposed Calendar Entry:

BIOL 230 (3) Fundamentals of Ecology

Dynamics of plant and animal populations, structure of ecological communities and functioning of ecosystems. Interpretation of research results and application to environmental issues. Labs meet once a month. Please consult the Faculty of Science Credit Exclusion Lists: www.students.ubc.ca/ calendar/index.cfm?tree=12,215,410,414. [3-3*-0]

Prerequisite: One of BIOL 121 or SCIE 001.

Present Calendar Entry:

none

Action: Add new course BIOL 230.

Rationale: This new course will ultimately replace the existing course BIOL 304 (which has the same course description).

This change is being made as part of an overall revision of the Biology curriculum. The existing course (BIOL 304) provides students with their first introduction to ecological fundamentals (beyond the 1st year level) and is currently taught at a level accessible to 2nd year students. The numbering of the course at the 3rd year level was a necessity of the structure of the current (unrevised) program.

The proposed new Biology Program makes it possible to allow students to take this course in their second year. This is important for students who are interested in ecology, who would not otherwise be able to take a course in their area of interest in 2nd year. By offering this course in 2nd year students interested in ecology will be encouraged to take this course earlier in their program, which should improve student satisfaction with the Biology program. It will also allow students with interests in this area additional time to take more courses in ecology from the wide variety of 3rd and 4th year ecology-related courses offered in the Biology program.

Staging plan:

BIOL 230 will be first offered in 2011W to allow the first group of students entering the second year of the new specialization in 2011W to take this course. BIOL 304 will continue to be offered through 2012W to allow students in the existing specialization to graduate without hardship.

Supporting Documents: SCI-09-2-BIOL 230

Effective Date for Change: 10W **Proposed Calendar Entry:** **BIOL 234 (3) Fundamentals of Genetics** **Genotype and phenotype, mechanisms of inheritance, genetic analysis. Please consult the Faculty of Science Credit Exclusion Lists: www.students.ubc.ca/ calendar/index.cfm?tree=12,215,410,414. [3-0-2]** **Prerequisite: One of (a) all of BIOL 112, BIOL 121 or (b) SCIE 001 or (c) one of BIOL 112 or BIOL 121 and a corequisite of CHEM 203.**	**Present Calendar Entry:** None **Action:** Add new course **Rationale:** BIOL 234 is a revised course in Genetics that will ultimately replace the existing course, BIOL 334 (which will be phased out in 2014). This new course is part of an overall revision of the Biology curriculum. The existing program includes an introductory Genetics course "BIOL 334" that provides students with their first introduction to the fundamentals of genetics (beyond the 1st year level). Because genetics has become increasingly fundamental to all areas of biology, students should be introduced to this topic early in their program, as is the case at most major universities. Revision of the UBC Biology Program now allows us to move the course in the fundamentals of genetics from third year to second year. The course title has been changed because, as part of the revision to the curriculum for the Biology Program, all core courses (required of all students in the program) will be renamed so as to include the phrase "Fundamentals of" in the course title. This change will more clearly distinguish core courses from other courses in the program and will make clear that the content and concepts developed in these courses are fundamental to the development of an understanding of the biological sciences. It also better reflects the level of the material which has been altered from an upper division treatment of genetics to a treatment that is more suitable for lower division students. The course description has been streamlined and edited for clarity relative to the existing description of BIOL 334. This new description better reflects the recently updated course objectives and syllabus developed by a committee of Genetics faculty. Staging plan: BIOL 234 will be first offered in 2011W to allow

	the first group of students entering the new Biology program (who will be in 1st year in 2010W) to take this course. BIOL 334 will continue to be offered through 2012W to allow students in the existing program to graduate without hardship. **Supporting Documents: SCI-09-2-BIOL 234**

Effective Date for Change: 10W **Proposed Calendar Entry:** **BIOL 260 (3) Fundamentals of Physiology** **Principles of cellular and organismal physiology illustrated with examples from unicellular organisms, plants and animals, focusing on transport processes, water balance, nutrient acquisition and communication. [3-0-0]** **Prerequisite: One of a) BIOL 112 and BIOL 121, or b) SCIE 001, or c) 7 credits of 1st year BIOL and 6 credits of 1st year chemistry**	**Present Calendar Entry:** None **Action:** Add new course **Rationale:** This course is being added as part of a Biology Program curriculum revision. A key component of this new curriculum is a series of "Fundamentals" courses that are required of all students in the program. Each of these one-term courses represents one of the core areas of biology, as identified by the Biology Curriculum working group and approved by faculty in Botany and Zoology. This new course will serve to enhance and reinforce treatment of important physiological topics that are currently introduced in first year Biology courses (Biology 112 and 121). Many of these topics are also examined in depth in the context of particular taxonomic groups in the Organismal Diversity courses (Biology 204,205, 209, 210 and MICB 201), but students choose any two of these courses in their program, and thus it is possible for students to miss the reinforcement of one or more of these critical concepts simply through their particular selection of organismal/diversity courses. The proposed Biology 260 (Fundamentals of Physiology) course is therefore critical in the structure of the revised Biology curriculum in that it reinforces concepts introduced in Biology 112/121 (such as photosynthesis, evolution, and structure-function relationships), introduces new concepts of mechanistic physiology (such as control systems and homeostasis) and provides an over-arching conceptual framework in which the material provided in a student's selection of Organismal Diversity courses (Biology 204,205, 209, 210 and MICB 201) can be understood and placed in context. It will also serve as a foundation for subsequent study of physiology in later years. This proposed course, Fundamentals of Physiology will replace the current requirement for two terms of 3rd year physiology courses in the existing program.

	This change is designed to deal with a number of identified problems with the current biology program. 1) Physiology is currently the only core area of biology in which all students are required to take two courses (rather than one). Replacing the requirement for two courses with a requirement for a single more integrative course will improve flexibility for students and improve the symmetry of the program. 2) In the current curriculum students must choose between taking two terms of animal physiology, two terms of plant physiology, or two terms of cell physiology. It is not possible to mix and match between these areas, and enrollment restrictions and the high number of required courses in the current curriculum preclude students from taking courses from more than one of these physiology streams. Thus, the current structure provides students with an in-depth but limited perspective on the physiology of organisms. Replacing the requirement for two courses with a requirement for a single more integrative course will allow students to develop a more balanced perspective on the functional diversity of life forms. 3) In the current curriculum, students must choose between the three physiology streams (animal, plant or cell) without having any prior exposure to physiology at the university level, since this area is not currently covered to any great extent in the 1st year biology courses for majors. This makes it difficult for students to make informed decisions about their potential areas of specialty. By introducing a one-term course that integrates across a wider range of biological diversity, students will be better able to choose appropriate courses at the higher level. **Supporting Documents: SCIE-09-BIOL 260**

Effective Date for Change: 10W **Proposed Calendar Entry:** **BIOL 342 (2) Integrative Biology Laboratory** **Ecosystem based investigation of organisms using field and lab techniques. [1-3-0]** **Prerequisite: BIOL 121, BIOL 140, third year standing or higher in Combined Major in Science.**	**Present Calendar Entry:** None **Action:** Add new course **Rationale:** This laboratory course is designed to serve students in the Combined Major in Science by providing a broad range of experiences within the context of an ecosystem. This course would be particularly appropriate for students who plan to enter high school or elementary teaching as a career. **Supporting Documents: SCI-09-2-BIOL 342**

CHEMISTRY	
Effective Date for Change: 10W **Proposed Calendar Entry:** **CHEM 315 (1) Chemistry Integrated Laboratory I** **Principles and techniques of modern chemistry applied by integrating experiments chosen from organic, inorganic, physical and analytical chemistry. [0-4-0]** **Prerequisite: One of CHEM 201, CHEM 202, CHEM 203, CHEM 211, CHEM 235.**	**Present Calendar Entry:** None **Action:** Add new course **Rationale:** This is one of a series of new courses designed to collect together all the laboratory components of third-year Chemistry and related specializations to deliver an integrated laboratory experience. **Supporting Documents: SCI-09-2-CHEM 315**
Effective Date for Change: 10W **Proposed Calendar Entry:** **CHEM 325 (2) Integrated Chemistry Laboratory I** **Principles and techniques of modern chemistry applied by integrating experiments chosen from organic, inorganic, physical and analytical chemistry. Open only to students in Chemistry Major and Honours specializations. [0-8-0]** **Prerequisite: All of CHEM 201, CHEM 202, CHEM 204, CHEM 211.**	**Present Calendar Entry:** None **Action:** Add new course **Rationale:** This is one of a series of new courses designed to collect together all the laboratory components of third-year Chemistry and related specializations to deliver an integrated laboratory experience. **Supporting Documents: SCI-09-2-CHEM 325**
Effective Date for Change: 10W **Proposed Calendar Entry:** **CHEM 335 (1) Chemistry Integrated Laboratory II** **Further development of principles and techniques of modern chemistry applied by integrating experiments chosen from organic, inorganic, physical and analytical chemistry. [0-4-0]** **Prerequisite: CHEM 315**	**Present Calendar Entry:** None **Action:** Add new course **Rationale:** This is one of a series of new courses designed to collect together all the laboratory components of third-year Chemistry and related specializations to deliver an integrated laboratory experience. **Supporting Documents: SCI-09-2- CHEM 335**

Effective Date for Change: 10W **Proposed Calendar Entry:** **CHEM 341 (3) Global Challenges: A Chemical Perspective** **Importance of chemistry in society. Detailed case studies drawn from modern chemistry: human health, energy, commodity chemicals, materials, green chemistry, agriculture. [3-0-0]** **Prerequisite: Either (a) all of CHEM 201, CHEM 203, CHEM 204 or (b) all of CHEM 205, CHEM 233.**	**Present Calendar Entry:** None **Action:** Add new course description **Rationale:** This course serves as the centerpiece of the Chemistry package within a structured undergraduate Combined Major for Science program. Students will be provided with a survey of societal challenges that professional chemists are addressing, and will subsequently examine a selection of these problems in a detailed manner. **Supporting Documents: SCI-09-2-CHEM 341**
Effective Date for Change: 10W **Proposed Calendar Entry:** **CHEM 345 (2) Integrated Chemistry Laboratory II** **Further development of principles and techniques of modern chemistry applied by integrating experiments chosen from organic, inorganic, physical and analytical chemistry. Open only to students in Chemistry Major or Honours specializations. [0-8-0]** **Prerequisite: CHEM 325**	**Present Calendar Entry:** None **Action:** Add new course **Rationale:** This is one of a series of new courses designed to collect together all the laboratory components of third year Chemistry and related specializations to deliver an integrated laboratory experience. **Supporting Documents: SCI-09-2-CHEM 345**

Effective Date for Change: 10W **Proposed Calendar Entry:** CHEM 413 (3) **Bioorganic Chemistry** **Enzyme catalysis; mechanistic enzymology; chemistry of cofactors; biosynthetic transformations; natural product biosynthesis; topics in chemical biology.** Credit will be granted for only one of CHEM 413, CHEM 569, or BIOC 403. [3-0-0] Prerequisite: One of CHEM 313, CHEM 330.	**Present Calendar Entry:** CHEM 413 (3) ~~Mechanistic Enzymology~~ ~~Chemistry of cofactors; biosynthetic transformations; molecular synthesis; transformation and degradation; natural product biosynthesis.~~ Credit will be given for only one of CHEM 413, CHEM 569, or BIOC 403. [3-0-0] Prerequisite*:* One of CHEM 313, CHEM 330. **Action:** Change course title and description. **Rationale:** The course is being updated with more modern content and the new title and course description reflect this. **Supporting Documents: SCI-09-2-CHEM 413**

EARTH & OCEAN SCIENCES	
Effective Date for Change: 10W **Proposed Calendar Entry:** **EOSC 442 (1) Climate Measurement and Analysis.** **Local climate time series collection and analysis. Retrieval and analysis of on-line climate data and model output. [0-3-0]** **Prerequisite: All of a) EOSC 340 and b) one of CPSC 110, CPSC 111, CPSC 301, EOSC 211, MATH 210, PHYS 210 and c) one of STAT 200, STAT 241 or BIOL 300.**	**Present Calendar Entry:** None **Action:** Add new course. **Rationale:** This combination computer laboratory/field observation course is designed for the Combined Major in Science to provide experiential learning and provide students with the opportunity to understand how research is done: in particular, how climate data sets are collected and analyzed. **Supporting Documents: SCI-09-2-EOSC 442**
Effective Date for Change: 10W **Proposed Calendar Entry:** **EOSC 424 (3) Advanced Mineral Deposits.** **Advanced concepts in the processes that lead to the formation of mineral deposits. Introduction to the study of ore minerals using reflected light microscopy. [2-3-0]** **Prerequisite: EOSC 331**	Present Calendar Entry: EOSC 424 (3) Advanced Mineral Deposits and Ore Petrology. Metal solubility and transport, chemical activity diagrams, fluid inclusions, stable isotopes, radiogenic isotopes, geothermometry, geobarometry, alteration and metal zonation, and mineral exploration. Minerals of ore deposits studied using optical microscopy. [2-3-0] Corequisite: EOSC 331. Action: Change title and description. Change co-requisite to prerequisite. Rationale: Update and refocus the course to reflect current practice in the field. Strengthen the prerequisite to reduce repetition between this course and EOSC 331. Supporting Documents: SCI-09-2-EOSC 424

Effective Date for Change: 10W **Proposed Calendar Entry:** EOSC 472 (3) **Chemical Oceanography and** Marine Geochemistry. **Controls on chemical composition and elemental distributions in seawater and marine sediments (including nutrient elements, dissolved gases, the carbonate system, marine organic matter and trace metals);** solution chemistry of seawater; **isotopic tracers of rates and dates in marine systems;** geochemical balance in the oceans. [3-0-2*] Prerequisite: EOSC 373.	**Present Calendar Entry:** EOSC 472 (3) ~~Introduction to~~ Marine ~~Chemistry and~~ Geochemistry. ~~Elemental abundance in seawater and marine sediments;~~ solution chemistry of seawater~~;~~ ~~chemical and mineralogical composition of sediments; the carbonate system; organic matter in the sea; gases; the nutrient elements; heavy metals;~~ geochemical balance in the oceans. [3-0-2*] Prerequisite~~s~~: ~~One of EOSC 370, EOSC 371,~~ EOSC 373~~, CHEM 301.~~ **Action:** Change title, modify description and change prerequisites for course. **Rationale:** With the restructuring of the 3rd year courses (creating EOSC 372 and 373 in place of EOSC 370 and 371), this fourth year course can now be taught at a more advanced level. All students will be required to take EOSC 373 (and therefore EOSC 372) prior to taking EOSC 472. **Supporting Documents: SCI-09-2-EOSC 472**

MATHEMATICS	
Effective Date for Change: 10W **Proposed Calendar Entry:** **MATH 305 (3) Applied Complex Analysis.** **Functions of a complex variable, Cauchy-Riemann equations, contour integration, Laurent series, residues, integrals of multi-valued functions, Fourier transforms. See Credit Exclusion List [link to http://www.students.ubc.ca/calendar/index.cfm?tree=12,215,410,414]. [3-0-0]** **Prerequisites: One of MATH 200, MATH 217, MATH 226, MATH 253, MATH 263 and one of MATH 215, MATH 255, MATH 256, MATH 265.** **Corequisites: One of MATH 256, MATH 257, MATH 316.**	**Present Calendar Entry:** None. **Action:** New course. **Rationale:** This course is a consolidation of MATH 300 and parts of MATH 301, and is intended primarily for students in Engineering Physics for whom both are required courses. This will allow Engineering Physics students to replace MATH 301 with a more relevant mathematics course combining numerical methods and variational calculus. Such a course gives the students a better preparation for both industry and graduate school. The prerequisite is an amalgamation of those for MATH 300 and MATH 301. **Supporting Documents: SCI-09-2-MATH 305**

SCIENCE	
Effective Date for Change: 10W **Proposed Calendar Entry:** **SCIE 113 (3) First-Year Seminar in Science** **Small-group experience where students study science in society, scientific process, and how to communicate scientific concepts. Enrollment limited to students with first-year standing in the B. Sc. program in Science. [3-0-0]**	**Present Calendar Entry:** None **Action:** Create new course **Rationale:** Science is often seen as an elitist, fact-filled technological endeavor. In this course, new first-year students in the Faculty of Science will work closely with a faculty member to explore science as a way of knowing and science in society. The emphasis will be on the use of empirical evidence to build models and develop effective science communication. This course will act as an alternative to one first-year ENGL course and will, in part, satisfy the communication requirement (CR) for science students. Prerequisite: first-year standing in Science. **Supporting Documents: SCI-09-2-SCIE 113**

Effective Date for Change: 10W **Proposed Calendar Entry:** **SCIE 300 (3) Communicating Science** **Effective communication and presentation skills in science.** **[3-0-0]** **Prerequisite:** **Co-requisite: 3rd year or 4th year standing in Combined Major in Science. One of BIOL 300, STAT 200, STAT 241**	**Present Calendar Entry:** None **Action:** New course. **Rationale:** The ability to communicate scientific issues is essential for all graduates from the Faculty of Science. SCIE 300 is focused on developing reading, writing, and presentation skills for scientific content. It will be an integral part of the Combined Major in Science (CMS) specialization. Students in CMS will have a broad range of scientific interests, knowledge, and career goals. These students may ultimately pursue professions such as education, law, medicine, dentistry, journalism, and government. These types of vocations require communication skills to convey the essence of scientific issues. Graduates in CMS will be equipped to engage in scientific communication in a clear, accurate, and logical manner. SCIE 300 will count toward the Communication Requirement for the B.Sc. **Supporting Documents: SCI-09-2-SCIE 300**

Contact: Dr. Bill Ramey
Phone: 822-3300

Faculty Approval Date: March 4, 2010

Email: wramey@interchange.ubc.ca

DEAN'S OFFICE

Effective Date For Change: 10W

Proposed Calendar Entry:

The parchment should read:

"Bachelor of Science**, Honours** in Biotechnology"

URL: None

Present Calendar Entry:

This is a change to a degree parchment, which currently reads:

"~~Honours~~ Bachelor of Science in Biotechnology"

Action: Amend the degree listing on the parchment.

Rationale: The B.Sc. Honours in Biotechnology is a joint degree between UBC and BCIT, but the degree is recorded in slightly different forms at the two institutions and at neither does the name conform to the standard approved by Senate for B.Sc. degrees.

The name for all the other B.Sc. Honours degrees in the Faculty of Science is "Bachelor of Science, Honours in XXX". "Biotechnology" is a specialization like all others we offer. The UBC parchment listing, "Honours Bachelor of Science in Biotechnology", implies that a new degree (BSc in Biotechnology) exists, distinct from other BSc degrees. The program website at BCIT campus lists the degree as "Bachelor of Science Honours in Biotechnology" without the needed comma.

We would like to officially change the degree name for Biotechnology so it conforms to all the other B.Sc. degree names in Science at UBC and so that the name used at the two institutions is the same. A parallel process is underway at BCIT.

Supporting Documents: SCI-09-2-BIOT

BIOLOGY

Effective Date for Change: 2010W

Proposed Calendar Entry:

Biology Honours **Specialization**

Students wishing to enter a biology honours **specialization** must have a 75% average in courses taken during the previous Winter Session.

First year requirements

Major (XXXX): Biology (BIOL)

Students may enter the Biology Major beginning in their second year or third year. Second year students will first be admitted to this Major for 2011W. Third Year Students will first be admitted to this Major for 2012W.

First Year	
ENGL 100-level or SCIE 113[1]	**3**
BIOL 112	**3**
BIOL 121	**3**
BIOL 140	**2**
CHEM 121, 123 (or 111, 113)	**8**
MATH 100 or 102 or 104 (or 120 or 180 or 184)[2]	**3**
MATH 101 or 103 or 105 (or 121)[2]	**3**
PHYS 101[2] (107)	**3**
Electives[1,2,6]	**3**
Total Credits	**31**
Second Year	
ENGL 100-level or SCIE 113[1]	**3**
BIOL 200, 230, 234, 260[4]	**12**
Two of BIOL 203, 204, 205, 209, 210, or MICB 201[5,7]	**7(8)**
CHEM 233, 235	**4**
Electives[1,2,4,5,6,7]	**4(3)**
Total Credits	**30**
Third and Fourth Years	
BIOL 300[8]	**3**
BIOL 336	**3**
Biology Laboratory selections[8]	**4(6)**

http://www.students.ubc.ca/calendar/index.cfm?tree=12,215,410,418

Present Calendar Entry:

Biology Honours ~~Programs~~

Students wishing to enter a biology honours ~~program~~ must have a 75% average in courses taken during the previous Winter Session.

First year requirements

. . .

Action: Insert a new majors specialization (provide with specialization code) immediately before the line reading First-Year requirements in the current calendar entry.

Rationale: We propose to replace the large variety of existing Majors Program Options within Biology with a single Biology Major to increase flexibility for students, improve program organization, and (consistent with the mandate from the Faculty of Science) reduce the total number of credits required in the Biology Major to 120 credits from the current 127-129 credits.

The revised Major increases flexibility and allows students to better customize the Biology Major to their interests by:

1) Allowing students to fulfill their Biology laboratory requirement by choosing two terms of 3rd and 4th year laboratory courses from a list of selections drawn from a variety of biological disciplines, rather than requiring that all students take two terms of 3rd year physiology laboratory.
2) Allowing students to fulfill their 3rd and 4th year Biology requirements by choosing from a large panel of Life Sciences selections (Biology and other approved Life Science Courses) rather than selecting from a series of sublists across different Biology Program Options.
3) Maintaining available electives, despite the decrease in total credits required for the Major.

Life Science selections[9]	**20(18)**
Electives[1,2,6,7]	**29**
Total Credits	**59**
Minimum credits for Degree	**120**

[1.] A total of six credits of course work is required to meet the communication requirement. ENGL 112 is recommended. Qualified students are encouraged to consider ENGL 120 and/or ENGL 121. For full list of acceptable courses see [link-to Communication Requirements section]. Note that SCIE 113 can be used toward the Communication Requirement but does not count towards the degree requirement of 18 credits from the Faculty of Arts. The Communications Requirement can be completed in the first year by decreasing first year electives by 3 credits and increasing second year electives by three credits.

[2.] MATH 110 may substitute for any of the specified differential calculus courses listed by decreasing the electives by 3 credits. Students may substitute 4-credit MATH courses (MATH 120, MATH 121, 180, 184) as appropriate by decreasing the electives.

[3.] Students without credit for Physics 12 will be required to take PHYS 100 prior to PHYS 101. PHYS 100 will count as the elective.

[4.] Up to three credits of BIOL 200, 230, 234, and 260 may be deferred until third year to allow space for additional electives.

[5.] Up to four credits of BIOL 203, 204, 205, 209, 210 or MICB 201 may be deferred to third year to allow space for additional electives. BIOL 201 and CHEM 205 are recommended electives.

[6.] Electives must be selected to ensure that all Faculty of Science requirements are met: a) At least 18 credits must be from the Faculty of Arts, which may include credits used to satisfy the Faculty of Science Communications requirement b) An additional 9 credits must be from Arts or Science outside of the field of the

The revised Major establishes a core of 2nd and 3rd year Biology courses that are required of all students. These courses provide the fundamental knowledge required of all Biologists. This change will ensure that all individuals who graduate from UBC with a degree in Biology have a core competency in critical areas of modern biology by eliminating some important coverage gaps within current program options. The total number of required courses in the new Major is slightly smaller than that required in even the most flexible of the current Biology Program Options, thus greatly increasing flexibility to choose elective courses for many students.

The revised Major establishes a clearer organizational structure. Courses have been reorganized into "Introductory Courses" (1st year), "Fundamentals Courses" (Biology core courses to be taken by all students – labeled as such in the course title), "Organismal Diversity courses" and "Life Science and Laboratory Selections" (3rd and 4th year elective Life Science courses). This reorganization will improve mapping of learning objectives and help students undergo a clear progression in their mastery of important biological concepts. In addition, this clearer organizational structure will facilitate the progress of students through the Major and should streamline advising.

Staging plan:

This curriculum revision is part of a general overhaul of offerings in the Biology Major, including Biology Honours Specializations and Combined Majors and Honours Specializations. We are currently beginning the revision of these other specializations, and anticipate that revised specializations will be submitted to the curriculum committee by September 2010.

Students will first be accepted into the new Major as 2nd year students for the 2011W session, and as 3rd year students for 2012W session. New 2nd year courses will be available in 2011W. Existing students who wish to graduate under the rules of the new Major will be allowed to substitute suitable existing courses for courses required in the new Major that were not available to them because of timing or credit exclusion problems.

Supporting Documents: SCI-09-2-BIOL Major

major to satisfy the [link-to Breadth requirement]. c) 18 credits may be from any faculty but students must ensure that they have at least 48 upper-level credits, including at least 30 upper level credits from the Faculty of Science. **7. Students who take 8 credits of organismal diversity courses (BIOL 203, 204, 205, 209, 210, or MICB 201) should take 3 credits of electives. Students who take 7 credits of organismal diversity courses should take 4 credits of electives. Surplus elective credit taken in first or second year can be applied to third or fourth year as elective credit.** **8. STAT 200 can replace BIOL 300.** **9. See below for the list of accepted Biology Laboratory and Life Science selections. Students taking 4 credits of Laboratory selections must take at least 20 credits of Life Science selections. Students taking 6 credits of Laboratory Selections must take at least 18 credits of Life Science selections. At least 12 credits of Life Science selections must be taken from BIOL courses. See the Biology Program Guide (http://www.biology.ubc.ca/) for advice about choosing appropriate Life Science and Laboratory selections.** **Biology Laboratory selections** **Students must take at least two of the following courses.** **BIOL 326, BIOL 337, BIOL 340, BIOL 341, BIOL 351, BIOL 352, BIOL 360, BIOL 363, BIOL 404, BIOL 409, BIOL 437, BIOL 444** **Note:** **BIOL 351 counts as either 2 credits of laboratory selection and 2 credits of Life Science selection or 4 credits of Life Science selection** **BIOL 352 counts as either 2 credits of laboratory selection and 1 credit of Life Science selection or 3 credits of Life Science selection** **Life Science Selections**	

The list of Life Science selections below is divided into two groups: a) science courses that count towards the science credit requirement for the BSc and b) non-science courses that do not count towards the science credit requirement for the BSc. Students must take a minimum of 72 credits of science courses for their degree. The Biology Major provides 70-72 of these credits (depending on the selection of organismal diversity and laboratory courses). Students must also ensure that they have at least 30 upper-level credits from the Faculty of Science courses. The Biology Major provides 22-24 of these credits (depending on the selection of 3rd and 4th year laboratory courses). The remaining credits must be taken either as Life Science selections or electives. Note that Science students are only permitted to count up to 18 credits of courses from faculties other than Arts or Science (i.e. AGRO, ANAT, APBI, CONS and FRST courses). **Note that careful prior planning is essential because:** **• Enrollment in many Life Science Selections is limited** **• Admission to the Biology Major does not guarantee admission to these courses.** **• Some of these courses carry additional prerequisites.** **a) Life science selections that count towards the Science credit requirement** **Any 3rd or 4th year course in BIOC, BIOL, MICB, MRNE or PHYL that is open to Life Science majors plus** **ANAT 390, ANAT 391** **EOSC 371, EOSC 470, EOSC 471, EOSC 474, EOSC 475, EOSC 476, EOSC 478** **GEOB 307, GEOB 407** **FNH 350, 351 and 451** **MATH 462** **MEDG 410, 419, 420 and 421** **PCTH 305** **b) Life science selections that do not count towards the Science credit requirement** **APBI 311, APBI 312, APBI 314, APBI 315,**	

APBI 318, APBI 342, APBI 401, APBI 411, APBI 418, APBI 419, APBI 444 **CONS 330, CONS 440, CONS 486** **FRST 302, FRST 310,FRST 385, FRST 386, FRST 395, FRST 399, FRST 420, FRST 444, FRST 485, FRST 495**	

COMBINED MAJOR IN SCIENCE

Effective Date for Change: 10S

Proposed Calendar Entry:

COMBINED MAJOR IN SCIENCE

The Combined Major in Science (CMS) is a structured curriculum that provides breadth by offering foundational packages in three discipline areas of science as well as an introduction in a fourth discipline. Lab and field experiences will promote experiential learning, providing students the opportunity to understand how research is done and application of the scientific method. A statistics requirement will give students an understanding of basic statistics and statistical modeling. A computing requirement will provide students with a basic ability in computation and data manipulation as well as develop problem-solving skills using computers. SCIE 300 (Communicating Science) will help students develop skills in critical evaluation and communication of scientific issues.

All degree requirements must be fulfilled in accordance with Faculty of Science requirements. Students may, with the approval of the Science Information Centre [link to www.science.ubc.ca/students/advising/office]**, undertake an optional Minor program in Arts, Commerce, Human Kinetics, or Land and Food Systems in conjunction with the Combined Major in Science. See Minor Options** [link to new location of this entry in the B.Sc. chapter]**. Combined Major in Science students are not eligible to pursue other types of specializations.**

Courses selected must be acceptable for major or honours programs in the specific areas of concentration packages. At most a total of 6 credits of directed studies and 6 credits of student directed seminar courses (3 credits as a participant and 3 credits as a leader) may be counted toward a Combined Major in Science degree, but they may not be

URL:

Present Calendar Entry:

None.

Action: Create a new combined major specialization.

Rationale: The Combined Major in Science (CMS) will gradually replace the General Science Program (GSP) as it is phased out over the next few years as current students in GSP graduate. The GSP has grown into a large, unstructured program in which students are often limited in the courses they can take because of prerequisite requirements and course availability. The courses they take are often a random assortment lacking in cohesion and students do not feel like they belong to a learning community. The new program will meet the needs of students looking for a degree that provides them with a broad-based foundation in science and new CMS-specific courses will help develop program identity. The CMS provides a structured curriculum that develops breadth by offering foundations in three discipline areas of science as well as an introduction in a fourth (generalist requirement). Lab and field experiences through newly developed lab courses will promote experiential learning, and provide students the opportunity to understand how research is done and apply the scientific method. A statistics requirement will familiarize them with basic statistics and statistical modeling. A computing requirement will provide students with a basic ability in computation and data manipulation as well as develop problem-solving skills using computers. SCIE 300 (Communicating Science) will help students develop skills in critical evaluation and communication of

counted as part of a package or other CMS specialization requirements.
More information is available at the Combined Major in Science Advising website [link to www.cms.science.ubc.ca].

Cooperative Education

This option integrates academic study and supervised work experience. Enrolment is limited. Second-year standing in the Combined Major in Science is prerequisite for admission. Detailed information is available from the Co-operative Education Program Office, Room 270, Chemistry/Physics Building, University of British Columbia, 6221 University Boulevard, Vancouver, BC. Information is also available through the Co-op website [link to www.sciencecoop.ubc.ca]**.**

Program

Combined Major (XXXX): Science

First Year[1]:	**Credits**
MATH 100 (or 102, 104, 120, 180, 184)[2]	**3 (4)**
MATH 101 (or 103, 105, 121)	**3 (4)**
Prerequisites for CMS Packages[2,4,5,10]	**10–18**
English 100-level	**3**
Arts Elective	**3**
Electives[3]	**8-0**
Total Credits	**30**

Second Year:	**Credits**
STAT 200[6]	**3**
Prerequisites for CMS Packages[5,10]	**6-19**
Arts Electives 6	
Computing Requirement[7]	**3**
Generalist Requirement[8]	**3**
Electives[9]	**9-2**
Total Credits	**30**

scientific issues.
The structure of the new specialization will ensure that students can follow the program requirements in a timely fashion. It will target students not likely to pursue research careers, rather, its goal is to equip students with the background to understand and evaluate scientific issues from a number of scientific disciplines. It will be particularly appealing for students preparing for professional schools such as education, law, medicine.

Supporting Documents:SCI-09-CMS Program

Third and Fourth Years:	Credits
SCIE 300	3
First CMS Package[10]	9
Second CMS Package[10]	9
Third CMS Package[10]	9
Two of: BIOL 342, EOSC 442, PHYS 309, CHEM 315	2-5
Arts Elective	6
Electives[9]	18-12
Total 3rd/4th Year Credits	60
Credits for degree	120

[1]SCIE 001 fulfills first-year science prerequisites for most CMS packages except for the Mathematical Sciences packages. Some Mathematical Sciences packages require CPSC 110 (or 111) and CPSC 121 as additional requirements.

[2] MATH 110 may substitute for any of the specified differential calculus courses listed by decreasing the electives by 3 credits.

[3] Electives must be taken to ensure that all Faculty of Science requirements are met: a) At least 18 credits must be from the Faculty of Arts b) 18 credits may be from any faculty but students must ensure that they have at least 48 upper-level credits, including at least 30 upper level credits from the Faculty of Science.

[4]Students take CHEM 111 if credit was not obtained for Chemistry 12 and 3 credits of 100-level PHYS (normally PHYS 100) if credit was not obtained for Physics 12. All students take at least 6 credits of CHEM and/or PHYS lecture courses at the 100-level beyond CHEM 111 and PHYS 100. Note to students interested in applying to Medical School: Content in PHYS 101,102 or 107, 108 are tested on the MCAT.

[5]CMS Packages are in five subject areas: Chemistry; Earth and Environmental Science; Life Science; Mathematical Sciences: Computer Science, Mathematics, and Statistics; and Physics & Astronomy. Students must complete courses in three packages to complete specialization requirements. The range of disciplines provides sufficient breadth to meet the faculty of Science requirement for 9 credits of

breadth courses. **[6]STAT 200 can be replaced with STAT 241 or BIOL 300.** **[7]Computing Requirement (can be taken in third or fourth year by substituting electives in second year) - select one of the following courses: CPSC 110 (or 111), CPSC 301, EOSC 211, MATH 210, PHYS 210.** **[8]Generalist Requirement (can be taken in third or fourth year): one course from a discipline not represented in a student's three packages is selected from the list: Chemistry: CHEM 200-level; Earth and Environmental Science: EOSC 340, 326, 477, 453, 354, 329, GEOB 400; Life Science: BIOL 121, 343, 345, 346, 438; Mathematical Sciences: MATH 200-level, MATH 300-level; Physics and Astronomy: PHYS 305, 313.** **[9]Students must have a minimum of 72 credits in Science and 48 Upper-Level credits** **[10]Select three of the following five CMS packages:** **<u>Chemistry CMS Package</u>** **Prerequisites: CHEM 121, 123 (or 111, 113), CHEM 233, 235, 205 (or CHEM 201, 203, 204)** **Package courses:** **3 credits of CHEM 341** **6 credits CHEM from 300 and higher** **<u>Earth and Environmental Science CMS Package</u>** **Prerequisites: Prerequisites: one of CHEM 111, CHEM 121; one of PHYS 101, PHYS 107; one of (a) EOSC 110 and EOSC 111 or (b) one of ATSC 201, BIOL 111, BIOL 112, BIOL 121, GEOB 103 or GEOB 200** **Package courses:** **3 credits of EOSC 340** **3 credits from EOSC 326, EOSC 355, EOSC 372** **3 credits from Earth and Environmental Science courses: ATSC, ENVR, GEOB (except for GEOB 307, 407), EOSC (except for EOSC 310, 311, 312, 314, 315, 371, 470, 471, 474, 475, 478)**	

Recommended courses: EOSC 326, 355, 372 or EOSC 324, 329, 330, 373 or GEOB 300 **<u>Life Science CMS Package</u>** **Prerequisites: BIOL 112, 121, BIOL 140, BIOL 200, (BIOL 201 recommended), CHEM 121 (or 111), CHEM 123 (or 113)** **Additional specific prerequisites are needed for some choices of upper-level courses.** **Package courses: 9 credits of Life Science courses numbered 300 or higher: ANAT 390, 391, BIOC, BIOL (except BIOL 300), GEOB 307, 407, MRNE, MEDG, MICB, PHAR, PHYL, PSYC 360-368, PSYC 460-462, and EOSC 470, 471, 474, 475, 478** **<u>Mathematical Science CMS Package</u> – Select one of the following options:** ***1. Computer Science Option*** **Prerequisites: CPSC 110 (or 111), 121, 210 (or 211), (CPSC 213 recommended)** **Package Courses: 4 credits of CPSC 221; 6 credits chosen from 300 and 400 level CPSC courses** **Recommended: CPSC 302, 303, 304, 312, 314, 320, 322, 340, 402, 406, 420, 421, 422, 430, 445** **Students choosing this package may need additional upper-level science credits to meet the requirement for a minimum of 30 upper-level science credits.** ***2. Mathematics Option*** **Prerequisites: MATH 200, 221, (MATH 215 recommended)** **Package Courses: 9 credits chosen from 300 and 400 level MATH** **Highly Recommended: MATH 302, 307, 317, 340.** **Recommended: MATH 303, 316, 345, 361, 441, 442, 445** ***3. Statistics Option*** **Prerequisites: One of MATH 152, MATH 221, MATH 223 and one of STAT 200, STAT 241, STAT 251, BIOL 300.** **Package Courses: 3 credits of STAT 306; 6 credits from STAT 307, 308, 335, 344, 442**	

4. Interface A Option **Prerequisites: CPSC 110 (111), MATH 200, 221** **Package Courses: 6 credits of: MATH/STAT 302, MATH 303, STAT 305; 3 credits of CPSC 302, CPSC 303** ***5. Interface B Option*** **Prerequisites: MATH 200, 221** **Package Courses: 9 credits of MATH/STAT 302, MATH 303, STAT 305** ***6. Interface C Option*** **Prerequisites: 9 credits of CPSC 110 (111), MATH 200, 221** **Package Courses: 9 credits of CPSC 340, STAT 300, STAT 406** ***7. Interface D Option*** **Prerequisites: 9 credits of CPSC 110 (111), MATH 200, 221** **Package Courses*:* CPSC 302, CPSC 402, MATH 307** **<u>Physics and Astronomy CMS Package</u>** ***1. Physics Option*** **Prerequisites: MATH 200, PHYS 101 (or 107) and PHYS 102 (or 108), (PHYS 200, 209 recommended) MATH 215 recommended** **Package Courses: 3 credits of PHYS 301, 304, 313 and 6 credits PHYS or ASTR courses numbered 300 or higher** **Recommended Courses: PHYS 301, 304, 305, 309, 312, 313, 314, 315, 318, 319, 404, 405, 420** ***2. Astronomy Option*** **Prerequisites: MATH 200, PHYS 101 (or 107) and PHYS 102 (or 108), PHYS 200, and one of PHYS 206 or 216. MATH 215 recommended** **Package Courses: 3 credits of PHYS 301 and 6 credits ASTR 303, 402**	