

The following Motions and Documents were considered by the GFC Academic Standards Committee at its Thursday, March 20, 2014 meeting:

Agenda Title: Faculty of Pharmacy and Pharmaceutical Sciences: Proposed Changes to Existing Admission/Transfer (Including Credit by Special Assessment (CSA)) and Academic Standing/Graduation Requirements

CARRIED MOTION: THAT the GFC Academic Standards Committee approve, under delegated authority from General Faculties Council, proposed changes to existing admission/transfer (including Credit by Special Assessment (CSA)) and academic standing/graduation requirements, as submitted by the Faculty of Pharmacy and Pharmaceutical Sciences and as set forth in Attachment A, to be effective in 2014-2015.

Final Item: 4A

Agenda Title: Office of the Registrar: Course Approvals and Denials for March, 2014

CARRIED MOTION: THAT the GFC Academic Standards Committee approve, under delegated authority from GFC, the proposal for approval of transfer credit, as submitted by the Office of the Registrar and as set forth in Attachment B, to take effect upon final approval.

Final Item: 4B

Agenda Title: Faculty of Agricultural, Life and Environmental Sciences (ALES) Embedded Credit Certificate in Sustainability

CARRIED MOTION: That the GFC Academic Standards Committee approve, under delegated authority from General Faculties Council, the proposed embedded Credit Certificate in Sustainability, as submitted by the Faculty of Agricultural, Life and Environmental Sciences and as set forth in Attachment 1 (as amended), for implementation in the Fall of 2015.

Final Amended Item: 5

Agenda Title: Faculty of Science's Proposed Embedded Credit Research Certificate in Science (Biological Sciences)

CARRIED MOTION: That the GFC Academic Standards Committee approve, under delegated authority from General Faculties Council, the proposed embedded Credit Research Certificate in Science (Biological Sciences), as submitted by the Faculty of Science and as set forth in Attachment 1 (as amended), for implementation in the Fall of 2014.

Final Amended Item: 6

OUTLINE OF ISSUE

4A. Faculty of Pharmacy and Pharmaceutical Sciences: Proposed Changes to Existing Admission/Transfer (Including Credit by Special Assessment (CSA)) and Academic Standing/Graduation Requirements

4B. Office of the Registrar: Course Approvals and Denials for March, 2014

Item

Action Requested	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Recommendation <input type="checkbox"/> Discussion/Advice <input type="checkbox"/> Information
Proposed by	Dion Brocks, Associate Dean (Undergraduate Student Affairs), Faculty of Pharmacy and Pharmaceutical Sciences; Ada Ness, Associate Registrar (Enrolment Services), Office of the Registrar
Presenter	Bill Connor, Vice-Provost (Academic Programs and Instruction) and Chair, GFC Academic Standards Committee
Subject	N/A

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	See individual items for detail on proposed changes submitted by the Faculty of Pharmacy and Pharmaceutical Sciences and the Office of the Registrar.
The Impact of the Proposal is	See 'Purpose'.
Replaces/Revises (eg, policies, resolutions)	Various sections of the <i>University Calendar</i> ; see individual items for specific affected <i>Calendar</i> sections. Updates the <i>Alberta Transfer Guide</i> .
Timeline/Implementation Date	Item 4A: To take effect in 2014-2015. Item 4B: To take effect upon final approval.
Estimated Cost	N/A
Sources of Funding	N/A
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	<i>Dare to Discover</i> Values: to provide an intellectually superior educational environment; integrity, fairness, and principles of ethical conduct built on the foundation of academic freedom, open inquiry, and the pursuit of truth.
Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please quote legislation and include identifying section numbers)	<p>1. <i>Post-Secondary Learning Act (PSLA)</i>: The <i>PSLA</i> gives GFC responsibility, subject to the authority of the Board of Governors, over academic affairs. Further, the <i>PSLA</i> gives the Board of Governors authority over certain admission requirements and rules respecting enrolment. The Board has delegated its authority over admissions requirements and rules respecting enrolment to GFC and the GFC ASC (Academic Standards Committee). (Sections 26(1), 60(1)(c) and (d)).</p> <p>2. <i>PSLA</i>: The <i>PSLA</i> gives Faculty Councils power to “provide for the admission of students to the faculty” (29(1)(c)).</p> <p>3. <i>UAPPOL Admissions Policy</i>: “Admission to the University of Alberta is based on documented academic criteria established by individual</p>

Faculties and approved by GFC. This criteria may be defined in areas such as subject requirements, minimum entrance averages, and language proficiency requirements. In addition to academic requirements for admission, GFC authorizes each Faculty to establish such other reasonable criteria for admission of applicants as the Faculty may consider appropriate to its programs of study, subject to the approval of GFC (e.g. interview, audition, portfolio, etc.)

The admission requirements for any Faculty will be those approved by GFC as set forth in the current edition of the *University Calendar*. In addition to the admission requirements, selection criteria for quota programs, where they exist, will also be published in the current edition of the *University Calendar*.

The responsibility for admission decisions will be vested in the Faculty Admission Committees or in the Deans of the respective Faculties, as the councils of such Faculties will determine.”

4. ***UAPPOL Admissions Procedure:***

PROCEDURE

1. EFFECTIVE DATE OF CHANGES TO ADMISSION REGULATIONS

Following approval by GFC:

a. Where changes to admission regulations may disadvantage students in the current admission cycle, normally implementation will be effective after the change has been published in the *University Calendar* for one full year (i.e., effective the second year that the information is published in the *University Calendar*).

For example, a change approved in May 2005 would be first published in the 2006-2007 *University Calendar* in March 2006. Therefore the statement cannot come into effect until September 2007 (affecting applicants who apply for the September 2007 term beginning July 2006).”

b. Where changes to admission regulations are deemed by the approving body to be ‘advantageous to students’, normally the date of implementation will be effective immediately or at the next available intake for the admitting Faculty.”

5. ***PSLA:*** The *PSLA* gives Faculty Councils the authority to “determine the conditions under which a student must withdraw from or may continue the student’s program of studies in a faculty” (Section 29(1)(d)).

6. ***UAPPOL Academic Standing Policy:*** “All current academic standing regulations, including academic standing categories, University graduating standards and requirements for all individual programs will be those prescribed by Faculty Councils and GFC as set forth in the *University Calendar*.”

7. UAPPOL Academic Standing Regulations Procedures: “All proposed new academic standing regulations and changes to existing academic standing regulations will be submitted by the Faculties or the Administration to the Provost and Vice-President (Academic). Faculties will also submit to the Provost and Vice-President (Academic) any proposed changes to the use and/or computation of averages relating to academic standing, including promotion and graduation.

If the Provost and Vice-President (Academic) determines the proposal to be in good order, the proposal will be introduced to the appropriate University governance process(es). In considering these proposals, governance bodies will consult as necessary with the Faculties and with other individuals and offices.

Normally, changes become effective once they are approved by GFC or its delegate and are published in the University Calendar.”

8. GFC Academic Standards Committee (ASC) Terms of Reference (Mandate): The Office of the Provost and Vice-President (Academic) has determined that the proposed changes are **editorial** in nature. ASC’s terms of reference provide that “the term ‘**routine and/or editorial**’ refers to proposals which do not involve or affect other Faculties or units; do not form part of a proposal for a new program; and do not involve alteration of an existing quota or establishment of a new quota. Editorial or routine changes include any and all changes to the wording of an admissions or academic standing policy” (3.A.i).

Section 3 of GFC ASC’s Terms of Reference state:

“B. Admission and Transfer, Academic Standing, Marking and Grading, Term Work, Examinations, International Baccalaureate (IB), Advanced Placement (AP)

i. All proposals from the Faculties or the Administration related to admission and transfer, to the academic standing of students, to institutional marking and grading policies and/or procedures and to term work policies and procedures are submitted to the Provost and Vice-President (Academic) (or delegate) who chairs the GFC Academic Standards Committee. ASC will consult as necessary with the Faculties and with other individuals and offices in its consideration of these proposals. (GFC 29 SEP 2003) (GFC 31 MAY 2005) (EXEC 04 DEC 2006)

ii. ASC acts for GFC in approving routine and/or editorial changes to both admission/transfer policies and academic standing regulations, and acts for GFC in approving all proposals for a) change to examination regulations, b) change to existing International Baccalaureate (IB) and Advanced Placement (AP) policies and procedures and c) change to the University Calendar Section on Missed Term Work (under the Section entitled Evaluation Procedures and Grading System. (EXEC 18 NOV 1996) (EXEC 04 DEC 2006)

	<p>[...]"</p> <p>9. GFC ASC Terms of Reference (Mandate): GFC ASC's delegated authority from GFC extends to the following: "a. ASC approves, for inclusion in the Alberta Transfer Guide, courses for transfer credit to the University of Alberta which are offered by non-University institutions in Alberta. Approval will be based upon an assessment of course content and level of instructor qualifications. b. ASC denies courses for transfer credit to the University of Alberta which are offered by non-University institutions in Alberta. c. ASC monitors the entries in the Alberta Transfer Guide relevant to the University of Alberta. d. ASC rescinds, if necessary, the entries in the Alberta Transfer Guide relevant to the University of Alberta." (3.D.i-iv.)</p> <p>10. UAPPOL Transfer Credit Articulation Procedure (Overview and Procedure): "The University of Alberta will accept for transfer credit the courses recommended by Faculties and approved by ASC for inclusion in the Alberta Transfer guide, to the extent that the courses fit the degree program that the student wishes to enter. Credit for such courses will be considered in a credit-no credit basis only and will not be included in the University grade point average calculation on the University transcript. Faculties may have other requirements...Transfer credit is assessed on an individual course-by-course basis for by a block transfer agreement."</p>
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Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	Vice-Provost (Academic Programs and Instruction) and Chair, GFC Academic Standards Committee; Representatives of the Office of the Registrar
Approval Route (Governance) (including meeting dates)	Faculty of Pharmacy and Pharmaceutical Sciences Council (or delegate body) – Winter, 2014; GFC Academic Standards Committee (March 20, 2014) – for final approval
Final Approver	GFC Academic Standards Committee

Attachments:

Attachment A (pages 1 – 4): Faculty of Pharmacy and Pharmaceutical Sciences

Attachment B (pages 1 – 7): Office of the Registrar

Prepared by Garry Bodnar, University Governance, garry.bodnar@ualberta.ca

Motion: THAT the GFC Academic Standards Committee approve, under delegated authority from General Faculties Council, proposed changes to existing admission/transfer (including Credit by Special Assessment (CSA)) and academic standing/graduation requirements, as submitted by the Faculty of Pharmacy and Pharmaceutical Sciences and as set forth in Attachment A, to be effective in 2014-2015.

3-171 Edmonton Clinic Health Academy
11405 – 87 Ave
Edmonton, Alberta, Canada T6G 1C9
Tel: 780.492.3362
Fax: 780.492.1217
www.pharmacy.ualberta.ca

Calendar Change Request Form

Implementation Type: Normal Early **Implementation Year:** 2014-15

Type of Change: Program Regulations New Course Course Deletion Course Change Editorial

Current	Proposed
<p>143.3.3 Doctor of Pharmacy (PharmD)</p> <p>(1) Grades</p> <p>a. The means of assessing a student's progress and determining a student's grades may vary from one course to another, according to the nature of the course. Factors other than examination results may be used to a variable extent by instructors in determining grades. Students are informed at the beginning of each course how grades are to be determined.</p> <p>b. Students must satisfactorily complete all components of all courses.</p> <p>(2) Reexaminations: See §23.5.5</p> <p>(3) Promotion and/or Continuation</p> <p>a. Academic standing is assessed on the basis of:</p> <ul style="list-style-type: none"> i) Performance in individual courses, ii) CR in credit/no credit courses, iii) A minimum letter grade of B- in all courses in which a letter grade is assigned, and iv) Students must take a minimum of one course in each term unless prior approval is granted by the Director of the PharmD program or the Assistant Dean (Student Affairs). <p>b. Credit by Special Assessment: Credit by Special Assessment is available in certain courses under specific circumstances. See §14.2.4, and contact</p>	<p>143.3.3 Doctor of Pharmacy (PharmD)</p> <p>(1) Grades</p> <p>a. The means of assessing a student's progress and determining a student's grades may vary from one course to another, according to the nature of the course. Factors other than examination results may be used to a variable extent by instructors in determining grades. Students are informed at the beginning of each course how grades are to be determined.</p> <p>b. Students must satisfactorily complete all components of all courses.</p> <p>(2) Reexaminations: See §23.5.5</p> <p>(3) Promotion and/or Continuation</p> <p>a. Academic standing is assessed on the basis of:</p> <ul style="list-style-type: none"> i) Performance in individual courses, ii) CR in credit/no credit courses, iii) A minimum letter grade of B- in all courses in which a letter grade is assigned, and iv) Students must take a minimum of one course in each term unless prior approval is granted by the Director of the PharmD program or the Assistant Dean (Student Affairs).

the Faculty of Pharmacy and Pharmaceutical Sciences for any further information.

e. Proof of current licensure as a pharmacist with the Alberta College of Pharmacists and authorization to administer drugs by injection must be provided prior to the first rotation commencing and annually.

d. Satisfactory Standing: Students are in satisfactory standing when they have completed each required course with a minimum letter grade of B- or assigned a grade of CR in credit/no credit courses.

e. Conditional Standing: Students are placed in this category and placed on Academic Warning when upon a first attempt at a course, the student has not achieved a minimum grade of B- or a grade of CR in credit/non-credit courses. In such cases the student must retake the course involved the next time it is offered. Such students will clear their Academic Warning upon achieving a grade of B- or CR on the second attempt in order to be placed in Satisfactory Standing.

f. Required to Withdraw: Students who fail to achieve a minimum grade of B- or a grade of CR in credit/non-credit courses a second time will be required to withdraw from the program. Failure to provide documentation of current licensure and authorization to administer drugs by injection with the Alberta College of Pharmacists will necessitate withdrawal from the program.

(4) Appeals and Grievances: Decisions on academic standing are made by the Faculty Council. Appeals may be made to the Academic Appeals Committee. Certain

b. Proof of current licensure as a pharmacist with the Alberta College of Pharmacists and authorization to administer drugs by injection must be provided prior to the first rotation commencing and annually.

c. Satisfactory Standing: Students are in satisfactory standing when they have completed each required course with a minimum letter grade of B- or assigned a grade of CR in credit/no credit courses.

d. Conditional Standing: Students are placed in this category and placed on Academic Warning when upon a first attempt at a course, the student has not achieved a minimum grade of B- or a grade of CR in credit/non-credit courses. In such cases the student must retake the course involved the next time it is offered. Such students will clear their Academic Warning upon achieving a grade of B- or CR on the second attempt in order to be placed in Satisfactory Standing.

e. Required to Withdraw: Students who fail to achieve a minimum grade of B- or a grade of CR in credit/non-credit courses a second time will be required to withdraw from the program. Failure to provide documentation of current licensure and authorization to administer drugs by injection with the Alberta College of Pharmacists will necessitate withdrawal from the program.

(4) Appeals and Grievances: Decisions on academic standing are made by the Faculty Council. Appeals may be made to the Academic Appeals Committee. Certain

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<p>academic standing decisions made by the Faculty Academic Appeals Committee may be appealed to the General Faculties Council Academic Appeals Committee. Enquiries concerning standing in individual courses should be made to the professor in charge of the course. If the issue is still not resolved, the student may report the matter to the Office of the Dean for enquiry. See §23.8 (Appeals and Grievances) for further information. The Faculty’s regulations governing academic appeals and grade appeals may be obtained in the Dean’s Office.</p> <p>(5) Residence Requirement: Although credit by special assessment toward the PharmD degree can be given for course work completed prior to admission to the Program, a minimum of 50 percent of the total units of course weight must be taken at University of Alberta while registered in the PharmD program before the degree can be granted.</p>	<p>academic standing decisions made by the Faculty Academic Appeals Committee may be appealed to the General Faculties Council Academic Appeals Committee. Enquiries concerning standing in individual courses should be made to the professor in charge of the course. If the issue is still not resolved, the student may report the matter to the Office of the Dean for enquiry. See §23.8 (Appeals and Grievances) for further information. The Faculty’s regulations governing academic appeals and grade appeals may be obtained in the Dean’s Office.</p>
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Rationale: Following consultation with the Registrar’s Office, “Credit by Special Assessment” is not applicable to the Doctor of Pharmacy program.

Note: For the 2015-2016 Calendar

<p>Submitted by: R Breault, Director of the Doctor of Pharmacy Program</p> <p>January 30, 2014 Date</p>	<p>Approval: J. Kehrer, Dean</p> <p>February 21, 2014 Date</p>
<p>Faculty Approval:</p>	<p><input type="checkbox"/> Doctor of Pharmacy Committee Date: January 30, 2014</p> <p><input type="checkbox"/> Faculty Council Date: February 21, 2014</p>

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Calendar Change Request Form

Implementation Type: Normal Early Implementation Year: 2014-15

Type of Change: Program Regulations New Course Course Deletion Course Change Editorial

Current	Proposed
<p>143.3.4 Graduation</p> <p>(1) Time Limit for Completion of Degree: Normally, all students must complete their degree requirements within two years from the time of their initial admission. This time limit includes all time during which a student is not in attendance, either by personal choice or as a result of suspension or requirement to withdraw. This time will not apply to leaves granted by the Faculty to the student for medical or other reasons. Contact the Faculty regarding options for part-time PharmD studies.</p>	<p>143.3.4 Graduation</p> <p>(1) Time Limit for Completion of Degree: Normally, all students must complete their degree requirements within five years from the time of their initial admission. This time limit includes all time during which a student is not in attendance, either by personal choice or as a result of suspension or requirement to withdraw. This time will not apply to leaves granted by the Faculty to the student for medical or other reasons. Contact the Faculty regarding options for part-time PharmD studies.</p>

Rationale: To permit students to complete the program on a part-time basis.

Notes: For the 2015-16 Calendar

<p>Submitted by:</p> <p>R. Breault, Director of the Doctor of Pharmacy Program</p> <p>January 30, 2014</p> <hr/> <p>Date</p>	<p>Approval:</p> <p>J. Kehrer, Dean</p> <p>February 21, 2014</p> <hr/> <p>Date</p>
<p>Faculty Approval:</p>	<p><input type="checkbox"/> Doctor of Pharmacy Committee Date: January 30, 2014</p> <p><input type="checkbox"/> Faculty Council Date: February 21, 2014</p>

March 6, 2014

UNIVERSITY OF ALBERTA: OFFICE OF THE REGISTRAR
 Proposals Recommended for APPROVAL of Transfer Credit at the
 Academic Standards Committee Meeting on March 20, 2014

Sending Institution and Proposal ID #	Sending Institution Courses/ Programs	UofA Courses	Transfer Agreement Footnotes	Comments
BLUE QUILLS FIRST NATIONS COLLEGE				
135085	IYIS 101 (3)	NS2XX (3)		
CANADIAN UNIVERSITY COLLEGE				
135001	BIOL 391 (3)	BIOL 3XX (3)		
134533	BIOL 430 (3)	REN R 462 (3)		
135027	COMM 130 (3)	ALES204 (3)		
135254	MUAP 121/ 122 (4)	MUSIC 124 (3)		
133675	MUAP 321/ 322 (4)	MUSIC 424 (3)		
133665	MUHL 165 (3)	MUSIC 101 (3)		
135028	MUPF 217/ 317 (2)	See Note	Students must present 3 credits in MUPF 217 and/ or MUPF 317 to receive credit for MUSIC 141 at UofA. Students must present 6 credits in MUPF 217 and/ or MUPF 317 to receive combined credit for both MUSIC 141 and MUSIC 241 at UofA.	CUC'S MUPF 217 (1) and MUPF 317 (1) are repeatable courses.
133539	PHIL 495 (3)	AUPHI 2XX (3)		CUC's PHIL 495 (3) was previously approved for PHIL 2xx (3). Student will not also receive credit in a similar topic at UofA. The new agreement will be: PHIL 495 (3) = PHIL 2xx (3) OR AUPHI 2xx (3). Student will not also receive credit in a similar topic at UofA.
135000	RELG 107 (3)	RELIG 1XX (3)		

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Sending Institution and Proposal ID #	Sending Institution Courses/ Programs	UofA Courses	Transfer Agreement Footnotes	Comments
CANADIAN UNIVERSITY COLLEGE				
134946	RELG 108 (3)	AUREL 1XX (3)	Student will not also receive credit for AUREL 282 at UofA.	CUC's RELG 108 (3) was previously approved for RELIG 102 (3). The new agreement will be: RELG 108 (3) = RELIG 102 (3) OR AUREL 1xx (3). Student will not also receive credit for AUREL 282 at UofA.
GRANDE PRAIRIE REGIONAL COLLEGE				
59535	BI 2070 (3)	AUBIO 260 (3)		GPRC's BI 2070 (3) was previously approved for BIOL 207 (3). The new agreement will be: BI 2070 (3) = BIOL 207 (3) OR AUBIO 260 (3).
135066	NT 2300 (3)	NS2XX (3)		
135067	NT 2400 (3)	NS2XX (3)		
135068	NT 2500 (3)	NS2XX (3)		
135252	PY 2110/ 2120 (6)	AUPSY 213/ 2XX [Arts] (6)		
99425	PY 2120 (3)	AUPSY 2XX [Arts] (3)		GPRC's PY 2120 (3) was previously approved for PSYCO 212 (3). The new agreement will be: PY 2120 (3) = PSYCO 212 (3) OR AUPSY 2xx [Arts] (3).
100449	PY 2410 (3)	AUPSY 240 (3)		GPRC's PY 2410 (3) was previously approved for PSYCO 241 (3). The new agreement will be: PY 2410 (3) = PSYCO 241 (3) OR AUPSY 240 (3).
GRANT MACEWAN UNIVERSITY				
134779	STAT 266 (3)	STAT 266 (3)		

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Sending Institution and Proposal ID #	Sending Institution Courses/ Programs	UofA Courses	Transfer Agreement Footnotes	Comments
KING'S UNIVERSITY COLLEGE, THE				
134625	ENGL 329 (3)	ENGL 2XX (3)		
134616	PHIL 347 (3)	PHIL 2XX (3) OR AUPHI 3XX (3)		
133191	THEO 349 (3)	CHRTC 2XX (3)		
132898	THEO 374 (3)	CHRTC 2XX (3) OR AUREL 3XX (3)	Student will not also receive credit for CHRTC 349 at UofA.	
LAKELAND COLLEGE				
135147	MICRB 265 (3)	MICRB 265 (3)		
LETHBRIDGE COLLEGE				
135145	HUM 1190 (3)	AUHUM 1XX (3)		Lethbridge College's HUM 1190 (3) was previously approved for Option 1xx [Arts] (3). The new agreement will be: HUM 1190 (3) = Option 1xx [Arts] (3) OR AUHUM 1xx (3).
135139	SOC 1167 (3)	AUSOC Sci 1XX (3)	This course will not act as prerequisite to senior AUSOC courses at Augustana Faculty.	Lethbridge College's SOC 1167 (3) was previously approved for Option 1xx [Arts] (3). This course will not act as prerequisite to senior SOC courses at UofA. The new agreement will be: SOC 1167 (3) = Option 1xx [Arts] (3) OR AUSoc Sci 1xx (3). This course will not act as prerequisite to senior SOC or AUSOC courses at UofA.
135140	SOC 2260 (3)	AUSoc Sci 2XX (3)	This course will not act as prerequisite to senior AUSOC courses at Augustana Faculty.	Lethbridge College's SOC 2260 (3) was previously approved for Option 2xx [Arts] (3). This course will not act as prerequisite to senior SOC courses at UofA. The new agreement will be: SOC 2260 (3) = Option 2xx [Arts] (3) OR AUSoc Sci 2xx (3). This course will not act as prerequisite to senior SOC or AUSOC courses at UofA.

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Sending Institution and Proposal ID #	Sending Institution Courses/ Programs	UofA Courses	Transfer Agreement Footnotes	Comments
MOUNT ROYAL UNIVERSITY				
133014	GNED 1101 (3)	STS2XX (3)		Student will not also receive credit for STS200 at UofA.
134822	HIST 2108 (3)	HIST 2XX (3) OR AUHIS271 (3)		Student will not also receive credit for HIST 371 at UofA.
134806	HIST 2322 (3)	HIST 2XX (3) OR AUHIS2XX (3)		
134810	PHIL 1130 (3)	PHIL 1XX (3) OR AUPHI 1XX (3)		
134564	RELS 2253 (3)	RELIG 211 (3)		
135151	THEA 1258/ 1259 (4)	T DES 1XX (3)		Student will not also receive credit for T DES273 at UofA.
NAIT				
133740	HRMT 2349 (3)	AUMGT 3XX (3)		NAIT's HRMT 2349 (3) was previously approved for SMO 3xx (3). The new agreement will be: HRMT 2349 (3) = SMO 3xx (3) OR AUMGT 3xx (3).
133760	HRMT 4440 (3)	AUMGT 3XX (3)		NAIT's HRMT 4440 (3) was previously approved for SMO 3xx (3). The new agreement will be: HRMT 4440 (3) = SMO 3xx (3) OR AUMGT 3xx (3).
133762	HRMT 4441 (3)	AUMGT 3XX (3)		NAIT's HRMT 4441 (3) was previously approved for SMO 3xx (3). The new agreement will be: HRMT 4441 (3) = SMO 3xx (3) OR AUMGT 3xx (3).

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Sending Institution and Proposal ID #	Sending Institution Courses/ Programs	UofA Courses	Transfer Agreement Footnotes	Comments	
PORTAGE COLLEGE					
133618	ENGL 235 (3)	ENGL 2XX (3)			
RED DEER COLLEGE					
134678	ANTH 370 (3)	ANTHR 2XX (3)			
134713	ANTH 375 (3)	ANTHR 2XX (3)			
130513	Music Diploma (64)	Up to 61 credits towards the Augustana Faculty Bachelor of Music program	<i>Credits are: AUENG 103, AUENG 104, AUMUS 160, AUMUS 162, AUMUS 170, AUMUS 196, AUMUS 197, AUMUS 228, AUMUS 260, AUMUS 261, AUMUS 262, AUMUS 263, AUMUS 296, AUMUS 297, AUMUS 299, AUMUS 361, one of AUMUS 224, 225, or 226, and up to 17 credits in AUMUS 1xx and 2xx ensemble (maximum 9 credits) or Option credits. Students must present a minimum cumulative GPA of 2.3 in the Diploma program, and meet all other admission requirements to Augustana Faculty, UofA, including the completion of a successful audition for the BMus program.</i>		
YELLOWHEAD TRIBAL COLLEGE					
132046	CREE 150 (6)	NS152 (6)			

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Sending Institution and Proposal ID #	Sending Institution Courses/ Programs	UofA Courses	Transfer Agreement Footnotes	Comments
YUKON COLLEGE				
134953	CRIM 104 (3)	SOC 1XX (3)		
135005	ENGL 220 (3)	ENGL 2XX (3) OR AUENG 2XX (3)		
134856	HIST 120 (3)	HIST 1XX (3)		Student will not also receive credit for HIST 130 at UofA.
134930	PSYC 201 (3)	PSYCO 212 (3) OR AUPSY 2XX [Arts] (3)		
134930	PSYC 204 (3)	PSYCO 239 (3) OR AUPSY 2XX [Arts] (3)		Student will not also receive credit for AUPSY 483 at UofA.
135033	SOCI 203 (3)	SOC 271 (3)		

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UNIVERSITY OF ALBERTA: OFFICE OF THE REGISTRAR

Summary of Transfer Credit Proposals DENIED

Circulated for Information Only at the Academic Standards Committee Meeting on March 20, 2014

Proposal ID # and Sending Institution	Sending Institution Course	U of A Course Requested	Denial Date	Reason for Denial
CANADIAN UNIVERSITY COLLEGE				
133511	ARTH 241 (3)	ART H 101 (3)	February 18, 2014	The minimum required instructor qualification of MA in Art History has not been presented.
133512	ARTH 242 (3)	ART H 102 (3)	February 18, 2014	The minimum required instructor qualification of MA in Art History has not been presented.
133674	MUAP 222 (2)	MUSIC 524 (3)	February 26, 2014	MUAP 222 is only a 2 credit course.
135002	SPAN 101 (3)	SPAN 1XX (3)	March 6, 2014	Instructor qualification is not equivalent to a Masters degree in Spanish.
MEDICINE HAT COLLEGE				
134783	ARPH 435 (4)	ART 2XX (3)	March 6, 2014	This course is not broad enough to be considered equivalent to any ART or DES Photography courses offered in the Department of Art & Design.
YUKON COLLEGE				
135010	FNST 140 (3)	NS355 (3)	February 14, 2014	A 100-level course is not relevant as a 300 level course. Yukon College may resubmit a proposal for equivalency at a 100-level, and must also include more academic references.

OUTLINE OF ISSUE

Agenda Title: **Faculty of Agricultural, Life and Environmental Sciences (ALES) Embedded Credit Certificate in Sustainability**

Motion: That the GFC Academic Standards Committee approve, under delegated authority from General Faculties Council, the proposed embedded Credit Certificate in Sustainability, as submitted by the Faculty of Agricultural, Life and Environmental Sciences and as set forth in Attachment 1 (as amended), for implementation in the Fall of 2014.

Item

Action Requested	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Recommendation <input type="checkbox"/> Discussion/Advice <input type="checkbox"/> Information
Proposed by	Faculty of Agricultural, Life and Environmental Sciences (ALES)
Presenters	Naomi Krogman, Academic Director of the Office of Sustainability and Professor, Department of Resource Economics and Environmental Sociology (REES), Faculty of ALES
Subject	New Proposed Embedded Credit Certificate in Sustainability, hosted by the Faculty of ALES, with nine cooperating Faculties

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	To establish an embedded credit certificate entitled <i>Certificate in Sustainability</i> open to students in undergraduate programs across the University of Alberta but more easily completed by those in the Faculties of ALES, Arts, Science, Business, Education, Extension, Native Studies, and Physical Education and Recreation and Augustana Faculty.
The Impact of the Proposal is	See 'Purpose'.
Replaces/Revises (e.g., policies, resolutions)	N/A
Timeline/Implementation Date	For implementation in the Fall of 2014.
Estimated Cost	Neutral.
Sources of Funding	Office of Sustainability and the Faculty of ALES (in kind staff contributions to support administration).
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	<i>Dare to Discover</i> and <i>Dare to Deliver</i>
Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please quote legislation and include identifying section numbers)	<p>1. Post-Secondary Learning Act (PSLA): The <i>PSLA</i> gives GFC responsibility, subject to the authority of the Board of Governors, over academic affairs. Further, the <i>PSLA</i> gives the Board of Governors authority over certain admission requirements and rules respecting enrolment. The Board has delegated its authority over admissions requirements and rules respecting enrolment to GFC and the GFC ASC. (Sections 26(1), 60(1)(c) and (d)).</p> <p>2. GFC Academic Standards Committee (ASC) Terms of Reference (Mandate): GFC delegated authority to ASC to approve "proposals for the establishment of and termination of credit and non-credit certificates, regardless of the proposing academic unit. Where additional funding and/or space is required to support the offering of the proposed</p>

certificate and/or if, in the opinion of the Provost and Vice-President (Academic) (or delegate), the certificate requires Government approval, ASC would provide a recommendation on the (proposed) initiative to the GFC Academic Planning Committee (APC).” (3.G.).

3. **PSLA:** The *PSLA* gives Faculty Councils power to “provide for the admission of students to the faculty” (29(1)(c)).

4. **UAPPOL Admissions Policy:** “Admission to the University of Alberta is based on documented academic criteria established by individual Faculties and approved by GFC. These criteria may be defined in areas such as subject requirements, minimum entrance averages, and language proficiency requirements. In addition to academic requirements for admission, GFC authorizes each Faculty to establish such other reasonable criteria for admission of applicants as the Faculty may consider appropriate to its programs of study, subject to the approval of GFC (e.g. interview, audition, portfolio, etc.)

The admission requirements for any Faculty will be those approved by GFC as set forth in the current edition of the *University Calendar*. In addition to the admission requirements, selection criteria for quota programs, where they exist, will also be published in the current edition of the *University Calendar*.

The responsibility for admission decisions will be vested in the Faculty Admission Committees or in the Deans of the respective Faculties, as the councils of such Faculties will determine.”

5. **UAPPOL Admissions Procedure:**

PROCEDURE

1. EFFECTIVE DATE OF CHANGES TO ADMISSION REGULATIONS
Following approval by GFC:

a. Where changes to admission regulations may disadvantage students in the current admission cycle, normally implementation will be effective after the change has been published in the *University Calendar* for one full year (i.e., effective the second year that the information is published in the *University Calendar*).

For example, a change approved in May 2005 would be first published in the 2006-2007 *University Calendar* in March 2006. Therefore the statement cannot come into effect until September 2007 (affecting applicants who apply for the September 2007 term beginning July 2006).

b. Where changes to admission regulations are deemed by the approving body to be ‘advantageous to students’, normally the date of implementation will be effective immediately or at the next available intake for the admitting Faculty.”

6. **PSLA:** The *PSLA* gives Faculty Councils the authority to “determine

	<p>the conditions under which a student must withdraw from or may continue the student's program of studies in a faculty" (Section 29(1)(d)).</p> <p>7. UAPPOL Academic Standing Policy: "All current academic standing regulations, including academic standing categories, University graduating standards and requirements for all individual programs will be those prescribed by Faculty Councils and GFC as set forth in the University Calendar."</p> <p>8. UAPPOL Academic Standing Regulations Procedures: "All proposed new academic standing regulations and changes to existing academic standing regulations will be submitted by the Faculties or the Administration to the Provost and Vice-President (Academic). Faculties will also submit to the Provost and Vice-President (Academic) any proposed changes to the use and/or computation of averages relating to academic standing, including promotion and graduation.</p> <p>If the Provost and Vice-President (Academic) determines the proposal to be in good order, the proposal will be introduced to the appropriate University governance process(es). In considering these proposals, governance bodies will consult as necessary with the Faculties and with other individuals and offices.</p> <p>Normally, changes become effective once they are approved by GFC or its delegate and are published in the University Calendar."</p> <p>9. GFC Academic Standards Committee (ASC) Terms of Reference (Mandate): The Office of the Provost and Vice-President (Academic) has determined that the proposed changes are editorial in nature. ASC's terms of reference provide that "the term 'routine and/or editorial' refers to proposals which do not involve or affect other Faculties or units; do not form part of a proposal for a new program; and do not involve alteration of an existing quota or establishment of a new quota. Editorial or routine changes include any and all changes to the wording of an admissions or academic standing policy" (3.A.i).</p> <p>Further, "ASC acts for GFC in approving routine and/or editorial changes to both admissions/transfer policies and academic standing regulations" (Section 3.B.ii).</p>
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Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	With the Office of Sustainability Academic Advisory Committee, which consists of: <ul style="list-style-type: none"> • Academic Coordinator, Office of Sustainability (Chair) • Academic Coordinator – <i>ex officio</i> • Director of the Office of Sustainability – <i>ex officio</i> • Dean of Students - <i>ex officio</i> • Decanal appointment – Dean of the Faculty of Extension, Katy Campbell • Selected individuals from diverse constituencies with expertise, as well as an established reputation and passion, for the area of sustainability (not to exceed eight (8) members, with a minimum
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- of 6 faculty members)
- Graduate student liaison
 - Undergraduate student liaison

This group met four times in the Fall Term 2013, with ‘approval’ of the certificate proposal provided on November 5, 2013.

Professor Krogman led a consultative session with 12 faculty for a 1.5-hour discussion during Sustainability Awareness Week, October 23, 2013. Participants included the Chair of the Environmental Studies Bachelor’s of Arts, the Chair of the new Undergraduate and Graduate program in Planning of Earth and Atmospheric Sciences (EAS), the Acting Director of the Program for Community Engagement in the Faculty of Extension, student leaders (which included the student leader of Sustain SU and the leader of the Farmer’s Market and sustainable food initiatives) and graduate students (from REES [ALES] and Sociology [Arts]) who commented thoroughly on the content, structure, and courses suggested for the embedded sustainability certificate.

Faculties:

The following contacts have been consulted and received a copy of an earlier version of the certificate and the courses suggested. Many additions, changes, and clarifications were made in an active e-mail and telephone exchange over the past several months. These people then consulted with several others in their own Faculties to arrive at their opinions on the certificate proposal (which was received resounding support) and course offerings:

Faculties and Contact Deans/Associate Deans for Consulting/Collaborating/Informing for the Proposed Embedded Certificate in Sustainability and Other Key Contacts for Consultation:

Faculty	Contact Name, Info (Note that OSAAC refers to the Office of Sustainability Academic Advisory Committee)
ALES	Nat Kav, Associate Dean (Academic); Jim Bohun, Director of Student Services
Business	Elaine Geddes, Associate Dean (Undergraduate Program), OSAAC member; faculty member: Joel Gehman, Assistant Professor
Arts	Mikael Adolphson, Associate Dean (Teaching and Learning), OSAAC member; faculty member: Jeremy Caradonna, Associate Professor
Augustana	Lars Hallstrom, OSAAC member, Director of the Alberta Centre for Sustainable Rural Communities; Karsten Mundel, Assistant

		Professor; Glen Hvenegaard, Professor; and Harry Prest, Associate Dean
	Campus St Jean	Yvette d'Entremont, Associate Dean
	Education	Lynn McGarvey, Associate Dean (Teacher Education)
	Engineering	Ken Porteous, Past-Associate Dean (Student and Co-op Services)
	Extension	Heather McRae, Associate Dean (Engaged Learning); Katy Campbell, Dean, Faculty of Extension and OSAAC member; Mary Beckie, Assistant Professor and Director of Community Engagement Studies
	Grad Studies and Research	N/A; no undergraduate program
	Law	Melissa Hartley, Assistant Dean; no undergraduate program
	Library and Info Studies	N/A; no undergraduate program
	Medicine and Dentistry	Fraser Brenneis, Vice-Dean (Education)
	Native Studies	Nathalie Kermoal, Associate Dean (Academic)
	Nursing	Kaysi Eastlick Kushner, Associate Dean (Undergraduate Programs); no response
	Pharmacy and Pharmaceutical Sciences	James Kehrer, Dean; not suitable for this Faculty
	PERLS	Janice Causgrove Dunn, Associate Dean (Undergraduate); Elizabeth Halpenny, Associate Professor, OSAAC member
	School of Public Health	Faith Davis, Vice-Dean; no undergraduate program
	Rehab Medicine	N/A; no undergraduate program
	Science	Mariusz Klobukowski, Associate Dean (Undergraduate), who also consulted with: Cynthia Paszkowski, Associate Chair in Biological Sciences (Undergraduate); Roger Moore, Associate Professor in Physics; Murray Gingras, Professor in Earth & Atmospheric Sciences; and Pete Hurd, Associate Chair in Psychology (Undergraduate Program). Glen Loppnow, Senior Associate Dean (Academic Affairs)

	St. Joseph's College	Sarah McKeon, Assistant to the Academic Dean; and Brian Maraj, Academic Dean
	St. Stephen's College	Earle Sharam, Principal and Dean
Approval Route (Governance) (including meeting dates)	<p>On November 14, 2013, the certificate proposal was presented at the Faculty of ALES Council meeting. The certificate was recommended forward to the GFC Academic Standards Committee (ASC).</p> <p><u>Employers:</u> An Office of Sustainability Community Service Learning student conducted a consultation with 17 employers to gain their feedback on the sustainability certificate proposal, and Professor Krogman spoke with several others over the past few months about the usefulness of an undergraduate sustainability certificate to employers. The employers included business, government, non-profit, and charitable organizations. Overall, the response was very positive, where over 95% of the employers suggested a certificate in sustainability would be "value-added" for hiring a future employee. Some employers had a high priority for climate change awareness, which we will take into account for revising the certificate course list over time. Some employers reported the goal of the certificate should be clear to them as tied to the degree of the student.</p> <p><u>Other Integrative Offices on Campus:</u> Professor Krogman has also consulted with Alison Taylor, Director of Community Service Learning (CSL), for approval of CSL courses; with Connie Varnhagen, University Research Initiative (URI), given some of the research-based courses for our integrative course requirement may involve URI arrangements; and with Sheree Kwong See, Director of the Centre for Teaching and Learning (CTL), given her interest in changing course and program offerings, especially those that foster interdisciplinary learning, on campus.</p> <p>GFC ASC Subcommittee on Standards (January 14, 2014) – for discussion</p>	
Final Approver	GFC Academic Standards Committee	

Attachments:

- Attachment 1 (pages 1 – 36): New Proposed Embedded Certificate in Sustainability Program Proposal

Prepared by: Naomi Krogman, Academic Director of the Office of Sustainability, Faculty of Agricultural, Life and Environmental Sciences, naomi.krogman@ualberta.ca, and Apryl Bergstrom, Research Assistant, Office of Sustainability

**Program Approval Template
Embedded Credit Certificates**

This template is to be used for proposals calling for the establishment of new University of Alberta embedded credit certificates. Embedded credit certificates are taken concurrently with a degree program of the University of Alberta (Certificate in Peace and Post-Conflict Studies offered by the Faculty of Arts).

Governance: Embedded credit certificates are approved by the following route: Faculty Council, General Faculties Council (GFC) Academic Standards Committee (ASC) Sub-committee on Standards (SOS), GFC ASC. In the event that the certificate proposal includes significant resource implications, the certificate will also be sent to GFC Academic Planning Committee (APC) for approval.

Section A: Basics		
Program Name	Embedded Sustainability Certificate	
Sponsoring Faculty/ Academic Unit	Lead Faculty: Agricultural, Life and Environmental Sciences (ALES). Supporting Faculties (that have contributed courses to our offerings) include Arts, Augustana, Business, Education, Extension, Native Studies, Physical Education and Recreation, and Science.	
Contact information	Name and Title	Dr. Naomi Krogman; Academic Director of the Office of Sustainability, 2012-15, Professor, Department of Resource Economics and Environmental Sociology
	Phone	780-492-4178; cell 780-504-8062, home 780-438-8062
	Email	Naomi.krogman@ualberta.ca
Institution(s) If multiple institutions are involved, specify the nature of the collaboration. Identify which institution(s) will award the credential.	Augustana and St. Joseph's College are involved, as they would like their students to be able to earn the Embedded Sustainability Certificate. The institution that will award the credential is the University of Alberta, through the Faculty of ALES. Nat Kav, Associate Dean Undergraduate, and Jim Bohun, Assistant Dean (Student and Academic Programs) of ALES, have enthusiastically agreed to house the certificate. A statement of agreement will be drawn up as well to firmly establish the role of Student Services in keeping track of students pursuing the certificate and providing the final approval for the certificate for those students applying for graduation. A notice of intent to earn the certificate will be set up through the Office of Sustainability, so that students will be aware of the advising available to them through the Office of Sustainability, and to enable us to keep track of those students pursuing the certificate.	
Units of Course Weight	*15	
Program Synopsis Describe the program. Include curriculum content, target student group, target employment, further education options, etc.	Program Synopsis The Office of Sustainability has partnered with nine Faculties to develop an undergraduate Sustainability Certificate. As per the advice of our previous Vice-Provost (Academic), Dr. Colleen Skidmore, we sought cooperation from each Faculty that had an undergraduate program. To date, the following Faculties have shown explicit support for the certificate, and provided course suggestions and valuable feedback about the structure of the certificate: Agricultural, Life and Environmental Sciences (ALES), Arts, Augustana, Business, Extension, Native Studies, Physical Education and Recreation, Education, and Science. While the Engineering Faculty does not have the flexibility to participate in the certificate at this time, they are very supportive of such a certificate being offered by the University of Alberta (personal communication with Tim Grain Joseph).	

The Certificate will recognize and certify the knowledge about sustainability that undergraduates receive in the course of their academic career. The Certificate is “embedded” because it works within the existing academic framework and draws upon courses that already exist in the University calendar. Appendix A contains a matrix with the core, elective and integrative projects (in terms of courses) listed, as well as their prerequisites. It is apparent from this list that there are many courses with no or few prerequisites, which makes it reasonable to complete the certificate’s requirements in a four-year time period (although the average undergraduate takes four years plus one extra semester to complete his/her undergraduate degree). With the exception of the courses in the Faculty of Business that are only open to students in that Faculty, most students are able to take lower-level courses from other Faculties. It is structured to meet the needs of the students from the nine constituent Faculties that are participating in the certificate, although we recognize that students from particular Faculties, such as ALES or Augustana, might have an easier time completing the certificate, whereas students from Extension will need to take more courses outside their Faculties. The Academic Director of the Office of Sustainability, who will particularly advise on the integrative projects they choose, will encourage students to take courses outside their Departments and Faculties to foster interdisciplinary learning.

The ALES Student Services office staff will be responsible for the final checklist of core, elective and integrative courses, and will consult with the Academic Director of the Office of Sustainability as needed. To be inclusive on the interdisciplinary expertise applied to the course list, the Academic Director of the Office of Sustainability will work with the Office of Sustainability Academic Advisory Committee (OSAAC) to review the course lists, particularly for any additions that may be appropriate. They will also make sure all courses have been taken to post the certificate on the student’s record for graduation. We expect the certificate course list to evolve over time, especially the elective and integrative project list, based on course availability, student enrolment and periodic Office of Sustainability evaluation of the certificate earners’ learning outcomes. The list of courses will be posted on the websites of both the Office of Sustainability and ALES, and yearly lists will be made available so that students can check the year in which they filled out the “intention to pursue the embedded undergraduate sustainability certificate” for courses that qualify.

The certificate will indicate to employers and graduate schools that students have completed two core courses, two elective courses, and a final “integrative project,” which is discussed below, and which could take on a number of different forms.

Learning outcomes for the recipients of the certificate include:

- Literacy in some substantive area central to sustainability sciences and studies, such as the history of sustainable development or the social, economic and social spheres of sustainability.
- Basic knowledge of the systemic nature of the driving problems of many societies living beyond their means and some of the integrated needs for viable solutions.
- Knowledge of theories, methods, techniques, and experiments associated with sustainability.

- Ability to apply and implement knowledge of sustainability at a personal, academic, and professional level. This may include the ability to assess the social, environmental and economic impacts of individual and group actions, to think critically about sustainability problems and their potential solutions, and to communicate these ideas to the broader community.

The certificate will be based out of ALES in order to give it a permanent “home,” even though students from all participating Faculties will be able to pursue the certificate. Thus, it is an interdisciplinary certificate. The certificate will involve the completion of 15 credits (12 credits from existing courses and 3 credits from the final “integrative project”).

Students will be required to complete a minimum of 12 course credits from a list of designated courses. These courses will be broken down into two categories: “Core courses” and “Electives.” Students will be required to complete at least 6 credits in each category, with the idea being that students will acquire a grounding in the core features of sustainability and a sustainability literacy in particular areas, and then they will take two or more sustainability-related courses as electives. Core courses are those that deal with the four main features of the philosophy of sustainability, which is based on integrative “systems thinking”:

- 1) The interconnectedness of the environment, the economy, and society
- 2) The importance of living within ecological limits
- 3) The importance of sensible future-oriented planning
- 4) The importance of local resources and low-impact practices.
- 5) The importance of social justice, health and well-being for a sustainable future

The sustainability electives are courses that deal with the assessment, elaboration, practice, or implementation of these core ideas, which could include community-based health programs, progressive forestry and agricultural practices, emerging environmental literature, ecological economics, and changing cultural practices that are related to sustainability.

Appendix A includes a matrix of the courses and their prerequisites that would be available to those pursuing the certificate. There are many courses in the list that have no prerequisites or just one or two. We expect that, given the fundamental nature of some of these courses to students in their Faculty programs, students will be able to embed the certificate requirements into their regular course takings. The matrix below will be provided to students to aid them in their planning of courses to fulfill the requirements of the Certificate in Sustainability.

Students will complete a significant “integrative project” after having completed the 12 required credits. The final project will be worth 3 credits, at the 300 or 400 level, and will be conducted either as an established field course, Community Service Learning (CSL) course,¹ internship, independent study with a qualified instructor

¹ Community Service Learning course combine classroom instruction with a minimum of 20 hours of service with another organization.

that involves research outside the University (for example, could be supported by the University Research Initiative or URI), part of a regular, research-based course, or via a University research initiative supported learning experience. Regardless of the form that the final “integrative project” takes, the idea is that this endeavour will serve as a means of moving out of the classroom to gain first-hand experience with some form of sustainability education. Particular emphasis will be placed on projects that require community engagement or that attempt to test or apply academic ideas encountered in core and elective courses in the certificate.² In addition, all students will be required to present their final projects in periodic symposia or via Undergraduate Research Initiatives. Although it is the case that some students will end up conducting academic, research-based projects, the idea is that all participants in the certificate will, at the very least, learn to communicate their findings to the broader community. A final poster or oral presentation about the integrative project will be required, where students will show the explicit links of their work to sustainability. Presentation opportunities will be offered as part of ongoing undergraduate research presentation events held by the University Research Initiative, the University of Alberta International Research Experience Day, Community Service Learning Office’s undergraduate presentation events, or other events organized by the Office of Sustainability. Students will be advised of their opportunities for presentation through the Academic Director of the Office of Sustainability, or academic designate.

The Academic Director of the Office of Sustainability, or Faculty designate(s) will approve integrative projects. In cases where a research project is proposed for this component, approval of the research project will depend on these learning outcomes for the proposed work:

- Embark and Clarify: Developing a question that is answerable in a semester timeframe and addresses a sustainability issue.
- Find and Generate: Allows the student to articulate what knowledge is required, and if any ethical approvals are necessary (there are expedited student course ethics processes available at the U of A) and to pursue those in a timely way.
- Evaluate and Reflect: Require the student to find and generate needed information/data using appropriate methodology.
- Organize and Manage: Require the student to determine and critique the degree of credibility of selected sources, information and data generated.
- Analyze and Synthesize: Require the student to organize information to reveal patterns and themes, and to manage teams and research processes.³
- Communicate and Apply: Require the student to write up and present their findings at a formal poster/conference event. As described above, presentation opportunities will be offered as part of ongoing undergraduate

² OSAAC and its Academic Director will certify and oversee the completion of the integrative projects and ensure that they meet the standards and criteria of the certificate.

³ This is borrowed from the Research Skill Development Framework, www.rsd.edu.au developed by John Willison and Kerry O’Regan, the University of Adelaide, Australia.

research presentation events held by the University Research Initiative, the University of Alberta International Research Experience Day, Community Service Learning Office's undergraduate presentation events, or other events organized by the Office of Sustainability.

Curriculum Content

1. Completion of 15 credits.
 - A. 12 credits from a list of designated, pre-existing courses
 1. 6 credits from a list of "core courses." There are several that have no prerequisites, although some of the core courses are at the upper-level and many are at the 200-level.
 2. 6 credits from a list of "electives." Mainly taken from upper-level courses.
 3. At least one of the four courses (core or electives) must be taken in a Faculty other than the Faculty that houses the student's major.⁴
 - B. 3 credits from an "integrative project"
 1. The final project will engage directly with the core features of sustainability discussed above and will serve as the de facto "capstone" experience for participating undergraduates. The certificate stresses the importance of projects that involve community engagement or the testing or implementation of concepts learned in the classroom.
2. Forms that the project can take include:
 - A. A field course
 - B. An internship
 - C. A Community Service Learning course
 - D. An Undergraduate Research Initiative (URI) supported research project
 - E. A course that explicitly includes a student-led research project (see research project description above)
 - F. Independent study with a professor that involves research outside the University (the research project description above will be part of the criteria for approving this option)
3. Project presentation. All students that participate in the certificate will be required to present their findings (described above).
4. Students must be in good academic standing at the time they register for the certificate and maintain good academic standing as they pursue the certificate. Students must maintain the continuation GPA of their own program.

Students will be required to register for the certificate no later than September 30 of their third year, or at completion of *60 if studying part-time. No more than half of the course requirements for this certificate may overlap with the requirements of another certificate. This certificate is conceived as an interdisciplinary one, and at least one of the courses in the certificate must be taken in an outside Faculty. This

⁴ An exception will likely be made for students in the Augustana Faculty, given the logistical difficulties of requiring students to take a course outside of their Faculty.

	<p>certificate encourages students to undertake an interdisciplinary approach to education.</p> <p>Target Student Group Students from the participating Faculties are invited to earn the certificate, given that they will have the time to earn the certificate in a four-year period.</p> <p>Target Employment The point of this certificate is to mainstream sustainability across the disciplines, and we believe sustainability leadership through this certificate can be fostered for all types of employment. We agree with one of the employers we consulted on the certificate, Cooperators Group LTD, who asserted, "...every employee in every business (and indeed every citizen in every country) would benefit from having a baseline understanding of sustainability to complement their primary area of expertise—be it engineering, education, marketing or music. Indeed, organizational transformation to sustainability requires that <i>all</i> employees be knowledgeable of and equipped to act on sustainability. Consequently, knowledge of sustainability should be considered in the hiring processes of any business wishing to be more sustainable, and sustainability should be integrated into ongoing training and development programs to ensure staff are equipped to make ongoing contributions to sustainability."</p>
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Section B: Rationale, Implications and Impact	
<p>Rationale for Introduction of Certificate Outline the rationale for the proposed embedded credit certificate and provide supporting data if applicable – eg. Results of student or economic demand analyses; consultation with wider community, etc.</p>	<p>Rationale for the proposed embedded sustainability certificate</p> <p>Students who complete the certificate will be better prepared to meet the social, environmental, and economic challenges of the 21st century. As defined by the Office of Sustainability Academic Advisory Committee in 2010, sustainability is "the process of living within the limits of available physical, natural and social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity." What this means on a more pedagogical level is that we are teaching students about the most effective and resourceful ways to ensure that human society is just, democratic, and able to thrive within its biophysical limits. With this knowledge and experience, our students will be empowered by the understanding of their own impact on global ecosystems.</p> <p>This certificate will benefit students on a personal, academic, and professional level. On the personal level, it will provide them with knowledge about how best to live and thrive within "limits of available physical, natural and social resources." They will become conscious of the relationship between individual actions and systemic consequences. On the academic level, students will learn about the three E's of sustainability—the systems theory that brings together the environment, the economy, and equity (closely related is social justice). The core courses associated with the certificate will teach fundamental knowledge about concepts, theories, ecological mechanisms and methods to measure/evaluate different features of sustainability.</p> <p>The Certificate will also aid the professional development of our students. Some students will be able to use the certificate in the post-educational job market, and</p>

our research has shown that employers would respond favourably to applicants who possess the certificate. Others will use the certificate as a means of aiding applications to graduate and professional programs in sustainable community development and planning, environmental consulting, ecological economics, resource management, and so on.

Earning this certificate indicates that a student has completed the required courses and participated in a final “integrative project” that involves personal or intellectual engagement with sustainability in the local, regional, national, or international community. Through these activities and experiences, our students will have learned to value, research, and implement the core features of sustainability. The world faces great social, environmental, and economic challenges, and the students who complete our certificate will be better prepared to face these challenges in their personal, academic, and professional lives.

Consultation

With the Office of Sustainability Academic Advisory Committee, which consists of:

- Academic Coordinator, Office of Sustainability (Chair) Naomi Krogman, Professor of Environmental Sociology, Department of Resource Economics and Environmental Sociology (REES), in ALES
- Director of the Office of Sustainability – *ex officio* Trina Innes
- Dean of Students - *ex officio* Frank Robinson
- Decanal appointment Dr. Katy Campbell, Faculty of Extension
- Selected individuals from diverse constituencies with expertise, as well as an established reputation and passion, for the area of sustainability (not to exceed 8 members, with a minimum of 6 Faculty members); Faculty: Joel Gehman, Business, Peter Boxall, REES, Jeremy Caradonna, Philosophy, Elizabeth Halpenny, Physical Education and Recreation, Lars Hallstrom, Augustana, also Director of Alberta Centre for Sustainable Rural Communities, Stefanie Drozda, Sustain SU Student Leader
- Graduate student liaison; Erin Bobicki, Engineering
- Undergraduate student liaison; Nikki Way, U of A’s Student Leader for the Farmer’s Market and sustainable food initiatives.

With 12 faculty for a 1.5 hour discussion sessions during Sustainability Awareness Week on October 23, 2013. Participants included the Chair of the Environmental Studies Bachelor of Arts program, the Chair of the new Undergraduate and Graduate program in Planning of Earth and Atmospheric Science (EAS), the Acting Director of the Program for Community Engagement Studies in the Faculty of Extension, student leaders (which included the student leader of Sustain SU, and the leader of the Farmer’s Market and sustainable food initiatives) and graduate students (from REES [ALES] and Sociology [Arts]) who commented thoroughly on the content, structure and courses suggested for the embedded Certificate in Sustainability.

Faculties

When I approached the faculty to ask if they wanted to participate in the certificate,

and they said “yes,” I then explained the criteria for the courses that would appropriately be included in the core, elective and integrative project categories. These key contacts then took this information to their Faculties to choose appropriate courses to list for the Certificate in Sustainability.

The following contacts have been consulted, and they received a copy of an earlier version of the certificate, along with a list of suggested courses. Many additions, changes and clarifications were made in active email and phone exchanges over the past several months. These people then consulted with several others in their own Faculties to arrive at their opinions on the certificate proposal (resounding support) and course offerings:

Faculties and Contact Dean’s/Associate Deans for
Consulting/Collaborating/Informing for the Proposed Embedded Certificate in
Sustainability
& Other Key Contacts for Consultation

Faculty	Contact Name, Info (Note that OSAAC refers to the Office of Sustainability Academic Advisory Committee)
ALES	Nat Kav, Associate Dean (Academic); Jim Bohun, Assistant Dean (Student and Academic Programs)
Business	Elaine Geddes, Associate Dean (Undergraduate Program), OSAAC member; Faculty member: Joel Gehman, Assistant Professor
Arts	Mikael Adolphson, Associate Dean (Teaching and Learning), OSAAC member; Faculty member: Jeremy Caradonna, Associate Professor
Augustana	Lars Hallstrom, OSAAC member, Director of the Alberta Centre for Sustainable Rural Communities; Karsten Mundel, Assistant Professor; Glen Hvenegaard, Professor; and Harry Prest, Associate Dean
Campus St. Jean	Yvette d’Entremont, Associate Dean
Education	Lynn McGarvey, Associate Dean (Teacher Education)
Engineering	Ken Porteous, Past-Associate Dean (Student and Co-op Services)
Extension	Heather McRae, Associate Dean (Engaged Learning); Katy Campbell, Dean, Faculty of Extension and OSAAC member; Mary Beckie, Assistant Professor and Director of Community Engagement Studies
Graduate Studies and Research	N/A; no undergraduate program

Law	Melissa Hartley, Assistant Dean; no undergraduate program
Library and Information Studies	N/A; no undergraduate program
Medicine and Dentistry	Fraser Brenneis, Vice-Dean (Education)
Native Studies	Nathalie Kermoal, Associate Dean (Academic)
Nursing	Kaysi Eastlick Kushner, Associate Dean (Undergraduate Programs); no response
Pharmacy and Pharmaceutical Sciences	James Kehrer, Dean; not suitable for this Faculty
Physical Education and Recreation (PER)	Janice Causgrove Dunn, Associate Dean (Undergraduate); Elizabeth Halpenny, Associate Professor, OSAAC member
School of Public Health	Faith Davis, Vice-Dean; no undergraduate program
Rehabilitation Medicine	N/A; no undergraduate program
Science	Mariusz Klobukowski, Associate Dean (Undergraduate), who also consulted with: Cynthia Paszkowski, Associate Chair in Biological Sciences (Undergraduate); Roger Moore, Associate Professor in Physics; Murray Gingras, Professor in Earth & Atmospheric Sciences; and Pete Hurd, Associate Chair in Psychology (Undergraduate Program). Glen Lopnow, Senior Associate Dean (Academic Affairs)
St. Joseph's College	Sarah McKeon, Assistant to the Academic Dean; and Brian Maraj, Academic Dean
St. Stephen's College	Earle Sharam, Principal and Dean

On November 14, 2013 the certificate was presented at the Faculty Council meeting for the Faculty of Agricultural, Life and Environmental Sciences. The certificate was approved for moving forward to SOS and ASC.

Employers

An Office of Sustainability Community Service Learning student conducted a consultation with 17 employers to gain their feedback on the sustainability certificate proposal, and Krogman spoke with several others over the past few months about the usefulness of an undergraduate sustainability certificate to employers. The employers included business, government, non-profit and charitable organizations. Overall, the response was very positive, where over 95% of the employers suggested a certificate in sustainability would be “value-added” for hiring a future employee. Some employers had a high priority for climate change awareness, which we will take into account for revising the certificate course list

	<p>over time. Some employers reported the goal of the certificate should be clear to them as tied to the degree of the student.</p> <p>Student Government</p> <p>Dustin Chelen, Vice President Academic for the University of Alberta Students' Union, has indicated that many students he has come into contact with would like to pursue such a certificate and believe it is essential to have such an option if a University is committed to sustainability.</p> <p>Other integrative offices on campus</p> <p>Krogman has also consulted with Alison Taylor, Director of Community Service-Learning, for approval of CSL courses; with Dr. Connie Varnhagen, Academic Director of the Undergraduate Research Initiative (given that some of the research-based courses for our integrative project requirement may involve URI arrangements), and Dr. Sheree Kwong See, Director of the Centre for Teaching and Learning (given her interest in changing offerings on campus, especially those that foster interdisciplinary learning).</p> <p>Please see letters of support from URI and CSL directors.</p>
<p>Vision and Academic Plan How does the proposed program connect to the University's vision <i>Dare to Discover</i>? How does the program further the University's Academic Plan?</p>	<p>Connection to <i>Dare to Discover</i> and Certificate's role in furthering the University's Academic Plan</p> <p>The Certificate, if accepted and implemented, would also meet one of the core proposals of the companion document to <i>Dare to Deliver 2011-2015</i> called "Integrating Sustainability into the Academic Experience," which suggests on page 14 that the University "establish certificates in sustainability as adjuncts to specialization area programs." Whereas other universities in Canada, such as Ryerson University and Dalhousie University, now have embedded certificates in sustainability, the University of Alberta is currently lacking this important educational option.</p> <p>The Certificate in Sustainability meets the challenges of <i>Dare to Discover</i> and "Integrating Sustainability into the Academic Experience." <i>Dare to Discover</i> also calls for "theme-based and skill specific certificates" that promote learning and leadership, and the companion document to it specifies the need for a Certificate in Sustainability. This certificate, more so than any other on campus, allows students to become environmentally aware and socially conscious global citizens. It promotes leadership, responsibility, academic excellence, a problem-solving collaborative approach, and community engagement.</p>
<p>Resource Implications Identify the resource implications of the proposed embedded credit certificate. Identify if resources are being re-allocated to or from other areas, and outline the implications of this re-allocation.</p>	<p>Resource Implications</p> <p>Some resources may be reallocated for delivering this certificate, although no new resources will be needed for the course load requirement, as the certificate draws on courses that are already offered in various Faculties. The certificate will require minimal extra work from the support staff of the respective participating Faculties, other than the task of verifying that students who are applying for graduation, and who seek to obtain the Certificate in Sustainability, have indeed met the criteria of the certificate. The Academic Director of the Office of Sustainability will make it</p>

	<p>part of his/her work plan to advise students in the certificate program on course selections, particularly the integrative project, and any particular course substitutions. Jim Bohun in Student Services in ALES will work with Naomi Krogman, Academic Director of the Office of Sustainability, to develop a protocol document for advising on the certificate.</p> <p>We expect no additional resources will be needed to arrange the independent research projects or CSL courses that will serve as the capstone for the certificate. The research and applied projects will be overseen by qualified instructors and/or CSL staff. The Academic Director of the Office of Sustainability will serve as the key advisor for those pursuing the certificate and will work directly with ALES Student Services staff on the initial intent to pursue the certificate (a form will be available on a web page linked to the Office of Sustainability and ALES websites) and final checklists for the certificate for students applying to graduate.</p>
<p>Enrolment Outline the expected enrolment for the embedded credit certificate and any potential impacts on course offerings.</p>	<p>Expected Enrolment</p> <p>We initially expect the enrolment to be approximately 30 students per year, but many more students across the nine Faculties may find this certificate attractive over time. I discussed this with Jim Bohun, and he feels that as long as the Office of Sustainability can help with advising students when they seek to do something out of the ordinary (for example, we will develop a form for substituting courses for those not on the pre-approved list), ALES is eager to handle many students who would seek to earn this certificate. ALES Student Services runs well, and this sustainability certificate is a good investment of their student services resources because it is matched to the goals of ALES' education (i.e., committed to sustainability education).</p> <p>Potential impacts on course offerings</p> <p>Given the many options among core, elective and integrative projects, we do not think this will burden existing courses. ALES Student Services and the Academic Director of the Office of Sustainability will revisit this assessment each year to see if we need to adjust course offerings, and they will post the current list of pre-approved courses on the Office of Sustainability and ALES websites.</p> <p>Ideally the certificate would have a cornerstone course that is foundational for all certificate students. For example, we will consult on the possibility that a new core course designed for the Bachelor of Arts in Environmental Studies program might be part of the embedded sustainability certificate.</p>
<p>Implications of Introduction of the Credit Certificate Identify the implications of the proposed embedded credit certificate for the system. For example, will it affect other programs at the U of A, programs at other institutions, etc.?</p>	<p>Implications of the embedded sustainability certificate for the system</p> <p>The Certificate in Sustainability will be a powerful resource in meeting the goals of the University's plan for integrating sustainability into our curriculum and molding socially and environmentally conscious student-citizens. President Samarasekera has promoted sustainability in numerous public addresses, and our very active Office of Sustainability has done much to raise awareness about sustainability, promote sustainable behaviours, and reduce the ecological impact of our institution. Adding a Certificate in Sustainability is a logical and meaningful step to further the goals set out by the University. The certificate would meet the requirements for certificates laid out in the University's "Handbook on Certificate Development," in</p>

	<p>addition to heeding the calls of <i>Dare to Deliver</i>, <i>Dare to Discover</i>, and the companion document to U of A’s Sustainability Plan, “Integrating Sustainability into the Academic Experience.” It will make our University a cutting-edge leader in sustainability education and certification and promote the kind of responsible citizenship that the University seeks to foster. It will help our case, as well, to move from Silver to Gold status in our rating with the Sustainability Tracking and Assessment Rating System (STARS). A University’s commitment to sustainability is increasingly important to undergraduates as they choose a University for their higher education (Princeton Review 2013).</p> <p>Finally, the Certificate in Sustainability is unique on our campus because: 1) It is not necessarily and entirely course-based. It involves a significant “integrative project” that will allow students to find linkages between classroom learning and its practical implications or applications. 2) It is a thoroughly interdisciplinary certificate that teaches students to learn about fields of inquiry that are often divided between science, economics, and the arts (among other disciplines). This certificate will require students to integrate concepts and bodies of knowledge from distinct fields and Faculties. It will help students learn how to become “systems thinkers” as well as engaged citizens. Increasingly, addressing sustainability challenges of the future requires interdisciplinary knowledge, collaborative teamwork skills, a problem-solving orientation, and awareness of, and sense of personal efficacy in relation to, the political and social context in which decisions are made.</p>
<p>Consultation Describe any consultation and/or potential impacts on service units of the University, including the Office of the Registrar and Student Awards, Academic Information and Communication Technologies (AICT), Library Administration, Facilities and Operations, Student Services, etc.</p>	<p>Potential impacts on service units</p> <p>Given that students may take courses that are spread across numerous Faculties, and that they will take courses that already exist, we expect small, if any, impacts to the Office of the Registrar and Student Awards, AICT, Library Administration, Facilities and Operations, and Student Services (we will work with ALES’ Student Services to develop a written protocol with the Office of Sustainability for students earning the certificate).</p>

<p>Appendices</p>			
<p>Appendix A – curriculum and program structure List course names, numbers, and descriptions. Indicate if the courses are new or existing.</p>	<p>Curriculum and Program Structure</p> <p>Courses</p> <p>Core, Elective and Integrative courses (some of which will be used for the integrative project) for Embedded Sustainability Certificate (all of these have been selected and approved by the proper authorities and logical stakeholders in participating Faculties).</p> <p>Core Courses</p> <table border="1" data-bbox="280 1747 1560 1814"> <tr> <td data-bbox="280 1747 846 1814"> <p>ALES Core</p> </td> <td data-bbox="846 1747 1560 1814"> <p>Prerequisites</p> </td> </tr> </table>	<p>ALES Core</p>	<p>Prerequisites</p>
<p>ALES Core</p>	<p>Prerequisites</p>		

Include draft content for the University Calendar.	ALES 291 Topics in Agricultural, Life and Environmental Sciences	No prerequisites. Note: Offered by various departments depending upon the content of the course in a given year. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment; refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.
	R SOC 355 Rural Communities and Global Economies	Prerequisite: 30 credits or more of university level course work.
	R SOC 365 Sociology of Environment and Development	No prerequisites.
	R SOC 450 Environmental Sociology	Prerequisite: 60 credits or more. Note: An introductory Sociology course is strongly recommended.
	R SOC 460 Perspectives on Traditional Knowledge	Prerequisite: 60 credits or more. Note: Credit will only be given for one of R SOC 400-level and R SOC 500-level.
	AREC 173 Plate, Planet and Society	No prerequisites.
	REN R 260 History and Fundamentals of Environmental Protection and Conservation	Note: Credit may be obtained for only one of REN R 260 or ENCS 260.
	HECOL 100 Introduction to Principles and Practice in Human Ecology	No prerequisites.
	HECOL 492 Selected Topics in Textiles and Clothing (only able to be taken when one of key foci is on Sustainable Design)	Prerequisite: successful completion of 60 credits or consent of Instructor. Note: Requires payment of additional student instructional support fees.
	Arts Core	Prerequisites
	ART H 309 Design Theory and History	Prerequisite: consent of Department. Note: Students are required to have successfully completed two 200-level ART H courses with a minimum grade of B-.
	ECON 269 Environmental Economics	This is a new course that will be offered in 2014/2015. Prerequisite: ECON 101 or equivalent. Not open to students with credit in ECON 369, INT D 369, or INT D 225 offered as Economics and the Environment.
	ECON 365 Resource Economics	Prerequisite: ECON 101 or equivalent. Note: Students may not receive credit for both ECON 365 and AREC 365.
	ECON 366 Energy Economics	Prerequisite: ECON 101 or equivalent.
HGP 250 Natural Resources and Environmental Management	Prerequisite: Any 3 credit course. Not available to students with credit in EAS 294.	

HIST 495 Seminar on the History of Sustainability	Note: This is a new course that will be offered in 2014/2015. No prerequisites are listed in the U of A course changes document. There is an optional Community Service Learning component.
SOC 269 Introductory Sociology of Globalization	Prerequisite: SOC 100 or consent of instructor.
SOC 291 Intro to Environmental Sociology	No prerequisites
Augustana Core	Prerequisites
AUENV 120 Human Activities and the Natural Environment	No prerequisites. Note: Credit may be obtained for only one of AUENV 120 and AUGEO 120.
AUENV 324 Resource and Environmental Management	Prerequisite: One of AUBIO 253, AUENV 120, AUGEO 120, 230, 231, consent of the instructor. Notes: Credit may be obtained for only one of AUENV 324 and AUGEO 324. Requires payment of additional student instructional support fees.
AUECO/AUENV 341 Environmental Economics	Prerequisite: AUECO 101. Note: Credit may be obtained for only one of AUENV 341 and AUECO 341.
AUENV/AUHIS 375/475 Canadian Environmental History	No prerequisite for AUENV 375 or AUHIS 375. Prerequisites for AUENV 475 and AUHIS 475: One of AUHIS 260, 261. Note: Credit may be obtained for only one of AUENV 375, 475, AUHIS 375, 475.
Business Core	Prerequisites
BUEC 464 Environmental Management	Prerequisite: BUEC 311 or ECON 281.
MARK 455 Sustainability and Responsible Marketing	Prerequisite: MARK 301.
SMO 488/638 Corporate Sustainability	Prerequisites for SMO 488: SMO 201, 301 or 310 or consent of Department. Additional prerequisites may be required. No prerequisites for SMO 638. Note: SMO 638 is cross-listed as SMO 488 Special Topics. Open to undergraduates with permission of instructor.
Education Core	Prerequisites
EDU 211 Aboriginal Education and Contexts for Professional and Personal Engagement	Prerequisite: EDU 100. Note: This prerequisite does not apply to Elementary and Secondary After Degree students.

EDPS 360 Society and Education	No prerequisites. Note: Students may not receive credit for both EDFN 360 and EDPS 360.
EDPS 422 Education in Developing Countries	No prerequisites. Note: Students may not receive credit for both EDPS 422 and EDFDN 422
EDPS 411 Cross Cultural Studies In Education	No prerequisites.
EDPS 425 Global Education: Issues and Strategies for Teachers	No prerequisites. Note: Students may not receive credit for both EDPS 425 and EDFDN 425.
Faculty of Extension Core	Prerequisites
INT D 345 Rural Environments	Note: Open to students in the Undergraduate Program in Planning or consent of the instructor.
INT D 404 Global Citizenship	No prerequisites listed. Note: Open to ALL undergraduate students.
Native Studies Core	Prerequisites
NS 200 Aboriginal Canada: Looking Forward/Looking Back (for non-NS students only)	No prerequisites. Note: Not designed for Native Studies majors.
NS 110 Historical Perspectives in Native Studies	No prerequisites. Note: Not open to students with credit in NS 210. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment.
NS 111 Contemporary Perspectives in Native Studies	No prerequisites. Note: Not open to students with credit in NS 211. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment.
Physical Education and Recreation (PER) Core	Prerequisites
INT D 280 The Mountain World: An Introduction to Interdisciplinary Mountain Studies	No prerequisites.
PERLS 204 Leisure and Sport in Canadian Society: Historical Perspectives	Prerequisite: PER 104.
PEDS 205 Outdoor Education (restricted enrollment to Education students, then PER students)	In addition to weekly lecture and lab components, the course includes weekend commitments. Note: Requires payment of additional student instructional support fees.

	RLS 400 Philosophies of Leisure	No prerequisites. Note: Credit will be granted for only one of RLS 300 or 400.
	Science Core	Prerequisites
	BIOL 108 Introduction to Biological Diversity	Prerequisite: Biology 30.
	BIOL 208 Principles of Ecology	Prerequisite: BIOL 108 or SCI 100. Open to students in the BSc Forestry and BSc Forest Business Management program once they have completed REN R 120 and ENCS 201.
	BIOL 315 Biology: A Historical Perspective	Prerequisite: a third-year course in the biological sciences or consent of instructor.
	St. Joseph's College Core	Prerequisites
	CHRTC 221 Interactions Between Aboriginal Spiritual Traditions and Christianity	No prerequisites.
	CHRTC 349 Social Justice and Christianity in Canada	No prerequisites.
	CHRTC 396 Environment Issues: Christian Perspectives	No prerequisites.
	Elective Courses	
	ALES Electives	Prerequisites
	AREC 375 World Food and Agriculture	Prerequisite: One of the following: ECON 101 or consent of Department. Note: Credit will only be given for one of INT D 303, AREC 375, AREC 475 and AG EC 475.
	AREC 471 Society and Well-being	Prerequisite: One of the following AREC 200, AG EC 200, ECON 281, AREC 365, INT D 365, or consent of instructor.
	AFNS 416 One Health	Prerequisites: 3 credits microbiology and 3 credits physiology or consent of instructor. Notes: Graduate students may not register for credit (see AFNS 516). Credit will only be given for one of AFNS 416, 516 or PHS 416, 516.
	PL SC 100 Plants in our Lives	Prerequisite: Biology 30 recommended. Notes: Not available to students with OE60 in Agricultural, Life and Environmental Sciences. This course does not substitute for PL SC 221 in the program core.

PL SC 221 Introduction to Plant Science	Credit will only be given for one of REN R 220, ENCS 204, PL SC 220, PL SC 221 or BOT 205.
REN R 210 Introduction to Soil Science and Soil Resources	Prerequisite: Must have completed a university-level course in life or natural sciences. A university-level chemistry course is strongly recommended. Note: Credit may be obtained for only one of REN R 210 or SOILS 210.
AREC 200 Current Economic Issues for Agriculture and Food	Prerequisite: ECON 101 or consent of Department. Note: Credit will only be given for one of AREC 200 and AG EC 200.
AREC 365 Natural Resource Economics	Prerequisite: ECON 101. Note: Credit will be given for only one of AREC 365 and INT D 365.
REN R 100 Introduction to Forestry	Notes: Not available for credit to BSc Forestry or BSc Forest Business Management students. Credit may be obtained for only one of REN R 100 or FOR 100.
REN R 205 Wildlife Biodiversity and Ecology	Notes: Includes field trip. Credit may be obtained for only one of REN R 205 or ENCS 201. Requires payment of additional student instructional support fees.
REN R 250 Water Resource Management	Prerequisite: 30 credits at the university level with at least 6 credits in the life or natural sciences. Note: Credit will be given for only one of ENCS 203 and REN R 250.
REN R 271 The Politics of Food and Natural Resources	Note: Credit may be obtained for only one of REN R 271 or ENCS 271.
REN R 364 Principles of Managing Biodiversity	Prerequisites: BIOL 208 or (BIOL 108 and REN R 110) and 60 credits of university-level coursework. Notes: Credit will not be given for both REN R 364 and (ENCS 364 or BIOL 367 or BIOL 467). This course has limited enrolment, with preference given to students in the Conservation Biology major of the ENCS Program.
REN R 376 Wildlife Ecology and Management	Prerequisite: BIOL 208. Note: Credit may be obtained for only one of REN R 376 or ENCS 376.
ENCS 352 Natural Resource and Environmental Law	Prerequisite: Completion of 60 credits of university level course work.
ENCS 473 Environmental and Conservation Policy	Prerequisite: One of the following: AREC 200, FOREC 345, INT D 365, AREC 365, ECON 365, INT D 369 ECON 369.
INT D 303 Economics of World and Food Agriculture	Prerequisite: ECON 101 or 102 or consent of Department. Note: Credit will only be given for one of INT D 303, AREC 475 and AG EC 475.

HECOL 300 Policy Development and Evaluation	No prerequisites.
HECOL 441 Textiles and Apparel in the Global Economy	Prerequisite: HECOL 300.
REN R 360 Soil and Water Conservation	Prerequisites: (REN R 210 or SOILS 210) and (ENCS 203 or REN R 250). Note: Credit may be obtained for only one of REN R 360 or ENCS 360.
ENCS 356 Principles of Rangeland Conservation and Habitat Management	Prerequisite: 3 credits in university-level biology.
Arts Electives	Prerequisites
ANTHR 372 Anthropology of Food	Prerequisite: ANTHR 207 or consent of Department. Note: Offered in alternate years.
ANTHR 460/560 Nutritional Anthropology	Prerequisite for 460: ANTHR 372 or consent of Department. 560 requires consent of Department. Note: Offered in alternate years.
HGP 240 The Urban Environment	Prerequisite: Any 3 credit course. Note: Not available to students with credit in EAS 293.
HGP 252 Natural Dimensions of Environmental Hazards	Prerequisite: Any 3 credit course. Note: Not available to students with credit in EAS 295.
HGP 355 Environmental Planning	Prerequisite for HGP 355: EAS 192 or any EAS 29X course.
HGP 450 Resource Management and Environmental Policy	Prerequisites: EAS 294 or HGP 250. Note: Not available to students with credit in EAS 491.
HGP 452 Human Dimensions of Environmental Change	Prerequisite: Any EAS 3XX or HGP 3XX course or Consent of Instructor. Note: Not available to students with credit in EAS 493.
HIST 359 Canadian Environmental History	No prerequisites.
HIST 369 History of the Native Peoples of Canada since 1867	No prerequisites.
LING 324 Endangered Languages	Prerequisite: LING 101.
POL S 445 Topics in Globalization and Governance	Prerequisite: POL S 230 or 240 or 260 or consent of Department.
POL S 327 Aboriginal Peoples and Politics in Canada	Prerequisite: One of POL S 220, NS 110 or 111.
POL S 333 Ecology and Politics	Prerequisites: POL S 230 or 240 or consent of Department.
POL S 434 Cities and Globalization	Prerequisite: POL S 220 or 223 or 230 or consent of Department.

SOC 343 Social Movements	Prerequisite: SOC 100 or consent of instructor.
SPAN 323 Latin American Literature and the Environment	Prerequisite: SPAN 300 or 306 or consent of Department.
W ST 340 Feminism and Food	Prerequisite: W ST 201 or consent of the Program.
W ST 390 Ecofeminism	Prerequisite: W ST 201 or consent of the Program.
Augustana Electives	Prerequisites
AUBIO 350/AUENV 350 Conservation Theory and Biodiversity in Tropical Systems	Prerequisite for AUBIO 350 and AUENV 350: One of AUBIO 253, 294, or 295, and consent of the instructor(s) based on successful completion of the selection process. Note: This course is intended to be taken in sequence with AUBIO 459 or AUENV 459. Credit may be obtained for only one of AUENV 350, 450, AUBIO 350, 450.
AUBIO 459/AUENV 459 Field Studies in Tropical Ecology and Conservation	Prerequisite for AUBIO 459 and AUENV 459: AUBIO 350 or AUENV 350, and consent of the instructors based on successful completion of the selection process. Notes: Credit may be obtained for only one of AUBIO 459 and AUENV 459. Students who have received credit for AUBIO 359 or AUENV 359 may enrol in AUBIO 459 or AUENV 459 in a subsequent year based on successful completion of the selection process. Requires payment of additional student instructional support fees.
AUENV 328 Environmental Politics	Prerequisite: 3 credits in either Environmental Studies/Science or Political Studies. Note: Credit may be obtained for only one of AUENV 328 and AUPOL 328.
AUENV 341 Environmental Economics	Prerequisite: AUECO 101. Note: Credit may be obtained for only one of AUENV 341 and AUECO 341.
AUENV/AUSOC 358 Environmental Sociology	AUENV 358: Prerequisites are third-year standing and AUENV 120 (or its cross-listed equivalent). Note: Credit may be obtained for only one of AUENV 358, 458 and AUSOC 358, 458. AUSOC 358: Prerequisites are third year standing and one of AUSOC 101, 103 or 105. Note: Credit may be obtained for only one of AUSOC 358, 458 and AUENV 358, 458.
AUENV 421 Environmental Science: History and Impacts	Prerequisites: One of AUBIO 350, 353, 450; AUENV 320, 324, 350, 353, 450; AUGEO 320, 324 and at least fourth-year standing. Note: Credit may be obtained for only one of AUENV 421 and AUGEO 421.

<p>AUENV 425 Environmental Impact Assessment</p>	<p>Prerequisites: One of AUENV 324, AUGEO 324, and AUBIO 253. Note: Credit may be obtained for only one of AUENV 425, 325 (2009), AUGEO 325 (2009), 425. Requires payment of additional student instructional support fees.</p>
<p>AUPOL 328 Environmental Politics</p>	<p>Prerequisite: 3 credits in either Environmental Studies/Science or Political Studies. Note: Credit may be obtained for only one of AUPOL 328 and AUENV 328.</p>
<p>AUECO 346 Agricultural Economics</p>	<p>Prerequisite: AUECO 101.</p>
<p>AUENG 207 Aboriginal/Indigenous Literature</p>	<p>Prerequisites: AUENG 103 and 104. Note: Not to be taken by students with credit in AUENG 307.</p>
<p>AUENG 268/AUENV 268 Women and Environmental Literature</p>	<p>Prerequisites for AUENG 268 and AUENV 268: AUENG 103 and 104. Note: Credit may be obtained for only one of AUENG 268, 368, AUENV 268, 368.</p>
<p>AUENG 269/AUENV 269 The End of the World: Contemporary Apocalyptic Literature</p>	<p>Prerequisites for AUENG 269 and AUENV 269: AUENG 103 and 104. Note: Credit may be obtained for only one of AUENG 269, 369, AUENV 269, 369.</p>
<p>AUENG 307 Aboriginal/Indigenous Literature</p>	<p>Prerequisites: AUENG 103 and 104, and 6 credits in English at the 200-level [excluding AUENG 204, 215, 291]. Note: Not to be taken by students with credit in AUENG 207.</p>
<p>AUENG 368/AUENV 368 Women and Environmental Literature</p>	<p>Prerequisites for AUENG 368/AUENV 368: AUENG 103, 104, and 6 credits in English at the 200 level (excluding AUENG 204, 215, 291). Note: Credit may be obtained for only one of AUENG 268, 368, AUENV 268, 368.</p>
<p>AUENG 369/AUENV 369 The End of the World: Contemporary Apocalyptic Literature</p>	<p>Prerequisites for AUENG 369 and AUENV 369: AUENG 103 and 104 and 6 credits in English at the 200 level (excluding AUENG 204, 215, 291). Note: Credit may be obtained for only one of AUENG 269, 369, AUENV 269, 369.</p>
<p>AUENV 320 Parks and Wilderness</p>	<p>Prerequisite: One of AUBIO 253, AUENV 120, AUGEO 120, consent of the instructor. Note: Credit may be obtained for only one of AUENV 320, 420, AUGEO 320, 420.</p>
<p>AUENV 344/AUPSY 344 Environmental Psychology</p>	<p>Prerequisites for AUENV 344 and AUPSY 344: AUPSY 102; third-year standing. Note: Credit may be obtained for only one of AUENV 344 and AUPSY 344.</p>

AUENV 345/AUREL 345 Religion and Ecology	No prerequisites for AUENV 345 or AUREL 345. Note: Credit may be obtained for only one of AUENV 345 and AUREL 345.
AUENV 354 Freshwater Ecology and Management	Prerequisite: AUBIO 253. Notes: Credit may be obtained for only one of AUENV 354, AUBIO 354, and AUGEO 354. The course requires participation in a field trip. Requires payment of additional student instructional support fees.
AUENV 355/AUPHI 355 Philosophy, Technology and the Environment	Prerequisite for AUENV 355 and AUPHI 355: None, but AUPHI 350 would be useful. Note: Credit may be obtained for only one of AUENV 355 and AUPHI 355.
AUENV 420 Parks and Wilderness	Prerequisite: One of AUBIO 253, AUENV 120, AUGEO 120; and one of AUBIO 350, 351, 353, 359, 450, 459, AUENV 324, 350, 353, 359, 450, 459, AUGEO 324, 351. Note: Credit may be obtained for only one of AUENV 320, 420, AUGEO 320, 420.
AUGDS 324 Development Studies Seminar (Canada)	Prerequisite: Consent of the selection committee. Note: Credit may be obtained for only one of AUGDS 124, 224, 324, AUIDS 124 (2009), 224 (2009), 324 (2009).
AUHIS 375 Canadian Environmental History	No prerequisites. Note: Credit may be obtained for only one of AUHIS 375, 475, AUENV 375, 475.
AUHIS 475 Canadian Environmental History	Prerequisite: One of AUHIS 260, 261. Note: Credit may be obtained for only one of AUHIS 375, 475, AUENV 375, 475.
AUMAT 332 Mathematical Ecology and Dynamical Systems	Prerequisites: AUMAT 120 and 211.
AUPED 184 Introduction to Outdoor Education	Prerequisites: AUPED 184 or equivalent, and consent of the instructor. Corequisite: AUPAC 226 or 326. Notes: The course requires participation in field trips. A student must furnish his or her own outdoor clothing, footwear, and sleeping bag. Requires payment of additional student instructional support fees.
AUPED 286 Outdoor Education and Leadership	Prerequisites: AUPED 184 or equivalent, and consent of the instructor. Corequisite: AUPAC 226 or 326. Notes: The course requires participation in field trips. A student must furnish his or her own outdoor clothing, footwear, and sleeping bag. Requires payment of additional student instructional support fees. Refer to the Fees Payment Guide in the University Regulations and Information for Students section of the Calendar.

AUPOL 341 The Global South and World Politics	No prerequisites.
AUREL 263 Spirituality and Globalization	No prerequisites.
AUGDS 427 Senior Global and Development Studies Research Seminar I	Prerequisite: Third or fourth-year standing. Only open to majors in IDS-Global and Development Studies. Note: This course can only be taken by students also registered in AUGDS 428. Credit may be obtained for only one of AUGDS 427 and AUIDS 427 (2009).
AUGDS 428 Senior Global and Development Studies Research Seminar II	Prerequisites: AUGDS 427 and third or fourth-year standing. Only open to majors in AUIDS-Global and Development Studies. Note: Credit may be obtained for only one of AUGDS 428 and AUIDS 428 (2009).
Business Electives	Prerequisites
ACCTG 463 Accounting for Natural Resources, Energy and the Environment	Prerequisite: ACCTG 311. ACCTG 412 or 414 are recommended.
B LAW 428 Natural Resource and Environmental Law	Prerequisite: B LAW 301 or ENGG 420.
BUEC 463 Energy and the Environment: Industry Structure, Performance and Challenges	Prerequisite: BUEC 311 or ECON 281.
SMO 406 Ethical Issues in Business	Prerequisite: SMO 201, 301 or 310. Open to third- and fourth-year students.
SMO 488/645 Social Entrepreneurship(cross-listed as SMO 488 Selected Topics in Organization Theory, open to undergraduates with permission of instructor)	Prerequisites for SMO 488: SMO 201, 301 or 310 or consent of Department. Additional prerequisites may be required. No prerequisites for SMO 645.
SMO 488/686 Innovation and Sustainability (cross-listed as SMO 488 Selected Topics in Organization Theory, open to undergraduates with permission of instructor)	Prerequisites for SMO 488: SMO 201, 301 or 310 or consent of Department. Additional prerequisites may be required. For SMO 686, students should check with the MBA Office for pre/corequisites of specific sections.
Education Electives	Prerequisites
EDU 100 Contexts of Education	No prerequisites. Note: Credit cannot be received for both EDU 100 and EDU 250 or equivalent.
EDES 409 Aboriginal Curriculum Perspectives	No prerequisites.
EDPS 456 The Philosophy of Moral Education	No prerequisites. Note: Students may not receive credit for both EDPS 456 and EDFN 456.

EDAE 461 Developing Programs for Adults	Prerequisite: EDAE 390. May contain alternative delivery sections.
Faculty of Extension Electives	Prerequisites
INT D 340 Regional Planning	Note: Open to students in the Undergraduate Program in Planning or Consent of the Instructor.
INT D 500 An Introduction to Community Based Research and Evaluation (undergraduates must seek permission to take this course)	Prerequisite: Consent of instructor.
Native Studies Electives	Prerequisites
NS 240 Introduction to Aboriginal Legal Issues	No prerequisites. Note: Sections may be offered in a Cost Recovery format at an increased rate of fee assessment;
NS 330 Native Economic Development	Prerequisites: NS 110, 111 and 240 or 290 or consent of the Faculty. Note: Sections may be offered in a Cost Recovery format at an increased rate of fee assessment
NS 435 Management of Aboriginal Natural Resources	Prerequisites: Any OE6 in EAS 294, 391, ENCS 201, 260 or AUGEO 324, or one 300-level NS course or consent of the Faculty. Note: Sections may be offered in a Cost Recovery format at an increased rate of fee assessment.
NS 485 Urban Aboriginal Issues and Identities	Prerequisites: NS 110, 111 and one 300-level NS course, or consent of the Faculty. Note: Sections may be offered in a Cost Recovery format at an increased rate of fee assessment.
NS 340 Aboriginal Legal Issues	Prerequisites: NS 110, 111 and 240 or consent of the Faculty. Note: Sections may be offered in a Cost Recovery format at an increased rate of fee assessment.
NS 372 Métis Politics	Prerequisites: NS 110, 111 and 240 or 290 or consent of the Faculty. Note: Sections may be offered in a Cost Recovery format at an increased rate of fee assessment.
NS 440 Indigenous Treaties and Agreements	Prerequisite: One 300-level NS course or consent of the Faculty.
NS 441 Indigenous Land Claims and Agreements	Prerequisite: One 300-level NS course or consent of the Faculty. NS 440 is also recommended.
NS 390 Research Methods in Native Studies	Prerequisites: NS 110, 111 and 240 or 290 or consent of the Faculty.
NS 490 Community-Based Research	Prerequisite: NS 390.

NS 355 Native Oral Traditions and Indigenous Knowledge	Prerequisites: NS 110, 111 and 240 or 290 or consent of the Faculty.
NS 476 Perspectives on Aboriginal Health and Well-Being	Prerequisites: NS 376 or consent of the Faculty.
PER Electives	Prerequisites
RLS 263 Principles of Tourism	Note: Field Trips are an integral and required component of this Course. Requires payment of additional student instructional support fees.
RLS 452 Parks Planning, Management, and Maintenance	Prerequisite: successful completion of 60 credits. Note: Field Trips are an integral and required component of this course. Requires payment of additional student instructional support fees.
RLS 463 Issues in Tourism Development	Prerequisite: RLS 263. Note: Field Trips are an integral and required component of this course. Requires payment of additional student instructional support fees.
PERLS 499 (directed studies)/PERLS 504 History of Nature, Parks and Travel	Prerequisite for PER 499: Consent of Faculty. No prerequisite for PER 504.
Science Electives	Prerequisites
SCI 299 Science Citizenship	GPA of 2.5 or higher, at least five science courses, and consent of the Faculty of Science.
BIOL 367 Conservation Biology	Prerequisite: BIOL 208. Note: Credit cannot be obtained in both BIOL 367 and ENCS 364.
BIOL 381 People, Pollution and the Environment	Prerequisite: Biology 208.
BOT 384 Global Change and Ecosystems	Prerequisites: BIOL 208 or consent of Instructor. BOT 205 recommended.
EAS 100 Planet Earth	No prerequisites. Note: Not available to students with credit in EAS 101, 102 or 201 or SCI 100 (Note: Students with credit in EAS 201 may take EAS 200.).
EAS 208 Introduction to Global Change	Prerequisite: Any 100-level Science course.
PHYS 114 Physics: The Big Picture	Prerequisites: Pure or Applied Mathematics 30 or Mathematics 30-1. Note: This course does not qualify as an equivalent to high school Physics 30. This course also does not qualify as a prerequisite for 200 or higher level ASTRO, GEOPH, MA PH, or PHYS courses. Not accepted as part of the Physics requirements for Faculty of Medicine and Dentistry applications.

PSYCO 104 Basic Psychological Processes	No prerequisites. Note: The course is a prerequisite to all courses in the department and is normally followed by PSYCO 105.
PSYCO 258 Cognitive Psychology	Prerequisites: PSYCO 104 or SCI 100, and STAT 141 or 151.
PSYCO 275 Brain and Behavior	Prerequisites: PSYCO 104 or SCI 100, STAT 141 or STAT 151 and Biology 30 or equivalent. Students enrolled in the BSc Honors Neuroscience program are exempt from the STAT prerequisite.
PSYCO 282 Behavior Modification	Prerequisites: PSYCO 104 or SCI 100.

Experiential/Field Courses

Experiential/Field Courses	Prerequisites
PAC 184 Mountain Backcountry Field Skill (this can be upgraded to higher level course with consultation with a professor)	Open to all U of A students. No prerequisites. Note: This course has additional fees.
CSL 100 An Introduction to Community Engagement and CSL 300 Theory and Practice In Community Service-Learning	No prerequisites for CSL 100. Prerequisite for CSL 300: Completion of a course with a CSL component or consent of instructor.
CSL 350/360/550/560 Oil and Community	Prerequisite for CSL 350/360/550: consent of instructor. Corequisite for CSL 360: CSL 350 or other approved course. Corequisite for CSL 560: CSL 550 or other approved course. Note: These courses may require payment of additional student instructional support fees.
ALES 291 Topics In Agricultural, Life and Environmental Sciences	No prerequisites. Note: Offered by various departments depending upon the content of the course in a given year. Sections may be offered in a Cost Recovery format at an increased rate of fee assessment.
AREC 173 The Plate, the Planet and Society	No prerequisites.
HIST 498 Seminar in the History, Concepts and Practice of Sustainability	No prerequisites.
INT D 361 Fundamentals of Energy, Environment and Sustainability	Prerequisite: Completion of 45 credits of university-level coursework. Note: Offered by the School of Energy and the Environment.
MARK 455/655 Sustainability and Responsible Marketing	Prerequisite for MARK 455: MARK 301. Prerequisite for MARK 655: MARK 502.

CSL 350 Oil and the Community or Oil and the Social Economy	Prerequisite: consent of instructor. Note: This course may require payment of additional student instructional support fees.
ANTHR 372 Anthropology of Food (CSL version)	Prerequisite: ANTHR 207 or consent of Department. Note: Offered in alternate years.
SOC 343 Social Movements (CSL version)	Prerequisite: SOC 100 or consent of instructor.
CSL 100 Introduction to Community Engagement (CSL version)	No prerequisites.
WRS 302 Proposal Writing (as in grant/funding proposals) (must work with Academic Director of Office of Sustainability to make plan to link to sustainability)	No prerequisites.
INT D 281 Integrated Mountain Studies and Skills in the Austrian Alps	No prerequisites. This course has additional fees.
PEDS 490 Professional Practicum	Students must arrange placements through the Practicum Supervisor/Instructor. A limited number of placements are available. Note: Students will not be allowed to register in more than 9 credits concurrently with PEDS 490 unless approved by the Practicum Supervisor/Instructor.
PEDS 492 Professional Practicum	Students must arrange placements through the Practicum Supervisor/Instructor. A limited number of placements are available. Note: Students will not be allowed to register in more than 9 credits concurrently with PEDS 492 unless approved by the Practicum Supervisor/Instructor.
RLS 449 Professional Practicum	Students must arrange placements through the Practicum Supervisor/Instructor. Must be taken concurrently with RLS 441. Students will not be allowed to register in any other course in conjunction with RLS 441/449 unless approved by the Practicum Supervisor/Instructor.

Augustana Experiential/Field Courses

Augustana Experiential/Field Courses	Prerequisites
AUENV 260 Environmental Studies Practicum	Prerequisite: AUENV 120 or AUGEO 120. Notes: Open only to a student with a major in Environmental Studies/Science. AUENV 260 is classified as an arts course. Credit may be obtained for only one of AUENV 260, 261, and AUIDS 260.
AUENV 301/401 Directed Studies	Prerequisites for AUENV 301/401: 6 credits in Environmental Studies. Notes: Admission normally requires a minimum GPA of 3.0 in Environmental Studies/Science. An application for Individual Study must be completed and approved before registration in the course. AUENV 301 and AUENV 401

	are classified as science courses.
AUENV 302/402 Directed Reading	Prerequisites for AUENV 302: 6 credits in Environmental Studies. Notes: Admission to the course normally requires a minimum GPA of 3.0 in Environmental Studies. An “Application for Individual Study” must be completed and approved before registration in these courses. AUENV 302/402 are classified as arts courses.
AUENV 261 Environmental Science Practicum	Prerequisites: AUENV 120 or AUGEO 120. Notes: Open only to a student with a major in Environmental Science/Studies. AUENV 261 is classified as a science course. Credit may be obtained for only one of AUENV 260, 261 and AUIDS 260.
AUCSL 360 Community Service Learning Practicum	Prerequisite: consent of the instructor. Corequisite: variable. Note: Requires payment of additional student instructional support fees.

Draft content for the University Calendar

XX.XX Certificates (in ALES section of calendar).

The Certificate in Sustainability will provide undergraduate students recognition for the knowledge about sustainability that they have acquired during the course of their academic careers. The certificate will indicate to employers that the students have gained a baseline understanding of sustainability that will complement their primary areas of expertise.

The Faculty of Agricultural, Life and Environmental Sciences is the administrative unit for the Certificate in Sustainability, although students who earn this certificate can take courses from other participating Faculties offering courses that can be counted toward the certificate. Normally the requirements for the Certificate in Sustainability can be completed as part of the requirements for the degree; however, in some cases, a student may need to take more than the minimum required for his or her degree program in order to qualify for both the degree and the certificate. The Certificate in Sustainability will be available to undergraduate students who are enrolled in a major that is part of the participating Faculties.

While completing the undergraduate program in their respective Faculties, students will be required to complete a minimum of *12 from a list of designated courses. These courses will be broken down into two categories: “Core courses” and “Electives.” Students will be required to complete at least *6 in each category. In addition, students will complete a final “integrative project” worth *3, which will engage directly with the core features of sustainability and serve as the de facto “capstone” experience for participating undergraduates.

Students will be asked to complete an intention to complete the certificate form available at the Office of Sustainability’s website: <http://www.sustainability.ualberta.ca/> and the Faculty of Agricultural, Life and Environmental Sciences (ALES) website: <http://www.ales.ualberta.ca/>.

Application for the certificate is made to the ALES’s Student Services office: <http://www.ales.ualberta.ca/ContactUs/StudentServices.aspx> by February 1 for Spring Convocation and

September 1 for Fall Convocation. At present, this certificate is not available to students who have already completed their degrees or who are not receiving a degree at the appropriate convocation.

XX.XX.X Certificate in Sustainability

For information about the Certificate in Sustainability, contact: Student Services, ALES, 2-31 General Services Building, <http://www.ales.ualberta.ca/CurrentStudents/UndergraduateStudentServicesOffice.aspx> or contact the Academic Director with the Office of Sustainability <http://www.sustainability.ualberta.ca/AboutUs/ContactUs.aspx>

Students may pursue the Certificate in Sustainability by fulfilling existing requirements for majors, minor or honors in their respective disciplines and by completing the following:

- (1) *6 in CORE courses from the pre-approved list of academic courses listed by the Office of Sustainability and the Faculty of Agricultural, Life and Environmental Sciences
- (2) *6 in ELECTIVE courses from the pre-approved list of academic courses by the Office of Sustainability and the Faculty of Agricultural, Life and Environmental Sciences
- (3) *3 in an INTEGRATIVE project to be approved by Office of Sustainability Academic Director or designate(s).

Notes

- (1) Maximum of *3 from any given course can be used for the certificate.
- (2) No more than *3 of the *15 may be transfer credits from other postsecondary institutions.
- (3) *3 “integrative project”. The final project will engage directly with the core features of sustainability and will serve as the de facto “capstone” experience for participating undergraduates. The certificate stresses the importance of projects that involve community engagement, the testing of, or the implementation of concepts learned in the classroom.

Forms that the integrative project can take include:

- A field course
 - An internship
 - A Community Service Learning (CSL) course
 - An Undergraduate Research Initiative (URI) supported research project
 - A course that explicitly includes a student-led research project
 - Independent study with a professor that involves research outside the University
- (4) Project presentation. All students that participate in the certificate will be required to present their findings, in poster presentations, at periodic undergraduate presentation events hosted by the University of Alberta (e.g. URI, CSL, or Office of Sustainability).
 - (5) The certificate will be awarded at the time the students earn their BA or BSc degree.
 - (6) Must be enrolled in a major that is part of the participating Faculties.
 - (7) Students must be in good academic standing at the time they register for the certificate and they must maintain good academic standing as they pursue the certificate. Students must maintain the minimum GPA for continuation in their respective programs.
 - (8) Students will be required to register for the certificate no later than September 30 of their third year, or at completion of *60 if studying part-time. No more than half of the course requirements for this certificate may overlap with the requirements of another certificate. This certificate is conceived as an interdisciplinary one, and at least one of the courses in the certificate must be taken outside of a student’s Faculty. Indeed, this certificate encourages students to undertake an interdisciplinary

	approach to education.
Appendix B – other Include any additional information in support of the proposal including the Library Impact Statement and letters of support.	Library Impact Statement Included, approved by Tim Klassen, Head, Science and Technology library, Cameron. Letters of support from the Directors of the Office of Undergraduate Research Initiative, and Community Service Learning. Final draft of University Calendar copy.

References

The Princeton Review. “The Princeton Reviews’ Guide to 322 Green Colleges” (April 2012): accessed April 2, 2013, <http://www.princetonreview.com/green-guide-press-release.aspx>.

NEW ACADEMIC PROGRAM LIBRARY IMPACT STATEMENT CERTIFICATION

Submitted to the Academic Development Committee

The Library has examined the proposal for the embedded Certificate in Sustainability in the faculty of Agricultural, Life, and Environmental Sciences. We anticipate that the new Certificate will not incur any additional costs for Library acquisitions as it consists of currently existing courses that are already supported by library acquisitions and an integrative project, based on “projects that involve community engagement, the testing of, or the implementation of concepts learned in the classroom” that will not require new library acquisitions or services. The initial 30 students enrolled will be taking the certificate from their existing home faculties and as such are already supported by currently existing Library space and Library instruction/liaison programs.

We support the creation of the proposed program and look forward to working with its instructors and students in the years to come.

Executive summary of costs:

Total Costs	Start Up	On going (expected annual maintenance costs)
Collections budget	0	0
Capital budget	0	0
Operating/staffing budget	0	0
Incremental Cost for Licensed Resources	0	0
Total Costs: Summary	0	0

Signed:



Gerald Beasley
Vice-Provost & Chief Librarian



Tim Klassen
Head, Science and Technology Library

Dated: *December 10, 2013*

2-701 Students' Union Building
Edmonton, Alberta, Canada T6G 2J7
Tel: 780.492.3474
Fax: 780.492.1225
uri@ualberta.ca
www.uri.ualberta.ca

20 December 2013

Re: Embedded Certificate in Sustainability

Dear members of the Academic Standards Committee Subcommittee on Standards:

The Undergraduate Research Initiative (URI) heartily endorses the proposed Embedded Certificate in Sustainability put forth by the Academic Arm of the Office of Sustainability.

This is a well-designed certificate that integrates real-world issues with academics, research with community service, and interdisciplinarity with disciplinary understanding. This certificate is also university-wide in terms of its reach.

This certificate will encourage students to engage in research opportunities to enhance their real-world knowledge about the complexity of sustainability. As part of the certificate, students have an integrative course component, and this can be fulfilled by participating in a URI-supported research project, furthering already well-established connections between the Office of Sustainability and URI. Other collaborations between the URI office and the Office of Sustainability may be fostered by this certificate, including student posters on their sustainability-related research for the certificate may be included in the Undergraduate Research Symposium, helping spread information on sustainability and the certificate across campus.

Aside from this, we encourage opportunities at University of Alberta and our branch campuses for students to gain interdisciplinary approaches to thinking, research and application of their knowledge. The certificate embraces this approach.

Respectfully,



Connie K. Varnhagen
Academic Director, Undergraduate Research Initiative

December 23, 2013

Dear Subcommittee on Standards,

I am very pleased to write a letter of support for the proposed Embedded Certificate in Sustainability proposed by the Academic Arm of the Office of Sustainability. I believe that the certificate will encourage more students to engage in community service-learning (CSL) opportunities, supported by the UofA CSL office, as they develop sustainability leadership in their communities, workplaces, homes, and countries.

As part of the certificate, students have an integrative course component, which can be fulfilled by participating in a CSL supported course or internship. Dr. Krogman, as Academic Director, has been engaged with Community Service-Learning programs, and I am confident that we can develop a list of CSL courses to provide students earning the certificate with meaningful integrative experiences related to sustainability. The embedded undergraduate sustainability certificate will complement our own CSL certificate, and make students and faculty more aware of experiential learning opportunities.

As Director of the Community Service Learning program at UAlberta, I am also working with the Office of Sustainability to plan a faculty development workshop on using CSL (and URI opportunities, and other teaching innovations) to better integrate sustainability into students' learning opportunities. This certificate is thus part of a broader set of collaborations we now have underway with the Office of Sustainability.

In general I am supportive of the certificate given its reach across nine faculties and its role in linking sustainability learning with community engagement.

Sincerely,

Alison Taylor
Director, Community Service-Learning and
Professor, Educational Policy Studies

**Faculty of Agricultural, Life and Environmental Sciences
2015/16 Calendar Changes**

Current (2014/15) Calendar Entry	Proposed (2015/16) Calendar Entry
<p>34.20 Certificate in Community Engagement and Service-Learning Students in the Faculty of Agricultural, Life and Environmental Sciences are encouraged to pursue the Certificate in Community Engagement and Service-Learning. See 45.1 for the requirements of the certificate.</p>	<p><u>35 Certificates</u></p> <p><u>Students in the Faculty of Agricultural, Life and Environmental Sciences (ALES) have the option of pursuing embedded certificates which recognize the fact that they have studied a specific theme. Such themes may be subjects within a particular discipline or across disciplines. Normally, requirements for an embedded certificate can be completed as part of the requirements in their degree program; however, there may be instances where courses additional to the minimum requirements for his/her degree program may be required in order to qualify for both the degree and the certificate. Currently, the following certificates are available to ALES students.</u></p> <p><u>35.1 Certificate in Community Engagement and Service-Learning</u> Students in the Faculty of Agricultural, Life and Environmental Sciences are encouraged to pursue the Certificate in Community Engagement and Service-Learning. See 45.1 for the requirements of the certificate.</p> <p><u>35.2 Certificate in Sustainability</u> <u>The Certificate in Sustainability will provide undergraduate students formal recognition for the knowledge about sustainability that they have acquired during the course of their academic career. The certificate will indicate to employers that the student has gained a baseline understanding of sustainability which complements their primary areas of expertise.</u> <u>The Faculty of Agricultural, Life and Environmental Sciences is the administrative unit for the Certificate in Sustainability, although students who earn this certificate can take courses from other participating Faculties offering courses that can be counted toward the certificate. Normally the requirements for the Certificate in Sustainability can be completed as part of the requirements for the degree; however, in some cases, a student may need to take more than the minimum required for his or her degree program in order to qualify for both the degree and the certificate. The Certificate in Sustainability will be available to undergraduate students who are enrolled in degree programs offered by participating Faculties.</u> <u>While completing the undergraduate program in their respective Faculties, students will be required to complete a minimum of *12 from a list of designated courses. These courses will be categorized into two categories: “Core courses” and “Electives.” Students will be required to complete at least *6 in each category. In</u></p>

**Faculty of Agricultural, Life and Environmental Sciences
2015/16 Calendar Changes**

Current (2014/15) Calendar Entry	Proposed (2015/16) Calendar Entry
	<p><u>addition, students will complete a final “integrative project” worth *3, which will engage directly with the core features of sustainability and serve as the <i>de facto</i> “capstone” experience for participating undergraduate students.</u></p> <p><u>Students will be asked to complete an “intention to complete the certificate” form available at the Office of Sustainability’s website: www.sustainability.ualberta.ca/ and the Faculty of Agricultural, Life and Environmental Sciences (ALES) website: www.ales.ualberta.ca/.</u></p> <p><u>Application for the certificate is made to the ALES’s Student Services office: www.ales.ualberta.ca/ContactUs/StudentServices.aspx by February 1 for Spring Convocation and September 1 for Fall Convocation. At present, this certificate is not available to students who have already completed their degrees or who are not receiving a degree at the appropriate convocation.</u></p> <p><u>For information about the Certificate in Sustainability, contact: Student Services, ALES, 2-06 Agriculture Forestry Centre, www.ales.ualberta.ca/CurrentStudents/UndergraduateStudentServicesOffice.aspx or contact the Academic Director with the Office of Sustainability www.sustainability.ualberta.ca/AboutUs/ContactUs.aspx</u></p> <p><u>Students may pursue the Certificate in Sustainability by fulfilling existing requirements for majors, minor or honors in their respective disciplines and by completing the following:</u></p> <ol style="list-style-type: none"> <u>(1) *6 in CORE courses from the pre-approved list of academic courses listed by the Office of Sustainability and the Faculty of Agricultural, Life and Environmental Sciences.</u> <u>(2) *6 in ELECTIVE courses from the pre-approved list of academic courses by the Office of Sustainability and the Faculty of Agricultural, Life and Environmental Sciences</u> <u>(3) *3 in an INTEGRATIVE project to be approved by Office of Sustainability Academic Director or designate(s).</u> <p><u>Notes</u></p> <ol style="list-style-type: none"> <u>(1) Maximum of *3 from any given course can be used for the certificate.</u>

**Faculty of Agricultural, Life and Environmental Sciences
2015/16 Calendar Changes**

Current (2014/15) Calendar Entry	Proposed (2015/16) Calendar Entry
	<p>(2) <u>No more than *3 of the *15 may be transfer credits from other postsecondary institutions.</u></p> <p>(3) <u>*3 “integrative project”. The final project will engage directly with the core features of sustainability and will serve as the de facto “capstone” experience for participating undergraduates. The certificate stresses the importance of projects that involve community engagement, the testing of, or the implementation of concepts learned in the classroom.</u></p> <p><u>Forms that the integrative project can take include:</u></p> <ul style="list-style-type: none"> • <u>A field course</u> • <u>An internship</u> • <u>A Community Service Learning (CSL) course</u> • <u>An Undergraduate Research Initiative (URI) supported research project</u> • <u>A course that explicitly includes a student-led research project</u> • <u>Independent study with a professor that involves research outside the University</u> <p>(4) <u>Project presentation. All students that participate in the Certificate will be required to present their findings, in poster presentations, at periodic undergraduate presentation events hosted by the University of Alberta (e.g. URI, CSL, or Office of Sustainability).</u></p> <p>(5) <u>The certificate will be awarded at the time the students earn their undergraduate degree.</u></p> <p>(6) <u>Must be enrolled in a major that is part of the participating Faculties.</u></p> <p>(7) <u>Students must be in good academic standing at the time they register for the certificate and they must maintain good academic standing as they pursue the certificate. Students must maintain the minimum GPA for continuation in their respective programs.</u></p> <p><u>Students will be required to register for the certificate no later than September 30 of their third year, or at completion of *60 if studying part-time. No more than half of the course requirements for this certificate may overlap with the requirements of another certificate. This certificate is conceived as an interdisciplinary one,</u></p>

**Faculty of Agricultural, Life and Environmental Sciences
2015/16 Calendar Changes**

Current (2014/15) Calendar Entry	Proposed (2015/16) Calendar Entry
35 Courses	<u>and at least one of the courses in the certificate must be taken from an outside Faculty. Indeed, this certificate encourages students to undertake an interdisciplinary approach to education.</u> 36 Courses

OUTLINE OF ISSUE

Agenda Title: **Faculty of Science’s Proposed Embedded Credit Research Certificate in Science (Biological Sciences)**

Motion: That the GFC Academic Standards Committee approve, under delegated authority from General Faculties Council, the proposed embedded Credit Research Certificate in Science (Biological Sciences), as submitted by the Faculty of Science and as set forth in Attachment 1 (as amended), for implementation in the Fall of 2014.

Item

Action Requested	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Recommendation <input type="checkbox"/> Discussion/Advice <input type="checkbox"/> Information
Proposed by	Glen R Loppnow, Acting Senior Associate Dean (Student Services), Faculty of Science; Cynthia Paszkowski, Associate Chair (Undergraduate), Department of Biological Sciences
Presenter	Glen R Loppnow, Acting Senior Associate Dean (Student Services), Faculty of Science
Subject	Undergraduate Research Certificate

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	To establish an embedded credit certificate entitled Research Certificate in Science open to students in undergraduate programs across the University of Alberta, but more easily completed by those in the Faculty of Science. The Research Certificate in Science is envisioned to have multiple streams, each discipline-specific, under an umbrella set of criteria established at the Faculty level. Presented here is the Biological Sciences stream. Other streams, for example, in Chemistry and Psychology, are being developed but are not yet ready.
The Impact of the Proposal is	See 'Purpose'.
Replaces/Revises (eg, policies, resolutions)	N/A
Timeline/Implementation Date	Fall, 2014.
Estimated Cost	Cost neutral at this stage.
Sources of Funding	N/A
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	<p>Alignment with <i>Dare to Discover</i>:</p> <p><u>Values:</u> Excellence in teaching that promotes learning, outstanding research and creative activity that fuel discovery and advance knowledge, and enlightened service that builds citizenship.</p> <p><u>Cornerstones:</u> Talented People - Create a dynamic, discovery-based learning environment by aiming for a mix of undergraduate and graduate students typical of leading public research universities. Learning, Discovery and Citizenship - Create an exceptional and life-changing university experience for students through curricular and extra-curricular offerings that integrate learning, discovery, and citizenship to</p>
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FINAL Item No. 6

	<p>develop the intellect and the imagination, educate leaders, and enhance a global perspective.</p> <p>Alignment with <i>Dare to Deliver</i>.</p> <p>Providing meaningful learning opportunities in undergraduate research; Articulating attributes and competencies upon graduation; Developing skill-specific certificates; and Providing professional academic development</p>
<p>Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please <u>quote</u> legislation and include identifying section numbers)</p>	<p>1. Post-Secondary Learning Act (PSLA): The <i>PSLA</i> gives GFC responsibility, subject to the authority of the Board of Governors, over academic affairs. Further, the <i>PSLA</i> gives the Board of Governors authority over certain admission requirements and rules respecting enrolment. The Board has delegated its authority over admissions requirements and rules respecting enrolment to GFC and the GFC ASC. (Sections 26(1), 60(1)(c) and (d)).</p> <p>2. GFC Academic Standards Committee (ASC) Terms of Reference (Mandate): GFC delegated authority to ASC to approve “proposals for the establishment of and termination of credit and non-credit certificates, regardless of the proposing academic unit. Where additional funding and/or space is required to support the offering of the proposed certificate and/or if, in the opinion of the Provost and Vice-President (Academic) (or delegate), the certificate requires Government approval, ASC would provide a recommendation on the (proposed) initiative to the GFC Academic Planning Committee (APC).” (3.G.).</p> <p>3. PSLA: The <i>PSLA</i> gives Faculty Councils power to “provide for the admission of students to the faculty” (29(1)(c)).</p> <p>4. UAPPOL Admissions Policy: “Admission to the University of Alberta is based on documented academic criteria established by individual Faculties and approved by GFC. This criteria may be defined in areas such as subject requirements, minimum entrance averages, and language proficiency requirements. In addition to academic requirements for admission, GFC authorizes each Faculty to establish such other reasonable criteria for admission of applicants as the Faculty may consider appropriate to its programs of study, subject to the approval of GFC (e.g. interview, audition, portfolio, etc.)</p> <p>The admission requirements for any Faculty will be those approved by GFC as set forth in the current edition of the <i>University Calendar</i>. In addition to the admission requirements, selection criteria for quota programs, where they exist, will also be published in the current edition of the <i>University Calendar</i>.</p> <p>The responsibility for admission decisions will be vested in the Faculty Admission Committees or in the Deans of the respective Faculties, as the councils of such Faculties will determine.”</p> <p>5. UAPPOL Admissions Procedure:</p> <p>“PROCEDURE</p>

1. EFFECTIVE DATE OF CHANGES TO ADMISSION REGULATIONS
Following approval by GFC:

a. Where changes to admission regulations may disadvantage students in the current admission cycle, normally implementation will be effective after the change has been published in the *University Calendar* for one full year (i.e., effective the second year that the information is published in the *University Calendar*).

For example, a change approved in May 2005 would be first published in the 2006-2007 *University Calendar* in March 2006. Therefore the statement cannot come into effect until September 2007 (affecting applicants who apply for the September 2007 term beginning July 2006).

b. Where changes to admission regulations are deemed by the approving body to be 'advantageous to students', normally the date of implementation will be effective immediately or at the next available intake for the admitting Faculty."

6. **PSLA:** The *PSLA* gives Faculty Councils the authority to "determine the conditions under which a student must withdraw from or may continue the student's program of studies in a faculty" (Section 29(1)(d)).

7. **UAPPOL Academic Standing Policy:** "All current academic standing regulations, including academic standing categories, University graduating standards and requirements for all individual programs will be those prescribed by Faculty Councils and GFC as set forth in the *University Calendar*."

8. **UAPPOL Academic Standing Regulations Procedures:** "All proposed new academic standing regulations and changes to existing academic standing regulations will be submitted by the Faculties or the Administration to the Provost and Vice-President (Academic). Faculties will also submit to the Provost and Vice-President (Academic) any proposed changes to the use and/or computation of averages relating to academic standing, including promotion and graduation.

If the Provost and Vice-President (Academic) determines the proposal to be in good order, the proposal will be introduced to the appropriate University governance process(es). In considering these proposals, governance bodies will consult as necessary with the Faculties and with other individuals and offices.

Normally, changes become effective once they are approved by GFC or its delegate and are published in the *University Calendar*."

9. **GFC Academic Standards Committee (ASC) Terms of Reference (Mandate):** The Office of the Provost and Vice-President (Academic) has determined that the proposed changes are **editorial** in nature. ASC's terms of reference provide that "the term '**routine and/or editorial**' refers to proposals which do not involve or affect other Faculties or units; do not form part of a proposal for a new program; and do not involve alteration of an existing quota or establishment of a new quota. Editorial

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	<p>or routine changes include any and all changes to the wording of an admissions or academic standing policy” (3.A.i).</p> <p>Further, “ASC acts for GFC in approving routine and/or editorial changes to both admissions/transfer policies and academic standing regulations” (Section 3.B.ii).</p>
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Routing (Include meeting dates)

<p>Consultative Route (parties who have seen the proposal and in what capacity)</p>	<p><u>Department of Biological Sciences</u> – Fundamental concept articulated at a Departmental retreat – 1 September 2011. Developed further by dedicated committees at meetings and through e-mail exchanges – 5 December 2011, 6 March 2012, 11 September 2012, 7 December 2012, and 30 January 2013.</p> <p><u>Department of Biological Sciences Courses and Curriculum Committee</u> – BIOL 298 and Research Certificate discussed and approved – 23 January 2013. Amended version of Research Certificate discussed and approved – 26 March 2013.</p> <p><u>Department of Biological Sciences Council</u> – BIOL 298 approved – 13 February 2013; amendments to description approved – 17 April 2013. Research Certificate discussed – 13 February 2013. Research Certificate approved unanimously – 17 April 2013. (Note: Council includes undergraduate and graduate student representatives.)</p> <p><u>Associate Dean of Science</u> – BIOL 298 “prototype” and Research Certificate discussed – 31 October 2012. Reviewed and revised <i>via</i> e-mail exchanges throughout Winter, Spring, and Summer 2013.</p> <p><u>Associate Chairs (Undergraduate), Faculty of Science</u> – BIOL 298 and Research Certificate discussed at monthly meeting – 5 April 2013. E-mail discussion of circulated Certificate – 14 May 2013. Amendments resulted.</p> <p><u>Interdepartmental Science Students Society (ISSS), Faculty of Science</u> – Requested feedback from students on 1 November 2013 <i>via</i> e-mail, received feedback and questions on November 15; response to questions sent November 21; and acknowledgement received from ISSS on November 22.</p> <p><u>Associate Chairs (Undergraduate), Faculty of Science</u> – Discussed at 8 November 2013 meeting.</p> <p><u>Chairs, Faculty of Science</u> – Discussed at 21 November 2013 meeting.</p> <p>GFC ASC Subcommittee on Standards (February 6 and March 6, 2014) – for review</p>
<p>Approval Route (Governance) (including meeting dates)</p>	<p>Department of Biological Sciences Courses and Curriculum Committee – BIOL 298 and Research Certificate discussed and recommended – 23 January 2013. Amended version of Research Certificate discussed and recommended – 26 March 2013;</p> <p>Department of Biological Sciences Council – BIOL 298 recommended –</p>

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	13 February 2013; amendments to description approved – 17 April 2013. Research Certificate discussed – 13 February 2013; Research Certificate recommended unanimously – 17 April 2013; GFC Academic Standards Committee (March 20, 2014) – for final approval
Final Approver	GFC Academic Standards Committee

Attachments (each to be numbered 1 - <>):

1. Attachment 1 (pages 1 – 8) – Embedded Credit Certificate Proposal (Including Calendar Description)

Prepared by: Glen R Loppnow, Acting Senior Associate Dean (Student Services), Faculty of Science, glen.loppnow@ualberta.ca (with assistance from Garry Bodnar, University Governance, garry.bodnar@ualberta.ca)

Embedded Credit Certificate Template (Attachment 1)	
Section A: Basics	
Program Name	Research Certificate in Science (Biological Sciences)
Sponsoring Unit	Faculty of Science/Department of Biological Sciences
Contact	<p>Dr. Glen R. Loppnow Acting Sr. Assoc. Dean, Faculty of Science 492-1676 glen.loppnow@ualberta.ca</p> <p>Dr. Cindy Paszkowski, Associate Chair Undergraduate Studies 492-0076 cindy.paszkowski@ualberta.ca</p>
Institution(s)	University of Alberta
Units of Course Weight	<p>*21</p> <ul style="list-style-type: none"> *3 BIOL 298 *6 BIOL 399 <u>or</u> *3 BIOL 398 and *3 BIOL 498 *3 Approved data-handling course options, Biological Sciences *3 Approved skills and techniques course options, Biological Sciences *6 BIOL 499
Program Synopsis (Research Certificate in Science, Biological Sciences, only)	<p>Description: The Research Certificate in Science (Biological Sciences) will build upon the inquiry-based model established in the core courses in Biological Sciences to provide additional hands-on research skills in each of the student's second, third and fourth year in a BSc program. These research skills will be honed in a series of courses (BIOL 298, BIOL 399 [or a combination of BIOL 398 and 498], BIOL 499) as students progress from guided to independent research experiences. Two additional courses, offered by Biological Sciences, at the 300 and 400 levels, will round out the development of unique skills in analysis, data handling, interpretation, practical skills and techniques pertinent to the student's chosen area of concentration.</p> <p>Target Student Group: A Research Certificate in Science (Biological Sciences) will enable students in BSc Honors and Specialization Programs in the Department of Biological Sciences and BSc General Program (major Biological Sciences) to focus on research skills and experiences and build expertise throughout their undergraduate program.</p> <p>Prerequisite: BIOL 107 or BIOL 108 or SCI 100. A formal application and consent of the Department of Biological Sciences is required. The number of incoming students will be determined by the qualification of applicants and by enrolment limitations in required courses. Preference will be given to Honors and Specialization students in the Department of Biological Sciences. Students who successfully complete BIOL 298 (which is required for the certificate) are not guaranteed a place in any additional courses required for the certificate program.</p> <p>Curriculum content: Successful completion of BIOL 298 (*3) – "Understanding Biological Research" (Appendix A) is required for the certificate. BIOL 298 will lay the foundation for the certificate program, introducing students to how biological research is conducted, as well as an opportunity to participate in research in a lab setting. BIOL 298 has a formal admission process. The lecture component will present an overview of the diversity of research in biology, introduce students to different approaches to research in biology including experimental design, develop scientific communication skills, discuss ethics in science as well as careers. During the hands-on research</p>

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	<p>experience, students will learn to formulate research questions, develop specific skills relevant to the project, collect and interpret data, and practice communication of their results. Assessment will be based on assignments, presentations and participation by the student in research in a professor's lab.</p> <p>BIOL 399 (*6) will provide students an opportunity to undertake a full year project in a research lab setting (Appendix A). The focus of this research experience will be the development of a variety of practical skills and techniques. Assessment will be based primarily on the development of these skills and, to a lesser extent the production of a journal style research paper. The alternative combination of BIOL 398 (*3) plus BIOL 498 (*3) will allow a comparable experience, but as two, successive one-term projects, generally under the supervision of two different professors.</p> <p>Two courses, *3 at the 300 and 400 level (*6 total) from approved options, Biological Sciences will provide students with additional experience with analysis, data handling and interpretation, while developing practical skills and techniques appropriate to their areas of concentration in biology (Appendix B).</p> <p>BIOL 499 (*6) will provide students with a capstone research experience, building on the previous courses in the certificate program (Appendix A). Students participating in BIOL 499 through the research certificate will be conducting independent research. Assessment will be based on research skills, a journal/thesis style research paper and an oral presentation to professors and peers.</p> <p>Presentation of research as an oral presentation or poster at an organized conference on or off campus will be required for completion of the research certificate program. This presentation cannot be part of another formal course requirement.</p>
<p>Section B: Rationale, Implications and Impacts</p>	
<p>Rationale for Introduction of Certificate</p>	<p>The Research Certificate in Science recognizes the value of experiential learning in a research environment and the particular skill set that an immersive experience instills beyond the BSc degree. Such a certificate program supports the campus-wide Undergraduate Research Initiative and builds on our strengths as a research- and teaching-intensive institution by providing a unique opportunity for undergraduate students to excel in the development of research skills, "helping to create life changing, transformative experiences" for these students.</p> <p>The Research Certificate in Science (Biological Sciences) will build upon the current strengths in the undergraduate programs in the Department of Biological Sciences by giving students the opportunity to engage in an authentic and focused research experience while pursuing their program. The certificate will reinforce the Department of Biological Science's commitment to excellence in undergraduate research, enhancing the training of exceptional leaders in biology.</p> <p>This certificate draws on the success of the five separate existing courses (*1.5 BIOL 299, *3 BIOL 398, *6 BIOL 399, *3 BIOL 498 and *6 BIOL 499) in the Department of Biological Sciences that provide opportunities for students to engage in research. Only BIOL 499 is a required course for Honors Programs in the Department of Biological Sciences. Currently over 100 students participate in biological research courses each academic year.</p> <p>As funding for summer research experiences have become increasingly limited, students require access to additional venues to engage in research. They need opportunities for the development of the mental and manual skills through</p>

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	<p>mentorships with academic staff and graduate students that will inspire them to pursue meaningful research and discovery in biology. A certificate will recognize this unique combination of research skills and professional development. The certificate program may also attract more students to the undergraduate programs in the department and improve retention and graduation in these programs. As students recognize this unique opportunity to advance their knowledge and skills in biological research, it is hoped that they will recognize alternative careers beyond the pursuit of a medical degree. On the other hand, students interested in the health sciences will come to understand the basic research behind the technologies and applications.</p> <p>The certificate will enable students to move into employment or advanced degrees with greater confidence, experience and skills. The program will help students to develop the ability to solve problems, handle complex information, work in teams, and communicate. Recognition of these skills by potential employers will help students procure employment more readily after their undergraduate experience. Students moving on to post-graduate education will be better able to compete for scholarships, focus on advanced study, and complete post-graduate programs in a timely manner. Students will have the choice of either working intensively with a single professor across multiple years or of moving among labs from course to course to sample diverse research approaches and study systems.</p>
<p>Vision and Academic Plan</p>	<p>A Research Certificate in Science recognizes the values and vision set forth by the Academic Plan. It also is central to the cornerstones of learning set forth by the Academic Plan.</p> <p>Values and Vision:</p> <ol style="list-style-type: none"> 1) Excellence in teaching that promotes learning, outstanding research and creative activity that fuels discovery and advance knowledge. 2) The centrality of our students and our responsibility to provide an intellectually superior educational environment. 3) To inspire the human spirit through outstanding achievements in learning, and discovery. <p>Cornerstones:</p> <ol style="list-style-type: none"> 1) Ability to attract outstanding students. 2) Create a dynamic-based learning environment. 3) Create an exceptional and life-changing university experience for students through curricular offerings that integrate learning, discovery and citizenship. 4) Engage students through mentorship. 5) Foster scholarship and discoveries that are transformative and at the cutting edge by rewarding quality.
<p>Resource Implications (Research Certificate in Science, Biological Sciences, only)</p>	<p>The establishment of BIOL 298 will require 1 FTE drawn from among the current complement of academic staff in Biological Sciences to evaluate applicants, deliver and coordinate the course each year, and oversee the certificate program year round. The research component of BIOL 298 will require professors that are willing to supervise second year students in their labs. Acquiring funding to off-set some of the costs of research projects will be explored, especially to support less skilled, junior students early in the certificate program.</p> <p>The research certificate coordinator will work with program advisors to oversee students' choices of approved options and completion of requirements for the certificate program.</p> <p>Sources of funding to help off-set costs for research conducted by students registered in the 300 and 400 level project courses will also be developed.</p>
<p>Enrolment (Research</p>	<p>There are currently ~ 400+ Honors and Specialization Biological Sciences students and over 1700 General Science students with Biological Science majors and minor.,</p>

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Certificate in Science, Biological Sciences, only)	Of the Honors and Specialization students, 60 to 70 enroll in BIOL 499 each year. There are currently 26 students registered in BIOL 399 and 17 students registered in BIOL 299. These healthy enrolments exist prior to the institution of a certificate program. It is anticipated that more students will participate in project courses should a certificate program be created. The gatekeeper course for the certificate will be BIOL 298 (which will require an application process) with a proposed enrollment cap of ~35 students per term. This enrollment cap is aligned with the expected number of research positions offered within the department
Implications of Introduction of the Credit Certificate	There is an expectation that this certificate program would encourage students to enter the Honors and Specialization programs throughout the Faculty of Science, particularly in those departments offering such a certificate.
Consultation	<p>No adverse impacts are foreseen from the implementation of this research certificate. Courses required toward the certificate should be easily accommodated within existing programs.</p> <p>Consultation:</p> <p><u>Department of Biological Sciences</u> – Fundamental concept articulated at a Departmental retreat – 1 September 2011. Developed further by dedicated committees at meetings and through email exchanges – 5 December 2011, 6 March 2012, 11 September 2012, and 7 December 2012, and 30 January 2013.</p> <p><u>Department of Biological Sciences Courses & Curriculum Committee</u> – BIOL 298 & Research Certificate discussed and approved – 23 January 2013. Amended version of Research Certificate discussed and approved – 26 March 2013.</p> <p><u>Department of Biological Sciences Council</u> – BIOL 298 approved – 13 February 2013, amendments to description approved – 17 April 2013. Research Certificate discussed – 13 February 2013. Research Certificate approved unanimously – 17 April 2013. Note: Council includes undergraduate and graduate student representatives.</p> <p><u>Associate Dean of Science</u> – BIOL 298 “prototype” and Research Certificate discussed – 31 October 2012.</p> <p><u>Associate Chairs, Undergraduate, Faculty of Science</u> – BIOL 298 and Research Certificate discussed at monthly meeting – 5 April 2013. Email discussion of circulated Certificate – 14 May 2013. Amendments resulted.</p>
Appendices (Research Certificate in Science, Biological Sciences, only)	<p>Appendix A: Course descriptions for BIOL 298, BIOL 398, BIOL 399, BIOL 498, and BIOL 499.</p> <p>Appendix B: 300 and 400-level research-related courses recommended for *6 in approved options, Biological Sciences.</p>

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Appendix A - Undergraduate Research Courses in the Department of Biological Sciences for Research Certificate in Science (Biological Sciences)

BIOL 298 – Understanding Biological Research *3 (fi 6) (either term, 3-0-3).

An introduction to the process of scientific research including the different approaches to research within biology, formulating research questions, hands-on skill development, experimental design, data collection and analysis, critical thinking, communication of findings, ethics, and career opportunities. Students will attend lectures and selected seminars, and participate in biological research under the supervision of an academic staff member in the Department of Biological Sciences. Open to undergraduate students in the Faculty of Science with preference given to students in Honors and Specialization Programs in the Department of Biological Sciences, and BSc General students (Biological Sciences major). Consent of Department of Biological Sciences required. All students must apply for admission. Prerequisite: BIOL 107 or BIOL 108 or SCI 100. See the Biological Sciences website for more details at www.biology.ualberta.ca/courses.

BIOL 398 Research Project *3 (fi 6) (either term, 0-0-6).

Directed research done under the supervision of an academic member in the Department of Biological Sciences. Normally for students in their third year of study. Successful completion of this course requires a written report on the research project. Prerequisites: A 200-level Biological Sciences course and consent of the Associate Chair, Undergraduate Studies. Credit for this course may be obtained only once. Students must arrange a project with an academic staff member.

BIOL 399 Research Project *6 (fi 12) (two term, 0-0-6).

Directed research done under the supervision of an academic member in the Department of Biological Sciences. Normally for students in their third year of study. Successful completion of this course requires a written report on the research project. Prerequisites: A 200-level Biological Sciences course and consent of the Associate Chair, Undergraduate Studies. Credit for this course may be obtained only once. Students must arrange a project with an academic staff member.

BIOL 498 Research Project *3 (fi 6) (either term, 0-0-6).

Directed research in the laboratory of an academic staff member in the Department of Biological Sciences. Normally for students in their fourth year of study. Successful completion of this course requires a written report on the research project. Prerequisites: A 300-level Biological Sciences course and consent of the Associate Chair, Undergraduate Studies. Credit may be obtained more than once. Students must arrange a project with an academic staff member.

BIOL 499 Research Project *6 (fi 12) (two term, 0-0-6).

Directed research in the laboratory of an academic staff member in the Department of Biological Sciences. Normally for students in their fourth year of study. Successful completion of this course requires an oral presentation and a written report on the research project. Prerequisite: A 300-level Biological Sciences course and the consent of the Associate Chair, Undergraduate Studies. Note: Students in Honors in Biological Sciences are required to successfully complete BIOL 499. Students must arrange a project with an academic staff member.

Appendix B – 300 and 400-level Approved Options in Research Related Courses

***3 Analysis, Data Handling and Interpretation** – approved options Biological Sciences. A number of courses will be considered for this requirement, however, project courses (BIOL 298, BIOL 299, BIOL 398, BIOL 399, BIOL 490, BIOL 498 and BIOL 499) may not be used. Note: a student may not use a single course to satisfy the course requirement for both the *3 Analysis, Data Handling and Interpretation and the *3 Practical Skills and Techniques requirements, with exception of GENET 420 (*6).

Approved options include, but are not restricted to, the following:

BIOIN 301, BIOL 330, BIOL 331, BIOL 335, BIOL 380, BIOL 391, BIOL 392, BIOL 421, BIOL 430, BIOL 432, BOT 332, GENET 375, GENET 420, MICRB 345, ZOO 344.

***3 Practical Skills and Techniques** - approved options Biological Sciences. A number of courses will be considered for this requirement, however, project courses (BIOL 298, BIOL 299, BIOL 398, BIOL 399, BIOL 490, BIOL 498 and BIOL 499) may not be used. Note: a student may not use a single course to satisfy the course requirement for both the *3 Analysis, Data Handling and Interpretation and the *3 Practical Skills and Techniques requirements, with exception of GENET 420 (*6).

Approved options include, but are not restricted to, the following:

BIOIN 301, BIOIN 401, BIOL 333, BIOL 335, BIOL 365, BIOL 391, BIOL 392, BIOL 432, BIOL 471, BOT 308, BOT 322, BOT 332, BOT 340, ENT 427, GENET 375, GENET 420, MICRB 345, MICRB 492, PALEO 400, ZOO 303, ZOO 344, ZOO 351, ZOO 354, ZOO 370, ZOO 371, ZOO 450, ZOO 452.

**New Certificate Proposal
Research Certificate in Science (Biological Sciences)**

195. Certificates (from pg 405)

195.2 Research Certificate in Science

A Research Certificate in Science will provide an opportunity for undergraduate students to engage in authentic research in their discipline and acquire skills beyond what a normal research experience in an Honours or Specialization program may allow.

195.2.1 Research Certificate in Science (Biological Sciences)

A Research Certificate in Science (Biological Sciences) will provide an opportunity for undergraduate students to engage in authentic and focused research.

This certificate is open to undergraduate students in the Faculty of Science with preference given to BSc Honors and Specialization students in the Department of Biological Sciences and BSc General students (Biological Sciences major). Consent of the Department of Biological Sciences is required. Normally, a student will be able to fulfill the requirements for this certificate as part of a BSc program; some students may need to complete more than the minimum number of credits required in order to qualify for both the degree and the certificate.

Students wishing to pursue the Research Certificate in Science (Biological Sciences) must apply through Student Services Office (BS CW -312) for acceptance into BIOL 298. Application for this course does not guarantee a position in this program or the awarding of a certificate.

Students may pursue the Research Certificate in Science (Biological Sciences) by fulfilling the existing requirements for their program and by completing *21 as follows:

- a) BIOL 298 (*3)
- b) BIOL 399 (*6) or BIOL 398 (*3) and BIOL 498 (*3)
- c) BIOL 499 (*6)
- d) *3 from a list of 300 and 400 level approved options in data handling courses in Biological Sciences
- e) *3 from a list of 300 and 400 level approved

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	<p><u>options in practical skills and techniques</u> <u>courses in Biological Sciences</u></p> <p>f) <u>Presentation at a conference either on or off</u> <u>campus</u></p> <p><u>Students wishing to receive the Research</u> <u>Certificate in Science (Biological Sciences) must</u> <u>apply through Undergraduate Student Services in</u> <u>the Faculty of Science by the application deadline for</u> <u>convocation (see §11).</u></p>
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