

University of Windsor
Program Development Committee

*5.6 **Science (Earth and Environmental Science) – New Course Proposal**

Item for: **Approval**

MOTION: **That the following course addition be made*:
 66-305. Environmental Sedimentology**

**Subject to approval of the expenditures required.*

Rationale:

- The changes were approved by Department of Earth and Environmental Sciences Council and the Faculty of Science Coordinating Council.
- *See attached.*

TITLE OF THE PROGRAM/CERTIFICATE: B.Sc. in Environmental Science
DEPARTMENT/SCHOOL: Department of Earth & Environmental Sciences
FACULTY: Science
Proposed change(s) effective as of: Fall 2013

A. NEW COURSE PROFILE

Course # and Title: 66-305. Environmental Sedimentology

Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

Description and analysis of depositional and diagenetic processes, facies, environments and sequences. The impact of natural processes and anthropogenic activities on the nature, production, and accumulation of sediments. Effects of changes in hydrologic reservoirs and fluxes. (3 lecture hours per week, field trips). (Prerequisite: 66-232 or consent of the instructor.)

Other Course Information

Please complete the following tables.

Credit weight	Total contact hours	Delivery format				Breakdown of contact hours/week			
		In-class	e-learning	Distance	Other flexible learning delivery <i>[please specify]</i>	Lecture	Tutorial	Lab.	Co-op/practicum
3.0	36	3				3			

Pre-requisites	Co-requisites	Anti-requisites	Cross-listed with:	Required course	Optional course	Replacing old course*** <i>[provide old course number]</i>
66-232					Yes	

[*Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.]**

Will students be able to obtain credit for the new course and the course(s) that it is replacing?

B. RATIONALE

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

The course will provide students with an in-depth knowledge of the nature of sedimentary systems, processes, and the response of sedimentary systems to natural and anthropogenic influences, such as climate, hydrology, and diagenesis. This will provide students with the knowledge and skills required to assess samples, data, and environmental issues related to sedimentary systems. The course will build on the content of 66-232: Soils and Sediments.

B.2 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows.

Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. Each University of Windsor program should produce graduates that are able to demonstrate each of the nine characteristics approved in To Greater Heights.

Information on learning outcomes is appended to this form (Appendix A). Proposers are also strongly encouraged to contact the Office of the Vice-Provost, Teaching and Learning or the Centre for Teaching and Learning, for assistance with the articulation of learning outcomes.

Learning Outcomes <i>This is a sentence completion exercise.</i>	Characteristics of a University of Windsor Graduate
<u>At the end of this course, the successful student will know and be able to:</u>	<u>A U of Windsor graduate will have the ability to demonstrate:</u>
<ul style="list-style-type: none"> • Identify, describe, and interpret sediment types and processes. • Identify and interpret diagenetic modifications imposed on sediments • Employ sedimentologic techniques • Interpret depositional environments in the context of natural and anthropogenic processes. 	A. the acquisition, application and integration of knowledge
<ul style="list-style-type: none"> • Acquire, evaluate and interpret field sedimentologic data • Write research papers 	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
<ul style="list-style-type: none"> • Interpret and assess field data. • Apply knowledge in theory and practical applications to solve sedimentological and environmental problems. 	C. critical thinking and problem-solving skills
<ul style="list-style-type: none"> • Apply statistical treatment to interpret data. • Write reports and term papers. 	D. literacy and numeracy skills
<ul style="list-style-type: none"> • Apply sedimentological data and interpretations to solve environmental problems. 	E. responsible behaviour to self, others and society
<ul style="list-style-type: none"> • Debate and discuss depositional models and processes within groups by giving oral presentations and reports. 	F. interpersonal and communications skills
<ul style="list-style-type: none"> • Work in groups in the laboratory and field 	G. teamwork, and personal and group leadership skills
N/A	H. creativity and aesthetic appreciation
N/A	I. the ability and desire for continuous learning

B.3 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	10	14	16	18	20

Projections were derived from the enrolment forecast for the Environmental Science program, assuming that a significant portion of students in the program will choose this course to fulfill their degree requirements.

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

No impact is anticipated. This course will add a new dimension to our upper-level course offerings, covering the physical aspects of sedimentary environments and sediment erosion, transport, and deposition, in addition to the existing courses on the chemical and biological aspects of the environment. It will complement the existing courses in environmental geomorphology (landforms and landscape development) and hydrogeology (fluid flow through sediments).

B.4 Student Workload

*Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.*

Average number of hours per week that the student will be expected to devote to:	
3	Lectures
	Tutorials
	Labs
	Practical experience
	Independent Study
4	Reading for the course
1	Work for assessment (essays, papers, projects, laboratory work)
	Meeting with others for group work/project assignments
1	Studying for tests/examinations
	Other: <i>[specify]</i>
How does the student workload for this course compare with other similar courses in the department/program area? The student workload is comparable to similar courses at the same level (3 rd year) within the program.	

C. RESOURCES

C.1 Available Faculty and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe all faculty and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course.

The Department of Earth & Environmental Sciences, as a result of the recent elimination of the Geology and Environmental Geoscience programs and the pending cancellation of a number of courses associated with those programs, has sufficient faculty and staff resources to offer the proposed course. The content of the proposed course is also consistent with and will further enhance the revised Environmental Science program offering that the department has developed.

C.1.1

Provide an assessment of faculty expertise available and committed to actively support the new course.

Dr. Ihsan Al-Aasm, whose research interests and expertise includes sediments and sedimentology, will teach this course.

C.1.2

Describe the area's expected reliance on, and the role of adjunct, limited-term, and sessional faculty in delivering the new course.

None required.

C.2 Resource Implications for Other Campus Units (MTCU sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example:

- *faculty teaching,*
- *equipment or facilities outside the proposer's control,*
- *external resources requiring maintenance or upgrading using external resources*

Provide relevant details.

The proposed new course will not rely on resources from other campus units or areas.

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; MTCU section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the revisions to this program.*

The proposed new course will not require any new resources. Any costs incurred for two or three local fieldtrips will be covered by funds from the department's fieldtrip budget that were previously allocated to other courses, which have now been eliminated.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; MTCU section 4)

Identify all opportunities for

- *internal reallocation of resources and*
- *cost savings*

identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.)?

Once the revised Environmental Science program implementation is complete, EES will have significantly reduced, streamlined or focused the number of programs and courses previously offered. These internal reallocations will result in the liberation of resources that will be available to teach new courses, such as Environmental Sedimentology.

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

Faculty: No additional faculty resources are required.

Staff: No additional staff resources are required.

GA/TAs: No additional GA/TA resources are required.

C.5.1

*Describe all **additional institutional resources and services** required by all affected areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

Library Resources and Services: No additional library resources are required.

Teaching and Learning Support: No additional teaching and learning support resources are required.

Student Support Services:

Space and Facilities: No additional space or facility resources are required.

Equipment (and Maintenance): No additional equipment is required.