

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



COURSE OUTLINE

COURSE TITLE:	SOURCE WATER PROTECTION		
CODE NO. :	NET305	SEMESTER:	6
PROGRAM:	Natural Environment Technologist		
AUTHOR:	DAVID TROWBRIDGE		
DATE:	Dec 2013	PREVIOUS OUTLINE DATED:	Dec 2012
APPROVED:	"C.Kirkwood"		Jan '14
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	"Dean"		DATE
TOTAL CREDITS:	3		
PREREQUISITE(S):			
HOURS/WEEK:	3 HOURS LECTURE		

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For additional information, please contact
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I. COURSE DESCRIPTION:

This course gives students the tools to answer the call for action to protect our globally dwindling fresh water supplies. Students will be introduced to watershed management as a means of protecting water quality in the natural environment and where this water may be used as a drinking water source. The basic hydrology of surface water and groundwater supplies will be discussed. Threats to water quality will be examined, as well as methods of contamination. Students will learn the steps involved in developing source water protection plans and their implementation. The role of the various levels of government will be discussed from a Canadian perspective. Students will apply their knowledge in the field by tackling a local source water issue and implementing a solution.

II. LEARNING OUTCOMES:

Upon successful completion of this course the student will demonstrate the ability to:

1. Discuss the demands on the global water supply and the future predictions regarding the issues surrounding water quantity and quality.
2. State the concepts of source water protection as part of a multi-barrier approach to protecting water resources.
3. Apply the basics of hydrology and hydrogeology to describe surface water and groundwater supply models and water budgeting.
4. List key water quality characteristics used to evaluate the properties of water as they apply to both environmental and drinking water applications.
5. Identify the various types of contaminants and routes of contamination which threaten water quality.
6. Explain the potential impact of climate change on water resources.
7. List the steps involved in mitigating impacts on water resources including pollution prevention and control and the role of monitoring water quality.
8. State the function of governments in water management in Canada and list the roles and responsibilities of federal, provincial and municipal agencies.
9. Utilize problem solving skills to resolve a local source water issue.

III. TOPICS

1. Global water issues, past present and future
2. Source to Tap: A multi-barrier approach to water quality protection
3. Water supply hydrology
4. Source Water quantity

5. Water quality analysis
6. Water quality contamination
7. Mitigating environmental impact on water resources
8. Impact of climate change
9. Source water protection planning
10. Governments role in water resource protection

V. REQUIRED RESOURCES/TEXTS/MATERIALS:

To be determined

VI. EVALUATION PROCESS/GRADING SYSTEM

The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	>80 % - <90%	3.00
B	>70% - <80%	2.00
C	>60% - <70%	1.00
D	>50% - <60%	0.00
F (Fail)	<50%	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

Final mark will be based on the following

Test # 1	20 marks
Test # 2	20 marks
Test # 3	20 marks
Assignments	20 marks
<u>Class project</u>	<u>20 marks</u>
Total	100 marks

ATTENDANCE:

Your grade will be greatly affected by attendance at scheduled classes and activities. 85% is expected at all theory classes while 100% is required for all activities. Serious illness (doctor's medical slip) or compassionate reasons are the only valid excuses. Any other situation must be discussed with the instructor prior to the absence to determine if an accommodation can be arranged.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:

The College considers LMS as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the Learning Management System communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in Student Code of Conduct. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:

The Sault College portal allows you to view all your student information in one place. mysaultcollege.ca gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. Cell phones create disturbance in the classroom. In exceptional circumstances and with prior agreement with the instructor permission may be given for students to have phones activated.

With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

Tuition Default:

Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of November, will be removed from placement and clinical activities. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.