Module 3 CSUS 842-730 Watershed Assessments & Tools

Instructor Information
Instructor: Jon F. Bartholic, Director and Professor
Office: Institute of Water Research, Michigan State University
Office Hours: by appointment
Office Telephone: 517-353-9785
E-mail: bartholi@msu.edu

Course Description
Assessing and predicting physical, chemical, biological and socioeconomic conditions within watersheds. Tools and techniques for identifying, evaluating, and prioritizing problems.

Textbook & Course Materials
There is no required textbook for this course. Course Instructions and other readings are available online through Desire2Learn.

Course Requirements
- Internet connection (DSL, LAN, or cable connection desirable)
- Access to Desire2Learn at https://d2l.msu.edu/

Course Structure
- This course will be delivered entirely online through the course management system Desire 2 Learn. You will need your MSU NetID to login to the course.
- In Desire2Learn, you will access online lessons, course materials, and additional resources.

Technical Assistance
If you need technical assistance at any time during the course, or to report a problem, you can:
- Visit the Distance Learning Services Support Site http://www.lib.msu.edu/dls/
- Visit the Desire2Learn Help Site http://help.d2l.msu.edu/

Course Objectives
Watershed Assessments and Tools presents techniques for assessing and predicting physical, chemical, biological and socioeconomic conditions within a watershed, including indicators, water quality monitoring, bio-assessment protocols, and pollutant loading models. Students will gain basic skills in latest Cloud GIS, programming & numeric modeling in the context of watershed management. Hands-on instructions and exercises will provided throughout the course.

Course Outlines

Here is an overview of the topics covered in this course:

**Unit 1**: Introduction to Watershed Assessments and Tools
**Unit 2**: What can technology do for watershed assessment and management?
**Unit 3**: Predicting Hydrologic, Hydraulic, Water quality, & Sediment Transport Response
**Unit 4**: Basics of Physical Hydrology & Programming
**Unit 5**: Mechanics and Meanings of Geographic Information Systems
**Unit 6**: Introduction to Remote Sensing
**Unit 7**: Reading Contour Maps and Their Applications for Watershed Management
**Unit 8**: Soil Erosion and Sedimentation
**Unit 9**: Soil, Runoff, and Agricultural Non Point Source Pollution
**Unit 10**: Soil Erosion and Sediment Control Techniques Overview
**Unit 11**: Soil Erosion and Sediment Control Techniques Part 1
**Unit 12**: Soil Erosion and Sediment Control Techniques Part 2
**Unit 13**: Survey Techniques
**Unit 14**: Water Quality Indicators & Sampling Protocols

Course Schedule

Refer to the Course Calendar in the Desire2Learn calendar tool for each week's corresponding learning topics and important assignment due dates. The course has no ‘assigned’ log-in or meeting times, and no campus visits
are required, however a course calendar indicates dates you should be working on specific units and homework assignments.

**Grading Policy**

Grades are based on homework exercises, two exams and weekly discussions. All assignments for this course will be submitted electronically through Desire2Learn unless otherwise instructed. Late or missing assignments will affect the student’s grade.

Assignments and exams will be weighted as follows:

<table>
<thead>
<tr>
<th>Course Grades</th>
<th>Homework</th>
<th>30%</th>
<th>4.0</th>
<th>&gt; 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm</td>
<td>30%</td>
<td>3.5</td>
<td>85 - 89%</td>
<td></td>
</tr>
<tr>
<td>Final</td>
<td>25%</td>
<td>3.0</td>
<td>80 - 84%</td>
<td></td>
</tr>
<tr>
<td>Discussion Participation</td>
<td>15%</td>
<td>2.5</td>
<td>75 - 79%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>2.0</td>
<td>70 - 74%</td>
<td></td>
</tr>
</tbody>
</table>

**Late Work Policy**

**Homework:** You will have a 2-day grace period from the listed due date on the course calendar. After that, you will be deducted 3 points per every day past this grace period. Exceptions may be made for technical problems or student conflicts.

**Midterm:** Midterm examination is open for 1 week. You can go in and out, saving your answers and return to it later throughout the week.
Final: Final examination is available for completion for 1 full day, however once you log-in you will only have 2 1/2 hours to complete it and cannot go in and out.

Both tests are open books, Internet, course, notes. But not open neighbor.

In the past, occasional technical difficulties resulted in temporary problems accessing the course web page or certain links. Please inform your TA or course assistant or contact the MSU Distance Learning helpline at (800) 500-1554. Usually, if a link is broken or a server is down, it can be fixed quickly or an alternative will be suggested.

Course Policies

Students are expected to participate in all assignments/activities. If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor or your TA know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that we can help you find a solution.

Commit to Integrity

Academic Honesty

Article 2.3.3 of the Academic Freedom Report states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." Therefore, unless authorized by your instructor, you are expected to complete all course assignments without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also http://www.msu.edu/unit/ombud/dishonestyFAQ.html).