Module 1: CSUS 452-730 WATERSHED CONCEPTS

Instructor Information

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Course Description

Watershed hydrology and management. The hydrologic cycle, water quality, aquatic ecosystems, and social systems. Laws and institutions for managing water resources.

Textbook & Course Material

Required Text:

"*Hydrology and the Management of Watersheds*" Kenneth N. Brooks, et. al., Third Edition, Iowa State University Press. The book can be purchased at several local bookstores. Please note that *a newer edition (Forth edition) is also available*. Reading pages will be provided for both editions. Course instructions and other readings are available online through Desire 2 Learn.

Course Requirement

- 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 Desire2Learn. 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 at: http://www.lib.msu.edu/dls/
- Visit the Desire2Learn Help Site at: http://help.d2l.msu.edu/

Course Objective

This course will introduce students to the foundations of watershed hydrology and management. Each of the 13 units in this module presents a key concept, followed by descriptions of available data, monitoring and evaluation techniques, and assessment tools pertaining to that concept. At the end of each unit, students must complete an exercise using the unit's key concepts and tools. Initially, exercises are designed to increase familiarity with simple quantitative tools and models. Later in the course, the exercises become more integrative.

Course Outline

Here is the topics covered in this course:

I. Introduction to Watershed Management (unit 1)

- What is a watershed?
- Why manage on a watershed basis?
- Watershed delineation

II. Watershed Hydrology or Watershed Systems (unit 2-9)

- Hydrologic cycle/Water balance
- Climate and precipitation
- Soils and infiltration
- Evapotranspiration
- Groundwater
- Streamflow and runoff
- Water chemistry
- Aquatic ecosystem
- Social and economic systems

III. Issues in Water Resources (Units 10-11)

- Point source pollution
- Nonpoint source pollution

IV. Legal and Institutional Tools (Units 12)

Examples of:

- International, federal, state and local regulations
- Government agencies

V. Watershed Management Plans (Unit 13)

- Top 10 lessons learned from watershed management planning: US EPA
- Watershed planning process
- Outreach and education

Course Schedule

Refer to the ***Course Calendar*** **i**n 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 weekly 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 will be weighted and the final grade will be based on the following:

Assignment Category	Weight	Grade	
1. Homework	35%	4.0	> 90%
2. Midterm exam	25%	3.5	85 - 89%
3. Final exam	25%	3.0	80 - 84%
4. Discussion	15%	2.5	75 - 79%
Total	100%	2.0	70 - 74%
		1.5	65 - 69%
		1.0	60 - 64%
		0.0	< 60%

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 schedule 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 book, Internet, course, notes. 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 course associate or contact the **MSU Distance Learning helpline at (800) 500-1554 or (517) 355-2345**. Usually, if a link is broken or a server is down, it can be fixed quickly or an alternative will be suggested.

Course Policy

Students are expected to participate in all online assignments and 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 course associate 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.