# CE 374K Hydrology Review for Final Exam Spring 2012

The material is classified according to ***Bloom’s Taxonomy of Educational Objectives***:

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| --- | --- | --- |
| **Level** | **Title** | **Meaning** |
| 1 | Knowledge | Definitions, facts, formulas |
| 2 | **Comprehension** | Explanation of definitions, formulas, problem solving procedures |
| 3 | **Application** | Know how to use a formula or procedure to solve simple problems |
| 4 | **Analysis** | Break down a complex problem and solve by steps |
| 5 | **Synthesis** | Derivation of basic formulas, design of new systems |
| 6 | **Evaluation** | Advantages and limitations of alternative approaches |

**Lectures**

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| --- | --- | --- |
| **Lecture** | **Topic** | **Level** |
| 1 | Flow in channels | 4 |
| 2 | Environmental flows in the Trinity River | 3 |
| 3 | Drought and water supply planning | 2 |

Readings: Chow, Maidment, Mays

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| --- | --- | --- |
| Sec 9.3-9.4 | Wave celerity and kinematic wave computation | 5 |
| Sec 9.5-9.7 | Numerical solutions, Muskingum-Cunge method | 3 |
| Sec 15.3 | Floodplain analysis | 2 |
| Sec 15.6 | Design for water use | 3 |

The final exam will cover the material that we’ve had since the second quiz in a similar manner to the earlier quizzes, and then there will be some comprehensive questions that review the whole curriculum for the semester. The skills that I expect you to have for the material we have covered since the second quiz are:

(1) Calculate the kinematic wave celerity and the dynamic wave celerity in rectangular channels and explain what the difference between them is.

(2) Predict the travel time of a particular discharge as a kinematic wave in a rectangular channel to a point at a known distance downstream.

(3) Compute a reservoir water balance in monthly time periods for one year.

**Sample Problems:**

Problem 9.3.1, 9.4.2, 9.4.3, 15.6.2

You may bring three review sheets with you with anything written on them that you like.

**The exam is scheduled for Monday, May 14, 9:00AM-12 noon in ECJ 6.406**