**CE 374K Hydrology, Spring 2013**

**Review for Second Exam**

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**

|  |  |  |
| --- | --- | --- |
| **Lecture** | **Topic** | **Leve**l |
| 1 | Global water issues | 2 |
| 2 | Unit Hydrograph | 5 |
| 3 | Hydrologic routing | 5 |
| 4 | Channel flow routing | 4 |
| 5 | Introduction to HEC-HMS | 3 |
| 6 | Brushy Creek Hydrology | 4 |
| 7 | Statistics (Dr Passalacqua) | 3 |
| 8 | Texas Drought and San Angelo  | 2 |
| 9 | Hydrologic frequency analysis, HEC-SSP | 5 |
| 10 | Frequency factors, Hydrologic design | 4 |
| 11 | Design storms  | 3 |
| 12 | Extreme storms & Upper Brushy Creek Design | 2 |

**Readings: Applied Hydrology**

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| **Source** | **Topic** | **Level** |
| Sec. 7.1 – 7.3 | Linear systems, unit hydrograph definition | 5 |
| Sec 7.5, 7.7 | Hydrograph computation, SCS unit hydrograph method | 4 |
| Sec 8.1, 8.2 | Level pool routing | 5 |
| Sec 8.4 | River routing, Muskingum method | 4 |
| Sec 9.1 – 9.2 | St Venant equations, definition of wave types | 3 |
| Sec 11.1 – 11.5 | Statistics and statistical parameters | 3 |
| Sec 12.1 – 12.3 | Flood frequency, return period, Frequency factors | 5 |
| Sec 12.4 – 12.6 | Water Resources Council Method | 4 |
| Sec 13.1 – 13.2 | Design level | 2 |
| Sec 14.1 – 14.4 | Design precipitation depth, hyetographs, idf curves | 3 |
| Sec 14.5 – 14.6 | Probable maximum precipitation | 2 |

You may bring with you one review sheet 8 ½” x 11” with anything written on it that you like.