

**FULL MODEL APPLICATION - ADDENDUM to CWR 5535C:  
Advanced Modeling Applications in Water Resources Engineering  
Application Case(s) Final Reports – Spring 2024 - POINTS = 35 POINTS  
Instructor: Professor Fuentes**

**Objective**

The student will study and practice the implementation of several hydrologic and hydraulic computer codes in engineering analysis and design problem solving. Second, the student will, individually or in group, upon instructor's approval, use a code in an application case to a system of their choice to demonstrate their understanding of its background theory, implementing it to support analysis or design or both in engineering practice or research and development. The application case should include the selection of the system to model, its characterization, the identification of required input data and the completion of simulation of scenarios (i.e., or alternatives) as they may need to reach "best" justified conclusions and recommendations.

**Guidelines**

The student will complete and present written and oral reports of professional quality. Final written report should be 10-20 pages long, excluding appendices; contents should include, as appropriate, the following:

Presentation Letter	Theory
Cover Page	Application Case(s) Description
Team Member Contributions	Methodology
Table of Contents	Results and Discussion
List of Figures	Conclusions
List of Tables	Recommendations
Introduction	Appendices (as necessary)
Objective(s)	

**Deadlines**

- a) Proposal: one-page, due electronically (PDF format) on Friday March 8, 2024, or earlier, including the following contents:  
Title, Problem Description, Objective(s), Application Case System Description, Model Description, Most Possible Data Sources, and Relevant References (5-10).
- b) Full Model Application: Progress Report (held March 13, 2024): 15-minute oral presentation, in MS PowerPoint, and 10-15 slides. A MS Word file copy must be turned in to the instructor at the end of the presentation.
- c) Full Model Application: Written Report Due: April 22, 2024, *or earlier*:  
Maximum of 20 points equally based on effective use of the selected model, technical soundness and quality of report. Literature review must include, at least, three peer-reviewed journal publications or official technical reports of relevant content to the objective of the project. *The student must run the short paper through Turnitin (or equivalent software, such as iThenticate software) and attach the report to the written report on submittal. Students must also attest, in writing, that the paper has not been used for grading as part of academic credit to meet requirements for a degree program anywhere in the world.*
- d) Full Model Application: Oral Presentation: Final week (April 24, 2024), 5:00PM – 7:00PM at room EC 2830.  
Maximum of 15 points equally based on organization and quality of presentation. Duration: 30-45 minutes maximum followed by a Q/A time. A CD or equivalent storage option should be presented to the instructor at the end of the presentation, including e-files of the oral presentation (in MS PowerPoint) and the written report (in MS Word). Students should keep copies of their work for copies that turned in to the instructor will not be returned.

Final 01/17/24