CTC 450 **Coordinator: Jayne Baran**
Water and Wastewater Systems **Classroom: Donovan 1106**
Fall 2018 **Time: MW Noon-2 pm**

Course Description:

Course covers water quality, water supply systems, wastewater systems, solid waste management, and pollution control. Prerequisite: Coursework in hydrology and hydraulics. Corequisite: CHE 110

Credit Hours: 4

Learning Outcomes:

Each student will demonstrate the ability to:

1. Determine the resultant hydrostatic force on a submerged, inclined gate (Student Outcome 2)
2. Apply Bernoulli's equation and draw an Energy/Hydraulic Grade Line (Student Outcome 5)
3. Determine detention time, overflow rate, weir loading rate and percent solids removal of a clarifier (Student Outcome 5)
4. Use computer software to solve open channel flow and pipe system problems (Student Outcomes 3 and 5)

Required Text and Materials:

Hammer, Mark J, and Hammer, Mark, J. Jr., Water and Wastewater Technology, Prentice Hall, 2012, 7th edition, ISBN 13:978-0-13-511404-9

Haestad Methods, Inc., Computer Applications in Hydraulic Engineering, Haestad Press, 2007, 8th edition. ISBN-10 Number: 0-9714141-6-5. ISBN-13 Number: 978-0-9714141-6-5-7.

Course: CTC450 / Section: 01 - Water & Wastewater Systems
Book Title: COMPUTER APPLICATIONS IN HYDRAULIC ENGINEERING
Available as a book on reserve available at the circulation desk with a call number of: Reserve L#124
Would you please share this information with your students? Our aim is to improve college access and affordability by publicizing instances of required course materials being freely available from the library.

Office Hours and Contact Info:

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(Or by appointment)
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Donovan Hall, 1197
Phone: (315) 792-7542

Topics and Projects:

Topics:	Description	Hrs	Assignments/Projects
1	Introduction	2	Chapter 1 / Review Bentley Software
2	Chemistry	2	Chapter 2
3	Biology	2	Chapter 3
4	Hydraulics & Hydrology	16	Chapter 4 / Software Application Project
5	Water Quality	2	Chapter 5
6	Water Distribution Systems	2	Chapter 6 / Software Application Project
7	Water Processing & Operations	4	Chapter 7/ 8 Review Construction Plans
8	Wastewater Flows & Characteristics	2	Chapter 9
9	Wastewater Collection Systems	2	Chapter 10 / Software Application Project
10	Wastewater Processing	2	Chapter 11
11	Wastewater Operations	2	Chapter 12 / Software Application Project
12	Advanced Wastewater Treatment	2	Chapter 13
13	Water Reuse	2	Chapter 14
14	Sustainability and Carbon Footprint	2	Chapter 15 / Sustainability Report
	Project Presentations/Activities	6	
	Mid-Term/Final/Reviews	8	

Methods of Evaluation:

Homework:
Homework shall be typed or neatly handwritten in pencil on engineering graph paper**.** There is no provision for make-up of homework assignments. A missed homework assignment is a zero and will be factored into the final grade.

Examinations:
There will be one midterm and one final exam scheduled during the semester. Students are expected to take the exams at the scheduled times. Generally, no make-up test will be given except for medical emergencies or other valid reason for which prior approval has been obtained.

Projects:
Applied design projects and reports emphasize teamwork and communication, as well as the application of industry-standard hydraulic, word-processing, spreadsheet, and presentation software. The need for professionalism and excellence is reinforced through the requirement for assignments to be completed on time and in a neat and well-organized manner

Attendance/Participation:
Students are expected to attend every class period and have homework and project assignments completed and ready to present. A missed class does not excuse responsibility for the work covered in class and the homework assignments. Students will be held to the standards set forth in the *Student Handbook*, stated as the College's "Code of Academic Conduct."

Homework	20%
Projects	20%
Mid-Term Exam	30%
Final Exam	30%
TOTAL	**100%**

Accommodations for Students with Disabilities:

In compliance with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act, SUNY Polytechnic Institute is committed to ensuring educational access and accommodations for all registered students seeking access to meet course requirements and fully participate in programs and activities. Students with documented disabilities or medical conditions are encouraged to request these services by registering with the Office of Disability Services. For information related to these services or to schedule an appointment, please contact the Office of Disability Services using the information provided below.

Evelyn Lester, Director
Office of Disability Services
lestere@sunyit.edu
(315) 792-7170

Utica Campus
Kunsela Hall, B101

References:

Revelle, Charles S. et al, Civil and Environmental Systems Engineering, 2/E, Prentice-Hall, 2004, ISBN 0-13-047822-9.

Master, Gilbert M., Introduction to Environmental Engineering and Science, 2/E, Prentice-Hall, 1997, ISBN 0-13-155384-4.

Sincerio, Arcadio P. and Gregoria A., Environmental Engineering: A Design Approach, Prentice-Hall, 1995, ISBN 0-02-410564-3.