CENG 4371/CENG 5391- Environmental Engineering Design
Course Syllabus *

(Date: Aug 26, 2024. This version supersedes all earlier versions)*

INSTRUCTOR INFORMATION

- **Instructor Name:** Dr. Zain Al-Houri
- **Office Number:** HEC A211
- **Email**: zalhouri@uttyler.edu
- **Office Hours (In Person or virtual*):**

  M/W 10:00 AM – 11:00 AM, T/Th 11:00 AM – 12:00 PM, W/TH 1:00 PM -2:00 PM

  or by appointment (BEST PRACTICE is to email me ahead of time to set up an appointment for when you would like to meet.

  Virtual office hour-Zoom Link

  https://uttyler.zoom.us/j/81099196746?pwd=hZPbfgdbmsX6r77XJfSXbdaMabMab2.1

  Meeting ID: 810 9919 6746

  Passcode: 404381

  * *Refer to office hours incentive section below to learn about office hours incentives*

LECTURE TIME & VENUE:

- **Meeting Time(s):** T, TH: 9:30 AM - 10:50 AM
- ***Course Number and Section**: CENG 4371/CENG 5391, Section 051 (HEC Campus) and 050 (Tyler Campus)*
- ***Classroom Number(s):** Room HEC 0A216 or RBS 02019 and as needed through the provided Zoom Portal below.*
  - *https://uttyler.zoom.us/j/87599430972?pwd=pFLJVZp3opLGvORVQvUYiET6bRjkkF.1*
  - *Meeting ID: 875 9943 0972*
  - *Passcode: 661241*
- *There will be NO recording of the ZOOM so your attendance will be required in the synchronous meeting times. See Attendance below.*

COURSE WEBSITE:

UT Tyler's Canvas website will be used to manage the course material for the semester. There you will find homework assignments, homework solutions, handouts and other material pertaining to the class. **Please check there regularly.**

COURSE DESCRIPTION:

Welcome to CENG 4371 (Environmental Engineering Design). This course is the final course in a three-course series focused on water resources and environmental engineering, following Hydrology (CENG 3361) and Introduction to Environmental Engineering (CENG 3371). It is also cross listed as CENG 5391 for graduate students or those pursuing the CE program's 4+1-degree path. This semester, you'll find our exploration of Environmental Engineering Design both engaging and challenging. We will delve into topics such environmental engineering design of unit operations and unit processes for water and wastewater treatment, environmental engineering hydraulic design including water distribution systems, wastewater collection, water and wastewater pumping, and special topics such as Green Engineering and Green Chemistry in practice, designing for process and system sustainability.

PRE-REQUISITE, OR CO-REQUISITE (IF ANY):

- **Pre-requisite**: CENG 3371-Introduction to Environmental Engineering
- **Corequisite:** CENG 3310: Fluid Mechanics and Hydraulic

LEARNING OBJECTIVES:

In this course you will learn how to design various engineering systems and processes. Specific course objectives are:

1. Explain the concept of sustainability
2. Identify key quantitative measures used in sustainable design, including the Human Development Index, population growth models, and ecological footprint analysis.
3. Apply basic principles of environmental engineering and fluid mechanics to perform engineering analysis and design calculations for water treatment systems.
4. Apply basic principles of environmental engineering and fluid mechanics to perform engineering analysis and design calculations for wastewater treatment systems.
5. Analyze the performance of designed water distribution systems
6. Apply basic principles of environmental engineering, hydraulics and Hydrology in the design of sewer and storm drainage systems
7. Analyze the performance of designed environmental engineering processes.

TEXTBOOK, REFERENCES and ASSIGNED READINGS:

- **Textbook: A.** Environmental Engineering Principles and Practice. Richard O. Mines, Jr. Wiley 2014. ISBN 978-1-118-80145.
  B. Water resources Engineering, 4th Edition. Pearson 2020
- **References and Assigned Readings**:
  - Introduction to Environmental Engineering. Mackenzie Davis and David Cornwell, McGraw Hill 2023. ISBN10: 1264563876, ISBN13: 9781264563876.
    - All students are expected to secure a copy of this textbook.
    - This book is free and integrated into the course page on Canvas.

- **Handout materials:** There will be handout materials for this course as well (will be provided to you as needed).

GRADES

I. CENG 4371-Undergraduate Course

Assignment/Test	Point Value
Homework	200
Quizzes	100
Design Project (Team Assignment)	300
In Class Activities/Discussions	100
Professional Practice (Org.attendance)	100
Midterm Exam I	400
Midterm Exam II	400
Final Exam	400
Total Points	2000(100 %)

A = > 90 points
B = 80 to < 90 points
C = 70 to < 80 points
D = 60 to < 70 points
F = < 60 points

II. CENG 5371-Graduate Course

Assignment/Test	Point Value
Homework	200
Quizzes	100
Design Project (Team Assignment)	300
In Class Activities/Discussions	100
Professional Practice (Org.attendance)	100
Research Paper	1000
Midterm Exam I	400
Midterm Exam II	400
Final Exam	400
Total Points	3000 (100%)

A = > 135 points
B = 120 to <135 points
C = 105 to < 120 points
D = 90 to <105 points
F = < 90 points

- There may be opportunities to earn bonus points for additional work on problem sets, exams, or for completion of other optional assignments. Opportunities for bonus points will be clearly identified by me and announced in class. Make use of these opportunities to extend your learning!

RESEARCH PAPER (Requirement for graduate course only)

As part of the co-enrollment requirement for this course, graduate students will be required to complete an independent research investigation on a specific Environmental Engineering Topic (not covered by the course), submit a research paper, and present the findings to the class as part of their course grade. Additional 1000 points Graduate Grade Points are broken down as follows:

- 500 points written research paper (Analytical, experimental, review, survey, case study, etc.)
- 300 points presentation to class includes appropriate presentation slides
- 200 points to produce a FAQ document associate with your selected topic and distributed to the class members (and posted to CANVAS) at the time of your presentation

Guidance and format for deliverable on this section of grading will be provided during the third week of class

QUIZZES:

The instructor may give announced or **unannounced** in-class quizzes throughout the semester. These quizzes will cover material covered in previous lectures.

EXAMS:

- **Exams Format:** There will be two in-class examinations during the semester, and a final examination at the conclusion of the course (see the course calendar for specific dates). The in-term exams are worth 40 points, and the final exam is worth 25 points. Each exam will contain conceptual questions (MC, T/F, and short answer questions), as well as numerical questions. I will distribute a study guide about a week in advance of each exam, but bear in mind that the best way to prepare for these exams is to keep up with the readings and our in-class activities. We'll take some time in the week before an exam to talk about study strategies, and I'll be happy to answer any review questions you may have. The purpose of these examinations is to assess your command of the material we've covered in a particular unit.
- **Exam Schedule:** The exams are **TENITATIVELY** scheduled for:
  - Exam 1: Th, Oct 3rd
  - Exam 2: Th, Nov 7th
  - Final Exam: As published by the University.
- **Exams Related Rules and Policies:**
  - Exams dates may be moved up or pushed back depending on the progress of the lectures.
  - Failure to take the exam at the scheduled time will constitute a grade of zero in the exam.
  - Official reasons for missing an exam are outlined in the UT Student Handbook. You are required to take a make-up Exam, regardless of your reason for missing the scheduled Exam. Report any conflict to me as soon as possible prior to the Exam.
  - The mid-term exams and final exam are closed book. You can use a TI-30 calculator (or FE equivalent see calculator policy below), and instructor approved reference material.
  - Use the restroom prior to coming to class to take an exam. Suspicious restroom breaks in the middle of an exam are not acceptable.
  - I do not give exam backs, but you can see and review in class and in exams.
  - ***Solutions to exams will NOT be posted on Canvas***, but you may stop by the office and see exam solutions.
  - All exams will be held in person during class time. the final exam will also be held in person at the time, date and location specified by the university.

DISCUSSION AND IN CLASS ACTIVITIES

In each class, you'll participate in a variety of communicative exercises with your instructor and classmates, such as in-class activities or posting on a discussion board. Additionally, each week, you'll be required to post a question or comment on the discussion board related to the topics we've covered. These activities are designed to help you exchange ideas, stay engaged, provide feedback to your instructor, and hopefully make the course more interesting and enjoyable for everyone. Participation in these activities is mandatory and accounts for 5% of your total course grade.

FINAL PROJECT

- **Submission Guidelines**: Students, in groups (2-3 students), will be required to complete a final design project. Students are required to select their own group. Each group is expected to complete the project work and prepare a professional report (i.e., cover letter + brief technical report + appendices+ support conclusions or recommendations with model results or observations).
- **Due Date:** Students are expected to submit their project on Tues, April 23rd, 2024.

PROFESSIONAL PRACTICE:

- **Submission Guideline:** Your professional practice grade will be based on your attendance at 3 ASCE student technical meetings (cookout and game night events do not count) throughout the fall semester. Example of valid meetings include guest speakers, field trips, or any other technical meeting from either organization within the college of engineering. You are expected to attend, actively patriciate in all activities of the course. You must use the provided Word template available on Canvas and complete it for each meeting you attend. Additionally, you are expected to take a photo as proof of attendance, **ensuring you are visible in the picture**. Be sure to include the speaker's name and a summary of what you learned during the meeting.
- **Due Date:** The due date to submit this is on the last day of class, which is on Dec 3rd.

HOMEWORK:

- **Homework Schedule:** Homework will be assigned on a regular basis (see homework schedule).
  - Complete your homework within one week of the assignment date. Homework is due on the date specified in the schedule.
  - **You must upload your homework as a single PDF file to Canvas by 11:59 PM on the due date.**
  - No late homework will be accepted except for unusual circumstances. You will be given full credit for submitting your homework ontime and following the correct homework format.
  - Homework that is not submitted as **complete** and following the homework guidelines will receive a zero.
  - **Homework must be submitted on engineering paper**. Homework solutions not submitted on engineering paper will receive only 90% of the graded credit. Solutions should be presented in a clear methodical manner. Follow the "homework submission guidelines" when completing your assignment. Solutions which are not clearly presented will **NOT** receive credit.
  - Students may discuss their homework solutions with one another, but each student must submit their own, independent solutions (i.e. you may not just copy someone else's homework). If you receive assistance from a fellow student on a particular problem, you must cite that assistance within your solution.
- **Homework Submission Guidelines (Professionalism Requirements)**
  - Homework should be submitted using letter size (8 ½ x 11") paper Engineering paper.
  - The header of the first page should include the following:
    - Name of Student: LAST NAME, FIRST NAME (**All Caps and as appeared in my people list on Canvas**)
    - Student Number
    - Course Number and Name
    - Homework Number
  - There should be no more than 2 problems per page. This is to ensure that there is enough spaceon the paper for the grader to add comments.
  - The submitted papers should be free of frail edges, stains, smudges and wrinkles.
  - All problems should include:
    - Problem Number
    - A diagram of the problem
    - A set of given quantities, a set of unknown quantities, a set of assumptions
  - All numbers and writing should be clear and readable.
  - When required to produce a graph, use a computer program such as excel or MATLAB to generatethe plot. Do not draw it by hand!

- **Late Homework/ Assignment Policy:** It is a basic principle of professionalism that "Professionals are not late." A "COORDINATED LATE" submission occurs when you miss the suspense for a graded homework assignment, and you contact me in advance. Notification immediately before the submission will not suffice. Point cuts up to the amounts below may be assessed for a "COORDINATED LATE" submission:
  i. 0-24 hours late a deduction of 25% of the earned grade
  ii. 24-48 hours late a deduction of 50% of the earned grade
  iii. More than 48 hours late No credit.

COURSE POLICIES

- **Attendance and Tardiness:** I will take attendance every class. Because class discussion is at the heart of this course, you are required to be in class, and what we do during our class meetings will determine a large portion of your grade. Of course, I understand that sometimes emergencies or other unexpected circumstances arise that make attendance that day impossible. If this is the case, please talk with me as soon as possible so we can make arrangements to get you caught up (this provision will not apply to non-emergencies like oversleeping). If you will be absent from a class for a university-sponsored activity, please make arrangements with me — beforehand — regarding any work you might miss.

- **netiquette (Internet etiquette):** Students are expected to display proper netiquette (Internet etiquette) with their instructor and with other students. This includes being polite, stating your needs clearly and politely. Practice collegiality and mutual respect. If an email or discussion post ever concerns you, please notify me privately and we'll work toward a resolution.

- **Communication and Support:** In general, the most efficient way to communicate and to get the help you need with your questions and/or concerns is during my office hours. If you meet during my office hours, you can send me an email to schedule a time that suits you. Be professional in writing emails! Follow the following guideline in preparing in all your correspondence:

• Include a subject Line • Add "[Course Prefix and #]" • Make sure my email is correct • Use a greeting • Sign the end of your email with your name and a thank you • State your needs clearly and politely!	• Demand help • Be ambiguous with your need • Use slang or inapproriate language • Email past 7 pm and expect an answer before school in the next day • Send an email and never check for a response!

  - All email correspondence should take place through the Canvas system, and therefore using your Patriot email accounts; so check your Patriot email account often. I will try to respond to all emails within 24 hours.

- **Calculator Policy:** Only NCEES approved calculators will be permitted during tests and your test will be collected and your grade will be a zero if you are using a non-approved calculator. Examples of approved calculators include but are not limited to: (Please check the NCEES website for a complete listing, www.ncees.org/exams/calculator-policy/):
  - Hewlett Packard – HP 33s, HP 35s, and no others
  - Casio – All FX 115 models
  - Texas Instruments – All TI 30X or TI-36X models.
  - If you are unsure about your calculator, it is your responsibility to check with the instructor for approval.
  - At any time during the exam your calculator is subject to a random search by the instructor. Failure or refusal to clear all memory or to surrender your calculator to search will disqualify you from the exam immediately, unless you can produce a calculator meeting the requirements as stated above.

- **Laptops/PDAs/MP3 Players/Cell Phones or Other Electronic Devices:**
  - This is an asynchronous class, which means we'll be using Zoom to connect with students on the Tyler campus. To enhance our class experience and ensure effective participation, please bring a laptop or tablet, along with headsets or AirPods, to each session in case of any UT-system issues. We'll also be using Canvas for various activities and discussions, so having your device will help you stay engaged and make the most of our time together.
  - The use of any electronic device, except an approved calculator, is not permitted during exams unless you are instructed to access a quiz on the Canvas course page.
  - Your exam will be collected, and your grade will be a zero if you are caught using a non-approved electronic device/calculator. Any instances of a calculator inappropriately used during an exam will be the basis of alleging Academic Misconduct and may result in Failing (F) of the course at the determination of the course's instructor or the basis for a recommendation for expulsion from the University. Any Calculator used during an exam in this course must meet the requirements stated within the policy below.
  - Use of cell phones during class time is not permitted unless instructed to use them to access or engage in a learning activity.

- **Classroom Procedures:**
  - Bring study notes, textbook, note-taking material, and calculator TO EVERY CLASS. You may not borrow or exchange calculators during graded events. If your calculator fails during a graded exercise, I am not responsible for furnishing a substitute. Class preparation is your individual responsibility. Please refer to the Calculator Policy.
  - You will need regular access to a computer with an Internet connection to be able to participate in some of the in-class activities during the period of this semester.
  - It is a basic principle of professionalism that "Professionals are not Late." Please come to class on time and leave on time. Interruption of lecture is not acceptable. Normally an excuse would be given for being late or missing that class if you have a valid verified urgent emergency or some validated significant act of nature or God like a car accident.
  - No food or snacks in classrooms and Labs.
  - Phones ringing or vibrating are distracting during class or if you are texting during class, you will relinquish your device for the duration of the class. A second offense will result in a request for you to leave the classroom.

UNIVERSITY POLICIES AND INFORMATION

- **Withdrawing from Class:** Students may withdraw (drop) from this course using the Withdrawal Portal. Withdrawing (dropping) this course can impact your Financial Aid, Scholarships, Veteran Benefits, Exemptions, Waivers, International Student Status, housing, and degree progress. Please speak with your instructors, consider your options, speak with your advisor, and visit the One-Stop Service Center (STE 230) or email enroll@uttyler.edu to get a complete review of your student account and the possible impacts to withdrawing. We want you to make an informed decision. UT Tyler faculty and staff are here for you and often can provide additional support options or assistance. Make sure to carefully read the implications for withdrawing from a course and the instructions on using the Withdrawal portal.

  Texas law prohibits students from dropping more than six courses during their entire undergraduate career*. The six courses dropped includes those from other 2-year or 4-year Texas public colleges and universities. Consider the impact withdrawing from this class has on your academic progress and other areas, such as financial implications. We encourage you to consult your advisor(s) and Enrollment Services for additional guidance. CAUTION #1:

Withdrawing before census day does not mean you get a full refund. Please see the Tuition and Fee Refund Schedule. CAUTION #2: All international students must check with the Office of International Programs before withdrawing. All international students are required to enroll full-time for fall and spring terms. CAUTION #3: All UT Tyler Athletes must check with the Athletic Academic Coordinator before withdrawing from a course. CAUTION #4: All veterans or military-affiliated students should consult with the Military and Veterans Success Center.

* Students who began college for the first time before 2007 are exempt from this law.

- **Artificial Intelligence Statement:** UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy. Refer to the About This Course section of the UT Tyler Syllabus Module for specific information on appropriate use of AI in your course.
- **Final Exam Policy:** Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the Dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members must maintain student final examination papers for a minimum of three months following the examination date.
- **Incomplete Grade Policy:** If a student, because of extenuating circumstances, is unable to complete all the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in place of a grade only when all of the following conditions are met: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all coursework or final exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor, and (c) the student presents these reasons before the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average. The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to meet all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has yet to be assigned within one year, then the Incomplete will be changed to an F, or NC. If the course was initially taken under the CR/NC grading basis, this may adversely affect the student's academic standing.
- **Grade Appeal Policy:** Disputes regarding grades must be initiated within sixty (60) days from the date of receiving the final course grade by filing a Grade Appeal Form with the instructor who assigned the grade. A grade appeal should be used when the student thinks the final course grade awarded does not reflect the grades earned on assessments or follow the grading scale as documented in the syllabus. The student should provide the rationale for the grade appeal and attach supporting document about the grades earned. The form should be sent via email to the faculty member who assigned the grade. The faculty member reviews the rationale and

supporting documentation and completes the instruction section of the form. The instructor should return the form to the student, even if a grade change is made at this level. If the student is not satisfied with the decision, the student may appeal in writing to the Chairperson of the department from which the grade was issued. In situations where there is an allegation of capricious grading, discrimination, or unlawful actions, appeals may go beyond the Chairperson to the Dean or the Dean's designee of the college from which the grade was issued, with that decision being final. The Grade Appeal form is found in the Registrar's Form Library.

NOTE: The Grade Appeal Form is different from the Application for Appeal form submitted to the Student Appeals Committee, which does not rule on grade disputes as described in this policy.

- **Disability/Accessibility Services:** In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA), the University of Texas at Tyler offers accommodations to students with learning, physical, and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or a history of modifications or accommodations in a previous educational environment, you are encouraged to visit https://hood.accessiblelearning.com/UTTyler/ and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with the Assistant Director Student Accessibility and Resources/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at https://www.uttyler.edu/disability-services, the SAR office located in the Robert Muntz Library, LIB 460, email saroffice@uttyler.edu, or call 903.566.7079."
- **Military Affiliated Students:** UT Tyler honors the service and sacrifices of our military-affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with your faculty member if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make your faculty member aware of any complications as far in advance as possible. Your faculty member is willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. The Military and Veterans Success Center (MVSC) has campus resources for military-affiliated students. The MVSC can be reached at MVSC@uttyler.edu or via phone at 903.565.5972.
- **Students on an F-1 Visa:** To remain in compliance with Federal Regulations requirements you must do the following:
  - Traditional face-to-face classes: Attend classes on the regular meeting days/times.
  - Hybrid Classes: Attend all face-to-face classes convened by the instructor according to the schedule set for your specific course.
  - Online course: Only one online course can count toward your full-time enrollment. Students are expected to be fully engaged and meet all requirements for the online course.
- **Academic Honesty and Academic Misconduct:** The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the Student Conduct and Discipline policy in the Student Manual Of Operating Procedures (Section 8).
- **FERPA:** UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in University Policy 5.2.3. The course instructor will follow all requirements to protect your confidential information.
- **Absence for Official University Events or Activities:** This course follows the practices related to

Excused Absences for University Events or Activities as noted in the Catalog.

- **Absence for Religious Holidays:** This course follows the practices related to Excused Absences for Religious Holy Days as noted in the Catalog.
- **Absence for Pregnant Students:** This course follows the requirements of Texas Laws SB 412, SB 459, SB 597/HB 1361 to meet the needs of pregnant and parenting students. Part of the supports afforded pregnant students includes excused absences. Faculty who are informed by a student of needing this support should make a referral to the Parenting Student Liaison. NOTE: Students must work with the Parenting Student Liaison in order to receive these supports. Students should reach out to the Parenting Student Liaison at parents@uttyler.edu and also complete the Pregnant and Parenting Self-Reporting Form.
- **Campus Carry:** We respect the right and privacy of students who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at http://www.uttyler.edu/about/campus-carry/index.php.
- **Important campus dates and deadlines:**
  - Census Dates: The university requires that instructors report the attendance to the register at various points in the semester. Therefore, on September 9th, I will report the attendance for the class.
  - Final Day to Withdraw: The final day to withdraw from the course without penalty is Nov 4th.

RESOURCES AVAILABLE TO UT TYLER STUDENTS

- UT Tyler Counseling Center (available to all students)
- MySSP App (24/7 access to Student Support Program counseling through phone or chat and online wellness resources available in a variety of languages)
- Student Assistance and Advocacy Center
- Military and Veterans Success Center (supports for our military-affiliated students)
- UT Tyler Patriot Food Pantry
- UT Tyler Financial Aid and Scholarships
- UT Tyler Student Business Services (pay or set up payment plans, etc.)
- UT Tyler Registrar's Office
- Office of International Programs
- Title IX Reporting
- Patriots Engage (available to all students. Get engaged at UT Tyler.)

UT TYLER HONOR CODE:

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of thosewho do.

STUDENTS RIGHTS AND RESPONSIBILITIES:

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.php

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Course Syllabus *

*(*Date: Aug 26, 2024. This version supersedes all earlier versions)*

COURSE SCHEDULE (SUBJECT TO REVISION)

Week	Date	Topic	Assignment and Homework
1	27-Aug	Course intro and syllabus distribution/ Review	Syllabus Quiz/Class Discussion
	29-Aug	Sustainability, Engineering and Design- Populations and Consumption	
2	3-Sep	Water demand, Human population growth	Homework Assignment #1 Due (Tues Sep 10th @11:59pm)
	5-Sep	Water demand, Human population growth	
3	10-Sep	Fire Protection, Fire Flow	Homework Assignment #2 Due (Tues Sep 17th @11:59pm)
	12-Sep	Inlet Structures	
4	17-Sep	Inlet Structures	Homework Assignment #3 Due (Tues Sep 24th @11:59pm)
	19-Sep	Design of Engineered System for Water Treatment: solids separation, Settling operation	
5	24-Sep	Design of Engineered System for Water Treatment: Coagulation and Flocculation, Softening	Homework Assignment #4 Due (Tues Oct 01st @11:59pm)
	26-Sep	Design of Engineered System for Water Treatment: Filtration, Disinfection	
6	1-Oct	Environmental Engineering Hydraulics-Design Water Distribution Systems: Methods of distributing water, distribution reservoirs, distribution system components	---
	3-Oct	**EXAM I**	
7	8-Oct	Environmental Engineering Hydraulics-Design Water Distribution Systems: Capacity and pressure requirements	Homework Assignment #5 Due (Tues Oct 15th @11:59pm)
	10-Oct	Environmental Engineering Hydraulics Design-Design of Water Distribution systems	
8	15-Oct	Environmental Engineering Hydraulics Design-Cross Connections in Distribution systems Design Project Overview 1	Homework Assignment #6 Due (Tues Oct 22th @11:59pm)
	17-Oct	Environmental Engineering Hydraulics Design-Hydraulic Analysis of Water Distribution System: EPANET MODELING	
9	22-Oct	Environmental Engineering Hydraulics Design-Hydraulic Analysis of Water Distribution System: EPANET MODELING Design Project Overview 2	Homework Assignment #7 Due (Tues Oct 29th @11:59pm)
	24-Oct	Wastewater Collection: Types of Collection Systems, Types of Sewers, Basic Considerations in the design of Sewers	
10	29-Oct	Wastewater Collection: Design of Stormwater Sewers	Homework Assignment #8 Due (Tues Nov 5th @11:59pm)
	31-Oct	Wastewater Collection: Design of Stormwater Sewers	
11	5-Nov	Wastewater Collection: Design of Stormwater Sewers	---
	7-Nov	**EXAM II**	
12	12-Nov	Wastewater Collection: Sanitary Sewers	Homework Assignment #9 Due (Tues Nov 19th @11:59pm)
	14-Nov	Engineered System for Wastewater Treatment and Disposal: Terminology in Wastewater Treatment	
13	19-Nov	Engineered System for Wastewater Treatment and Disposal: Primary Treatment-Screening, grit removal, flow measurement, primary sedimentation	100% Design Project Research Paper Due (Tues Dec 3rd @11:59pm)
	21-Nov	Engineered System for Wastewater Treatment and Disposal: Secondary Treatment, sludge treatment and disposal, advanced treatment, disposal and reuse	
14	26-Nov	**THANKSGIVING BREAK (24-29 NOV)**	
	28-Nov		
15	3-Dec	Quantifying Sustainability, Designing for Sustainability: Green Engineering and Green Chemistry in Practice, Designing for Process and System Sustainability,	Research Paper Presentation Slides Due (Thur. Dec 5th @11:59pm)
	5-Dec	Research Paper Presentation	
16	10-Dec	**FINAL EXAM WEEK**	
	12-Dec		

Course Topics in Picture