

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>COURSE CHANGE REQUEST</b> <b>Undergraduate Programs</b>		UUPC Approval <u>10-6-2025</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	<b>Department</b> Civil, Environmental and Geomatics Engineering  <b>College</b> Engineering and Computer Science		
<b>Current Course Prefix and Number</b> CWR 4202		<b>Current Course Title</b> Hydrologic Engineering	
Syllabus must be attached for <b>ANY</b> changes to current course details. See <a href="#">Template</a> . Please consult and list departments that may be affected by the changes; attach documentation.			
<b>Change title to:</b>  <b>Change prefix</b> <b>From:</b> <b>To:</b> <b>Change course number</b> <b>From:</b> <b>To:</b> <b>Change credits*</b> <b>From:</b> <b>To:</b> <b>Change grading</b> <b>From:</b> <b>To:</b> <b>Change WAC/Gordon Rule status**</b> Add <input type="checkbox"/> Remove <input type="checkbox"/> <b>Change General Education Requirements***</b> Add <input type="checkbox"/> Remove <input type="checkbox"/> <small>*See <a href="#">Definition of a Credit Hour</a>.          **WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See <a href="#">WAC Guidelines</a>.          ***GE criteria must be indicated in syllabus and approval attached to this form. See <a href="#">Intellectual Foundations Guidelines</a>.</small>		<b>Change description to:</b>       <b>Change prerequisites/minimum grades to:</b> CWR 3201C and ENV 3001C with minimum grade of "C"  <b>Change corequisites to:</b>   <b>Change registration controls to:</b>  Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).	
<b>Effective Term/Year for Changes:</b> Spring 2026		<b>Terminate course? Effective Term/Year for Termination:</b>	
<b>Faculty Contact/Email/Phone</b> Dr. Ramesh Teegavarapu, rteegava@fau.edu			
<b>Approved by</b> Department Chair _____ <i>ekaisar</i> College Curriculum Chair _____ <i>Jalan Liu</i> College Dean _____ <i>[Signature]</i> UUPC Chair _____ <i>Korey Sorge</i> Undergraduate Studies Dean _____ <i>Dan Meeroff</i> UFS President _____ Provost _____			<b>Date</b> 9/23/2025 <u>9/25/25</u> 9/25/25 10-6-2025 10-6-2025 _____ _____

Email this form and syllabus to [mjenning@fau.edu](mailto:mjenning@fau.edu) seven business days before the UUPC meeting.

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<b>1. Course title/number, number of credit hours</b>	
Hydrologic Engineering – CWR4202	3 credit hours
<b>2. Course prerequisites, corequisites, and where the course fits in the program of study</b>	
Prerequisites: CWR3201 (Applied Hydraulics) and ENV3001C (Environmental Science and Engineering) with a minimum of C.	
<b>3. Course logistics</b>	
<p><i>Term:</i> Fall 2026  This is a classroom lecture course (in-class lecture only)  <i>Class location and time:</i> General Classroom South Boca, Room: 101  Monday 4:00 -6:50 pm (Lecture)  <b>(The class will not be recorded,</b> while online live option may be provided for students who cannot attend in-person classes due to <u>university-approved excuses</u>). Attendance is required for lectures, quizzes, exams, and presentations and any other assignments.</p> <p>Homework assignments are given regularly. Quizzes almost every week. Computer Lab hours may be scheduled or required. A major design report and oral presentation are required. Examinations consist of a midterm (online and written) and an end-of-semester Final exam. Special make-up lecture classes are required for any missed classes.</p> <p><u><b>COVID-19 Specific Information &amp; Guidelines</b></u>  <b>Students experiencing flu-like symptoms (fever, cough, shortness of breath), or students who have come in contact with confirmed positive cases of COVID-19, should immediately contact FAU Student Health Services (561-297-3512). Symptomatic students will be asked to leave the classroom to support the safety and protection of the university community. For additional information, visit <a href="https://www.fau.edu/coronavirus/">https://www.fau.edu/coronavirus/</a>. In classes with face-to-face components, quarantined or isolated students should notify the instructor immediately, as students will not be able to attend class.</b></p> <p><u><b>Consent to Record</b></u>  <b>By registering for this class, the students hereby consent to the recording of the class and potential use of the class material for other purposes.</b></p>	
<b>4. Instructor contact information</b>	
<i>Instructor's name</i> <i>Office address</i> <i>Office Hours</i> <i>Contact telephone number</i> <i>Email address</i>	Dr. Ramesh Teegavarapu, Professor Engineering West (EG-36) Bldg., Room 217 Mondays: 2:00 -4:00 PM Online through Webex or zoom or in-person (in class on request) 561-297-3444 Cell phone: please send an email. I will respond Communicate via canvas ( <b>best way to contact</b> ) <a href="mailto:rteegava@fau.edu">rteegava@fau.edu</a> ; <a href="mailto:myhydrologyclass@gmail.com">myhydrologyclass@gmail.com</a>

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5. TA contact information		
TA's name Office address Office Hours Contact telephone number Email address	TA: to be decided.	
6. Course description		
Fundamental components of the hydrologic cycles, rainfall-runoff processes, evaporation, infiltration and groundwater flow, water budgets, introduction to water resources system engineering analysis, hydrologic modeling using simulation and spatial analysis tools.		
7. Course objectives/student learning outcomes/program outcomes		
Course objectives	<ul style="list-style-type: none"><li>A. Present the fundamental principles applied in the analysis, design, modeling, and operation of engineered and natural systems for hydrologic problems</li><li>B. Present methods for calculating runoff and storage for engineered hydrologic system components</li><li>C. Present methods for calculating and defining channelization for runoff and natural streamflows.</li><li>D. Expose students to basic groundwater movement concepts</li><li>E. Expose students to hydrologic simulation and spatial analysis tools for modeling and management of hydrologic system components</li><li>F. Expose students to the complex interaction between environmental problems and the needs of the society</li></ul>	
Student learning outcomes & relationship to ABET 1-4 objectives	<ul style="list-style-type: none"><li>1. Ability to understand the basic principles applied to the hydrologic cycle and the ability to calculate the major components of the same (1,2).</li><li>2. Ability to understand fundamental principles necessary to conceptualize natural or engineered hydrologic systems (1,6).</li><li>3. Ability to communicate effectively about issues in hydrologic engineering (3,4,5)</li><li>4. Ability to apply knowledge of hydrologic processes and use the experience of simulation and spatial analysis tools for modeling and management of hydrologic engineering systems (1,2,7)</li></ul>	
Relationship to program outcomes	Outcome 1: An understanding of professional and ethical responsibility.	High
	Outcome 2: A working knowledge of fundamentals, engineering tools, and experimental methodologies.	High
	Outcome 3: An understanding of the social, economic, and political contexts in which engineers must function.	High
	Outcome 4: An ability to plan and execute an engineering design to meet an identified need.	High
	Outcome 5: An ability to function on multi-disciplinary teams.	Low
	Outcome 6: An ability to communicate effectively.	High

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	<b>Outcome 7:</b> Graduates will have proficiency in the following areas of civil engineering: (i) structural engineering, (ii) transportation engineering, (iii) geotechnical engineering, (iv) water resources, and (v) environmental engineering.	High
	<b>Outcome 8:</b> Graduates will have an adequate appreciation for the role of civil engineering in infrastructure planning and sustainability including safety, risk assessment, and hazard mitigation.	High
	<b>Outcome 9:</b> Graduates will be successful in finding professional employment and/or pursuing further academic studies.	High
<b>8. Course evaluation method</b>		
Homework assignments Midterm – I Final Exam (or Mid-term II) Design Project report+[group presentation]  Class participation (via quizzes, presentations, problem-solving in class lectures, and class attendance).	10% 30% 30% 10%  20%	<i>Note:</i> The minimum grade required to pass the course is C. <ul style="list-style-type: none"><li>• Expect a quiz every week.</li><li>• No make-up exams or quizzes will be conducted.</li><li>• All quizzes and exams will be in-person: no exceptions</li><li>• Computer with a camera is required to interact with the instructor for any online presentations or exams administered.</li><li>• Exam dates will be re-confirmed if required.</li><li>• Exams may be conducted through the Lockdown Browser (Respondus Lockdown Browser – through Canvas). Camera and Computer required.</li></ul>
<b>9. Course grading scale</b>		
There is a fixed criterion for the grading scale. The overall performance as related to course objectives and outcomes is evaluated and considered during grading. Guideline for letter grades in this course:  Criteria for letter grades based on total marks* (93 - 100: A; 90 - 92.9999: A-; 87- 89.999: B+; 83- 86.999: B; 80 - 82.999: B- ; 70 - 79.9999: C and below 70: D. <u>Curving of grades will not be done for this course.</u> Examination questions are drawn from class lectures, lecture notes, homework assignments, suggested course text book and solved problems from the text book. <u>The format of all examinations will usually be 10 to 20 multiple choice questions (in which more than one answer may be correct) and full length problems.</u>		
<b>10. Policy on makeup tests, late work, and incompletes</b>		
Makeup tests are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student from participating in the exam. Makeup exams will be administered and proctored by department personnel unless there are other pre-approved arrangements. <u>There will be no make-up quizzes.</u>		

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*Late work is not unacceptable.*

*Incomplete grades* are against the policy of the department. Unless there is solid evidence of a medical or otherwise serious emergency incomplete grade will not be given.

#### **11. Special course requirements**

Computer Lab hours are required.

#### **12. Classroom etiquette policy**

University policy requires that to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in-class sessions. **No cell phones in the class and no usage of laptops or tablets.**

#### **13. Attendance Policy Statement**

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in university-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances, and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a university-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

#### **14. Disability policy statement**

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at [www.fau.edu/sas/](http://www.fau.edu/sas/).

#### **15. Honor code policy**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards because it interferes with the university's mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and place a high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. See University Regulation 4.001 at [www.fau.edu/regulations/chapter4/4.001\\_Code\\_of\\_Academic\\_Integrity.pdf](http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf)

#### **Grounds for Dismissal and/or Invalidation of Exam Results**

- Having a cell phone in your possession during the exam
- Having any electronic or any type of device with copying, recording, or communication capabilities in your possession. These include but are not limited to cameras, pagers, PDAs, radios, headsets, tape

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players, MP3 players, calculator watches, smartwatches, electronic dictionaries, electronic translators, and transmitting devices and calculators with memory to store data and text.

- Copying from another examinee's answer sheet or colluding with other examinees
- Accessing any unauthorized materials during the exam
- Beginning the exam before the proctor instructs you to do so
- Failing to stop writing immediately when time is called
- Writing in the FE Supplied-Reference Handbook or any other supplied reference materials
- Removing pages from your exam booklet or other supplied materials
- Leaving the exam area without authorization

#### **16. Counseling and Psychological Services (CAPS) Center**

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

#### **17. Artificial Intelligence (AI) Usage**

FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work. FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. [Policy 12.16 Artificial Intelligence]. Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each course. When AI is authorized, the student is also responsible and accountable for the content of the work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is. If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the Florida Atlantic Code of Academic Integrity, Regulation 4.001. Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit <https://fau.edu/ai/citation>

**Usage Policy: The use of AI to assist in any work assigned in this specific course is prohibited.**

#### **18. Supplementary/recommended readings**

1. Software manuals: Win-TR55, HEC-HMS (if time permits)
2. Special class for the software teaching is required. Students will be informed about the dates and timings.

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<b>19. Course topical outline, including dates for exams/quizzes, papers, completion of reading</b>	
<b>Date</b>	<b>Topic</b>
Week 1 (Augus 18, 2025)	Introduction; watershed concept, hydrographs, hyetographs, stream classification, watershed delineation, Components of the hydrologic cycle, precipitation, processes.
Week 2 (Aug 25, 2025)	<b>Precipitation measurement, radar estimation, missing data &amp; methods, areal precipitation estimation</b>
Week 3 (Sept 1, 2025)	Precipitation distributions, NRCS, Huffs distributions, IDF curve development (Class presentations), . <b>Sept 4 is a holiday. A makeup class will be required and will be scheduled.</b>
Week 4 (Sept 8, 2025)	Application of IDF curves, development of synthetic precipitation distributions
Week 5 (Sept 15, 2025)	Infiltration and Evaporation: Estimation, methods, Horton's equation, Phi-Index
Week 6 (Sept 22, 2025)	SCS curve number approach, derivation. (Field Measurements, Hydrometeorology station visit – may be announced).
Week 7 (Sept 29, 2025)	SCS curve number applications, DCIA, routing the runoff
Week 8 (Oct 6, 2025)	<b>Mid-term Exam - I (confirmed). No changes to this date for mid-term Exam I</b>
Week 9 (Oct 13, 2025)	Storm sewer system, design, time of concentration, rational approach (Project reports due)
Week 10 (Oct 20, 2025)	Design hydrology: Applications to real-life problems, statistical hydrology concepts and applications
Week 11 (Oct 27, 2025)	Reservoir, Basic concepts, mass balance, stage-storage relationships
Week 12 (Nov 3, 2025)	Reservoir and River routing, Storage indication table,
Week 13 (Nov 10, 2025)	Detention pond design, stream routing, Unit Hydrographs, Project Progress Presentations
Week 14 (Nov 17, 2025)	<b>Final Exam (Exam # 2). (All topics taught in the course).</b>
Week Nov 24, 2025	<b>Final Project Presentations (To be decided) Online</b>
Exam Week (Dec 4 - 9 2025)	<b>Final Project Presentations. Project report is due as a PDF document before the time of the exam scheduled by the university (to be decided) online</b>