Course Change Request

Date Submitted: 03/06/18 4:12 pm

Viewing: CVEN 339 : Water Resources Engineering
Also Known As: EVEN 339
Last edit: 03/08/18 8:28 am
Changes proposed by: kbrumbelow

Catalog Pages referencing this course
CVEN - Civil Engineering
CVEN - Civil Engineering (CVEN)
CVEN - Environmental Engr (CVEN)
Zachry Department of Civil Engineering
Zachry Department of Civil Engineering

Programs referencing
BS-CVEN-COE: Civil Engineering, BS - Coastal and Ocean Engineering Track
BS-CVEN-ENE: Civil Engineering - BS, Environmental Engineering Track

Faculty Senate Number

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelly Brumbelow</td>
<td><a href="mailto:kbrumbelow@tamu.edu">kbrumbelow@tamu.edu</a></td>
<td>979-862-7633</td>
</tr>
</tbody>
</table>

Rationale for Course
Edit
The proposed changes are for accreditation purposes.
The proposed changes are part of a routine curriculum review.

Course prefix    CVEN      Course number      339
Department       Civil Engineering
College/School   College of Engineering
Academic Level   Undergraduate

Undergraduate course level justification (Select One)

Academic Level (alternate)  Graduate
Effective term  2019-2020

Complete Course Title
Water Resources Engineering
Abbreviated Course Title
WATER RESOURCES ENGR

Catalog course description
Quantitative hydrology, precipitation, hydrograph analysis, reservoir and stream routing; groundwater, Darcy equation, well equation, well design; probability concepts in design; water law; dams; reservoirs; spillways; open channel and pipe network hydraulics; pumps; urban stormwater drainage; flood damage mitigation.

Prerequisites and Restrictions
CVEN 311.

Concurrent Enrollment  No
Should catalog prerequisites /  Yes

In Workflow
1. CVEN Department Head
2. Curricular Services Review
3. EN Committee Preparer UG
4. EN Committee Chair UG
5. EN College Dean UG
6. UCC Preparer
7. UCC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path
1. 03/07/18 5:39 pm
   Kelly Brumbelow (kbrumbelow):
   Approved for CVEN Department Head
2. 03/08/18 8:28 am
   Sandra Williams (sandra-williams):
   Approved for Curricular Services Review
3. 03/08/18 3:51 pm
   Eileen Hoy (ehoy):
   Approved for EN Committee Preparer UG
4. 03/08/18 5:03 pm
   Prasad Enjeti (enjeti):
   Approved for EN Committee Chair UG
5. 03/08/18 5:04 pm
   Prasad Enjeti (enjeti):
   Approved for EN College Dean UG
6. 03/08/18 6:12 pm
   Sandra Williams (sandra-williams):
   Approved for UCC Preparer
7. 03/09/18 3:31 pm
   Sandra Williams (sandra-williams):
   Approved for UCC Chair

https://nextcatalog.tamu.edu/courseleaf/approve/
Concurrent enrollment be enforced?

Enforced Prerequisites / Concurrent Enrollment

<table>
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<tr>
<th>And/Or</th>
<th>Course Prefix/Number</th>
<th>Min Grade/Score</th>
<th>Academic Level</th>
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<th>Concurrency?</th>
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<tr>
<td></td>
<td>CVEN 311</td>
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Crosslistings: Yes No  Crosslisted With EVEN 339

Stacked: No  Stacked with

Semester: 3
Credit Hour(s): 3
Contact Hour(s) (per week): Lecture: 3  Lab: 0  Other: 0  Total: 3
Repeatable for credit? No
Three-peat? No
CIP/Fund Code: 1408010006
Default Grade Mode: Letter Grade(G)
Alternate Grade Modes: Satisfactory/Unsatisfactory
Method of instruction: Lecture

Will sections of this course be taught as non-traditional? (i.e., parts of term, distance education) Yes

Learning Outcomes

Meets traditional face-to-face learning outcomes.

Describe how learning outcomes are met or provide justification why they are not met.

Non-traditional (study abroad) offering has been assessed by department curriculum committee and found to be consistent with traditional offering in learning outcomes.

Hours

Meets traditional face-to-face hours.

Describe how hours are met or provide justification why they are not met.

Non-traditional (study abroad) offering has been assessed by department curriculum committee and found to be consistent with traditional offering in contact hours.

Will this course be taught as a distance education course? No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

- Required (select program)
- Elective (select program)
- Has/will this course be(en) submitted for
### Course Syllabus

- Syllabus: Upload syllabus
  - [339_Trad_Syl.pdf](339_Trad_Syl.pdf)
  - [339_Syl_Nontrad.pdf](339_Syl_Nontrad.pdf)

- Letters of support or other documentation: No

- Additional information: This edit is to convey certification that the non-traditional (study abroad) offering of the course is consistent with the traditional offering in learning outcomes and contact hours per SACSCOC requirements.

- Reviewer Comments:
  - Sandra Williams (sandra-williams) (02/22/18 7:40 pm): Rollback: Please attach a traditional syllabus and non-traditional syllabus.
  - Kelly Brumbelow (kbrumbelow) (03/06/18 4:12 pm): Traditional and Nontraditional syllabi are now attached.
  - Sandra Williams (sandra-williams) (03/09/18 3:31 pm): UCC approved March 9 via e-vote.

- Reported to state: No
CVEN 339-501
WATER RESOURCES ENGINEERING
Spring 2018
SYLLABUS

PROFESSOR: Dr. Mara London
DLEB 404E
979.458.3115
E-mail: MLondon@civil.tamu.edu

PROFESSOR OFFICE HOURS:
M 2:45 pm – 3:45 pm
W 2:45 pm – 3:45 pm
and by appointment

I occasionally need to cancel and reschedule office hours. If possible, changes will be
announced in class and posted in the announcements section of eCampus.

TA: Cheryl Holmes
Office Location: DLEB 405N
E-mail: cherylrh13@tamu.edu

TA OFFICE HOURS and REVIEW SESSIONS:
T 9:30 am – 10:30 am (TA office)
T 4:30 pm – 6:30 pm (HEB 222, hybrid office hours/recitation)
W 9:15 am – 11:15 am (TA office)
and by appointment

TA Evening Review Sessions for Exams:
T 2/27, 6:30 – 7:30 pm, CVLB 421
Sunday 4/8, 6:15pm – 7:30 pm, CVLB 421
Th 5/3, 6:15 pm – 7:30 pm, CVLB 421

TIME and LOCATION: MWF 12:40 pm – 1:30 pm, HEB 110

COURSE DESCRIPTION and OBJECTIVES: from the TAMU Undergraduate Catalog: Water Resources
Engineering. (3-0). Credit 3. Quantitative hydrology, precipitation, hydrograph analysis, reservoir and stream
routing; groundwater, Darcy equation, well equation, well design; probability concepts in design; water law;
dams; reservoirs; spillways; open channel and pipe network hydraulics; pumps; urban stormwater drainage; flood
damage mitigation. Prerequisite: CVEN 311 with a minimum grade of C.

This course is the gateway to solving many of the problems relating to water that civil engineers take on. These
problems include flooding, droughts, water supply and distribution, fire protection, pollution control, etc. We will
build on your knowledge of fluid mechanics and add some new theory on the subject that will lead us into basic
design issues. We will also begin studying “hydrology,” which is probably new to many of you as a formal
study, but you’ve been exposed to it all your lives.
After completing this course students should be able to:

1. Use principles of conservation of mass, energy, and momentum to solve fluid mechanics problems;
2. Solve networks of pipes (pressure conduits) in various configurations and perform basic pipe network designs;
3. Articulate basic principles of the hydrologic cycle, watershed hydrology, and groundwater hydrology;
4. Predict watershed runoff from given rainfall using derived and synthetic unit hydrograph methods;
5. Route streamflows through river reaches and reservoirs using hydrologic methods;
6. Solve open channel hydraulics problems using concepts of normal, critical, gradually varied, and rapidly varied steady flows
7. Perform basic channel designs;
8. Apply probabilistic analysis to aid in water resources design and management decisions;
9. Solve basic problems of groundwater flow and well design; and
10. Discuss emerging and future problems in water resources engineering.

COMPUTERS/INTERNET ACCESS:
Proficiency with computers and familiarity with PowerPoint and Excel is expected. Daily access to the internet is also expected. You are also responsible for checking eCampus and your e-mail address on file with the University once a day.

TEXT/COURSE NOTES/COURSE MATERIALS:
The required text is: Water Resources Engineering (Third Edition) by David Chin. Supplemental materials for the course will be available on eCampus. An announcement will be typically posted on eCampus when new materials are posted. The supplemental materials found on eCampus are essential for lecture, failure to print and bring to class will result in a poor learning environment. The following items are required in-class materials: calculator, supplemental materials, and paper to use for board notes and in-class assignments.

GRADING:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>75%</td>
</tr>
<tr>
<td>Homework</td>
<td>25%</td>
</tr>
</tbody>
</table>

Tentative dates for Exam 1 and Exam 2 can be found in the course schedule section below. Exam 3 will be given during the University scheduled final exam period. You are expected to have mastered and retained material from previous exams on all subsequent exams.

GRADING SCALE:

- 89.00 A
- 79.00 – 88.99 B
- 65.00 – 78.99 C
- 50.00 – 64.99 D
- < 50 F

*Your grade is earned, not awarded.* There will be no negotiation with respect to grades. If you find an assignment was graded in error, it should be brought to my attention within one week after the graded material is first handed back in class and grade posted on eCampus. Scores will not be reconsidered beyond one week after they are first handed back in class and posted on eCampus. You must turn in a written description of what you are disputing and why. The description should be stapled to the front of the assignment. You must physically hand me your re-
grade request in-person during office hours or by appointment. You are responsible for keeping all graded work until you receive your final grade.

You will also be assigned a seat number for all of your exams. You must sit in your assigned seat for exams. Failure to sit in your assigned seat will result in a grade of zero. Seat assignments will be posted on eCampus at least one week in advance of the exam date. If you require a left-handed desk for exams, you must notify me no later than January 23, 2018 at 3 pm. This notification must be done in writing and handed to me during office hours or before or after class. Make sure to include your name and UIN.

**ATTENDANCE POLICY**

Regular class attendance and on-time arrival are expected. You are expected to participate in class by asking and answering questions, completing in-class assignments and group work, participating in in-class demonstrations, coming to class with the required materials, and following the electronics policy outlined below.

Assignments can only be made up in the case of an excused absence per university policy seen here: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07). You are responsible for providing satisfactory documentation and evidence of your excused absence. The fact that these are university-excused absences does not relieve you of the responsibility of prior notification and documentation. Failure to notify and/or document properly may result in an unexcused absence. Falsification of documentation is a violation of the Honor Code. In cases where prior notification is not feasible (e.g., accident or emergency) you must provide notification by the end of the second working day after the absence, including an explanation of why notice could not be sent prior to class. Per university policy, accommodations sought for absences due to the observance of a religious holiday can be sought either prior to or after the absence, but not later than two working days after the absence.

Make-ups for Exam 1 and Exam 2 will not be given. If you miss an exam with an excused absence per the above policy, your exam grade will be calculated as follows:

1. Miss Exam 1: Exam 2 worth 37.5%, Final Exam worth 37.5%
2. Miss Exam 2: Exam 1 worth 25%, Final Exam worth 50%
3. Miss Exam 1 and 2: Final Exam worth 75%

**HOMEWORK POLICY:**

Homework will typically be assigned one week in advance. *No late homework is accepted* (unless you have an excused absence as discussed in the Attendance Policy section above). Homework must be turned in at the beginning of class before lecture begins. Homework not turned in within the first five minutes of class (my watch) will receive a grade of zero. Because I know occasionally you are unable to turn an assignment in on time (e.g., accidentally left the completed assignment at home, had a cold and didn’t go to the doctor, came to class ten minutes late), I drop your lowest homework score. Because I drop your lowest homework score, do not ask me to accept late homework under any conditions except as noted above in the case of a documented excused absence. Homework will typically be due on Wednesdays.

Homework and reading assignments will be announced in class. On most assignments you may work in groups. However, each student must turn in their own assignment. Copying solutions from other students or a solutions key is considered an act of academic dishonesty and plagiarism ([http://aggiehonor.tamu.edu](http://aggiehonor.tamu.edu)).

Your assignments must be stapled, and include your name (needs to be very clearly written with your name as it appears on eCampus), assignment number, due date, and section number. **You are expected to complete all homework problems, although only one or two problems will be graded.** You will receive a 70% for turning in the homework assignment that shows evidence that you attempted most of the problems, the remaining 30% of

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1 Most text from this section was provided by this document: [http://registrar.tamu.edu/Registrar/media/Curricular-Services/Curricular%20Approvals/Course%20Approvals/CourseSubmissionChecklist.pdf](http://registrar.tamu.edu/Registrar/media/Curricular-Services/Curricular%20Approvals/Course%20Approvals/CourseSubmissionChecklist.pdf)
your homework grade will be earned by a careful review of one or two problems I choose to grade. You will not know in advance which problems will be graded, therefore you will need to complete all problems. You should invest time in your homework so as to best take advantage of this learning opportunity and prepare yourself adequately for your exams. Your homework will be graded, not corrected. Homework solutions will be e-mailed to students after homework is returned in class. They will not be posted on eCampus.

Your assignment must be neat with legible handwriting and a systematic presentation. You must show all work. Your answers will not be considered correct unless you have shown all your work, have noted correct units, and your answers are clearly demarcated (double underlined, highlighted, or boxed).

You are encouraged to write on both sides of the piece of paper, or recycle old printouts by using the non-printed side, as long as your work can be seen clearly.

Homework will be returned during class and your scores may potentially be seen by other students (although the score will be written on the back rather than the front where your name appears). If you do not wish to have your homework returned during class, please come see me during office hours and we will arrange for you to pick your homework up directly from the TA every week. Do not pick up homework for your friends. If you are absent when homework is returned, you may collect it from me during office hours.

ELECTRONICS POLICY:
Laptops and tablets are not allowed for note taking without prior permission of the instructor. Please come speak to me during office hours or briefly after class if you wish to use a laptop or tablet for note taking. If you require any special accommodations for note taking, including the use of a laptop, please speak with me at your earliest convenience. All mobile phones must be turned off and put away before class begins. Thus, there are to be no text messages, phone calls, or other phone usage during class.

AMERICANS WITH DISABILITIES ACT (ADA) POLICY STATEMENT
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit http://disability.tamu.edu.

ACADEMIC INTEGRITY
“An Aggie does not lie, cheat or steal, or tolerate those who do.”
http://aggiehonor.tamu.edu

TENTATIVE SCHEDULE:
Topics will be presented in the following order: Introduction and Review, Pressure Conduits, Open Channel Hydraulics, Hydrology, Groundwater

Important dates include:
- Exam 1: Wednesday 2/28
- Spring Break 3/12, 3/14, 3/16
- No Class Reading Day: Friday 3/30
- Exam 2: Monday 4/9
- Redefined Day: Attend Friday Classes Tuesday 5/1
- Final Exam: Friday 5/4 10:30 am – 12:30 pm
COURSEWORK COPYRIGHT STATEMENT
The handouts used in this course are copyrighted. Handouts refers to any and all materials generated for this class. This includes, but is not limited to, syllabi, exams, in-class activities, review sheets, homework, solutions, class notes, supplemental materials. You do not have the right to copy or distribute these items, unless I specifically grant you permission. If you have any further questions regarding plagiarism or copying, please refer to the Aggie Honor System Office student rule website (https://aggiehonor.tamu.edu/RulesAndProcedures/HonorSystemRules.aspx).
CVEN 339 Water Resources Engineering
Summer 2017

Instructor: Francisco Olivera, Ph.D., P.E., F.ASCE
e-mail: folivera@civil.tamu.edu

Schedule: Lectures and field trips as indicated in the program schedule. Contact hours: 45.

Office hours: Monday through Friday 11:00 a.m. – 11:30 a.m. except when field trips are scheduled.

Technical learning objectives: (1) to expose civil engineering students to a wide range of water resources engineering problems, and to introduce them to the application of fundamental mathematical and scientific knowledge (acquired in previous courses) and use of computers to solve these problems; (2) to provide the students with the basic knowledge of water resources engineering a civil engineer should be familiar with. After taking this course, the students will be able to solve basic problems of water resources engineering, including flow in pipes and channels, groundwater flow, and watershed hydrology.

Global competency learning objectives: (1) to expose the students to the Spanish material culture, and cultural values, beliefs and practices; (2) to help students better understand their own culture in comparison to another culture; (3) to expose the students to a different cultural frame of reference that forces them to think critically and to address problems differently; (4) to expose the students to the interconnectedness of complex global systems; and (5) to expose the students to different views and practices of Civil Engineering.

Prerequisite: CVEN311 Fluid Dynamics

Textbook: Water Resources Engineering by Ralph Wurbs and Wesley James, Prentice Hall, 2002

Grading:

<table>
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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Class attendance and participation, observance of the Program’s Rules of Conduct and cultural competence</td>
<td>20%</td>
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<tr>
<td>Two in-class tests (2 × 35%)</td>
<td>70%</td>
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The grade on Homework and on Class attendance and participation, observance of the program’s Rules of Conduct and cultural competence cannot be greater than 1.05 times the test average.

Letter grades will be assigned according to: A (100 – 90), B (89 – 80), C (79 – 70), D (69 – 60), and F (less than 60). Numeric grades will be rounded to the nearest integer.

Topics Covered:

- Pipe Hydraulics
- Hydrology
- Watershed Hydrology
- Hydrologic Routing
- Open Channel Hydraulics
- Hydrologic Frequency Analysis
- Groundwater Hydraulics
OFFICIAL NOTICES

ADA
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit http://disability.tamu.edu.

Academic Integrity Statement
“An Aggie does not lie, cheat, or steal or tolerate those who do.” Students are expected to understand and abide by the Aggie Honor Code presented on the web at: http://www.tamu.edu/aggiehonor. No form of scholastic misconduct will be tolerated. Academic misconduct includes cheating, fabrication, falsification, multiple submissions, plagiarism, complicity, etc.. These are more fully defined in the above web site. Violations will be handled in accordance with the Aggie Honor System Process described on the web site.

The handouts used in this course are copyrighted. By “handouts,” I mean all materials generated for this class, which include but at not limited to syllabi, notes, quizzes, exams, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts unless I expressly grant permission.

Cheating on quizzes and exams will not be tolerated. Cheating will be reported and handled in accordance with the Aggie Honor System Process. Some or all examinations will be closed book; “looking at another student's examination or using external aids (for example, books, notes, calculators, conversation with others, or electronic devices) during these examinations is a violation of Texas A&M Aggie Honor Code, Cheating, unless specifically allowed in advance by the instructor.

Unless specifically allowed in advance by the instructor, all assignments and homework in this class are expected to be completed based on individual effort. Copying the work of others, including homework, is a violation of Texas A&M Aggie Honor Code, Cheating.

It is the student’s responsibility to be fully acquainted and to comply with the University Student Rules available online at http://student-rules.tamu.edu.

Attendance is mandatory. No unjustified absences will be tolerated. Each absence will be penalized with 10 points (out of 100) in your Class attendance and participation, and observance of the Program’s Rules of Conduct grade.

In class, respectful behavior towards the other students and the instructor is expected. This respectful behavior requires, for example, keeping yourself from browsing the Internet, checking e-mail, using cell-phones, or reading material unrelated to the class. Laptops, cell phones and other devices should be turned off before class starts. Disrespectful behavior will be penalized with 50 points (out of 100) per offense in your Class Attendance and Participation grade. If, for a justifiable reason, you need to be reachable during class time, let me know and your case will be treated differently.