Course Change Request

Date Submitted: 03/06/18 4:08 pm

Viewing: CVEN 423 : Geomatics for Civil Engineering

Last edit: 03/08/18 8:28 am
Changes proposed by: kbrumbelow

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

Programs referencing this course
BS-CVEN-COF: Civil Engineering, BS - Coastal and Ocean Engineering Track
BS-CVEN-ENE: Civil Engineering - BS, Environmental Engineering Track
BS-CVEN-GCE: Civil Engineering - BS, General Civil Engineering Track
BS-CVEN-STR: Civil Engineering - BS, Structural 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
The proposed changes are for accreditation purposes.

Course prefix     CVEN     Course number  423
Department         Civil Engineering
College/School     College of Engineering
Academic Level     Undergraduate
Undergraduate course level justification (Select One)

Academic Level     Graduate
(alternate)
Effective term     2018-2019

Complete Course Title
Geomatics for Civil Engineering

Abbreviated Course Title
GEOMATICS FOR CIVIL ENG

Catalog course description
Use of GIS, GPS, Survey and Remotely-sensed data integrated with predictive models for infrastructure management systems.

Prerequisites and Restrictions
CVEN 303 or approval of instructor.

Concurrent Enrollment
No

Should catalog prerequisites / concurrent enrollment be enforced?
Yes

Enforced Prerequisites / Concurrent Enrollment

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 5:40 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 3:52 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
CVEN 423: Geomatics for Civil Engineering

<table>
<thead>
<tr>
<th>And/Or</th>
<th>Course Prefix/Number</th>
<th>Min Grade/Score</th>
<th>Academic Level</th>
<th>Concurrency?</th>
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<td>CVEN 303</td>
<td>C</td>
<td>UG</td>
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</table>

Crosslistings: No  Crosslisted With: 
Stacked: No  Stacked with: 

Semester: 3  Contact Hour(s) (per week): 
Lecture: 2  Lab: 3  Other: 0  Total: 5

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 and Laboratory
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?: No

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 core curriculum consideration?: No

Has/will this course be(en) submitted for
## Course Syllabus

<table>
<thead>
<tr>
<th>Syllabus:</th>
<th>Upload syllabus</th>
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<tbody>
<tr>
<td>Upload syllabus</td>
<td>423_Trad_Syl.pdf</td>
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<tr>
<td></td>
<td>423_Nontrad_Syl.pdf</td>
</tr>
</tbody>
</table>

| 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 7:41 pm): Rollback: Please attach a traditional syllabus and non-traditional syllabus (if applicable).  
Kelly Brumbelow (kbrumbelow) (03/06/18 4:09 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 |

Key: 3695
CVEN 423 Geomatics for Civil Engineers
Spring 2018

Instructor: Francisco Olivera, Ph.D., P.E., F.ASCE
DLEB 404-F
e-mail: folivera@civil.tamu.edu

Schedule: Lectures on Mondays and Wednesdays 10:20 am – 11:10 am at HEB 217.
Laboratories on Fridays 8:00 a.m. – 11:10 p.m. at HEB 217.

Office hours: Mondays and Wednesdays 2:40 pm – 3:40 pm.

Objectives: This course discusses the fundamental concepts of geographic information systems (GIS), the methods and software used to implement them, and their application to solve civil engineering problems. After taking this course, the students will be able to use GIS tools to approach civil engineering problems that involve location as a central variable.

Prerequisite: CVEN201, CVEN202, CVEN303 or instructor’s approval

Class web page: ceprofs.tamu.edu/folivera/GIS-CE/GISClass/home.htm

Textbook: Teaching materials will be provided by the instructor.

Grading:

<table>
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<tr>
<td>Homework</td>
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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. The grade on Homework and on Class participation and attendance cannot be greater than 1.05 times the test average.

Homework: There will be laboratory sessions on selected Mondays. Homework solutions must be handed-in at the end of each session. All homework work can be conducted at TAMU – Department of Civil Engineering facilities where software licenses are available.

Topics: Introduction to GIS and ArcGIS, ArcMap and data visualization, ArcCatalog and geodatabases, Map projections, GIS data acquisition, Map analysis with vector data, Map analysis with raster data
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/](http://disability.tamu.edu/).

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](http://student-rules.tamu.edu).

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.

*“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](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.

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.

Attendance is mandatory. Up to four class absences will be excused regardless of whether they are caused by university, professional or personal business. Each additional absence will be penalized with 10 points (out of 100) in your Class Attendance and Participation grade. If you have more than four University-excused absences, let me know and your case will be treated differently.

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 reason, you need to be reachable, let me know and your case will be treated differently.
Instructor: Francisco Olivera, Ph.D., P.E.
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.

Objectives: This course discusses the fundamental concepts of geographic information systems (GIS), the methods and software used to implement them, and their application to solve civil engineering problems. After taking this course, the students will be able to use GIS tools to approach civil engineering problems that involve location as a central variable.

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: CVEN201, CVEN202, CVEN303 or instructor’s approval

Textbook: Teaching materials will be provided by the instructor.

Grading: Tutorials 20%
Class attendance and participation, observance of the Program’s Rules of Conduct and cultural competence: 20%
Test #1 25%
Test #2 35%

Grades on Tutorials 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 (> 90), B (> 80), C (> 70), D (> 60), and F (< 60). Numeric grades will be rounded to the integer.

Tests Two tests will be given. The first test will cover approximately half of the material and the second test all the material discussed in class.

Topics to be covered: Introduction to GIS and ArcGIS
ArcMap and data visualization
ArcCatalog and geodatabases
Map projections
GIS data acquisition online
Map analysis with vector data
Map analysis with raster data
OFFICIAL NOTICES

ADA
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Academic Integrity Statement
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