

COURSE CHANGE REQUEST Undergraduate Programs

Department Civil, Environmental and Geomatics Engineeirng

UUPC Approval 12-2-24
UFS Approval
SCNS Submittal
Confirmed
Banner Posted
Catalog

UNIVERSITI	Conege Engineering and Computer Science		Catalog		
Current Course Prefix and Numl	SUR4463 Current Course Title Subdivision Design				
Syllabus must be at			details. See <u>Template</u> . Please	consult and list departments	
	RI: Subdivision Design		Change description to:		
J	J		add RI designation.		
Change prefix					
From:	To:				
Change course n	number				
From:	To:				
Change credits*					
From:	2 To : 3		Change prerequisites/minimum grades to:		
Change grading					
From:	To:				
Change WAC	/Gordon Rule status**_	_	Change corequisites to:		
Add	Remove				
Change General Education Requirements*** Add Remove *See Definition of a Credit Hour. **WAC/Gordon Rule criteria must be indicated in syllabus and		Change registration controls to:			
approval attached to this form. See <u>WAC Guidelines</u> . ***GE criteria must be indicated in syllabus and approval attached to this form. See <u>Intellectual Foundations Guidelines</u> .		Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).			
Effective Term/Year for Changes: Summer 2025		Terminate course? Effective Term/Year for Termination:			
Faculty Contact/Email/Phone Frederick Bloetscher fbloetsc@fau.edu 239-250-2423					
Approved by	(va.	ngslos K	Laisar	Date //-/8-24	
Department Chair			11-21-24		
College Curriculum Chair Galan Liu			11-4.7		
UUPC Chair Korey Sorge			12-2-24		
UUPC Chair Orey Orge Undergraduate Studies Dean Dan Meeroff			12-2-24		
UFS President					
Provost					

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

SUR4463 RI: SUBDIVISION DESIGN

Department of Civil, Environmental & Geomatics Engineering Fall 2025 3 Credit Hours

Instructor: O. Zadeh, P.E./F. Bloetscher, Ph.D., P.E.

Office Location:

Office Hours: In Person

Phone Number:

Email: ozadeh@fau.edu

COURSE DESCRIPTION

Physical elements of planning subdivision layouts, including circulation, water/sewer, drainage, earthwork grading, erosion control, topography and existing land use factors, geometric analysis procedures, plan/profile views of neighborhood infrastructure, zoning restrictions, easements, and setbacks. This is a research-intensive (RI) course.

COURSE PREREQUISITES

Prerequisites: EGN 1002 and (CGN 2327 or EGN 1111C) all with minimum grades of "C"

COURSE OBJECTIVES

Upon successful completion of this course, students will demonstrate:

- A. Ability to design an appropriate water/sewer/stormwater and road profile for a subdivision (2)
- B. Ability to communicate effectively about a subdivision layout to a wide range of audiences (3)
- C. Ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts (4)
- D. Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives related to a term project in subdivision design (5)

COURSE DELIVERY MODE

This course is accessible only through FAU's learning management system, Canvas. You must log into Canvas with your FAU ID and Password to access the materials and assignments in this course. If you do not know your FAU ID or Password, contact OIT for help.

The course delivery mode is mostly online class live lecture using synchronous virtual trainings via Cisco WebEx/Zoom Conferencing or Teams on Wednesday from 6:00pm to 7:50pm, EST each week. You are expected to participate in online active learning sessions during the synchronous virtual trainings.

Quizzes and exams will be conducted using the Lockdown Browser/Respondus Monitor technology. Please ensure you have capability to connect prior to the exam date.

The course is organized into modules with due dates. Unless otherwise specified, each module begins on Monday at 12:00am, EST, and ends on Sunday at 11:59pm, EST. The course begins with the Start Here module, which will familiarize you with the organization and navigation of the course. You will open a new learning module to access the assigned reading materials, presentations, and other relevant materials for each subsequent module.

TIME COMMITMENT PER CREDIT HOUR

This course has 2 credit hours. For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

REQUIRED TEXTS & MATERIALS

Texts (homeworks and reading assignments will come from the following):

Handouts provided by instructor

Strongly Recommended Texts/Materials

• Bloetscher, F., & Meeroff, D. (2015). Practical concepts for capstone design engineering. J Ross Publ. ISBN: 9781604271140

MINIMUM TECHNOLOGY & COMPUTER REQUIREMENTS

HARDWARE & SOFTWARE REQUIREMENTS

Hardware

- Dependable computer with Windows 10 or macOS Sierra (or higher) Specifications
- Computer speakers
- Headset with microphone
- Webcam

 A backup option should be available to minimize the loss of work. This can be an external hard drive, a USB drive, cloud storage, or your folder on the FAU servers

Software

- Autodesk Civil 3D
- Microsoft 365 Suite
- Reliable web browser (recommended <u>Chrome</u> or <u>Firefox</u>)
- Canvas mobile app: Download instructions for <u>iOS device</u> or <u>Android device</u>
- Adobe Reader
- Adobe Flash Player
- Once logged in to Canvas make sure your Internet browser is compatible.
- Other software may be required for specific learning modules. If so, the necessary links to download and install will be provided within the applicable module.

Internet Connection

- Recommended: Broadband Internet connection with a speed of 4 Mbps or higher.
- To function properly, Canvas requires a high-speed Internet connection (cable modem, DSL, satellite broadband, T1, etc.). The minimum Internet connection speed to access Canvas is a consistent 1.5 Mbps (megabits per second) or higher.
- Check your Internet speed here.

MINIMUM TECHNICAL SKILLS REQUIREMENTS

The general and course-specific technical skills you must have to succeed in the course include but are not limited to:

- Accessing Internet.
- Using Canvas (including taking tests, attaching documents, etc.).
- Using email with attachments.
- Creating and submitting files in commonly used word processing program formats such as Microsoft Office Tools.
- Copying and pasting functions.
- Downloading and installing software.
- Using presentation, graphics, and other programs.
- Using spreadsheets to manage data and create graphs.
- Posting and commenting in an online discussion.
- Searching the FAU library and websites.

TECHNICAL SUPPORT

In the online environment, technical issues are always possible (e.g., lost connection, hardware or software failure). Many of these can be resolved relatively quickly, but if you wait until the last minute before due dates, the chances of these glitches affecting your success are greatly increased. Please plan appropriately. If a problem occurs, it is essential you take immediate action to document the issue so your instructor can verify and take appropriate action to resolve the problem. Most issues in Canvas can be resolved by clicking on the "Help" tab located on the menu bar.

When a problem occurs, click "Help" to:

- Report a Problem
- Live Chat with Canvas Support
- Search Canvas Guides

Additional Technical Support

- 1. Contact the eLearning Success Advisor for assistance: (561) 297-3590
- 2. If you can, make a Print Screen of the monitor when the problem occurs. Save the Print Screen as a .jpg file. If you are unfamiliar with creating a Print Screen file, see <u>Print Screen instructions</u>.
- 3. Complete a <u>Help Desk ticket</u>. Make sure you complete the form entirely and give a full description of your problem so the Help Desk staff will have the pertinent information in order to assist you properly. This includes:
 - a. Select "Canvas (Student)" for the Ticket Type.
 - b. Input the Course ID.
 - c. In the Summary/Additional Details section, include your operating system, Internet browser, and Internet service provider (ISP).
 - d. Attach the Print Screen file, if available.
- 4. Send a message within Canvas and email to your instructor to notify him/her of the problem. Include all pertinent information of the incident (2b-d above).
- 5. If you do not have access to Canvas, send an email to your instructor with all pertinent information of the incident (2b-d above).
- 6. If you do not have access to a computer, call your instructor with all pertinent information of the incident. If he/she is not available, make sure you leave a detailed message.
- 7. If you do not hear back from the Help Desk or your instructor within a timely manner (48 hours), it is your responsibility to follow up with the appropriate person until you obtain a resolution.

RESEARCH INTENSVIE DESIGNATION

This course contains an assignment designed to help students conduct research and inquiry at an intensive level. If this class is selected to participate in the university-wide assessment program, students will be asked to complete a consent form and submit electronically some of their research assignments for review. Visit the office of undergraduate research and inquiry (OURI) for additional opportunities and information at http://www.fau.edu/ouri.

- SLO 1: Knowledge. Students will demonstrate content knowledge, core principles, and skills.
- SLO 2: Formulate Questions. Students will formulate research questions or scholarly/creative problems with integration of fundamental principles and knowledge in a manner appropriate to their discipline.
- SLO 3: Plan of Action. Students will develop and implement a plan of inquiry to address research and inquiry questions or scholarly problems.
- SLO 4: Critical Thinking. Students will apply critical thinking skills to evaluate information, their own work, and the work of others.
- SLO 5: Ethical Conduct. Students will identify significant ethical issues in research and inquiry and/or address them in practice.
- SLO 6: Communication. Students will convey all aspects of their research and inquiry (processes and/or products) in appropriate formats, venues, and delivery modes.

UNDERGRAUDATE CERTIFICATE

Undergraduate Research Certificate: FAU now offers an Undergraduate Research Certificate to recognize undergraduate students for the systematic development of excellence in undergraduate research. Students seeking a certificate must complete 12 credits in research-intensive (RI), skill-building, exposure, and research dissemination activities. Successfully completing this course earns you three credits in research intensive coursework. Learn more about the RI Certificate here:https://www.fau.edu/ouri/undergraduate-research-certificate/

COURSE ASSESSMENTS, ASSIGNMENTS & GRADING POLICY

GRADING CRITERIA

Homework (10%)

Homework is based on the readings, lectures, homework, Civil 3D and class discussions. Once the homework has been assigned, you will have 1 week to complete the assignment.

The Civil 3D linked in learning module is half of this score

Design Project (70%)

The course requires participation in a design project that involves collaborating with other students to produce a final product. This assignment offers you the opportunity to practice virtual collaboration skills that are applicable to the 21st Century global workforce. Though group work is often challenging, it is a reality in nearly every employment setting. Learning to be a supportive team member, resolve conflicts, and discover your role preferences within group projects is an important part of the skills you will develop through your FAU education.

The project is scaffolded in progress report milestone deliverables. The interim deliverables are scored using a rubric, and a jury of professionals is invited to give feedback. The final report document is due near the end of the semester. The final report is assessed using a rubric.

Exams - Max 20%

There is a midterm and final exam based on readings, lectures, homework, and class discussions. Answers will be evaluated based on content in terms of accuracy of information and ability to analyze the issues. Exams will be taken online in the Canvas Learning Management System using Lockdown Browser/Respondus Monitor. Tests will be timed. No make-up exams are given.

The instructor will calculate your grade based on the following weighted distribution:

Assessment	Percentage (%)
Homework (not Linkedin Learning)	5
Civil 3D Linkedin Learning	5
Design Project	70
Exam	20
TOTAL:	100%

SLO 1: Knowledge. Students will demonstrate content knowledge, core principles, and skills (homeworks - 5%).

SLO 2: Formulate Questions. Students will formulate research questions or scholarly/creative problems with integration of fundamental principles and knowledge in a manner appropriate to their discipline (development of subdivision layout – initial, interim and final progress reports (5%).

SLO 3: Plan of Action. Students will develop and implement a plan of inquiry to address research and inquiry questions or scholarly problems (based on codes, apply limitations on the site, codes, vicinity land use, property rights to accomplish a layout - 20%).

SLO 4: Critical Thinking. Students will apply critical thinking skills to evaluate information, their own work, and the work of others (Layout based on researched codes, regulations and review of concepts for land development in the vicinity of their site- 50%).

SLO 5: Ethical Conduct. Students will identify significant ethical issues in research and inquiry and/or address them in practice (Students must avoid wetlands, other property, easements and property rights – 10%).

SLO 6: Communication. Students will convey all aspects of their research and inquiry (processes and/or products) in appropriate formats, venues, and delivery modes (final presentation – 10%).

LATE ASSIGNMENTS POLICY

Late work is not acceptable. Failing to submit an assignment will result in a zero (0) for the missing assignment. Participation in University-approved activities or religious observances, with prior notice, will not be penalized.

MAKE-UP POLICY FOR TESTS

Exams will be given only at the scheduled times and places unless previous arrangements have been made no less than one (1) full week in advance. No one is exempt from exams.

Makeups are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student of participating in the exam. Makeup exams will be administered and proctored by department personnel unless there are other pre-approved arrangements.

Note: The minimum grade required to pass the course is "C."

INCOMPLETE GRADE POLICY

Incomplete grades are against the policy of the Department. Unless there is solid evidence of medical or otherwise serious emergency situation, incomplete grades will not be given. The University policy states that a student who is passing a course but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily

receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor but is allowed only if the student is passing the course.

GROUNDS FOR DISMISSAL AND/OR INVALIDATION OF EXAM RESULTS

- Having an unauthorized device with copying, recording, or communication capabilities in your possession during the
 exam. These include but are not limited to cell phones, cameras, pagers, PDAs, radios, headsets, tape players, MP3
 players, calculator watches, electronic dictionaries, electronic translators, and transmitting devices.
- Copying from another examinee's answer sheet
- Colluding with others during the test window
- Accessing any unauthorized materials during the exam
- Leaving the exam area without authorization

COURSE POLICIES

CODE OF ACADEMIC INTEGRITY POLICY STATEMENT

Students at Florida Atlantic University should endeavor to maintain the highest ethical standards. Academic dishonesty is a serious breach of these ethical standards because it interferes with the University mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive to the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.

PLAGIARISM

<u>Plagiarism</u> is unacceptable in the University community. Academic work must be an original work of your own thought, research, or self-expression. When students borrow ideas, wording, or organization from another source, they must acknowledge that fact in an appropriate manner. Plagiarism is the deliberate use and appropriation of another's work without identifying the source and trying to pass off such work as one's own. Any student who fails to give full credit for ideas or materials taken from another has plagiarized. This includes all discussion board posts, journal entries, wikis, and other written and oral presentation assignments. If in doubt, cite your source.

ONLINE ATTENDANCE POLICY

Since the course is online, you should access the course at least three times per week to ensure you do not miss pertinent postings, messages, or announcements. It is imperative that you meet course deadlines and stay active in discussion boards, group projects, etc. If you are experiencing major illness, absences due to University duties, or other large-scale issues, contact the instructor immediately to formulate a resolution.

SPECIAL COURSE REQUIREMENTS

The goal of integrating writing in this course is to improve students' ability to produce professional quality engineering reports. Contact the University Center for Excellence in Writing at 561-297-3498 or www.fau.edu/UCEW for assistance.

If you need help finding appropriate research or background information for reports, try the libguide: http://libguides.fau.edu/basic engineering-boca

Report all technical problems in Canvas to the IRM helpdesk (http://www.fau.edu/helpdesk)

NETIQUETTE

Due to the casual communication common in the online environment, students are sometimes tempted to relax their grammar, spelling, and/or professionalism. Please remember that you are adult students and professionals—your communication should be appropriate. For more in-depth information, please see the <u>FAU statement on netiquette</u>.

DISRUPTIVE BEHAVIOR POLICY STATEMENT

Disruptive behavior is defined in the FAU Student Code of Conduct as "... activities which interfere with the educational mission within classroom." Students who disrupt the educational experiences of other students and/or the instructor's course objectives in a face-to-face or online course are subject to disciplinary action. Such behavior impedes students' ability to learn or an instructor's ability to teach. Disruptive behavior may include but is not limited to non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or other violations of an instructor's expectations for classroom conduct. For more information, please see the FAU Office of Student Conduct.

COMMUNICATION POLICY

EXPECTATIONS FOR STUDENTS

Remember you are an adult—your communication with the professor and your classmates should be appropriate.

Announcements

You are responsible for reading all announcements posted by the instructor. Check the course announcements each time you log in.

Email/Video Conferencing

You are responsible for reading all your course email and responding in a timely manner.

Course-Related Questions

Post course-related questions to the FAQ discussion board. This is the preferred method of communication for course-related issues. This allows other participants with the same question to benefit from the responses. Also, make sure you review this forum prior to posting a question. Someone may have already asked and answered the question in previous posts. Such posts should be used to communicate public matters.

INSTRUCTOR'S PLAN FOR CLASSROOM RESPONSE TIME & FEEDBACK

Course-Related Questions/Email/Video Conferencing Policy

Except for weekends and holidays, the instructor will typically respond to email (Canvas inbox or FAU email) within 48 hours. You should ask course-related questions in the FAQ discussion board. Personal or confidential matters should be sent via email directly to the professor.

Assignment Feedback Policy

The instructor will typically provide feedback on submitted assignments within one week of the submission date. Some assignments may require a longer review period, which the instructor will communicate to you.

Electronic Communication Policy

In addition to the University's policy, please consider the following:

- Privacy, confidentiality, and security in all electronic communications.
- All electronic communication resources must be used for the course and in alignment with to the University mission.
- Prohibited use of false identity, false identity pseudonyms, or anonymous (sender's name or electronic identification is hidden).
- Access without consent.
- Disruption of services including introducing computer contaminants (viruses).
- Harassment of any kind.

Please see the Office of Information Technology's policies on Cyber Security Awareness.

SUPPORT SERVICES & ONLINE RESOURCES

- Center for eLearning and Student Success
- Counseling and Psychological Service (CAPS)
- FAU Libraries
- Freshmen Academic Advising Services
- Math Learning Center
- Office of Information Technology Helpdesk
- Office of International Programs and Study Abroad
- Office of Undergraduate Research and Inquiry
- Student Accessibility Services
- University Center for Excellence in Writing

COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS) CENTER STATEMENT

Life as a university student can be challenging mentally, emotionally, and physically. 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 to help improve and maintain well-being. For CAPS services, students need to be currently enrolled, have paid the health fee, be physically located in Florida when services are provided, have phone or videoconferencing capabilities, and have access to a safe/private location for sessions. For those outside of Florida, CAPS will assist students in getting connected to services/providers in your area for ongoing support. For more information, go to http://www.fau.edu/counseling/ or call 561-297-3540.

FACULTY RIGHTS & RESPONSIBILITIES

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise.

To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the *Student Code of Conduct*.

SELECTED UNIVERSITY & COLLEGE POLICIES

ACCESSIBILITY POLICY STATEMENT

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations to properly execute coursework due to a disability, must register with Student Accessibility Services (SAS) located in the Boca Raton, Davie, and Jupiter campuses and follow all SAS procedures. For additional information, please consult Student Accessibility Services.

Contact

Boca Raton: (561) 297-3880 / Fax: (561) 297-2184, TTY: 711

Davie: (954) 236-1222 / Fax: (954) 236-1123, TTY: 711

Jupiter: (561) 799-8721 / Fax: (561) 799-8721, TTY: 711

GRADE APPEAL PROCESS

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

<u>Chapter 4 of the University Regulations</u> contains information on the grade appeals process.

RELIGIOUS ACCOMMODATION POLICY STATEMENT

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. For further information, please see Academic Policies and Regulations.

UNIVERSITY-APPROVED ABSENCE POLICY STATEMENT

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances,

and debate activities. It is your responsibility to notify the instructor at least one week prior to missing any course assignment.

DROPS/WITHDRAWALS

For any issues that arise in the class that might result in a student electing to withdraw or stop attending, it is imperative that the student contact the instructor beforehand to discuss the consequences of that decision on timely graduation.

If after this consultation, the decision to withdraw is made, you are responsible for completing the process of dropping or withdrawing from a course. Please click on the following link for more information on dropping and/or withdrawing from a course. Please consult the <u>FAU Registrar Office</u> for more information.

COURSE TOPICAL OUTLINE

Week	Topics	Assignments
1	Orientation, Introductions, History of Subdivisions, Basic Concepts	Review Module 1 notes
	Syllabus, Roles of Surveyor and Civil Engineer –	Syllabus quiz
2	Municipal Requirements And Permits; Real Property Ownership,	Review Module 2 notes
	Easements, Recorded Plats, Requirements for Plats; Regulatory	Homework 1
	Requirements for Subdivisions:, Zoning, Land Development Codes,	
	FDOT Regulations, Review of Project Site	
3	COGO, Coordinates, Concepts and Codes for Subdividing Land,	 Review Module 3 notes
	Bearings, Distance Calculations - Civil 3D/Autocad	 Homework 2
4	Workshop – doing Plats with registered Surveyor	
5	Concepts for Laying Out the Subdivision - Land, Grading, Maximizing	 Review Module 4 notes
	Lots, Earthwork, Cut and Fill, Site Plan, Preliminary Subdivision Plat	 Homework 3
	- Civil 3D/Autocadd	•
6	Guests – Palm Beach County Development Services	
7	Subdivision ROW Layout – Plan and Profiles (existing and	 Review Module 5 notes
	proposed), Road Design, Alignments: Horizontal and Vertical	Homework 4
	Curves, Centerlines, Stationing, Intersections, Sidewalks and	
	Utilities, - Civil 3D/Autocadd	
8	Stormwater Drainage, Location of Inlets, Piping, Plan and Profile,	 Review Module 6 notes
	Erosion Protection, Undulation of Flat Roads, Curbing –	Homework 5
	Civil3D/Autocadd	
	Review for Midterm Exam	
9	Requirements for Domestic Water, Sanitary Sewer, Plan and Profile	 Review Module 7 notes
	View, Conflicts, Utility Details	Homework 6
10	Signage, Street Lights, Traffic Considerations MUTCD, Sight	 Review Module 8 notes
	Distances -	Homework 7
11	Review - Plan Submission - Comments on Plats, Expectations -	 Review Module 9 notes
11	Exam	
12	Get your project done!!	
13	Get your project done!!	
14	Get your project done!!	

Week	Topics	Assignments
15	Final Project Presentation, Review for Final Exam	Final Project Deliverable
		Plan set due w/plat, plan
		and profiles of all roads and
		utilities (pdf) - 24 x 36 pdf
		plan set

The instructor reserves the right to adjust this Syllabus at any time.