FLORIDA ATLANTIC UNIVERSITY

COURSE CHANGE REQUEST
Undergraduate Programs

Department CEGE

College CoE&CS

UUPC Approval 2-1-21
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner Posted _____
Catalog _____

***Current* Course Prefix and Number**	ETG4951	***Current* Course Title**	Engineering Technology Capstone

*Syllabus must be attached for **ANY** changes to current course details. See Checklist. Please consult and list departments that may be affected by the changes; attach documentation.*

Change title to:

RI: Engineering Technology Capstone

Change prefix

From: **To:**

Change course number

From: **To:**

Change credits*

From: **To:**

Change grading

From: **To:**

Change WAC/Gordon Rule status**

Add [X] **Remove** [ ]

Change General Education Requirements***

Add [ ] **Remove** [ ]

*Review Provost Memorandum

**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.

***General Education criteria must be indicated in syllabus and approval attached to this form. See GE Guidelines.

Change description to:

Design teams are formed for senior capstone projects with multiple realistic constraints. Projects are developed with the approval of a sponsor or client. Professional practice issues are also presented and discussed. Laboratory included. Adding Academic Service Learning and Research Intensive.

Change prerequisites/minimum grades to:

SUR 4463 – Subdivision Design AND SUR3463L – Land Subdivision and Platting Lab with minimum grade of "C"

Change corequisites to:

SUR 4463 – Subdivision Design AND SUR3463L – Land Subdivision and Platting Lab, Proof of registration with the NCEES for the FS Exam

Change registration controls to:

Senior standing, GPA>2.0, and permission of department

Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).

Effective Term/Year for Changes:	Fall 2021	**Terminate course? Effective Term/Year for Termination:**	

Faculty Contact/Email/Phone Dan Meeroff/dmeeroff@fau.edu/7-2658

Approved by		***Date***
Department Chair	Yan Gong	1-15-21
College Curriculum Chair	Dan Meeroff	1-19-21
College Dean	Frederick Bloetscher	1-20-21
UUPC Chair	Jerry Haky	2-2-21
Undergraduate Studies Dean	Edward Pratt	2-2-21
UFS President		
Provost		

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

FAU
FLORIDA ATLANTIC UNIVERSITY

[ETG 4951]: [RI: Engineering Technology Capstone]

Department of Civil, Environmental & Geomatics Engineering
Fall 2021
3 Credit Hours

Instructor: Dr. Daniel E. Meeroff, Professor and Associate Chair
Office Location: Engineering West (EG-36) Bldg., Room 206
Office Hours: T/R 11:00 – 12:20 pm, or by appointment
Phone Number: 561-297-2658
Email: dmeeroff@fau.edu
Video Conferencing Tool Name: Cisco WebEx/Zoom Conferencing

Instructor: Dr. Frederick Bloetscher, Professor and Associate Dean
Office Location: Engineering East (EG-96) Bldg., Room 308M
Phone Number: 561-297-0744
Email: h2o_man@bellsouth.net

Instructor: Dr. Hongbo Su, Associate Professor
Office Location: Engineering West (EG-36) Bldg., Room 223
Phone Number:xxx
Email: auh@fau.edu

Instructor: Albert Muniz, P.E., Vice President, Hazen and Sawyer, P.C.
Phone Number: 561-297-0744
Email: amuniz@hazenandsawyer.com

COURSE DESCRIPTION

Design teams are formed for senior capstone projects with multiple realistic constraints. Projects are developed with the approval of a sponsor or client. Professional practice issues are also presented and discussed. Laboratory included.

This is a research-intensive (RI) course, a writing intensive (WAC) course, and an Academic Service Learning (AS-L) course.

This is a writing intensive course and will fulfill the writing across the curriculum (WAC) requirements for 2000-4000 level courses ("Gordon Rule"). Writing assignments promote critical thinking, reading of sustained and challenging texts, and analytical writing. Writing assignments during the semester include formal technical reports. These assignments are evaluated not only for technical content but also for clarity, composition, and organization of writing. If this class is selected to participate in the university-wide WAC assessment program, you will be required to access the online assessment server, complete the consent form and survey, and submit electronically a first and final draft of a near-end-of-term-paper.

COURSE PREREQUISITES

Prerequisites: SUR 4463 – Subdivision Design AND SUR3463L – Land Subdivision and Platting Lab with minimum grade of "C"

Corequisite: SUR 4463 – Subdivision Design AND SUR3463L – Land Subdivision and Platting Lab, Proof of registration with the NCEES for the Fundamentals of Surveying Exam

Registration Controls: Senior standing, GPA>2.0, and permission of Department

COURSE OBJECTIVES

Upon successful completion of this course, students will demonstrate:

A. Ability to formulate a preliminary design solution acceptable to a client (2)
B. Ability to communicate effectively with a range of audiences (3)
C. Ability to perform professional practice items such as procurement of work; quality-based selection processes; engineering economics, engineering ethics, development of specifications, apply engineering judgment (1,4,6)
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 (5)
E. Ability to acquire information needed to develop effective design solutions (7)

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 on Thursdays and most Wednesdays from 4:00pm to 6:50pm, EST each week. You are expected to participate in online active learning sessions during the synchronous virtual trainings.

You are required to be able to access dropbox for submittal of presentation materials and reports.

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

TIME COMMITMENT PER CREDIT HOUR

This course has 3 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

Strongly Recommended Texts/Materials

- Bloetscher, F. & Meeroff, D.E. (2015). Practical Concepts for Capstone Design Engineering, J Ross Publishing. ISBN-10: 1604271140; ISBN-13: 978-1604271140
- National Council of Examiners for Engineering and Surveying. Fundamentals of Engineering Supplied-Reference Handbook, Version 9.5. www.ncees.org. ISBN: 978-1-932613-67-4

Reference list

- Blank, L & Tarquin, A. (2014) Basics of Engineering Economy, 2nd Edition, McGraw-Hill, NY, ISBN: 9780073376356
- Vesilind, A. (1999) Public Speaking and Technical Writing Skills for Engineering Students by P., Lakeshore Press, NH, ISBN 0-9650539-2-X
- Colley, B.C. (2005) Practical Manual of Land Development, 4th Ed, McGraw- Hill.
- Ogaja, C.A. (2011). Geomatics Engineering: A Practical Guide to Project Design. CRC Press, Boca Raton, FL ISBN: 978-1-4398-1743-8.
- Florida Building Code
- Plumbing Code
- ASHRAE 90
- South Florida Water Management District Environmental Resource Permitting Manual
- USGBC LEED Handbook v 4.1 or latest

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

- Microsoft 365 Suite
- Reliable web browser (recommended Chrome or Firefox)
- Canvas mobile app: Download instructions for iOS device or Android device
- 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 Print Screen instructions.
3. Complete a Help Desk ticket. 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 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.

These are links where you can find the steps to use your cell phone as a webcam.

For Android: https://helpdesk.fau.edu/TDClient/2061/Portal/KB/ArticleDet?ID=104057

For iPhone or iPad: https://helpdesk.fau.edu/TDClient/2061/Portal/KB/ArticleDet?ID=104056

COURSE ASSESSMENTS, ASSIGNMENTS & GRADING POLICY

GRADING CRITERIA

Class Assignments, Homework, Discussion Boards (10%)

There will be 12 assignments in this category including the following writing assignments that are submitted in Canvas and graded with a rubric:

1. Personal Narrative Statement
2. Resume
3. Branding Assignment
4. Contact List
5. Vision Statement
6. AutoCAD Title Block
7. Personal/Group Critique
8. Chapter 5
9. Engineering Ethics
10. AS-L Reflection Piece

And the following other assignments also count towards this score:

1. Professional Meeting Commitment (must attend two professional organization meetings)
2. Engineering Economics (problem set)

Board Exam Reviews (10%)

There will be several multiple choice Canvas quizzes assigned throughout the semester designed to emulate portions of the FE/FS exams. These quizzes will be taken in Canvas and are timed. No make-ups are given if deadlines are missed. The following units are assigned:

1. Units Conversions and Math & Probability/Statistics
2. Mapping Processes
3. Legal Aspects of Surveying
4. Geodesy
5. Surveying/Construction & Transportation

6. Surveying Computations
7. Engineering Economics & Computational Tools & Ethics

Professional Practice (44%)

The course requires participation in a team 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. Each professional practice assignment will have a written report and presentation that is assessed using a rubric.

Professional practice includes the following written reports:

1. Response to a Request for Qualifications
2. Alternative Analysis Report
3. Phase 1 Environmental Site Assessment
4. Site Plan/Characterization and Draft Pre-Design Report

Final Exam (16%)

There is a 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.

Final Report (20%)

The final report document is due near the end of the semester. The final report is assessed using a rubric.

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

Assessment	**Percentage (%)**
Class Assignments, Homework, Discussion Boards	10%
Board Exam Reviews	10%
Professional Practice	44%
Final Exam	16%
Final Report	20%
TOTAL:	**100%**

You are expected to participate in all synchronous class sessions and assigned laboratory sessions with a smile and keep up with the material. You are not expected to be a distraction in the class. Final grades will be reduced

by one letter grade for lack of participation in more than three (3) live lecture sessions or for any other form of class disruption (as determined by the instructor).

LATE ASSIGNMENTS POLICY

Late work is not acceptable. Failing to submit an assignment will result in a score of "-1." Students who turn in late work after the deadline may receive feedback and the score will be changed to "0." 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 or colluding with other examinees
- Accessing any unauthorized materials during the exam
- Leaving the exam area without authorization

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

Plagiarism 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, announcements, or assignments. Attendance to the synchronous sessions is mandatory. 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.

Students are responsible for arranging to make up work missed because of a 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.

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 FAU statement on netiquette.

CLASSROOM ETIQUETTE/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.

WRITING ACROSS THE CURRICULUM DESIGNATED COURSE

This is a writing intensive course and will fulfill the writing across the curriculum (WAC) requirements for 2000-4000 level courses. The goal of integrating writing in this course is to improve students' ability to produce professional quality engineering reports. For more information, contact the University Center for Excellence in Writing at 561-297-3498 or www.fau.edu/UCEW. Report all technical problems to the IRM helpdesk (http://www.fau.edu/helpdesk)

RESEARCH-INTENSIVE (RI) DESIGNATED COURSE

This course contains multiple assignments 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.

Capstone projects are expected to achieve all six of the following Student Learning Outcomes (SLOs):

SLO 1: Knowledge. Students are expected to demonstrate content knowledge, and knowledge of core principles and skills.

SLO 2: Formulate Questions. Students are required to formulate research questions, scholarly or creative problems in a manner appropriate to the planning discipline.

SLO 3: Plan of Action. Students are expected to develop and implement a plan of action to address research and inquiry questions or scholarly problems.

SLO 4: Critical Thinking. Students are expected to apply critical thinking skills to evaluate information, their own work, and the work of others.

SLO 5: Ethical Conduct. Students are expected to 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.

ACADEMIC SERVICE LEARNING (AS-L) DESIGNATED COURSE

This course is designated as an "academic service-learning" course. The assistance you provide to the agency/organization during your academic service-learning (AS-L) experience is a service to the community and will allow you to apply knowledge from the course to local, national, and/or global social issues. Throughout this course you will be participating in AS-L activities while demonstrating civic engagement at campus, local, national, and/or global community levels. You will also reflect on your AS-L experience and the impact on the community as well as your professional development. Academic service-learning notation of hours will post to your transcript with submission of hours to your faculty instructor. An Academic Service-Learning Student Survey is required to be taken at the end of your AS-L project. Please visit the Weppner Center for LEAD & Service-Learning website, www.fau.edu/leadandserve, for the survey link and more information on FAU's Academic Service-Learning program.

Minimum project hours: 10

*Assumption of Risk Statement for Student**

I understand that there are certain physical risks inherent in every form of service-learning. I understand the risks associated with this Academic Service-Learning assignment. I nonetheless agree to assume those risks so as to gain the benefits from participation in this valuable learning experience. I hereby release the State of Florida, the Board of Trustees, Florida Atlantic University and its agents and employees from any and all liability associated with my participation in this assignment at Florida Atlantic University.

Assessment of your performance in this aspect of the course is accomplished using your Professional Practice Assignments/Presentations/Reports, the Final Report, and Class Assignments, as evaluated using the rubrics at the end of this syllabus and also found in course LMS.

If you are selected to participate in the university-wide Academic Service-Learning program, you will be required to document a minimum of 10 hours of student service to the community agency.

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/

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 substantive 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. Some feedback is provided in the canvas platform in the rubric comments, some feedback will be provided from the dropbox directly written on the document, and additional realtime feedback will be provided in live class sessions from peer review, expectations sessions, charettes, and guest jury members.

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 Services
- 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

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

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/.

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.

Chapter 4 of the University Regulations 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 in order 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 FAU Registrar Office for more information.

COVID-19 STATEMENT

All students in face-to-face classes are required to wear masks during class, and students must sanitize their own workstations upon entering the classroom. Taking these measures supports the safety and protection of the FAU community. Students who do not adhere to these rules will be asked to leave the classroom and/or be removed from the course. Students experiencing flu-like symptoms (fever, cough, shortness of breath), or students who have come in contact with an infected person should immediately contact FAU Student Health Services (561-297-3512).

COURSE TOPICAL OUTLINE

Week	Topics	Assignments
Pre-Class	Check Canvas for Due Dates	• HW#1 – Personal Narrative Statement (Canvas) Due First Wednesday at 2pm • HW#2 – Resume (Canvas) Due First Wednesday at 2pm • All Canvas forms are due including syllabus quiz second Wednesday at 2pm
1 Wed	• Introduction to Capstone Projects, Course Expectations, and Writing Requirements (Chapter 1) • Career Opportunities, Teaming and Leadership Skills (Chapter 2) • **ATTENTION: Class Might Run Over Time**	• Read Bloetscher & Meeroff Chapter 1, 2, 4, 5, and 7
1 Thu	• High Performance Construction (Chapter 7) • Branding • Assign Groups for Capstone Project • Team Visioning Activity	• In Class Writing Assignment #1 (draft design team vision statement) • HW#3 – Branding Due Week 2 Thursday at 4pm • HW#4 – Contact list (Canvas) Due Week 2 Thursday at 2pm • HW#5 – Vision statement (Canvas) Due Week 2 Thursday at 2pm • HW#6 – AutoCAD title block (Canvas) Due Week 2 Thursday at 2pm
2 Thu	• Preparing Engineering Reports, Responses to Proposals, Scoping, Project Management, and Scheduling Skills (Chapter 4,5)	• Read Bloetscher & Meeroff Chapter 6 • HW#7 – Chapter 5 Individual Writing Assignment Due Week 3 Thursday at 2pm • Draft RFQ Response and Slides Due in class Week 3 Thursday at 4pm
3 Thu	• Writing Expectations and Strategies to Improve Writing • In Class Peer Review of Draft RFQ Response with Rubrics • Select Order for Presentations • Alternative Analysis (Chapter 6)	• Read Bloetscher & Meeroff Chapter 8 • Revised RFQ Response Report Due Week 4 Wed at 4pm • Draft Alternative Analysis Group Writing Assignment Due Week 5 Wednesday at 2pm • Board Exam #1 Due

Week	Topics	Assignments
4 Wed/Thu	• ORAL PRESENTATION #1: RFQ Response (groups) • [Revised Report also due] • NOTE THIS MAY BE F2F ON WED ONLY	NOTE THIS MAY BE F2F ON WED ONLY
5 Wed	• Phase 1 Environmental Site Assessments and Writing Requirements (Chapter 8) • Asset Assessment • In Class Peer Review • Alternative Analysis Expectations and Strategies to Improve Writing for Revision of Alternative Analyses	• Read Bloetscher & Meeroff Chapter 9 • Draft Phase 1 Environmental Site Assessment Report and Slides Due Week 6 Thursday at 2pm • Revised Alternative Analysis Due Week 6 Wednesday at 2pm
5 Thu	• Site Planning: Water, Sewer, Drainage, Building Program, and Writing Requirements (Chapter 9) • Codes, Permits, and Regulations (Chapter 9)	• Read Bloetscher & Meeroff Chapter 10 • Board Exam #2 Due
6 Wed	• Floor Plan Development (Chapter 10) • In Class Discussion/Review of Alternative Analysis	• Read Bloetscher & Meeroff Chapter 3 • Preliminary Site Plan Due Week 10 Wednesday at 2pm
6 Thu	• Ethics for the Fundamentals of Engineering Exam (Chapter 3) • Discuss/Peer Review of ESA Slides	• Read Bloetscher & Meeroff Chapter 11 • Ethics Assignment Due Week 11 Wednesday at 2pm
7 Thu	• Engineering Economics for the Fundamentals of Engineering Exam (Chapter 11) • In Class Review of Site Plan Report Expectations and Strategies to Improve Writing for Revision • Select Order for Presentations	• Board Exam #3 Due • Engineering Economics Assignment Due Week 9 Thursday at 2pm
8 Wed/Thu	• ORAL PRESENTATION #2: Phase 1 Site Assessment (groups – include out of scope issues associated with the project) • NOTE THIS MAY BE F2F ON WED ONLY	• Revise Phase 1 Environmental Site Assessment Due Week 9 Thursday at 2pm NOTE THIS MAY BE F2F ON WED ONLY
9 Wed	• CODES PRESENTATION (individual presentation) • *Quiz will be given on content* • *All content fair game for final exam*	• Last day to submit professional meeting #1 • Codes quiz (Canvas) due Week 9 Thursday 2pm

Week	Topics	Assignments
9 Thu	• Engineering Economics Continued • Site Planning Charrettes • In Class Discussion of Final Report Expectations and Strategies for Writing Improvement	• Board Exam #4 Due
10 Wed/Thu	• ORAL PRESENTATION #3: Preliminary Site Plan (groups)	• Revise Preliminary Site Plan Due Week 11 Thursday at 2pm
11 Thu	• More Engineering Economics	• Board Exam #5 Due
12 Thu	• Site Planning Charrettes	• Board Exam #6 Due
13 Wed/Thu	• ORAL PRESENTATION #4: Practice Final Pre-design of Capstone Project (groups)	• Last day to submit professional meeting #1 • Board Exam #7 Due
14	• Review for Final • Select Order for Final Presentations	• HW#12 Reflection Piece Due at 2pm
15 Wed TBA	• Final Exam	
16 TBA	• **ORAL PRESENTATION #5: Capstone Engineering Design 1 Final Presentations (groups) TBD**	
16 TBA	• **College Capstone Design Showcase**	

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The instructor reserves the right to adjust this syllabus as necessary.

Upon completing this WAC-designated course, students will be able to:

- Produce both finished writing and preparatory writing (e.g., multiple drafts of formal writing);
- Use writing to engage actively with course material;
- Employ critical thinking based on well-reasoned assumptions;
- Demonstrate the distinction between learning-to-write activities from writing-to-learn activities;
- Recognize and practice writing as a recursive process that demands substantial reworking of drafts (global revision) to revise content, organization, clarity, argument structures, etc., as distinct from editing and correction of surface error (local revision);
- Demonstrate enhanced learning through global and local revision that is based on "learning-centered" grading criteria;
- Demonstrate the ability to respond to readings, including student texts, during class-wide or small-group discussions and/or in informal writings;
- Demonstrate disciplinary forms and styles of writing that include proper citation format;
- Demonstrate the abilities to identify, understand, and edit for global organization, style, and the patterns of error recurrent in their own writing.

Students will receive substantive feedback on graded assignments and drafts from the instructors, in a timely fashion. You will be required to incorporate the feedback into assigned revisions (or supply a written response if not in agreement with a specific or contradictory comment).

Summary of Professional Practice Sessions Major Writing Assignments	
1. RESPONSE TO AN RFQ (10%) Typically 4000+ words	This piece requires you to brainstorm ideas and concepts that you would like to incorporate in your proposed design. It also requires the team to detail its project management plan, come up with a realistic schedule for accomplishing the work, refine consultant's resumes, and use your persuasive communication skills to win the job. This piece also answers the question, "What is a high performance building?" and also details the team's interpretation of the capstone project scope, design goals and objectives. You should describe high performance buildings as well as agencies and checklists (ISO14001, FGBC, LEED certification, etc.) that can be used to dictate design. You should also investigate green building elements, strategies, and precedents that are relevant to your capstone project. You should be able to make a case to convince the client that high performance buildings are worth the investment.

2. ALTERNATIVE ANALYSIS ASSIGNMENT (5%) Typically 1200+ words	*This is a group assignment, written submittal only*. This piece will analyze three options for developing a site. The goals and perspective of the analysis will be clearly defined. Then selection criteria will be defined with weighting factors, and each alternative will be analyzed for advantages and disadvantages with respect to the selection criteria. A selection matrix will be constructed and evaluated. A sensitivity analysis will be performed, and a final recommendation will be made.
3. PHASE 1 ENVIRONMENTAL SITE ASSESSMENT (10%) Typically 15,000+ words	This piece requires the students to investigate the existing site for recognized environmental conditions (RECs), past activities, impacts of development, construction safety concerns, long-term sustainability issues, and due diligence. During this exploration, the teams will conduct site reconnaissance, interviews, and record reviews with Federal, State, and local regulatory agencies. This work allows the students to interact with regulatory agencies and work on their interpersonal communication skills.
4. SITE PLAN AND DRAFT PRE-DESIGN REPORT (10%) Typically 12,000+ words	This piece focuses on developing a preliminary site plan and floor plan for the project. Once again, the scope of work is restated in relation to the design goals, site constraints, and opportunities for innovation. Using this framework, the existing site conditions are presented and a set of viable alternatives are analyzed. The proposed site plan is then presented along with solutions for stormwater, drainage, parking, accessibility, utilities, preliminary cost estimates, and "green" features. Final floor plans are also presented for approval.
5. FINAL PRE-DESIGN REPORT (20%) Typically 20,000+ words	This piece is an integrated final design report that provides an introduction and justification for building green, a scope of the project, a summary of the group member's qualifications and design approach, a summary of existing site conditions that will influence the design, and a basis of design for stormwater, drainage, parking, accessibility, and utilities solutions as well as floor plans, site plans, and elevations of the proposed building and site-civil considerations. The report will also include appendices for resumes, timecards, peer evaluation of performance, supporting documentation, preliminary cost estimates, checklists, credit templates, and green features/specifications. This final notebook will also include the second draft revisions of writing assignments 1, 2, 3, 4, and 6.

REFLECTION PIECE (2%) Typically 300 + words	The reflection paper is for you to write what you learned in this class, what were your personal contributions to the project, what was your perception of your teammates' contributions, how the experience can be improved, and the impact on the community as well as your professional development. This assignment goes as an appendix to the final report and is required for the Academic Service Learning and Writing Across the Curriculum portions of the course.

FLORIDA ATLANTIC UNIVERSITY

Presentation Rubric

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Content**	All team members display professional level of knowledge of subject material with no important content left out and no incorrect material presented.	All team members display professional level of knowledge of subject material with minor amount of subject material left out or minor amount of incorrect materials presented.	Majority of team members display professional level of knowledge of subject material with minor amount of subject material left out or minor amount of incorrect materials presented.	Some team members display professional level of knowledge of subject material with minor amount of subject material left out or minor amount of incorrect materials presented.	No team members display professional level of knowledge of subject material with minor amount of subject material left out or minor amount of incorrect materials presented.
• **Subject Matter**	All important topics are covered during the presentation with no essential elements missing or misrepresented.				
• **Knowledge of Subject**	Each member of the team demonstrates an understanding of the essential topics presented.				

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Organization**	Presentation has a strong introduction, an effective body of material that supports the conclusions, and a strong ending.	Presentation has deficiencies in only one of the following: introduction, body, or conclusion.	Presentation has deficiencies in two of the following: introduction, body, or conclusion.	Presentation has deficiencies in all of the following: introduction, body, or conclusion.	Presentation is missing introduction, body, or conclusion.
• **Introduction**	Presentation starts strong with scope and objectives clearly presented.				
• **Continuity**	Facts are presented in a logical sequence and transitions effectively between speakers.				
• **Conclusion**	Finishes strong with reasonable summary and/or recommendations presented, as justified from the body of the presentation.				
☑ **Delivery**	Presentation is effective in terms of rhythm, visuals, and presenters' body language.	Presentation has deficiencies in only one of the following: rhythm, visuals, and presenters' body language.	Presentation has deficiencies in two of the following: rhythm, visuals, and presenters' body language.	Presentation has deficiencies in all of the following: rhythm, visuals, and presenters' body language.	Presentation is clearly not rehearsed, visuals are unprofessional, and/or presenters' body language is unprofessional.
• **Rhythm**	Presentation demonstrates effective use of time, presenters seem well-prepared, and appears rehearsed.				
• **Visuals**	Visuals are effective, free of clutter, related to the discussion, and meaningful.				
• **Body Language**	Presenters maintain eye contact with the audience and are free of any distracting or annoying mannerisms.				

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Discussion**	All questions are fielded professionally, confidently, and correctly while avoiding defensive or argumentative responses.	Majority of questions are fielded professionally, confidently, and correctly while avoiding defensive or argumentative responses.	Some questions are fielded professionally, confidently, and correctly while avoiding defensive or argumentative responses.	Only one question is fielded professionally, confidently, and correctly while avoiding defensive or argumentative responses	None of the questions are fielded professionally, confidently, and correctly while avoiding defensive or argumentative responses
• **Question and Answer Session**	Answers supplied reflect an understanding of the topic.				

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Overall Impression**	Presentation addresses all important subject matter; demonstrates conceptual understanding of the content, and responds to the purpose of the report; slides are cohesive, clear, concise, and organized well; presentation has many strengths; delivery is professional; question and answers show excellent engineering judgment.	Presentation addresses most of the important subject material; demonstrates conceptual understanding of the content, and responds to the purpose of the report; majority of slides are cohesive, clear, concise, and organized well; presentation has strengths; delivery is professional; question and answers show good engineering judgment.	Presentation addresses some of the important subject material; demonstrates conceptual understanding of the content, and responds to the purpose of the report; some of the slides are cohesive, clear, concise, and organized well; presentation has few strengths; delivery is professional; question and answers show some engineering judgment.	Presentation addresses little of the important subject material; demonstrates conceptual understanding of the content, and responds to the purpose of the report; some of slides are cohesive, clear, concise, and organized well; presentation has requires major revision; delivery is professional; question and answers show lack of engineering judgment.	Presentation is completely unprofessional.

Report Rubric

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Letter of Transmittal**	Format is correct. Opening and closing provide primacy and recency. Professional tone. No obvious errors. Signed.	Format is correct, but has deficiencies in opening, closing, or tone. Includes obvious errors or not signed.	Format is incorrect, or has deficiencies in opening, closing, or tone. Includes obvious errors or not signed.	Format is incorrect, and has deficiencies in opening, closing, or tone. Includes obvious errors or not signed.	No letter included.
☑ **Executive Summary**	Stand alone, with all essential elements summarized briefly with primacy and recency.	Too long or too short or missing one of the essential elements.	Too long or too short and missing one of the essential elements.	Too long or too short and missing more than one of the essential elements.	No summary included.

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Opening**	Report starts strong with scope and objectives clearly presented. Fully and completely expresses the primary argument in its context at the beginning of the report.	Generally expresses the primary argument in its context at the beginning of the report.	Vaguely or partially expresses the primary argument with minimal context in the report.	May not express the primary argument or provide context anywhere in the report.	Not an argument driven report.

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Content**	Report displays professional level of knowledge of subject matter with no important content left out and no incorrect material presented. Report displays effective organizational structure, rhetorical structure, reasoning, data support, and finishes strong.	Report displays professional level of knowledge of subject matter with minor amount of subject material left out or minor amount of incorrect materials presented. Report displays minor failures in organizational structure, rhetorical structure, reasoning, data support, and finishes strong.	A substantial amount of the report fails to display professional level of knowledge of subject matter with substantial amounts of subject material left out **or** substantial amounts of incorrect materials presented. Report displays failures in organizational structure, rhetorical structure, reasoning, or data support, and finishes weakly.	A substantial amount of the report fails to display professional level of knowledge of subject matter with substantial amounts of subject material left out **and** substantial amounts of incorrect materials presented. Report displays failures in organizational structure, rhetorical structure, reasoning, and data support, and finishes weakly.	Not an argument driven report.
• **Organizational Structure**	Presents a clear statement located in the beginning of paper that demonstrates how the argument will track the fundamental, secondary, and implied problems, questions, issues.				

	Excellent	Good	Fair	Poor	Unacceptable
• **Rhetorical Structure**	The argument's focus is clear to the reader and paragraphs logically and coherently build upon each other through the complete and fluent use of transitions and/or headings towards a logical conclusion supported by data. Facts are presented in a logical sequence and transition effectively between topics and authors.				
• **Reasoning**	Exhibits substantial depth and complexity of thought supported by sophisticated ideas/analysis/evidence that support the report's argument. Builds towards an effective conclusion. Considers context, assumptions, data, and evidence.				
• **Data Support**	Seamlessly incorporates and explains the accuracy and relevance of data/evidence/ quotations/paraphrase/visuals; offers evidence from a variety of sources, including counterarguments, contrary evidence, and quantitative analysis. Presents data in graphical, tabular, or sketch format, follows all rules for tables/figures format, includes proper units and labels, tables/figures are numbered independently, all mentioned in the text.				
• **Conclusion**	Finishes strong with a reasonable summary and/or recommendations presented, as justified from the body of the report using primacy and recency.				

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Overall Impression**	Addresses all important subject matter; demonstrates conceptual understanding of the content, and responds to the purpose of the report; cohesive, clear, concise, and organized well; has many strengths; tone is professional	Addresses most of the important subject material; demonstrates conceptual understanding of the content, and responds to the purpose of the report; majority of the text is cohesive, clear, concise, and organized well; has some strengths; tone is professional and shows good engineering judgment	Addresses some of the important subject material; demonstrates conceptual understanding of the content, and responds to the purpose of the report; some of the text is cohesive, clear, concise, and organized well; has few strengths; tone is professional and shows some engineering judgment	Addresses little of the important subject material; demonstrates conceptual understanding of the content, and responds to the purpose of the report; some of the text is cohesive, clear, concise, and organized well; requires major revision; tone is professional, but shows lack of engineering judgment	Presentation is completely unprofessional.

	Excellent	Good	Fair	Poor	Unacceptable
☑ **References Follow the format in http://pubs.asce.org**	Cites and formats sources accurately and consistently and provides appropriate and complete references. No references are missing.	Cites and formats sources consistently and provides appropriate references. Some errors or flaws are present. Few references are missing.	Cites some sources but often inaccurately. May neglect to cite some sources altogether. References typically present, but inaccurate. Many references missing.	Little or no use of citation formats.	No references.
☑ **Appendix**	Raw data/photos correctly arranged and labeled.	Missing one item, except raw data, or unnecessary items in the appendix.	Missing two items, except raw data and unnecessary items in the appendix.	Missing more than two items and unnecessary items in the appendix.	No appendix.
☑ **Writing Format**	Follows all format requirements: 1-inch margins, 1.5 - spaced 11 pt Times / Arial font Block justification.	Missing one of the format requirements.	Missing two of the format requirements.	Missing three of the format requirements.	Failed to respect any of the format requirements.

	Excellent	Good	Fair	Poor	Unacceptable
☑ **Grammar and Syntax**	Spelling and grammar checked; Sentences consistently communicate thoughts clearly, while relatively free of sentence level patterns of error; technically sound sentence structure that is varied, convincing, nuanced, eloquent with appropriate tone. Evidence of good editing.	Spelling and grammar checked, but minor sentence level patterns of error, improper sentence structure, or tone issues. Evidence of decent editing.	Minor spelling or grammar errors with sentence level patterns of error, improper sentence structure, or tone issues. Evidence of fair editing.	Spelling or grammar errors throughout, and major sentence level patterns of error, improper sentence structure, or tone issues. No evidence of editing.	Gross disregard for readability.

OURI Student Learning Outcomes (SLO)	Description of Assignment Requirements and Assessments
SLO 1: **Knowledge**	Students will demonstrate a fundamental basis of discipline-specific knowledge required for effective professional practice in the fields of civil, environmental, and/or geomatics engineering. Students will also demonstrate working knowledge of tools and practical skills needed to analyze engineering design problems related to multiple realistic constraints, such as environmental issues, transportation, engineering economics, historic preservation, hurricane resiliency, design codes, ethics, land use, population change, climate change, and/or other contemporary design issues.
SLO 2: **Formulate Questions**	Students will develop and refine a problem statement in which they specifically address their research questions. Students are expected to articulate the scope of the problem to be able to address the research question with an engineering solution. When appropriate, students should be able to create additional (albeit related) questions for smaller subsections of the overall design project.
SLO 3: **Plan of Action**	Students will create a plan of action that will include the problem statement (or research question), scope of work, literature review and background context, methodology or approach to the solution, analysis plan (including sensitivity analysis), conclusion and design documents. Students will develop a hypothesis if needed, identify research methods and experimental designs, and select appropriate statistical techniques, if warranted.
SLO 4: **Critical Thinking**	Students will demonstrate critical thinking skills by taking into consideration multiple perspectives and examining implications and consequences of design decisions or engineering alternatives. Students will also demonstrate an ability to use evidence and reasoning to objectively justify decisions and an ability to apply codes and design standards to make reasonable engineering judgments. Students are asked to peer review student work and provide feedback during the juried presentations.
SLO 5: **Ethical Conduct**	Students will familiarize themselves with the Code of Ethics of their engineering discipline. All work is held to the standards established by the governing professional societies (FES, ASCE, FSMS, ASPRS, AWWA, WEF, AW&MA, SWANNA, etc.). Student projects involving primary data collection through surveys and interviews will be required to complete CITI training.
SLO 6: **Communication**	Students will present and defend their work in written and oral formats, including a final poster presented at the Engineering Design Showcase. All deliverables are expected to be of professional quality. Students are expected to demonstrate knowledge of technical report writing, visualization in 3D, and persuasive presentation skills.