

**Department of Ocean and Mechanical Engineering
Florida Atlantic University
Course Syllabus**

1. Course title/number, number of credit hours	
EOC 3130L-Ocean Engineering Lab	3 credit hours
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisites: CHM 2045, 2045L (General Chemistry I and Lab), PHY 2044, 2049L (Physics for Engineers II and Lab), EOC 4133 (Intro to Programming for Ocean & Mechanical Engineers), all with a grade of C or better.	
3. Course logistics	
<i>Term:</i>	Spring 2019
<i>Lecture location:</i>	Engineering West Bldg.(EG36), Room 162
<i>Time and Days:</i>	Tuesday and Thursday 12:30pm – 1:50pm
4. Instructor contact information	
<i>Instructor's name:</i>	Dr. An
<i>Office address:</i>	Engineering West Bldg.(EG36), Room 174
<i>Office Hours:</i>	WF 2:00pm – 4:00pm
<i>Text Number:</i>	
<i>Email address:</i>	pan@fau.edu
5. TA contact information	
<i>TA's name:</i>	N/A
<i>Office address:</i>	
<i>Office Hours:</i>	
<i>Email address:</i>	
6. Course description	
The course deals with basic engineering laboratory methods and techniques with experiences in measurements, experiment planning, data recording, and laboratory report preparation. Five major lab experiences, including at sea experiences, are included.	
7. Course objectives/student learning outcomes/program outcomes	
<i>Course objectives:</i>	The objective of the course is to provide a basic background in engineering laboratory techniques including: basic measurement theory, experimental purpose and planning, microcontroller data acquisition techniques, introductory level data analysis, and technical memo preparation; an introduction to Matlab for analyzing and presenting experimental data; and prepare students for laboratories associated with subsequent engineering courses in Ocean Engineering.
<i>Student learning outcomes & relationship to ABET a-k / 1-7 objectives:</i>	Student Learning Outcomes: (letters in parentheses indicate correlation of the outcome with the appropriate program assessment outcomes a-k) 1. An ability to conduct engineering experiments with proper consideration of the type and amount of data to be acquired, the accuracy of the measurements to be made, a plan to reduce and analyze the data, and the quantification of the uncertainty of the outcome. (b/6) 2. An ability to function in teams. (d/5)

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	<p>3. An ability to present the results of an experiment in a professional manner. (g/3)</p> <p>4. An ability to use modern engineering tools for common data logging and computational tasks. (k/1,2,6)</p>																								
8. Course evaluation method																									
<p>Quiz: 10%</p> <p>Lab: 30%</p> <p> Attendance/tardiness: 5%</p> <p> Individual report: 30% (two major reports)</p> <p> Peer evaluation: 5%</p> <p> In-lab work: 10%</p> <p>Exam 1: 20%</p> <p>Exam 2: 20%</p> <p>Final Exam: 20%</p> <p>The lowest quiz score will be dropped. If the overall grade by the last day of class is maintained at 70% or above, the final exam can be waived, and the overall grade will be recomputed proportionally.</p>																									
9. Course grading scale																									
<p>Grading Scale:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%;">> 90</td><td>A</td></tr> <tr><td>86.7–90</td><td>A–</td></tr> <tr><td>83.3–86.7</td><td>B+</td></tr> <tr><td>80–83.3</td><td>B</td></tr> <tr><td>76.7–80</td><td>B–</td></tr> <tr><td>73.3–76.7</td><td>C+</td></tr> <tr><td>70–73.3</td><td>C</td></tr> <tr><td>66.7–70</td><td>C–</td></tr> <tr><td>63.3–66.7</td><td>D+</td></tr> <tr><td>60–63.3</td><td>D</td></tr> <tr><td>56.7–60</td><td>D–</td></tr> <tr><td><56.7</td><td>F</td></tr> </table>		> 90	A	86.7–90	A–	83.3–86.7	B+	80–83.3	B	76.7–80	B–	73.3–76.7	C+	70–73.3	C	66.7–70	C–	63.3–66.7	D+	60–63.3	D	56.7–60	D–	<56.7	F
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10. Policy on makeup tests, late work, and incompletes																									
<p><i>Makeup tests</i> 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 exam should be administered and proctored by department personnel unless there are other pre-approved arrangements</p> <p><i>Late work</i> is reduced by 10% per day or portion of a day late. Late work must be time stamped at the front office and put in the instructor's mailbox.</p> <p><i>Incomplete grades</i> 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.</p>																									

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11. Special course requirements	
N/A	
12. Classroom etiquette policy	
University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in class sessions.	
13. 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)—in Boca Raton, SU 133 (561-297-3880); in Davie, LA 203 (954-236-1222); or in Jupiter, SR 110 (561-799-8585)—and follow all SAS procedures.	
14. Honor code policy	
Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high-quality education in which no student enjoys unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and place high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. See University Regulation 4.001 at www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf	
15. Counseling and Psychological Services 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/	
16. Required texts/reading	
Experimental Methods for Engineers, 7 th Edition, J.P. Holman, McGraw-Hill, 2001 (ISBN: 0073660558)	
Useful References: Matlab online tutorial: http://www.engin.umich.edu/group/ctm/basic/basic.html	
17. Supplementary/recommended readings	
<i>Title:</i> <i>Authors:</i> <i>Publisher:</i> <i>Year and Edition:</i> <i>ISBN:</i>	
18. Course topical outline, including dates for exams/quizzes, papers, completion of reading	

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Course Topics:

1. Basic measurement theory
2. Basic analog to digital conversion
3. Basic microcontroller tutorial
4. Experiment Planning
5. Uncertainty Analysis
6. Basic acoustic measurements
7. Basic calibration
8. Data fitting
9. Oceanographic measurements

Note: Topics maybe covered out of sequence, substituted for other more suitable material and or enhanced with material that aids in a better understanding the topics. Some topics may not be covered due to time constraints.