	Learning Outcomes to be assessed											
	Courses	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**	**k**
Fall 2013	EOC 3130L OE Lab		x		x			x				x
	EOC 4631C OE Data Analysis	x	x			x	x					x
	EOC 3213 Marine Topics	x		x		x			x			
	EOC 3306 Acoustics I	x	x			x	x		x			x
	EOC 4620 Dynamic Systems	x		x		x						x
	EOC 4422 Ocean Wave Mechanics	x	x		x	x						x
	EOC 4804 OE Systems Control & Design			x	x		x	x	x	x		
Spring 2014	EOC 3410 Structural Analysis I	x	x			x		x				x
	EOC 4412 Structural Analysis II	x				x		x		x	x	x
	EOC 3114 Vibrations	x	x			x		x				x
	EOC 4193 Ocean Thermal Systems	x		x		x						x
	EOC 3123 Fluid Mechanics I	x	x			x						
	EOC 4124 Fluid Mechanics II	x		x		x				x	x	x
	EOC 4201C Engineering Materials II	x				x				x	x	
	EOC 4307 Acoustics II	x				x				x	x	x
	EOC 4804L OE Systems Control & Design			x	x		x	x	x	x		
	OCE 3008 Oceanography								x		x	

Note	Fab of OE Systems was removed from the table above (9/10/13)
	This chart was last revised on 9/18/13
	This chart was last revised on 3/16/14 (removing outcome B in Materials II)
	The chart was last revised on 3/31/14 (adding Vibrations course)
x	part of course syllabus but not used for program evaluation
x	part of course syllabus and used for program evaluation

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Alumni Assessment of Program Objectives

Using a scale ranging from 1 to 10, with 1 meaning unsatisfactory, 5 satisfactory and 10 excellent, please assess how the BSOE program at FAU fares in achieving its stated program objectives. If unable to rank any objective, you may leave that blank. Please return the completed form to pan@fau.edu. Thanks.

BSOE Program Objectives **Graduates of the ocean engineering baccalaureate program at the Florida Atlantic University after graduation, will:**	**Assessment** 1 ……...5……..10 Unsatisfactory Satisfactory Excellent
1. Efficiently carry out engineering tasks in the multi-disciplinary field of ocean engineering.	
2. Make significant contributions in terms of design, development and integration of engineering systems, particularly for applications in the ocean environment.	
3. Pursue further study for the graduate degree or be engaged in a life-long learning.	
4. Exhibit leadership qualities in their engineering work.	
5. Understand various complexities and issues of the contemporary society and make professional contributions in the larger and long-term interest of the society.	

Other comments/suggesions (if any) on the program objectives (use additional pages if needed):

I think the program curriculum should be altered to include some material that applies to the offshore oil & gas industry. It is a huge industry for hiring ocean engineers, but I believe the current courses do not properly prepare students for that industry. I was incredibly embarrassed in my internship/job to have never even heard of a spar, semi-submersible, mooring lines, etc. The ocean engineers from MIT, Virginia Tech, Webb, and Michigan had covered that material in school and seemed much better prepared. I think even having one optional senior level course on the offshore industry would greatly improve the program.

Name:

Year of Graduation with BSOE at FAU:

Present Affiliation and Address:

Please return the completed form, along with other survey forms, to Dr. P. An at his email pan@fau.edu

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Alumni Assessment of Program Outcomes

Using a scale ranging from 1 to 10, with 1 meaning unsatisfactory, 5 satisfactory and 10 excellent, please assess how the BSOE program at FAU fares in achieving the learning outcomes through its curriculum. If unable to rank any of the outcome(s), you leave that blank. Please return the completed form to pan@fau.edu. Thanks.

BSOE Program Learning Outcomes The learning outcomes of the BSOE program at FAU are the following:	**Assessment** 1 ……..…..5……..10 Unsatisfactory Satisfactory Excellent
(a) an ability to apply knowledge of mathematics, science, and engineering	
(b) an ability to design and conduct experiments, as well as to analyze and interpret data	
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d) an ability to function on multidisciplinary teams	
(e) an ability to identify, formulate, and solve engineering problems	
(f) an understanding of professional and ethical responsibility	
(g) an ability to communicate effectively	
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i) a recognition of the need for, and an ability to engage in life-long learning	
(j) a knowledge of contemporary issues	
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

Name: **Year of Graduation with BSOE at FAU:**

Present Affiliation and Address:

Please return the completed form, together with other survey forms, to Dr. P. An at his email pan@fau.edu

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Update of Alumni Information

(Please return the completed forms to Dr. P. An at email pan@fau.edu)

Your Name:

Year of Graduation with BSOE at FAU:

Information on subsequent graduate study and degree: N/A

Name of the Degree Program and University:

Year of Graduation and Degree:

Work Experience:

Name of the Company/Firm	Job Title and Job Description	Years of Employment From - To

Awards, Distinctions and Special Mentions Received After Graduating from FAU with BSOE:

-
-
-

Present Mailing and Email Address for Contact:

Any Additional Information or Comments on the BSOE Program at FAU:

Department of Ocean & Mechanical Engineering **Florida Atlantic University**

Direct Assessment of ABET Outcome Based on Students Performance in Coursework

Bachelor of Science in Ocean Engineering (BSOE) Program

Course:

Instructor:

Semester:

<Delete all that in red before submitting the completed assessment sheet to the ABET committee >

ABET OUTCOME ASSESSED <Use a separate form for each outcome>	**RUBRIC:** <see sample on the next page>	**SCORE**		
		High (H)	**Moderate (M)**	**Low (L)**

Student Number (No Names)	**Score**
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
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30	
Instructor keeps a record of the names of students given above. Names should not be given here for privacy reasons.	

DESCRIPTION OF THE ASSESSMENT METHOD:

<Explain, what assignment(s) were used for the assessment; example, lab report, term project, performance in an exam etc. DO NOT USE THE OVERALL COURSE GRADE because overall grade is based on all course outcomes and not a specific outcome >

PERFORMANCE CRITERION:

<What is the Instructor's expectation for satisfactory performance? Example: 70% of the class scoring above "moderate" >

SUMMARY OF RESULTS:

< What % scored High, moderate and low >

STEPS SUGGESTED FOR IMPROVEMENT (by the instructor):

< Suggest ways to improve: example, more HW assisgnments in the future, class presentation of project, etc >

RUBRICS FOR DIRECT ASSESSMENT

SAMPLE (From Dr. An's EOC4620)

ABET Outcome Students will have	**Rubric**	**High Score**	**Moderate Score**	**Low Score**
C. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	Students can 1. formulate design strategy 2. account for design criteria/specifications 3. develop alternative solutions that can meet the design criteria 4. determine performance of optimal solutions via Matlab/Simulink software	Yes in at least 3 of the rubric categories	Yes in 2 of the rubric categories	Yes in less than 2 rubric categories

DEPARTMENT OF OCEAN & MECHANICAL ENGINEERING
FLORIDA ATLANTIC UNIVERSITY
PEER EVALUATION OF BSOE COURSE PORTFOLIO

Semester: **Spring 2014**
Course Number and Title:
Instructor's Name:
Evaluator's Name:

EVALUATION FORM

1. **Course material covered**:
( ) Satisfactory ( ) Good ( ) Excellent
Suggestions for addition/removal/change to course topics covered: ……
……
……
……

2. **Overall achievement of the course objective:**
( ) Satisfactory ( ) Good ( ) Excellent
Any suggestions for improving the achievement of stated objective: ……
……
……
……

3. **Learning outcomes of the course:**
( ) Satisfactory ( ) Good ( ) Excellent
Suggestions for addition/removal/change to stated learning outcomes: ……
……
……
……
……

4. **Adequacy of Home Work Assignments:**
( ) Satisfactory ( ) Good ( ) Excellent
Any suggestions for improvement to the nature of home works assigned: ……
……
……
……

5. **Adequacy of Tests and Examination:**
( ) Satisfactory ( ) Good ( ) Excellent
Any suggestions for improvement of tests and examination questions: ……
……
……
……
……

6. **Adequacy of Laboratory Experiments:**
( ) N/A ( ) Satisfactory ( ) Good ( ) Excellent
Any suggestions for improvement of laboratory experiments: ……
……

……
……

7. **Adequacy of Term Projects:**

( ) N/A ( ) Satisfactory ( ) Good ( ) Excellent

Any suggestions for improvement of term project assignment: ……

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8. **Oral/Written Communication Content:**

( ) N/A ( ) Satisfactory ( ) Good ( ) Excellent

Any suggestions for improvement to communication related assignments (if relevant to the course): ..

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……

9. **Incorporation of Societal Awareness and Ethics related topics (if relevant to the course):**

( ) N/A ( ) Satisfactory ( ) Good ( ) Excellent

Any suggestions for improvement or for addition of topics on ethics and societal awareness: ……

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10. **Further Comments on the Course (as delivered) and Suggestions for Change or Improvement:** …….

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Thank you for taking time to review the course portfolio and completing the course evaluation form. Please return the portfolio with completed forms to P. An (pan@fau.edu).

GUIDELINES TO PREPARING THE BSOE COURSE PORTFOLIOS

Each course portfolio will contain the following:

Item	Description	Further Remarks
Course Syllabus	Including course objective and outcome statements. Please follow the standard University format adopted in 2011-12. See other attachments in the email for sample syllabus	
Lecture / Class Notes	Include your lecture notes. If you do not prepare notes for the lecture, then include class notes from a student who takes good notes of material covered in class	
Home-work	Homework assignments of three students with performance ranging from excellent good satisfactory	It is important that we present not only the best performance but also satisfactory and unsatisfactory
Test/Exams	Of three students whose performances range from excellent – good – satisfactory	Include the question papers also
Lab report	Of three students whose performances range from excellent – good – satisfactory	Include the lab assignment with instructions also
Project Report	Of three students whose performances range from excellent good – satisfactory	Include project description and assignment
Text Book	Desk Copy of the Text Book will be made available to the ABET team during the visit. This need not be included in the portfolio	
Other Items	Such as Design Logs, etc from three students with ranging performances as mentioned above	

Notes:

- Collect all the above materials before students leave for the break after the semester. It will be difficult to track the students to get their works to compile the portfolio, because not all students may keep course material after the course is completed. Also, it is important, that student assignments sample include excellent, good and satisfactory works; basically, one would want to know the class performance overall and not just of the best performing student.
- After making copies of student assignments (such as HWs, tests, reports) to be included in the portfolio, the originals may be returned to the students.
- Binders, with separators, will be made available at the end of the semester to compile the portfolios.
- Follow Up: During Spring and Summer of the evaluation year, all the portfolios of the courses offered during the Fall and Spring will be peer reviewed (by two other faculty who have taught the course or familiar with the subject).
- Recommendations/suggestions will be made to better achieve the course outcomes and objectives which will then be implemented in the following year.

- The courses for which the portfolios to be made in **Fall 2012** are EGN3321 Dynamics (Ghenai), EGN3331 Str of Matls (Mahfuz), EGN3343 Thermodynamics (Madani), EGN3365 Matls 1 (Hashemi), EOC2801 OE Fab (Coulson), EOC3130 OE Lab (An), EOC3213 (Granata), EOC3306 Acoustics I (Glegg), EOC4620 Dyn Systems (An), EOC4631 Ocn Data (Beaujean), EOC4422 Waves (Ananth), EOC4804 Design(vonEllenrieder).
- The ABET committee will work separately with other departments to get the material/portfolio of courses in mathematics, science, humanities etc.

Prepared by P. Ananthakrishnan, BSOE ABET Committee in Fall 2012

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Employer Assessment of Program Objectives

Using a scale ranging from 1 to 10, with 1 meaning poor, 5 satisfactory and 10 excellent, please assess how the BSOE program at FAU fares in achieving its stated program objectives. If unable to rank any objective, you may leave that evaluation blank. Please return the completed form to pan@fau.edu by **15 September 2013**. Thanks.

BSOE Program Objectives **Graduates of the ocean engineering baccalaureate program at the Florida Atlantic University after graduation, will:**	**Assessment Scale** 1 …….. 5 ……..10 Poor Satisfactory Excellent
1. Efficiently carry out engineering tasks in the multi-disciplinary field of ocean engineering.	
2. Make significant contributions in terms of design, development and integration of engineering systems, particularly for applications in the ocean environment.	
3. Pursue further study for the graduate degree or be engaged in a life-long learning.	
4. Exhibit leadership qualities in their engineering work.	
5. Understand various complexities and issues of the contemporary society and make professional contributions in the larger and long-term interest of the society.	

Other comments/suggestions (if any) on the program objectives and goals (use additional pages if needed):

Your name: …….

Affiliation and Address: ……..

Please return the completed form, together with other survey forms, to Dr. Edgar At at his email pan@fau.edu

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Employer Assessment of BSOE Program Outcomes

Based on the performance of FAU-BSOE graduates, please assess how the BSOE program at FAU fares in achieving the learning outcomes through its curriculum (using a scale ranging from 1 to 10, with 1 meaning unsatisfactory, 5 satisfactory and 10 excellent). If unable to evaluate any of the outcome(s), you may leave that blank. Please return the completed form to pan@fau.edu by **15 September 2013**. Thanks. Edgar An.

PS: You may also send any additional comments about the program on p.2 of this form.

BSOE Program Learning Outcomes The learning outcomes of the BSOE program at FAU are the following:	**Assessment Scale** 1 ……..…..5……..10 Unsatisfactory Satisfactory Excellent
(a) an ability to apply knowledge of mathematics, science, and engineering	
(b) an ability to design and conduct experiments, as well as to analyze and interpret data	
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d) an ability to function on multidisciplinary teams	
(e) an ability to identify, formulate, and solve engineering problems	
(f) an understanding of professional and ethical responsibility	
(g) an ability to communicate effectively	
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i) a recognition of the need for, and an ability to engage in life-long learning	
(j) a knowledge of contemporary issues	
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

Your Name: ……..

Affiliation and Address: ……....

Additional Comments on the Program:

Please return the completed form, together with other survey forms, to Dr. Edgar An at his email pan@fau.edu

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Graduating Seniors Assessment of BSOE Program Objectives

Using a scale ranging from 1 to 10, with 1 meaning unsatisfactory, 5 satisfactory and 10 excellent, please assess how the BSOE program at FAU fares in achieving its stated program objectives listed in the table below. If unable to evaluate any of the objective(s), you may leave that blank. Please return the completed form to Teresa Perez or Dr. An. Thanks.

BSOE Program Objectives Graduates of the ocean engineering baccalaureate program at the Florida Atlantic University, within a few years after graduation, will:	**Assessment Scale** 1 ……..…..5……..10 Unsatisfactory Satisfactory Excellent
1. Demonstrate an ability to carry out engineering tasks in the multi-disciplinary field of ocean engineering.	
2. Make meaningful contributions in terms of design, development and integration of engineering systems, particularly for applications in the ocean environment.	
3. Pursue graduate study and / or participate in professional societies.	
4. Develop and exhibit leadership qualities in their engineering work.	
5. Understand various complexities and issues of the contemporary society and make professional contributions in the larger and long-term interest of the society.	

Other comments/suggestions (if any) on the program objectives (use additional pages if needed)

Name: ……..

Email where you can be reached in the future: ……....

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Graduating Seniors Assessment of BSOE Program Outcomes

Using a scale ranging from 1 to 10, with 1 meaning unsatisfactory, 5 satisfactory and 10 excellent, please assess how the BSOE program at FAU fares in achieving the learning outcomes through its curriculum. If unable to evaluate any of the outcome(s), you may leave that blank. Please return the completed form to Teresa Perez or Dr. An. Thanks.

PS: You may also send any additional comments about the program on p.2 of this form.

BSOE Program Learning Outcomes The learning outcomes of the BSOE program at FAU are the following:	**Assessment Scale** 1 ……..5……..10 Unsatisfactory Satisfactory Excellent
(a) an ability to apply knowledge of mathematics, science, and engineering	
(b) an ability to design and conduct experiments, as well as to analyze and interpret data	
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d) an ability to function on multidisciplinary teams	
(e) an ability to identify, formulate, and solve engineering problems	
(f) an understanding of professional and ethical responsibility	
(g) an ability to communicate effectively	
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i) a recognition of the need for, and an ability to engage in life-long learning	
(j) a knowledge of contemporary issues	
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

Name: ……..

Email where you can be reached in the future: ……....

(To be completed by Industry and Navy/ONR attendees/representatives and OME/College faculty attending the presentation)

EVALUATION OF EOC 4804 OCEAN ENGINEERING SYSTEMS CONTROL & DESIGN

Instructor: Dr. Karl von Ellenrieder Semester: Spring 2013

Project Title: _____

Evaluator's Name and Affiliation (Please Print): _____

Dear Evaluator: Based on the design accomplishments, team effort and project presentation, please rate the team's overall attainment of the following outcomes. **If any of the outcome(s) cannot be evaluated based on the available information, you may leave those unevaluated**. Any additional comments are welcomed. Please return the completed forms to Dr. Karl von Ellenrieder. Thanks!

Item	Evaluation		
	Poor	**Satisfactory**	**Excellent**
a. An ability to apply knowledge of mathematics, science, and engineering			
b. An ability to design and construct experiments, as well as to analyze and interpret data			
c. An ability to design a system, component, or process to meet desired needs			
d. An ability to function on multi-disciplinary teams			
e. An ability to identify, formulate, and solve engineering problems			
f. An understanding of professional and ethical responsibility			
g. An ability to communicate effectively			
h. The broad education necessary to understand the impact of engineering solutions in a global and societal context			
i. A recognition of the need for and an ability to engage in lifelong learning			
j. A knowledge of contemporary issues			
k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice			

Additional Comments: (Continue on the other side, if more space is needed.)

Department of Ocean & Mechanical Engineering

Student Survey of Course Outcomes

Course Number and Title: EOC 4620 Dynamic Systems
Semester Taught: Fall 2013
Instructor: Dr. An
Student Z-number: _____

Please use this form to rate your personal feelings of achievement of the published outcomes for the course as listed below. The following 0 to 5 rating scale should be used in assessing your achievement of the outcomes. This information will be presented for review to the Department ABET/SACS committee at the end of each semester. The committee will evaluate performance of the specified outcomes by the students and make recommendations for changes as appropriate.

5 - Complete understanding of the technical content of the outcome or the specified skills and a confidence in applying the techniques to engineering problems.

4 - Good understanding of the technical content of the outcome or the specified skills and an ability to apply the techniques to engineering problems.

3 - Adequate understanding of the technical content of the outcome or the specified skills and some ability to apply the techniques to engineering problems.

2 - Marginal understanding of the technical content of the outcome or the specified skills and some difficulty in applying the techniques to engineering problems.

1 - No understanding of the technical content of the outcome or the specified skills.

0 - Did not cover the information specified in the outcome in the class.

Outcome 1: A basic knowledge of the fundamental principles governing the dynamics of simple mechanical, thermal, fluid and electrical systems. (a) _____

Outcome 2: An ability to apply the knowledge of mathematics and engineering to model simple dynamic systems. (a) _____

Outcome 3: An ability to simulate dynamic systems using computer simulation tools. (k) _____

Outcome 4: An ability to characterize the stability properties of a dynamic system. (e) _____

Outcome 5: An ability to design a simple feedback control system that meets desired system output specifications. (c) _____