Rubric for Assessment Program Outcomes for the BSOE Program at Florida Atlantic University

ABET OUTCOME **IEA/SACS OUTCOME** The student will have….	**Rubric** The student...	**Score**		
		High	**Moderate**	**Low**
a. **(1)** an ability to apply knowledge of mathematics, science, and engineering	1. Uses mathematical and scientific principles to formulate models of processes in ocean engineering 2. Applies calculus /linear algebra to engineering problems 3. Relates theory to engineering applications 4. Can interpret mathematical and scientific terms	Yes in all 4 rubric categories	Yes in 2 to 3 rubric categories only	Yes in less than 2 rubric categories
b. an ability to design and conduct experiments, as well as to analyze and interpret data	1. Observes good laboratory safety procedures 2. Formulates a plan of data gathering to achieve objective 3. Carefully documents collected data 4. Uses good experimental procedures 5. Analyzes and interprets data carefully 6. Determines measurement error	Yes in at least 6 rubric categories	Yes in 4 to 5 rubric categories only	Yes in 3 or less rubric categories
c. **(3)** an ability to design a system, component, or process to meet desired needs	1. Uses design strategy, including a plan, subtasks, and a timetable 2. Builds on previous knowledge 3. Develops several potential solutions and finds an optimum 4. Effectively uses computer / engineering resources 5. Supports design procedure with documentation and references 6. Applies engineering/ scientific principles correctly in design	Yes in at least 6 rubric categories	Yes in 3 to 5 rubric categories only	Yes in less than 3 rubric categories
d. **(4)** an ability to function on multi-disciplinary teams	1. Contributes fairly to the project and attends team meetings 2. Cooperates with others and is courteous to others 3. Shares credit for success and accountability for results with team 4. Shares information with others and provides assistance to others 5. Demonstrates the ability to assume a designated role in the group 6. Encourages participation among all team members	Yes in all 6 rubric categories	Yes in 4 to 5 rubric categories only	Yes in 3 or less rubric categories
e. **(2)** an ability to identify, formulate, and solve ocean engineering problems	1. Resourcefully locates information needed to solve problems 2. Formulates strategies for solving problems 3. Describes problems in ocean engineering in a way amenable to available solution skills. 4. Shows ability to approximate and simplify.	Yes in at least 4 rubric categories	Yes in 2 rubric categories only	Yes for less than 2 rubric categories
f. an understanding of professional and ethical responsibility	1. Understands and abides by a code of ethics 2. Demonstrates ethical behavior 3. Takes personal responsibility for his/her actions 4. Attends classes regularly, is punctual, professional, and collegial.	Yes in at least 4 rubric categories	Yes in 1 to 3 rubric categories only	Yes for none of rubric categories
g. **(5)** an ability to communicate effectively	1. Articulates ideas clearly and concisely 2. Organizes written materials in a logical sequence 3. Uses graphs, tables, and diagrams to support points 4. Written work is presented neatly and professionally 5. Makes effective oral presentation 6. Answers questions appropriately	Yes in at least 6 rubric categories	Yes in 4 to 5 rubric categories only	Yes for less than 3 or less rubric categories
h. the broad education necessary to understand the impact of ocean engineering solutions in a global and societal context	1. Is familiar with current trends in ocean engineering 2. Reads periodicals relevant to global and societal impact of engineering 3. Is aware of the adverse impact that engineering solutions can have on the environment and society 4. Is aware of the positive impact that engineering solutions can have on society, the environment and the economy	Yes in at least 3 of the rubric categories	Yes in 1 or 2 rubric categories only	Yes for none of the rubric categories
i. a recognition of the need for, and an ability to engage in life-long learning	1. Demonstrates ability to learn and think independently 2. Learns from mistakes and practices continuous improvement 3. Creates own learning opportunities 4. Participates in professional and technical societies	Yes in at least 3 rubric categories	Yes in 1 to 2 rubric categories only	Yes for none of rubric categories
j. a knowledge of contemporary issues	1. Has knowledge of current events in the engineering discipline 2. Has a good perspective of the current job market 3. Has grasp of major political issues at all levels	Yes in at least 2 categories	Yes in 1 category only	Yes for none of categories
k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	1. Is able to make appropriate choice of tools 2. Effectively uses computer software in assignments 3. Work is completed in allotted time 4. Understand the organization and use of the library	Yes in at least 3 rubric categories	Yes in 2 rubric categories only	Yes for less than 2 rubric categories

Original: 22 December 2008 (Dr. Dhanak & ABET Committee); Updated: 12 Dec 2009, 10 August 2011 by P. Ananthakrishnan