## Direct and Indirect Measures for MMA Institutional Student Learning Outcomes (ISLOs) for Undergraduate Education (as of 7/8/2016):

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<tr>
<th>Learning Outcomes</th>
<th>Direct Measures</th>
<th>Indirect Measures</th>
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| Basic knowledge and understanding of the history, theories, scholarship, tools, technologies, methods, and/or specialized terms of a field of study. | - USCG License Exams (Marine Transportation and Marine Engineering majors)  
- Facilities Engineering Qualification Exam (FEQE)  
- Fundamentals of Engineering (FE) Exam (required of Energy Systems Engineering majors)  
- IMB Competency Exam  
- IMB Capstone Project  
- EM Capstone Project  
- MSEP Environmental Monitoring Project  
- Co-Op Employer Evaluations (shoreside majors)  
- Commercial Shipping Evaluations (seagoing majors)  
- Experiential Learning Projects (shoreside majors)  
*State licensure rates and certification outcomes are also tracked (required for some majors; optional for others)* | - Senior Exit Survey  
- Career Fair Employer Survey  
- Survey of Recent Alumni  
- IMB Exit Survey  
- ESE Student Curriculum Survey |
| Basic knowledge and understanding of humanities, social sciences, sciences, and mathematics. | - ETS Proficiency Profile  
- Pre- and post-tests (Chemistry I; Western Civilization)  
- Social Science assessments (essay exams, term papers)  
- Force Concept inventory (College Physics I and Engineering Physics I)  
- MathXL quizzes (Algebra and Trigonometry)  
*Measure(s) TBD* | - Senior Exit Survey  
- Career Fair Employer Survey  
- Survey of Recent Alumni |
| Ability to explore concepts and questions that bridge different areas of learning. | - Social Science assessments (essay exams, term papers)  
*Additional measure(s) TBD* | - Senior Exit Survey  
- Career Fair Employer Survey  
- Survey of Recent Alumni |
| Ability to write, read, speak, and listen effectively. | - Writing Assessment Program (exam and portfolio)  
- ETS Proficiency Profile  
- Co-Op Employer Evaluations  
- Commercial Shipping Evaluations  
*Measure(s) TBD* | - Senior Exit Survey  
- Career Fair Employer Survey  
- Survey of Recent Alumni |
| Ability to critically and creatively comprehend and evaluate new information and ideas. | - Writing Assessment Program (exam and portfolio)  
- ETS Proficiency Profile  
- Co-Op Employer Evaluations  
- Commercial Shipping Evaluations  
*Measure(s) TBD* | - Senior Exit Survey  
- Career Fair Employer Survey  
- Survey of Recent Alumni |

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| Ability to use quantitative reasoning skills, applying basic concepts of mathematics and science. | • Pre- and post-tests (Chemistry I)  
• Force Concept inventory (College Physics I and Engineering Physics I)  
• MathXL quizzes (Algebra and Trigonometry) | • Senior Exit Survey  
*Additional measure(s) TBD* |
| Capacity for lifelong learning, including ability to utilize technology and information literacy skills. | • Co-Op Employer Evaluations  
• Commercial Shipping Evaluations  
*Additional measure(s) TBD* | • Senior Exit Survey  
• Career Fair Employer Survey  
• Survey of Recent Alumni  
• Library Research Assessment Project survey (Western Civilization) |
| Ability to work and achieve goals as a member of a team.                         | • Co-Op Employer Evaluations  
• Commercial Shipping Evaluations | • Senior Exit Survey  
• Career Fair Employer Survey  
• Survey of Recent Alumni |
| Capacity for leadership, including the ability to make rational decisions while complying with a set of standards. | *Measure(s) TBD* | • Senior Exit Survey  
• Career Fair Employer Survey  
• Survey of Recent Alumni |
| Ability to perform and behave in a professional manner acceptable for career goals. | • Co-Op Employer Evaluations  
• Commercial Shipping Evaluations | • Senior Exit Survey  
• Career Fair Employer Survey  
• Survey of Recent Alumni |
| Ability to make appropriate future decisions based on past and present conditions and circumstances. | • Co-Op Employer Evaluations  
• Commercial Shipping Evaluations | • Senior Exit Survey  
• Career Fair Employer Survey  
• Survey of Recent Alumni |
| Basic knowledge, understanding, and appreciation of diverse social and political values. | • Social Science assessments (essay exams, term papers)  
*Additional measure(s) TBD* | • Senior Exit Survey  
• Career Fair Employer Survey  
• Survey of Recent Alumni |
| Capacity for ethical reasoning, including the ability to make decisions and act in a socially responsible manner. | *Measure(s) TBD* | • Senior Exit Survey  
*Additional measure(s) TBD* |
| Ability to integrate knowledge and skills in civic and global contexts.           | • Social Science assessments (essay exams, term papers)  
*Additional measure(s) TBD* | *Measure(s) TBD* |
| Capacity for empathy, including an appreciation for diversity and inclusion.      | *Not Applicable (learning outcome not directly observable / difficult to directly observe)* | • Campus Climate Survey  
• Survey of Recent Alumni |
| Capacity for civic action, including the ability to engage in service that benefits the public good. | • Experiential Learning Projects (shoreside majors) | *Measure(s) TBD* |