## UC San Diego - WASC Exhibit 7.1
Inventory of Educational Effectiveness Indicators: Mathematics, June 27, 2012

<table>
<thead>
<tr>
<th>Academic Program</th>
<th>(2) What are these learning outcomes?</th>
<th>(3) Other than GPA, what data/evidence is used to determine that graduates have achieved stated outcomes for the degree?</th>
<th>(4) Who interprets the evidence? What is the process?</th>
<th>(5) How are the findings used?</th>
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</thead>
<tbody>
<tr>
<td>Department:</td>
<td>Students graduating with the degree should be able to:</td>
<td>Data/Evidence:</td>
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<tr>
<td>Mathematics</td>
<td>1. Upon graduation, our undergraduate students will demonstrate a solid understanding of differential, integral and multivariable calculus. Students will be able to apply these concepts to a variety of problems.</td>
<td>• In the upper and lower core course sequences, faculty teaching later in the sequence assess whether students have learned the material from the previous courses in the sequence.</td>
<td>• Undergraduate Affairs Committee and Vice-Chair for Undergraduate Education oversee requirements, which are endorsed by full faculty.</td>
<td>• Individual course instructors use feedback to modify their classes.</td>
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<td>Majors:</td>
<td>2. Demonstrate a solid understanding of vector calculus, linear algebra and ordinary differential equations. Students will be able to apply these concepts to a variety of problems.</td>
<td>• Faculty teaching the advanced electives determine whether students have learned the upper division core material.</td>
<td>• At the end of each academic year, the Vice Chair solicits faculty feedback regarding the core curriculum and reports findings to the Undergraduate Affairs Committee. Minor adjustments are made if necessary and approved by the faculty. Major changes are approved by the full faculty and CEP.</td>
<td>• Internally the department adjusts requirements and course sequences for the major.</td>
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<td>B.S. in Mathematics</td>
<td>3. Demonstrate a good understanding of rigorous mathematical proof. They will be able to write well-organized and logically sound mathematical arguments.</td>
<td>• Faculty teaching the standard electives and the upper division core courses determine whether the students have learned the lower division core material.</td>
<td>• CEP approves any changes to the major requirements.</td>
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<td>B.S. in Applied Mathematics</td>
<td>4. Demonstrate a solid understanding of higher level algebra and/or analysis.</td>
<td>• Exit surveys of graduating seniors provide evidence about strengths and weakness of the program.</td>
<td>• The Vice-Chair for Undergraduate Education acts on all requests/petitions for variation of requirements.</td>
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<td>B.S. in Mathematics-Computer Science</td>
<td>5. Demonstrate a solid understanding of at least one area of specialization within mathematics</td>
<td>• Minimum of 52 units of upper division mathematics coursework.</td>
<td>• CEP Review Committee</td>
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<tr>
<td>B.A. in Mathematics-Secondary Education</td>
<td>Learning outcomes published:</td>
<td>• Required upper division courses in mathematical theory.</td>
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<td>B.S. in Mathematics &amp; Economics</td>
<td>• UCSD Course Catalogue</td>
<td>• Outcome 1 is met by successfully completing Math 20A-B-C.</td>
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<td>B.S. in Mathematics-Scientific Computation</td>
<td>• <a href="http://math.ucsd.edu/">http://math.ucsd.edu/</a></td>
<td>• Outcome 2 is met by successfully completing Math 20D-E-F.</td>
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<td>B.S. in Probability &amp; Statistics</td>
<td>• Core course sequence descriptions in the Department.</td>
<td>• Outcome 3 is met by successfully completing Math 109.</td>
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<tr>
<td>B.S. in Mathematics-Applied Science</td>
<td>• Course syllabi</td>
<td>• Outcome 4 is met by successfully completing at least one of Math 100A, 102, 103A, 140A, 142A, 170A.</td>
<td>• The Vice-Chair for Undergraduate Education acts on all requests/petitions for variation of requirements.</td>
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<td>(1) Have formal learning outcomes been developed?</td>
<td>• Articulation Agreements with California Community Colleges (project IMPAC)</td>
<td>• Outcome 5 is met by successfully completing at least one mathematical sequence. A sequence is defined as a two or three quarter long progression of related coursework in a specified mathematical field.</td>
<td>• CEP Review Committee</td>
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<td>Yes</td>
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<td>(6) Date of last Academic Senate Review?</td>
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<td>2007-08</td>
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