

Northern Michigan University

OUTCOMES ASSESSMENT REPORT – Academic Department

When submitting one report for multiple programs, put common objectives at the beginning and indicate multiplicity or uniqueness. If programs have substantially different content, create separate documents. Create separate documents for different level programs, e.g. AS, BS, MS. Use a filename that reflects your dept or program, e.g. BusinessBS-OA-Report2011.docx or ComputerScience-OA-Report2011.docx

Department or Program: Secondary Mathematics Education	Submitted by: Carol Bell
Report for July 1, 2010 to June 30, 2011	Date submitted: 11/15/11
<p>Department Mission Statement (include program mission statement, if applicable). Confirm [__ Y __ N (explain)] that this mission statement matches the department website mission statement as well as the one on file with Academic Affairs at http://webb.nmu.edu/aqip/SiteSections/NMUMission/Academic_Departments_Mission_Statements-April2011.pdf</p> <p>The overarching mission of the Department of Mathematics and Computer Science is to serve society through education and scholarship within and across each of our disciplines: Mathematics, Mathematics Education, and Computer Science. Specifically, our primary mission is to guide our students in the acquisition and development of a suite of skills necessary for the pursuit of a professional career in or further academic study of mathematics, mathematics education, and computer science. An additional mission of the Department is to provide service and liberal studies courses for the broader university community, fostering critical and independent thinking, creative problem solving, and lifelong learning habits in all students. The Department is committed to furthering the professional development of mathematics teachers through its master's degree in mathematics education and to increasing the educational options for all post-graduate students in the mathematical sciences. Finally, in support of our educational efforts, the Department fosters an atmosphere of inquiry and innovation through original contributions to each of the Department's academic disciplines and their associated professions.</p>	
<p>Intended Objective #1 (<i>Learning outcomes use a verb to indicate how the student work can be observed; reflect what students should be able to do after a course ends, not what the instructor teaches; usually can be assessed in more than one way; can be understood by someone outside the discipline.</i>)</p>	<p>Means of Assessment for Objective #1 (<i>Describe the statistic or criteria that measures success in achieving this goal. What is the desired and/or minimum target you expect? What method is used to collect the data for the statistic? Multiple measures and one external measure are stronger assessments. Attach copy of rubric, survey, scale, test, etc., if not already on file with the Outcomes Assessment Committee</i>)</p>
<p>Candidates demonstrate knowledge of concepts and content appropriate for the different levels of the secondary school mathematics curriculum and connect mathematical ideas to other subject areas.</p>	<p>1a. 95% of secondary mathematics education candidates will receive a rating of "proficient" in sections A1 (Content Areas) and A2 (General Knowledge) in the final student teaching evaluation form completed by 7-12 <u>cooperating teachers</u>. No more than 5% of ratings will be at the "improving" level and 0% at the "basic" level. Note that all student teaching assessments use the following achievement levels:</p> <ol style="list-style-type: none"> 1. Basic: Minimal achievement, appropriate to situations 2. Improving: Moving towards becoming proficient 3. Proficient: Consistent, appropriate application, solid performance <p>1b. 90% of secondary mathematics education candidates will receive a rating of "proficient" in sections A1 (Content Areas) and A2 (General Knowledge) in the final student teaching evaluation form completed by <u>university supervisors</u>. No more than 8% of ratings will be at the "improving" level and 2% at the "basic" level.</p> <p>The evaluation forms may be accessed at the following websites:</p> <p>https://aditweb.nmu.edu/education/evaluations/stuteach_final_eval.php https://aditweb.nmu.edu/education/evaluations/UnivSuper_final_eval.php</p>
<p>Summary of Assessment Data Collected #1 (<i>For measure in Means, this includes the specific and overall counts, rates, percentages, totals, etc. and trend data in summarized format. Attach a full report, when available, but summary is needed.</i>)</p>	<p>Use of Results to Improve Department Program(s) #1 <i>What do you conclude from your outcomes assessment activities? What, if any, curriculum changes have you made in the past year as a result of assessment activities. Based on what you learned from assessment activities this last year, are there follow-up activities planned or required?</i></p>
<p>1a. Combined Fall 2010/Winter 2011 evaluations of secondary mathematics education candidates by 7-12 cooperating teachers</p>	<p>The data for this reporting period indicates that the candidates are proficient in their knowledge of the concepts and content at the different levels of the secondary school mathematics curriculum. When these data are combined with</p>

<p>(n=6: F2010=2, W2011=4)</p> <p>A1: 95.3% proficient, 4.7% improving A2: 100% proficient</p> <p>1b. Combined Fall 2010/Winter 2011 evaluations of secondary mathematics education candidates by university supervisors (n=6: F2010=2, W2011=4)</p> <p>A1: 100% proficient A2: 91.7% proficient, no other percentages were listed indicating NC (no comment) was probably selected</p>	<p>the previous year's data*, the results are as follows (n = 10):</p> <p>Cooperating Teacher: A1: 97.5% proficient, 2.5% improving A2: 100% proficient</p> <p>University Supervisor: A1: 95% proficient, 5% improving A2: 85% proficient, 10% improving, 5% NC</p> <p>Although the data from the two-year period indicate that the majority of students are proficient in their content knowledge, the Department is reviewing the content taught and how students are assessed in the program to ensure that students possess appropriate knowledge for teaching secondary mathematics.</p> <p>*Note that this data has only been tracked in outcomes assessment reports for the past two years.</p>
<p>Intended Objective #2</p> <p>Candidates demonstrate instructional competence by planning and implementing mathematics lessons at the middle school and/or high school level.</p>	<p>Means of Assessment for Objective #2</p> <p>2a. 95% of secondary mathematics education candidates will receive a rating of "proficient" in sections B1 (Communication Skills), B2 (Management of Students' Behavior), B3 (Management of Learning Progress), B5 (Lesson/Unit Planning), B6 (Lesson/Unit Presentation), B7 (Use of Materials and Resources), and C1 (Selection, Creation, and Use of Student Assessment) in the final student teaching evaluation form completed by 7-12 <u>cooperating teachers</u>. No more than 5% of ratings will be at the "improving" level and 0% at the "basic" level. Note that all student teaching assessments use the following achievement levels:</p> <ol style="list-style-type: none"> 1. Basic: Minimal achievement, appropriate to situations 2. Improving: Moving towards becoming proficient 3. Proficient: Consistent, appropriate application, solid performance <p>2b. 90% of secondary mathematics education candidates will receive a rating of "proficient" in sections B1 (Communication Skills), B2 (Management of Students' Behavior), B3 (Management of Learning Progress), B5 (Lesson/Unit Planning), B6 (Lesson/Unit Presentation), B7 (Use of Materials and Resources), and C1 (Selection, Creation, and Use of Student Assessment) in the final student teaching evaluation form completed by <u>university supervisors</u>. No more than 8% of ratings will be at the "improving" level and 2% at the "basic" level.</p> <p>The evaluation forms may be accessed at the following websites:</p> <p>https://aditweb.nmu.edu/education/evaluations/stuteach_final_eval.php https://aditweb.nmu.edu/education/evaluations/UnivSuper_final_eval.php</p>
<p>Summary of Assessment Data Collected #2</p> <p>2a. Combined Fall 2010/Winter 2011 evaluations of secondary mathematics education candidates by 7-12 cooperating teachers (n=6: F2010=2, W2011=4)</p> <p>B1: 92.9% proficient, 7.1% improving B2: 93.3% proficient, 6.7% improving B3: 93.3% proficient, 6.7% improving B5: 93.3% proficient, 6.7% improving B6: 100% proficient B7: 92.9% proficient, 7.1% improving C1: 93.3% proficient, 6.7% improving</p> <p>2b. Combined Fall 2010/Winter 2011 evaluations of secondary mathematics education candidates by university supervisors (n=6:</p>	<p>Use of Results to Improve Department Program(s) #2</p> <p>Although the minimum ratings of the evaluations of candidates by the cooperating teacher were not met in all sections for this evaluation period, the minimum ratings are met when the data for the last two years is combined*. The results are as follows (n = 10):</p> <p>Cooperating Teacher: B1: 95% proficient, 5% improving B2: 96.7% proficient, 3.3% improving B3: 96.7% proficient, 3.3% improving B5: 96% proficient, 4% improving B6: 100% proficient B7: 95% proficient, 5% improving C1: 96.7% proficient, 3.3% improving</p>

<p>F2010=2, W2011=4)</p> <p>B1: 100% proficient B2: 100% proficient B3: 100% proficient B5: 100% proficient B6: 100% proficient B7: 100% proficient C1: 100% proficient</p>	<p>University Supervisor:</p> <p>B1: 95% proficient, 5% improving B2: 95% proficient, 5% improving B3: 95% proficient, 5% improving B5: 90% proficient, 10% improving B6: 90% proficient, 10% improving B7: 90% proficient, 10% improving C1: 90% proficient, 10% improving</p> <p>Although the data from the two-year period indicate that the majority of students are proficient in their ability to plan and implement mathematics lessons, the Department is reviewing the methods courses in which students develop lesson plans to ensure that students are developing the skills necessary for planning and teaching lessons in secondary mathematics.</p> <p>*Note that this data has only been tracked in outcomes assessment reports for the past two years.</p>
<p>Intended Objective #3</p>	<p>Means of Assessment for Objective #3</p>
<p>Students will become certified to teach grades 7 – 12 (secondary) mathematics.</p>	<p>Although there are several components involved in becoming certified to teach in the state of Michigan, such as completing coursework in a teacher preparation program and having requisite field experience, passing the State of Michigan Test for Teacher Certification (MTTC) examination is the most significant component in becoming certified to teach. Thus, the MTTC subject-area test in mathematics (secondary) is used as the means of assessment.</p> <p>MTTC test results are in the form of scaled scores. The scaled scores range from 100 to 300. The minimum passing score is 220.</p> <p>Reference: http://www.mtc.nesinc.com/MI16_passingrequirements.asp</p>
<p>Summary of Assessment Data Collected #3</p>	<p>Use of Results to Improve Department Program(s) #3</p>
<p>The results provided by the state during the period July 1, 2010 – June 30, 2011 indicate that 100% (10 out of 10) of students passed the MTTC subject-area test in mathematics (secondary). Statewide, approximately 76.6% (464/606) of examinees passed the MTTC subject-area test in mathematics (secondary), so our candidates have performed better than the statewide average in this evaluation period. [See attached file NMU_MTTC Data_2010-11.pdf]</p>	<p>Although 100% of the students passed the MTTC mathematics (secondary) subject-area test during the reporting period, the Mathematics Education Committee in consultation with the Department continued to review program requirements to ensure that courses are designed to help students gain the content and pedagogical knowledge that will prepare students to teach secondary mathematics in grades 7 – 12.</p> <p>Combining this year's data with the data from the reporting period 2007 – 2010 indicate that initially 93% (40 out of 43) of students passed the MTTC, but the cumulative percentage was 100% (43 out of 43). [See 2007_2010_NMU.pdf] These data can be used as a recruitment tool when faculty members meet with students during campus visits and open house, especially since NMU students typically perform better than the statewide average.</p>