### Student and Faculty Learning Communities to Increase STEM Student Retention

**Goals and Strategies**

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**Goals**

- Improve Student Success
- Improve Teaching and Learning for 1st year STEM Courses

**Strategies**

1. WMU is a partner of Michigan –Louis Stokes Alliance for Minority Participation (LSAMP) funded by NSF-LSAMP.
2. Improve Teaching and Learning for 1st year STEM Courses
3. Continue efforts to improve mathematics education for students allowing parental access to academic records allows STEP-PI to enlist the parents’ assistance to support student success
4. Standardized testing and academic background of entering STEM students as demonstrated by 1st semester Math Placement
5. No common first-year curriculum among 16 undergraduate programs
6. Low historical Retention Rates (average over 2000—04)
7. Challenge:
   - efforts were not sufficient to support student success
8. IMPACT and CHALLENGES
9. **Challenges**
   - 4th Year Retention Rates = 32.6% to STEM
   - 2nd Year Retention Rates  = 58.7% to STEM
   - 3rd Year Retention Rates = 40.5% to STEM
   - 96.4% graduated with CEAS degree

**RESULTS**

**2nd, 3rd, 4th, and 5th Year Retention Rates**

<table>
<thead>
<tr>
<th>CSREES</th>
<th>WMU Baseline</th>
<th>Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>37.4</td>
<td>2nd Year (%)</td>
</tr>
<tr>
<td>33</td>
<td>42.3</td>
<td>3rd Year (%)</td>
</tr>
<tr>
<td>50</td>
<td>37.7</td>
<td>4th Year (%)</td>
</tr>
<tr>
<td>49.7</td>
<td>32.0</td>
<td>5th Year (%)</td>
</tr>
</tbody>
</table>

For all Institutions, 2005-2006
Average 2005-2006
77% graduated in a STEM field in 6 years
+1% graduated in 7th year
51% graduated with CEAS degree
10% continued in 7th year
+2% graduated with CEAS degrees

**Institutional Policy**

- Faculty Protocol to engage Residence Life to check on students who miss successive classes revised based on feedback from pilot program in Fall 2008; revised protocol implemented in Fall 2009 in courses with large enrollment (30-125 per section)
- Active collaboration with Residence Life to support on-campus living communities

**Continuing Work**

- Active collaboration with Residence Life to support on-campus living communities
- Develop awareness among faculty about the Millennial students and faculty role in student success

**IMPACT and CHALLENGES**

- Active collaboration with Residence Life to support on-campus living communities
- Develop awareness among faculty about the Millennial students and faculty role in student success
- Address critical engineering sciences classes to improve 7th year retention
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**Student Engagement**

- Faculty Protocol to engage Residence Life to check on students who miss successive classes revised based on feedback from pilot program in Fall 2008; revised protocol implemented in Fall 2009 in courses with large enrollment (30-125 per section)
- Active collaboration with Residence Life to support on-campus living communities
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- Address critical engineering sciences classes to improve 7th year retention
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**Special Housing Options**

- Faculty Protocol to engage Residence Life to check on students who miss successive classes revised based on feedback from pilot program in Fall 2008; revised protocol implemented in Fall 2009 in courses with large enrollment (30-125 per section)
- Active collaboration with Residence Life to support on-campus living communities
- Develop awareness among faculty about the Millennial students and faculty role in student success
- Address critical engineering sciences classes to improve 7th year retention
- Active collaboration with Residence Life to support on-campus living communities
- Develop awareness among faculty about the Millennial students and faculty role in student success
- Special Housing Options for retaining Sophomores and Transfer students