### ACADEMIC PROGRAM IMPROVEMENT PLAN
(For implementation in years 2011-12 & 2012-13)

**PROGRAM:** General Studies – Mathematics

**Defined Outcome:**
- At least 75% of students will earn a C or higher in the four initial Associate Degree math courses (804-107, 804-113, 804-115 and 804-123), and the “WTCS Course Completion” indicator will increase to at least 70.

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<th>Perkins?</th>
<th>Responsibility</th>
<th>Timeline</th>
<th>Resources</th>
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<tbody>
<tr>
<td>no</td>
<td>1. Leads: Todd &amp; Ted</td>
<td>1.a. Each semester</td>
<td>1.a. AA Assistant</td>
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<td>1.b. By <strong>July/August</strong></td>
<td>1.b. Time &amp; Task Force focus</td>
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<td>2) of each year, make recommendation for the subsequent year’s catalog</td>
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<td>1.c. Ongoing work – with pilots whenever possible</td>
<td>1.c. Student Services willingness to pursue alternatives</td>
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**Action Plan/Action Items:**

1. Improve the validity and reliability of course-placement strategies for Pre-Algebra (10-834-109) and the four associate degree math courses.
   a. Continue to gather data on student “C or better” rates in relationship to Accuplacer test/placement scores.
   b. Evaluate the data and make recommendations to adjust placement scores based upon data gathered.
   c. Pursue complementary placement strategies (success strategies, attitude, reading scores or even a self-designed math assessment) to enhance the likelihood of having students accurately placed in the appropriate course.

2. Conduct a Pre-Algebra course assessment
   a. Design and conduct the assessment – including data analysis
   b. Adjust instruction based upon assessment findings

3. Address sound issues in Room 216 & 217 in Superior where there are loud or otherwise distracting noises coming through the classroom walls
   a. Contact facility manager on Superior Campus to determine the causes of the sound issues.
      1) Investigate whether or not the sound issues can be resolved or whether other rooms might be more appropriate.
      2) Depending on results of investigation, include any necessary facility changes in the program planning process or find more appropriate room through the scheduling process
   b. Math Faculty will determine if there are other rooms with similar issues at other campuses and notify Academic Dean.

1. a. Academic Affairs (AA) Assistant and Math faculty
3. a. Math faculty and Pete Gamache
3. a.1) Pete Gamache and Math faculty
3. a.2) Pete Gamache, Math faculty and Ted May

2.b. Math faculty
2.b. 2012-13
2.b. 2013-14
2.b. Time

3.a. Math faculty and Pete Gamache
3.a.1) Pete Gamache and Math faculty
3.a.2) Pete Gamache, Math faculty and Ted May
3.b. Math faculty (to)
3.b. Pursue - as

3.a. August 2011
3.a. and 3.b. Campus budgets
1. Above process will be repeated for any additional rooms.

4. Continue to strengthen ties/collaboration with programs and their faculty to improve student interest and engagement in the mathematics courses; and enhance the math faculty insights into appropriate real-world applications.
   a. Math faculty discussions at monthly math faculty IPV meetings to strategize how to continue to strengthen these relationships where needed.

5. Move toward having all math courses across the college consistently supported by Blackboard for course-support, gradebook and other tools (if consistently present in all classes, this could work to enhance success rates in classes that were online)

6. Strive for consistency in student “C or higher” rates, and comparability in course outcomes across all delivery modes for the math courses
   a. Each semester/year, evaluate success rates across delivery modes
   b. Strive to enhance C or better rates across all delivery modes

**WTCS QRP Indicator Name & Number:**
CG04 AAS Course Completion - Mathematics

**Update:** (A mid-year and year-end update will be required each year during implementation.)

**Mid-year Update: December 1, 2011**

1. **Improve validity/reliability of placement with Accuplacer** – At this time, we have plans for the math faculty to use the Elementary Algebra Accuplacer assessment in the first week of spring 2012 semester classes to get a better picture of how these students do in their 10-level courses in the spring semester. Some faculty and the dean will also be taking the Accuplacer several times to fine-tune just where we think it would work best.

2. **Conduct Pre-Algebra course assessment** – will begin 2012-13.

3. **Address distracting sound issues across the college** – The concern over the rooms (the full Appendix B) has been shared with Matt Rosendahl, so he is aware of concerns. For the remaining concerns, these are enumerated in the Appendix document, and these items will be broken down by campus and shared with each Facility Maintenance supervisor at each campus.

4. **Strengthen ties/collaboration with programs and their faculty** – For the most part, math faculty at WITC have strong ties with programs. This has been accomplished through math faculty participation on advisory committees, daily communication with program instructors concerning students’ success and program needs, and through the vast technical experience of our math faculty being applied in the classroom setting to create meaningful
applications for students.

The math department continues to have conversations on the appropriateness of current math courses selected by programs and what changes could be made to better serve the students. Talks have taken place about creating new courses to fit needs (as was the case with the Math for Health Professionals course and was attempted with the Brick and Masonry program) and about eliminating courses that are no longer deemed adequate. In the absence of courses that are a good fit, some math faculty have worked with program faculty in the program classrooms/labs to teach concepts that are needed by the programs but don’t necessarily fit into specific math courses. Math instructors have also worked with program instructors – again drawing upon technical knowledge from previous occupational experience – to create curriculum for programs (metallurgy for Welding and Machine Tool, structural design for Architectural Design, CAD/CAM in Superior, stairway and roof construction for Wood Technics, decibels and power gains for Telecom, etc.) and even participated in designing new programs (CNC Technician program at RL, Business Management, etc.).

Math faculty members acknowledge that the Math CWO could be an opportunity to either build upon this strong cooperative relationship, or it could be viewed as an inconvenience imposed upon programs by the college and math instructors. The need to proceed with learning and the best interest of our students in mind is universally understood. Working with programs to tweak math courses and instruction is an ongoing or evolving matter that is addressed each year with various programs across the college, always seeking how to better serve WITC students.

5. **Move to have all math courses supported by Blackboard** – Math faculty members already support many of their courses with information and communication resources within Blackboard (Bb). With the new version of Bb coming out in 2012, and some uncertainty with regard to the value of Bb for students in some programs, the math team will delay discussion on more standardize uses of Bb until after the upcoming Bb upgrade.

6. **Strive for consistency of student “C or better” rates in math courses** – Regardless of the mode of delivery – face-to-face, IPV, Math Lab (flex-math) or online, all faculty members (and each individual faculty member) strive to maximize the percentage of students who earn a C or better in their course(s). Two critical ingredients for advancing the percentage of students who earn a C or better will be improved placement in courses – as highlighted in the first action plan above – and implementation of WITC’s new online learning orientation and the SmarterMeasure Learning Readiness Indicator. Math faculty will work with the online learning team to interpret the results of the SmarterMeasure Readiness Assessment by completing the SmarterMeasure Faculty Survey.

**Update:** *(A mid-year and year-end update will be required each year during implementation.)*

**First Year-end Update, May 15, 2012**

1. **Improve validity/reliability of placement with Accuplacer** – After initial efforts to use the Elementary Algebra Accuplacer assessment in the first week of spring 2012 semester classes, the math faculty members felt that the following actions would be best to try to move forward with this effort:
   a) Gather more data: Students who enroll in Associate Degree programs, but score below placement level for their Math on their first Accuplacer test:
     - With these students – there would be two groups (1) those who take 10-804-109 (Pre-Algebra); and (2) those who do not
     - With these two groups:
     - How many and what percentage of the students earned a C or better in the first college-level math class (break down by math class?)
     - How many and what percentage of the students are program degree completers?
   b) Do what we can so that more students who are in our math courses are actually placed there by the Accuplacer assessment (currently Accuplacer accounts for only ~50% of student placements – and as low as 20% in some courses)
   c) The 804 faculty members will arrange for incoming students who are taking the College Tech Math 1 or 1A, and Math and Logic courses – to take the Elementary Algebra Accuplacer during the first week of class, fall 2012.
2. **Conduct Pre-Algebra course assessment** – *will begin 2012-13* – with plans to (a) develop common assessment tools (quizzes and tests); (b) administer these to students starting in summer 2012 (IPV to all four campuses), then review/revise these for implementation across the college in fall 2012; and then (c) evaluate and adjust results. These results will also be linked to efforts to enhance the accuracy of placement strategies (see #1 above).

3. **Address distracting sound issues across the college** – These issues are being resolved on each campus with the exception of those at the Superior campus. On the Rice Lake Campus, Criminal Justice students will be moving to their own facility in the fall of 2012. Those in NR have been resolved. On the Superior Campus, no solution has been proposed. Thin walls between classrooms continue to be an issue; Ted will follow-up to strive to get this on a plausible schedule to rectify at that campus.

4. **Strengthen ties/collaboration with programs and their faculty** – As noted on the mid-year report, math faculty are mostly quite well connected with program faculty. There are still opportunities to strengthen these connections, and as noted in the mid-year report, we have an opportunity in the Math CWO to solicit broader support for math as part of all programs. We will see how this evolves.

5. **Move to have all math courses supported by Blackboard** – This was largely completed in the mid-year report. Now all math faculty members are receiving BBv9 educational support and preparation for the coming semester/years; the math team will continue discussion on more standardize uses of Bb after the upgrade to v9 is completed.

6. **Strive for consistency of student “C or better” rates in math courses** – There was no further action or discussion on this topic – more will be potentially discussed next year with Quality Matters and online learning, and the placement issues with Pre-Algebra and all math courses. The other challenge is the expanded (and somewhat uncomfortable implementation matters) of IPV with Pre-Algebra, and the ongoing late-in-afternoon 2-hour classes. This will be a topic of concern to be addressed this coming year.