Mission Statement for the Department of Mathematics (Approved 2002, edited 2011)

The mission of the Department of Mathematics is to teach mathematics so as to develop in our students: (1) an appreciation of mathematics as a driving force in society, culture, and history; (2) an understanding of mathematics and its applications; and (3) the ability to reason and communicate mathematically as well as to assimilate new mathematical ideas. Furthermore, it is the mission of the Department of Mathematics to engage in active scholarship in mathematics and mathematics education that supports our teaching and furthers mathematical understanding and to build productive connections with academic and non-academic communities.

Vision Statement for the Department of Mathematics (Approved 2006)

Grand Valley State University's Department of Mathematics will be known for our commitment to students, dedication to teaching excellence, and active support for and engagement in scholarship and service.

Our students and graduates will be known and respected for their knowledge of mathematics, their capacity to think critically, and their ability to communicate mathematical ideas effectively.

Our faculty and graduates will be respected for their positive involvement in promoting excellence in mathematics and mathematics education at all levels.

Our faculty will be recognized on campus for their active contributions to the mission and success of the Department and the University.

In meeting this vision, the students, graduates, and faculty will be seen as responsible and informed citizens, productive members of society, and life-long learners.

Values Statement for the Department of Mathematics (Approved 2006)

First and foremost, the Department of Mathematics values a diverse and multicultural learning community who actively participate in carrying out the values of the college and university by promoting the liberal arts' ideals of critical thinking and lifelong learning. In order to effectively promote these ideals, we recognize teaching and learning as our highest priorities while acknowledging the importance of scholarship and service. Consequently, we value and support:

A range of pedagogical views and practices that include but are not limited to:

- Informed and knowledgeable faculty who are reflective and continually growing as teachers;
- Class sizes that allow faculty to actively involve students and provide effective feedback on student work;
- Innovations in teaching that represent a learning-centered approach to instruction;
- Active involvement of students in their own learning;
- Developing a community of learners among students and faculty.

Broadly defined professional activities that include but are not limited to:

- Keeping current and adding to the development of mathematics and mathematics education;
- Applying mathematical knowledge in a variety of areas;
- Focused research in the teaching and learning of mathematics at all levels;
- Collaborative research with peers and with students;
- Interdisciplinary scholarship.

Service activities that include but are not limited to:

- Active participation in achieving department, college and university goals;
- Collaboration with industry, schools and community groups;
- Promoting the profession at the local, regional and national levels.

In each of these areas, we also value continued mentoring of all Mathematics Department faculty and staff.

Note that the foremost item in our mission, vision, and values statements relates to teaching and student learning. As we map our strategic plan, this frames and directs all of our actions. The ultimate priority of the Department of Mathematics is to provide the best possible learning environment and instruction for our students.

We pursue this priority of purpose in our three programs, mathematics major (non-certification), mathematics major (secondary certification), and mathematics major (elementary certification), our mathematics minor program, and our support of the Master's Degree in Education with an emphasis in Mathematics. The department also offers many service courses to the university. Our largest service course is MTH 110 (Algebra), the basic skills mathematics graduation requirement. To support the general education program at Grand Valley we offer MTH 122 (College Algebra), MTH 123 (Trigonometry), MTH 125 (Survey of Calculus), MTH 131 (Introduction to Mathematics), MTH 201 (calculus I), and MTH 221 (Mathematics for Elementary Teachers I) as options in the Mathematical Sciences Foundation Category and MTH 330 (The Mathematics of Voting and Elections) in the Democracy theme. In addition, MTH 221, MTH 222 (Mathematics for Elementary Teachers II) and MTH 223 (Mathematics for Elementary Teachers II) are part of the Elementary Teaching Minor in the College of Education; MTH 225 (Discrete Structures: Computer Science) and MTH 325 (Discrete Structures: Computer Science II) are specifically offered as cognates for the computer science major and as required courses in the computer science minor; and MTH 302 (Linear Algebra and Differential Equations) is part of the foundation requirement for engineering majors.

In order to meet our mission, vision, and values, the Department of Mathematics faces many short and long-term challenges. Among these are

- providing high quality instruction and class sizes that allow for student-centered learning and effective student/faculty interaction in the face of increasing enrollments and insufficient numbers of tenure-line faculty;
- diversifying our faculty to provide a variety of viewpoints and ideas and to better reflect our student body and the world around us;

- assuring appropriate opportunities and resources for faculty and students to engage in relevant scholarly activities; and
- developing and sustaining programs that meet the needs of our students and community.

It is within these categories that we have developed our strategic plan.

Goals for the Department of Mathematics (Approved 2006, Issue #1 edited in 2010, Issue #7 added)

In this section we identify goals and objectives that will be critical for us to address if we are to continue to meet our mission, vision, and values.

Issue #1: STUDENTS

Unless specified in a particular objective, data collection will be done separately for each emphasis, because separate reports are required for each major.

Goal 1: To prepare students in the content they will need to succeed in their mathematics field after graduation.

➤ Objective 1A: Mathematics majors will demonstrate learning of mathematics content.

Measure 1A1: Course grades in several courses in the major (MTH 210, 227, 310, 341, 345, 495). (This is the NCATE data collection of grades. 341, 345 may not apply to all non-certification students.)

Measure 1A2: Average number of credit hours in mathematics completed by students graduating with a major in mathematics

➤ Objective 1B:

For the elementary program: Mathematics majors (elementary certification) will possess the content knowledge they need to teach in grades K-8.

Measure 1B1: Results of Michigan Test for Teacher Certification

Measure 1B2: Performance on NCATE assessments (MTH 322, 323, 324)

For the secondary program: Mathematics majors (secondary certification) will possess the content knowledge they need to teach in grades 7-12.

Measure 1B1: Results of Michigan Test for Teacher Certification

Measure 1B2: Performance on NCATE History & Culture Assessment

For the non-teaching program: Mathematics majors applying to graduate schools will be prepared for admission.

Measure 1B1: Course grades in several core courses in the major (MTH 210, 227, 310, 408, 495).

Measure 1B2: Course grades in elective courses in the major (MTH 327 and all 400-level electives)

Measure 1B3: List of graduate schools attended by majors after they graduate.

Goal 2: To aid students in developing their ability to communicate in mathematics.

➤ Objective 2A: Mathematics majors will effectively communicate mathematics through writing.

Measure 2A1: Writing component of NCATE Culture and Diversity Assessment (MTH 341 section)

Measure 2A2: Writing component of NCATE Culture and Diversity Assessment (MTH 345 section)

Measure 2A3: Writing component of NCATE Culture and Diversity Assessment (MTH 495 section)

➤ Objective 2B: Mathematics majors will effectively communicate mathematics through oral presentation.

Measure 2B1: Compilation of scholarly talks in mathematics given annually by mathematics majors.

Measure 2B2: NCATE ED 430 observations (elementary); NCATE ED 331 assessment – teaching addendum (secondary); number of students who complete an oral presentation on a senior-level mathematics project, either in a 400-level class or elsewhere (non-teaching).

➤ Objective 2C:

For the elementary program: Mathematics majors (elementary certification) will effectively communicate (teach) mathematics to students in grades K-8.

Measure 2C1: NCATE ED 430 observations

Measure 2C2: Grades from MTH 323 tutoring assignment

For the secondary program: Mathematics majors (secondary certification) will effectively communicate (teach) mathematics to students in grades 7-12 and to others.

Measure 2C1: NCATE ED 331 assessment – teaching addendum

Measure 2C2: NCATE ED 331 assessment – assessment of student learning

Measure 2C3: Compilation of scholarly talks in mathematics education given annually by mathematics majors.

For the non-teaching program: Mathematics majors (non-certification) will effectively communicate mathematics to peers, faculty, and external constituencies.

Measure 2C1: Compilation of scholarly talks in mathematics given annually by mathematics majors.

Measure 2C2: Compilation of scholarly and expository articles published annually by mathematics majors

Goal 3: To aid majors to graduate in a reasonable time.

➤ Objective 3A: Most mathematics majors will graduate within five years.

Measure 3A1: Five-year graduation rate for mathematics majors and time from MTH 210 to graduation (if feasible).

Measure 3A2: To determine persistence from year to year, we will track all majors in a spreadsheets by name, G-number, catalog year, major (which strand), when major declared, # of credits, graduation year, advisor, research experience, oral presentation completed, career status in the year following graduation.

Issue #2: FACULTY/STAFF

Goal 1: To achieve a sufficient faculty size so that all courses have a significant tenure-track mathematics faculty presence.

- ➤ Objective 1A: All of our mathematics courses numbered 200 and up are taught by tenure-track faculty in the Mathematics Department.
- ➤ Objective 1B: All of our mathematics education courses are taught by tenure-track faculty in the Mathematics Department.
- ➤ Objective 1C: At least 25% of our courses at the pre-calculus level are taught by tenure-track faculty in the Mathematics Department.

Goal 2: Hire top quality tenure track faculty committed to our mission.

As seen in appendices 1 and 2, the Department of Mathematics faces a severe shortage of tenure-line faculty. It will be impossible for us to accomplish our mission in light of these shortages.

- ➤ Objective 2A: Offer salaries that are competitive with peer institutions.
- ➤ Objective 2B: Offer competitive and reasonable work loads that are comparable to peer institutions.

Goal 3: To retain high quality tenure track faculty to achieve our mission of excellence.

As seen in appendices 1 and 2, the Department of Mathematics faces a severe shortage of tenure-line faculty. Without retention of the quality faculty we already have on staff, it will be impossible for us to accomplish our mission.

- ➤ Objective 3A: Offer salaries that are competitive with peer institutions.
- ➤ Objective 3B: Offer competitive and reasonable work loads that are comparable to peer institutions.
- ➤ Objective 3C: Provide a mentoring program that facilitates quality communication and will help new faculty to succeed at GVSU.
- ➤ <u>Objective 3D</u>: Review the present system of faculty development within the department to enhance the on-going professional development of faculty.

Goal 4: Promote and integrate diversity in all aspects of our department life.

- ➤ Objective 4A: Increase the diversity of the faculty in the Department of Mathematics.
- ➤ Objective 4B: Recruit, hire, and retain top quality, diverse faculty.

Goal 5: To retain (and recruit) quality affiliate faculty to achieve our mission of excellence.

Affiliate faculty play a crucial role in staffing our pre-calculus service courses. Unfortunately, affiliate faculty are severely underpaid (see Appendix 4). This makes recruitment and retention of high quality affiliate faculty very difficult.

- ➤ Objective 5A: Offer salaries that are competitive with comparable positions at community colleges.
- ➤ Objective 5B: Provide a mentoring program that facilitates quality communication and will help new affiliate faculty to succeed at GVSU.
- ➤ Objective 5C: Review the present system of faculty development within the department to enhance the on-going professional development of faculty.

Goal 6: Support and appropriately recognize/reward the work of support staff.

The Department of Mathematics has an outstanding support staff that, at the moment, is appropriate for our size and mission.

➤ Objective 6A: Establish benchmarks for staff and recognize work within and beyond those benchmarks.

Issue #3: COMMUNITY AND COLLABORATION

Goal 1: To develop and maintain the systems and structures that allow for sustained collaboration between the Department of Mathematics and other units in the University.

- ➤ Objective 1A: To develop and maintain cooperative courses and programs with the College of Engineering and Computer Science.
- ➤ Objective 1B: To develop and maintain cooperative courses and programs with the College of Education.
- ➤ <u>Objective 1C</u>: To develop and maintain cooperative courses within the General Education program.
- ➤ Objective 1D: To develop new cooperative ventures with other entities within the university.

Goal 2: To develop and maintain the systems and structures that allow for sustained collaboration between the Department of Mathematics and entities outside the University.

- ➤ Objective 2A: To develop and maintain collaborative programs with area K-12 schools.
- ➤ Objective 2B: To develop cooperative programs with area business and industry.

Issue #4: PROGRAM

Goal 1: Be recognized nationally for our teaching and scholarship.

➤ Objective 1A: Obtain NCATE program accreditation.

Goal 2: Our program will reflect best –practices in educating our students.

We are committed to providing students with meaningful educational experiences within each of our courses. In order to maintain an effective learning environment we are researching what the professional organizations and peer institutions envision as best-practices. See appendix 1 for more on this commitment to best-practice.

- Objective 2A: Research best-practices regarding mathematics instruction from our professional organizations.
- Objective 2B: Research instructional practices in mathematics courses at our peer institutions.
- ➤ Objective 2C: Cap class sizes based on best-practices as determined in 2A and 2B.

Goal 3: The Mathematics Department will assist the General Education Subcommittee in assessing General Education student learning outcomes.

- ➤ Objective 3A: The Mathematics Department will identify member(s) to serve on General Education Peer Groups for the purpose of assessing student learning outcomes.
- ➤ <u>Objective 3B</u>: The Mathematics Department will assist the General Education Subcommittee in collecting assessment data from students in General Education courses.
- ➤ <u>Objective 3C</u>: The Mathematics Department will review and respond to the General Education Subcommittee about suggestions for improvements, if any are identified by the Peer Group or the General Education Subcommittee.

Issue #5: MULTIPLE CAMPUSES

Goal 1: Support the mission of the Department of Mathematics in a multi-campus environment.

- ➤ Objective 1A: Provide office space and communication set-ups for every traveling faculty/professional staff member at each location.
- ➤ Objective 1B: Provide office resources for every traveling faculty member.
- ➤ Objective 1C: Increase number of tenure track faculty teaching at a campus other than Allendale.
- ➤ <u>Objective 1D</u>: Provide cell phone access and increase wireless computers for every traveling faculty member.

Issue #6: FACILITIES

Goal 1: To have appropriate space and resources to support our mission, vision, and values.

- ➤ Objective 1A: Identify space needs in light of current and projected enrollment and access to new facilities.
- Objective 1B: Educate administration about the unique needs of the Department of Mathematics.

➤ Objective 1C: Include necessary technology into new and refitted spaces.

Issue #7: NEW OBJECTIVES ADDED (informally*) 2006-10

- ➤ Objective 7A: Develop hybrid course offerings for MTH 110, 122, and 123.
- ➤ Objective 7B: Workload and Evaluation document updated and approved.
- ➤ <u>Objective 7C</u>: To update math placement procedures.
- ➤ Objective 7D: Update "Student" section of Assessment Plan, based on feedback from UAC and administrators in 2008.
- ➤ Objective 7E: The Department will review the role of MTH 110 as a graduation requirement.
- ➤ <u>Objective 7F</u>: The Department will have at least six tenure-track faculty who are Inclusion Advocates.
- ➤ Objective 7G: Establish a study abroad program for math education in Tanzania.
- Department completes a self-study in 2013. Student learning outcome reports are submitted in 2007 and 2010 using WEAVE. The Department completes a self-study in 2013.
- ➤ Objective 7I: Develop a senior-level mathematics course (MTH 401) for Physics majors.

^{*}Not through a department-approved strategic planning process.

Appendix 1 – The Learning Environment

Teaching is our most important and vital duty. For us to be effective teachers and for students to be active learners who develop into life-long learners, the classroom environment is of critical importance. Our teaching philosophy and best-practices as described by professional organizations inform us about what we should strive for in our classrooms.

Teaching Philosophy and Methodology in the Department of Mathematics

The commitment of the mathematics department to excellent teaching can be seen in our teaching philosophy and methodology. In particular:

- The mathematics department expects all of its instructors to create a learning environment in which students are actively engaged in their learning as often as is didactically feasible.
- In most classes, students spend a significant portion of time involved in guided discovery lessons or small group assignments. During these times, the instructor will frequently move around the room from group to group. This is contrary to past traditions in collegiate level mathematics instruction and the widely held belief that mathematics must be taught in a strictly lecture based environment.

In further contrast to traditional beliefs surrounding collegiate level mathematics instruction, many instructors require a significant amount of writing in their courses and allow for multiple revisions or drafts. The variety of types of writing assignments mathematics instructors have used includes:

- portfolio problems a collection of longer questions requiring detailed explanations, clear logic and exact mathematical writing style;
- reading assignments where every student in a class is required to write their answer to a set of about 3 question before every class period;
- lab reports, projects, daily or weekly journals reflecting on the mathematics they have learned; and
- individualized texts where students are required to write a textbook for the class based on the daily activities in class.

In mathematics education courses (MTH 221, 222, 223, 322, 323, 324, 229, 329), we completely integrate laboratory activities with lecture/discussion—the activities we create and use serve as the basis for learning the mathematical content of the course. Please note that by laboratory activities, we mean students engaged in actively exploring mathematics concepts embedded in activities that require the use of various manipulatives or equipment.

The instruction in these mathematics education courses closely models mathematics teaching suggested in current research described in the National Council of Teachers of Mathematics *Principles and Standards for School Mathematics* (2000). In particular, faculty use a discovery-based, problem-solving model for the learning of mathematical content that promotes mathematical reasoning, connections between mathematical concepts and other disciplines, and communication of ideas. In this setting, students actively engage in guided, hands-on, cooperative problem-solving exploration of a topic. For learning to take place, this exploratory phase is followed by a full-class discussion in which the instructor facilitates reflection and synthesis of the explored content. Students are also expected to collectively discuss and analyze

their own learning experience as they explore mathematical concepts via discovery-based learning. In addition, students in all of these courses are expected to read relevant research on children's thinking and learning and analyze and understand examples of children's work.

As with the mathematics courses as discussed above, faculty members in the mathematics education courses spend many extra hours providing *individualized* feedback to students on major assignments that relate to the teaching and learning of mathematics for understanding. For many assignments and projects in these courses, instructors can not "get into the rhythm" of grading because each student submits a completely different project in which the instructor must do considerable analysis for each item submitted before evaluating the project. The type of individualized feedback differs depending upon the course. It can range from offering feedback on lesson plans, units, or problem-solving activities developed by a preservice teacher to offering feedback about how a GVSU student assessed a child's mathematical understanding. Our students need experiences in analyzing children's mathematical thinking and in creating and analyzing mathematics curricula as both are foundational for effectively teaching mathematics. However, in order to provide these types of meaningful experiences for our students, instructors must be committed to spending extra time providing feedback which will be constructive and helpful for the prospective teachers.

As we can see, the environment provided by the Department of Mathematics at GVSU is a dynamic one in which students are active learners, often discovering mathematics on their own or with their peers; students are challenged to obtain a deep understanding of the mathematics they encounter; students are expected to communicate the mathematics they have learned in appropriate ways verbally and in writing; students receive significant feedback on their work on a regular basis; and student interaction with faculty is welcome and encouraged. Whatever changes must be made to address the current financial situation must not be allowed to alter the positive and effective learning experience we provide our students.

The Impact on Pedagogy of Increasing Class Size

To physically implement the in-class teaching methods as described in the previous section, an instructor must be able to walk around the classroom during activities to individually assess and comment on group work during class. If this is not possible, then working in groups can become ineffective. This has already happened in some classrooms and with an increase in the enrollments this will become a common occurrence.

The pedagogical impact of increasing class sizes in courses that require a significant amount of writing can be enormous and should not be underestimated. For example, in a typical Math 210 class (an SWS class capped at 20 students), in which all instructors use portfolio problems and allow multiple revisions, there are over 300 drafts that the instructor must comment on or/and grade. With higher enrollments, instructors will have to reconsider whether or not they want to use such writing intensive assignments. This would be a detriment to the quality of the mathematical education of graduates. In addition, many instructors in the 100 level courses and the calculus sequence require portfolio problems, journals, projects, and activity or lab reports, and adding students to sections of these courses will negatively impact the amount and quality of the feedback that the instructors can provide to students.

An additional difficulty in several mathematics education courses is the experiential component. In these classes students are expected to create activities or unit-plans and then teach these activities to a class of students. Students teach these lessons outside of scheduled class-time, and the instructors of the course must not only coordinate the placement of the students, but also observe and assess the students' teaching of the activities. The additional time needed to set up and follow through with these field experiences for is anywhere from 20-35 hours.

Close student-faculty interaction in the classroom is also called for by national organizations. The following is a quote from *Guidelines for Programs and Departments in Undergraduate Mathematical Sciences* (published in February 2003 by the MAA):

"Departments must be provided with the resources necessary to deliver high quality teaching that includes the opportunity for students to interact frequently and nontrivially with their instructors. Departments should facilitate these personal interactions by avoiding the use of large lecture settings that require students to become passive audiences. The best way to encourage active student-faculty interactions and to enable faculty to give students individual attention is to provide a small-class environment with fewer than thirty students in each section. Also with restricted class size, faculty members gain flexibility to adopt a teaching style that best fits both the material to be learned and their students' needs."

Since many of the courses we teach are lower division and are similar to those taught by Two Year and Community Colleges it is also of interest to review the standards that are being promoted at such colleges. The *Guidelines for Mathematics Departments at Two Year Colleges* from the American Mathematical Association of Two Year Colleges call for mathematics departments to be adequately staffed to allow for a maximum class size of thirty students and opportunity for frequent interaction between students and instructors should be provided, both in the classroom and in office consultations.

One can clearly see that any significant increase in enrollment in our writing intensive, exploratory environments will have a large and negative impact on pedagogy and learning in these classes.

Appendix 2 - Course Enrollments and Staffing Shortfall, Fall 2006

Table 1 shows the planned course availability for Fall 2006. By Fall 2006 we will have lost Karen Heidenreich and Jody Sorenson to resignations, Don VanderJagt to retirement, and Doug Kindschi to other obligations. We will have gained one new tenuretrack faculty member, Feryal Alayont. This will give us 32.5 tenure-line faculty members (Esther Billings is on a half-time appointment). To provide a sense of the staffing needs of the department in Fall 2006, we also need to include the fact that three faculty will be on sabbatical leave in Fall 2006 (it would be more appropriate to assume one-seventh of the faculty, or almost 5 faculty, will be on sabbatical leave each year) and that the department allocates approximately 24 hours each semester for administrative duties (including unit head and assistant chair work and coordinating multiple section courses). Furthermore, an increasing number of our faculty are actively pursuing research and requiring release time from the 12 hour load to carry out such commitments.

Table 1 shows that we are scheduled to teach 642 credit hours in Fall 2006. If we assume our 11 affiliate faculty teach 17 hours each (the normal load is between 16 and 18), this will staff 187 credit hours. That leaves us with 455 credit hours to staff. Assuming a 12 hour teaching load for regular faculty and incorporating sabbaticals and the time assigned for administrative duties, we could staff an additional 330 hours. This leaves us with 125 hours to staff, which would require roughly 10 additional full-time faculty. Please note that these computations do not allow for any alternate assignment for scholarly work. If instead we assume the new workload plan for the university of 9 hours per regular faculty member for faculty active in research, then we can staff 241 hours, leaving 214 hours to staff. This could require up to 24 new regular faculty.

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MTH 307 3 9 18 MTH 310 2 6 48 MTH 322 1 3 24 MTH 324 1 3 24 MTH 325 1 3 30 MTH 329 1 3 24 MTH 341 2 6 48 MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 300	1	3	24
MTH 310 2 6 48 MTH 322 1 3 24 MTH 324 1 3 24 MTH 325 1 3 30 MTH 329 1 3 24 MTH 341 2 6 48 MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 302	1	4	30
MTH 322 1 3 24 MTH 324 1 3 24 MTH 325 1 3 30 MTH 329 1 3 24 MTH 341 2 6 48 MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 307	3	9	18
MTH 324 1 3 24 MTH 325 1 3 30 MTH 329 1 3 24 MTH 341 2 6 48 MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 310	2	6	48
MTH 325 1 3 30 MTH 329 1 3 24 MTH 341 2 6 48 MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 322	1	3	24
MTH 329 1 3 24 MTH 341 2 6 48 MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 324	1	3	24
MTH 341 2 6 48 MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 325	1		30
MTH 345 2 6 48 MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 329	1	3	24
MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 341	2	6	48
MTH 360 1 3 24 MTH 405 1 3 24 MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 345	2	6	48
MTH 408 1 3 24 MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 360		3	24
MTH 431 1 3 24 MTH 495 2 6 48 MTH 625 1 3 20	MTH 405	1	3	24
MTH 495 2 6 48 MTH 625 1 3 20	MTH 408	1		24
MTH 625 1 3 20	MTH 431	1	3	24
	MTH 495	2	6	48
Total 184 642 5`042	MTH 625	1	3	20
	Total	184	642	5`042

Table 1
Fall 2006 Course Availability

Appendix 3 – Affiliate Faculty

The Department of Mathematics currently employs 11 affiliate faculty. In Fall 2005, affiliate faculty accounted for staffing 187 of the 651 credit hours offered by the department, or 28.7% of the total. More importantly, affiliate faculty accounted for 171 of the 374 hours offered of our pre-calculus service courses, or approximately 45.7% of the total. Another 137 hours (or 36.6%) of our pre-calculus courses were staffed by adjunct faculty. Given that many of the students served by affiliate faculty will not take more mathematics, our affiliate faculty are the face and voice of the Department of Mathematics to a large proportion of the student population. That makes these positions very important. Affiliate faculty also serve informally as mentors to adjunct faculty (since they teach the bulk of the pre-calculus courses), which increases the impact affiliates have on a large portion of our student body.

Recruitment and retention of high quality affiliate faculty is made difficult by the low level of pay that we offer to these positions. The average salary of our affiliate faculty, many of whom have several years of experience, is \$31,500. The position qualifications, teaching load, and other requirements of an affiliate faculty position in our department are comparable to those of community college faculty. Consequently, it is reasonable to compare affiliate salaries to salaries of community college faculty. A search of community college human resources web sites of some community colleges posting job openings for full-time mathematics instructors (positions advertised to begin in fall 2006) provides startling comparisons to our affiliate salaries as shown in Table 2. Although Grand Rapids Community College (GRCC) has no posted job opening for 2006-07, the information in Table 2 about GRCC positions was obtained from the Chair of their Department of Mathematics. The GRCC starting salary is based on a 15 hour teaching load per semester (while our affiliates teach between 16 and 18 hours). It should also be noted that instructors at GRCC have the opportunity to increase their salaries by teaching overloads at a rate of \$1,116 per credit hour. As a result, a more accurate comparison of our affiliate salaries to GRCC starting salaries would be \$44,732 (assuming a 17 hour load).

Community College	Lowest suggested starting salary	
Oakland Community College	\$46,633	
Schoolcraft College	\$41,860	
Henry Ford Community College	\$42,859	
Kalamazoo Valley Community College	\$42,369	
Monroe Community College	\$42,540	
Grand Rapids Community College	\$42,500	

Table 2
Community College Mathematics Instructor Starting Salaries

If we cannot address this huge discrepancy in salaries for affiliate faculty, it will be difficult for us to recruit and retain high quality affiliate faculty.

Appendix 4 - Department of Mathematics Faculty, Fall 2005

Tenure-line faculty Aboufadel, Edward Alexander, Nancy Arendsen, Carl Austin, David Beckmann, Charlene

Billings, Esther Blair, Stephen Boelkins, Matthew Chakrabarti, Manish

Coffey, David Dickinson, William

Dogru, Filiz Fishback, Paul Friar, Marge Gardner, Catherine

Golden, Oliver John

Haïdar, Salim Heidenreich, Karen Hodge, Jonathan Kasman, Reva Kindschi, Doug Klingler, Gary Mack, Nancy Mays, Jane Novotny, Karen

Schlicker, Steven Smith, Shelly Sorensen, Jody

Sundstrom, Theodore

Tefera, Akalu

VanderJagt, Donald Walker, Rebecca Wells, Clark Wells, Pamela Wyneken, Matthew

Yu, Paul

Affiliate Faculty Bailey, Tami Fackler, Velma Gross, Evan Henning, Lindsay Jones, John

Mihaylova, Tatiana

Reilly, Ann

Srinivasan, Sailakshmi

Stone, Amy Thull, Greg Yansak, Paul

Visiting Faculty

Fox. Joe

Heidenreich, Jacob Wodarz, Nathan

Adjunct Faculty Brott, Nikelina Campau, Corrina Cooley, Susan Cooper, Randy Disselkoen, Linda Harmsen, Russ Kirchgessner, John Lenney, Stephen McGuire, Hugh Myers, Susan

Robinson, Jacqueline

Stiles, Nancy Talsma, Bill VanderLugt, Tom Welling, Bethany

Staff

Kuzee, Janice Martinie, Laurel White, Patricia