CHAMP

THE COOPERATIVE HIGHLY ACCELERATED MATHEMATICS PROGRAM 2007-2008

Clinton County Regional Educational Service Agency

Eaton Intermediate School District

Ingham Intermediate School District

Michigan State University Honors College

Michigan State University Mathematics Department

Shiawassee Regional Education Service District

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The Dart Foundation

Gifted and Talented Education (GATE) Programs
A Division of the Honors College at MSU
www.msu.edu/user/gifted
CHAMP
THE COOPERATIVE HIGHLY ACCELERATED MATHEMATICS PROGRAM

CHAMP Logo Designed by Donald Ngo
1994-95 CHAMP Student from Washington Woods Middle School
Holt, Michigan
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The Cooperative Highly Accelerated Mathematics Program
CHAMP

Program Description

CHAMP, a consortium of the Clinton, Eaton, Ingham and Shiawassee Intermediate School Districts in partnership with the Department of Mathematics and the Honors College of Michigan State University, is providing classroom instruction for qualified mathematically gifted students in grades 7-10.

CHAMP is designed so that the participating students will learn in two years the content usually assigned to the traditional four-year high school mathematics curriculum. In their first year of CHAMP, students study Algebra I and Algebra II. In the second year, CHAMP students study Geometry and a standard pre-calculus course (Trigonometry, Analytic Geometry, College Algebra, and a brief introduction to calculus concepts). Normally, students will begin CHAMP with the study of Algebra I. Initial placement that bypasses one or more CHAMP courses may be allowed only in very unusual circumstances.

This program seeks to:

1. identify 6th- 8th grade students in the four-county area who reason extremely well mathematically;
2. develop their mathematical potential through classroom use of appropriate curriculum and instructional pacing commensurate with their abilities;
3. demonstrate that, with careful joint planning and coordination, existing community resources and multiple school systems can cooperate to meet successfully the needs of highly gifted students within the framework of the regular school day.

A great deal of work has been done by the Center for Talent Development/Midwest Academic Talent Search at Northwestern University and by The Johns Hopkins University to develop, test and refine valid and reliable criteria and procedures for identifying academically highly precocious middle school students and to develop a model to accommodate the special programming needs of these students.

Many small school districts have too few highly gifted students to fill even one reasonably homogeneous classroom. Some large school districts might have enough students to make up their own classes, but their students are usually spread across several school buildings and grades.

Using the Johns Hopkins model to build a strong foundation, CHAMP has been developed and implemented as a cooperative, regional program. Several features designed to overcome obstacles common to gifted education make this program unique:

1. traditional high school curriculum at an accelerated pace is taught, rather than “enrichment” content only;
2. school districts within the four intermediate school districts release students to attend these classes during the school day, dramatically improving use of already committed instructional time;
3. school districts recognize this course of study in lieu of in-school required mathematics and record credit and grades on students’ school transcripts;
4. School districts are encouraged to grant high school credit for demonstrated mastery of four years of high school math, i.e., one year of math credit for each semester of CHAMP, without regard to the student’s school grade placement at the time of achievement. (Policies vary from local district to local district. Students should check with their local districts regarding credit and grading policies before making their decision.)

5. Coordinated joint utilization of existing community, human, financial and physical resources contains costs while improving communication and cooperation for K-12 education.

**Student Identification and Selection**

The two-stage identification model, as employed by the Midwest Academic Talent Search Project (Stage I and Stage II below), is the primary means of identifying these precocious youngsters, estimated to represent 0.5%-1.0% of the population:

**Stage I**  
The initial pool consists of current sixth, seventh and eighth grade students who score in the top five percent on their own school system's nationally age-grade-normed mathematics/verbal achievement tests. School systems, teachers, and families identify these students. Self-nomination is also possible.

**Stage II**  
Students identified in Stage I who wish to be considered for CHAMP take the College Board SAT Reasoning Test, usually through the Midwest Academic Talent Search Project.

Minimum SAT scores required to make application to CHAMP are:

\[
\text{SAT – Math 530} \\
\text{and} \\
\text{SAT – Total (Math plus Critical Reading) 1010}
\]

Comparable ACT scores will be considered. (Math – 21, Composite – 23).

**Stage III**  
Students with qualifying SAT scores are asked to attend an informational meeting with their parents. The meeting provides specific information about the program, class content, class organization, instructors’ expectations, and student responsibilities. Motivation and the desire to learn, and self-discipline regarding time management and study habits are emphasized. Students and their families then have approximately two weeks to decide whether they wish to apply for admission to CHAMP. Emphasis is placed on the student’s role in taking responsibility for this decision. A copy of the student’s school records must supplement each application. All applicants will take an algebra placement test as part of the application process.

**Stage IV**  
Applications are reviewed by the CHAMP Consortium Committee, which has the responsibility for final selection and class placement of participants. Several factors are considered. Among these factors are the SAT scores, the age and/or grade level at which these scores were achieved, the availability of appropriate alternative programs in the student’s home school district, geographic considerations, male/female distribution, ethnicity, previous school records, and the algebra placement score. NO SINGLE FACTOR AUTOMATICALLY QUALIFIES OR DISQUALIFIES A STUDENT.

**NOTE:**  
Beginning with the administration of the new SAT in March 2005 scores are considered individually until recommended guidelines are available from the Talent Search Network.
Instructional Plan

Students are dismissed early on Thursday afternoon each week in their respective school districts, and converge on the Michigan State University campus for their math classes. Families are responsible for transportation.

Each class lasts 2½ hours, 1:00 – 3:30 p.m., with a short break. Throughout the year there are also regularly scheduled CHAMP Labs on Sunday afternoons and Tuesday evenings for students wishing assistance with their assignments or for those preferring to study cooperatively with other CHAMP students. Students will be offered an email account for ongoing contact with the professor/s regarding CHAMP coursework/homework assignments. In addition, an Internet CHAMP website is available to students for online assistance at any time between classes: http://www.math.msu.edu/champ1 or http://www.math.msu.edu/champ2

During the first semester, a few students may find that the program does not meet their needs. After discussion involving the student, instructor and parents, it may be determined that a student should return to the local district for mathematics instruction. All school districts have agreed to accommodate the reentry of these students into the most appropriate classes the districts offer. Because of the accelerated pace of CHAMP classes, students selecting this option should have no problems in returning to a school mathematics class.

Staffing

Each instructor has total mastery of content, expresses “passion” about the subject area, and is personally committed to high standards of education. Care is taken in selecting instructors who have shown evidence of original thinking, a sense of humor and a high energy level.

The instructors are professors from Michigan State University and are assisted by personally selected teaching assistants.

The CHAMP counselor serves as a liaison between the CHAMP instructional staff, the CHAMP Consortium Committee and administrators in the local school districts. The counselor is available to assist students and parents when critical concerns develop.

Class Content and Procedures

The instructor prepares lessons that provide students with a conceptual-theoretical framework for the content of the course. Practical examples are discussed only to assist student understanding rather than to develop total mastery of a particular skill at that time. New material is introduced at a pace much faster than occurs in the usual classroom. These students typically require this pace to remain challenged.

In class, the instructor reviews unresolved homework problems, introduces new material, gives spot quizzes and longer tests, and assigns homework which takes into account both previously studied material and concepts just introduced. Homework assignments, taking the average student in this group six to eight hours to complete, are collected at the beginning of each class. This homework is graded, commented on by an assistant, and returned to and discussed with the student before the end of that day’s class.

Experience suggests that some students begin the program expecting to be able to work all problems quickly, and they can become frustrated when they are unsure of what to do immediately. Such students need to learn perseverance with mental tasks. Other students tend to view any effort that is less than 100% correct as a failure. As the course proceeds, these students develop a more mature perspective on learning. Homework helps to solidify concepts presented in class and to provide a realistic challenge, requiring these students to develop problem-solving skills and to persevere in the face of less-than-instant-success. Students may feel overwhelmed at first by the volume of the homework assigned, but most adjust to what is required.
Outcomes

The mathematics content follows the traditional high-level, four-year high school curriculum: two years of Algebra, Plane/Solid Geometry, Trigonometry, and Analytic Geometry. (See Appendix A for course descriptions and outlines.) The students typically complete this content in two years, and receive mathematics credit on their high school transcripts; a written evaluation documents mastery and assigns a grade for each course. Compressing learning into a shorter time frame in just one subject could make two or more years available for other desired courses, e.g., a second foreign language and/or college mathematics courses.

Most students completing CHAMP should be prepared to enroll in an honors high school calculus course, an Advanced Placement high school calculus course, or an honors level college calculus course.

Lansing Community College, Michigan State University, Baker College and Olivet College have modified admissions procedures to admit qualified high school students to college courses while these students remain enrolled in their high schools. (See Appendix B for a sampling of relevant college mathematics courses.)

We would also like you to know about the opportunity for Postsecondary Enrollment, also referred to as dual enrollment, available to eligible 11th and 12th grade students and what may need to be done prior to 11th grade to become eligible. The Postsecondary Enrollment Options Act (PSEO) permits students to take classes in both the high school and a college/university simultaneously. The purpose of PSEO is to provide a wider variety of options to high school students to insure that all students continue to be challenged. (See Appendix C)

Evaluation of Program

Annual assessment of the program involves compilation and review of information gathered from university and local school personnel, parents, students and former students by the CHAMP Consortium Committee assisted by Ingham Intermediate School District’s Office of Planning and Evaluation. Expectations in the Michigan Merit Curriculum will be addressed.

Evaluation of Student

The most direct measure of the program’s success is the students’ demonstrated progress in mathematical content as evidenced by performance on nationally standardized examinations and tests devised by the instructors.

Post-test mastery is defined as achievement at the 85th percentile and above on nationally standardized achievement tests recommended by The John Hopkins University:

Cooperative Mathematics Achievement Test Series

<table>
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<tr>
<th>TEST</th>
<th>NATIONAL NORM GROUP</th>
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<tbody>
<tr>
<td>Algebra I</td>
<td>Urban, Grade 9</td>
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<tr>
<td>Algebra II</td>
<td>Urban, Grades 10-12</td>
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<tr>
<td>Algebra III</td>
<td>Urban, Grades 10-12</td>
</tr>
<tr>
<td>Plane/Solid Geometry</td>
<td>Urban, Grades 10-12</td>
</tr>
<tr>
<td>Trigonometry</td>
<td>Urban, Grades 10-12</td>
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Pre- and post-test results from CHAMP suggest that students were presented material not previously known to them, and that they were successful in mastering it.

Progress in mastering subject matter is monitored regularly through graded weekly homework assignments, quizzes, and teacher-constructed tests. Mid-term reports and end-of-semester (January and May) written evaluations are sent to each student’s school district, family and ISD CHAMP Consortium representative. These reports include details on progress in content, participation and letter grades. Student-teacher conferences are scheduled when needed and student self-evaluation is strongly encouraged and developed.
In addition to the monitoring of subject matter achievement, the social and emotional needs of the participating students are also addressed periodically through group meetings and individual conferences with students and/or family as necessary.

**Student Responsibilities**
1. Attend CHAMP classes regularly.
2. Complete assigned homework regularly.
4. Attend CHAMP Labs as desired or assigned.
5. Exhibit appropriate classroom behavior.
6. Maintain satisfactory level of performance in regular school course work.

**Parent Responsibilities**
1. Transport student to and from class once a week.
2. Attend an initial information session, fall orientation session, and conferences.
3. Support and encourage the student.
4. Review weekly graded homework and quizzes with the student.
5. Communicate with the CHAMP professor and local or ISD CHAMP Consortium representative if there is a problem.
6. Provide student with a graphing calculator.

**Local District Responsibilities**
1. Release students to attend class at Michigan State University during their school day.
2. Agree that these classes will be accepted in lieu of in-school required mathematics classes.
3. Recognize this course of study and record credits and grades on high school transcripts.
4. Grant high school credit for demonstrated mastery of content (up to four years of high school math).
5. Identify a local district contact person for CHAMP.

**Intermediate School District Responsibilities**
1. Provide liaison among participating school districts and with the university.
2. Provide partial funding support.
3. Duplicate CHAMP informational materials for students, parents, and local school district personnel.
4. Participate in the work of the CHAMP Consortium Committee.
5. Provide the services of the ISD CHAMP Consortium representative Consultant to students and their parents for advising and counseling purposes.

**Michigan State University Responsibilities**
1. Participate in the work of the CHAMP Consortium Committee.
2. Provide classroom facilities on campus.
3. Provide written confirmation of participation in and completion of CHAMP.
4. Provide administrative and fiscal services.

**Instructor Responsibilities**
1. Provide the instruction.
2. Supervise the work of the assistants.
3. Provide appropriate evaluation and placement recommendation.
4. Schedule group and individual conferences as necessary.
5. Maintain the CHAMP website at [www.math.msu.edu/champ1](http://www.math.msu.edu/champ1) or champ2

**Counselor Responsibilities**
1. Serve as a liaison between the CHAMP instructional staff, the CHAMP Consortium Committee, and the local school districts.
2. Counsel with individual students and parents as necessary.
3. Assist with follow-up survey of former CHAMP students.
4. Make periodic classroom visits.
Funding

1. Tuition – The full cost of CHAMP instruction per student per year is approximately $900. Upon acceptance into CHAMP each student pays an initial $25 reservation fee confirming his/her intent to participate. The parents and/or the local school district pay tuition in the amount of $475 per student when classes begin in the fall. The intermediate school districts, in-kind support from Michigan State University and grant funding from the Dart Foundation and the W.B. and Candace Thoman Foundation currently cover the remaining cost of the program.

2. Textbooks – These are provided by funding support from the intermediate school districts.

3. Transportation – This is provided by the parents.

4. Publicity – Duplication of informational materials for students, parents, and local school district personnel is provided by the intermediate school districts.

5. Classroom Accommodations-Classroom facilities and instructional materials are provided by Michigan State University at no cost to the program.

Payment Schedule

1. Billing will occur by November 1.

2. No refunds of the $25 reservation fee.

Future Mathematics Placement Options

Given that students completing this two-year accelerated high school mathematics sequence may be ready for college level mathematics, a coordinated effort involving the local school district, intermediate school districts, and Michigan State University will work out the most appropriate placement for the subsequent continuous progress of each student. (See Appendix B) Options might include:

1. a pre-calculus course at the local high school;

2. an AP calculus course at the local or neighboring high school;

3. a calculus course at Lansing Community College, Michigan State University, Baker College, Olivet College, or other local colleges;

4. coursework through the Internet (e.g., Michigan Virtual High School/University, MSU Virtual University, CTD/Northwestern)

5. correspondence coursework (e.g., Midwest Academic Talent Search course offerings from Northwestern University, The Johns Hopkins University)

In Conclusion

Throughout the years of CHAMP, teachers and other school personnel have informally observed that students often arrive at a more realistic and accurate understanding of their talents. Students and parents frequently report greatly improved study habits. Both areas are of extreme importance in the education of gifted students and significantly reduce the hazards of underachievement in later years.
APPENDIX A

COURSE DESCRIPTIONS, OBJECTIVES, CONTENTS

ACCELERATED MATHEMATICS YEAR I

First year students in CHAMP will thoroughly cover the content of the standard high school courses Algebra I and Algebra II. Algebra I will be studied during the first semester, and Algebra II will be studied during the second semester.

The courses will be conducted at an honors level with an expectation of above average achievement. Students will be asked to submit solutions to more than 1500 homework problems over the course of the year. Enrichment work in mathematical problem solving will be incorporated into both class discussions and homework.

ACCELERATED MATHEMATICS YEAR II

Geometry will be studied during the first semester, and the course College Algebra/Trigonometry will be studied during the second semester. These courses will be conducted at an honors level. Students will be asked to submit their solutions to a large number of homework problems over the course of the year. Enrichment material will be incorporated into both class discussion and homework.

Most students who complete the second year of this program will be ready for a Calculus course.

PROGRAM OBJECTIVES

Students in the CHAMP program will:

1. learn in two years the content usually covered in the traditional four-year high school mathematics curriculum;
2. demonstrate mastery (85th percentile or better) on a nationally normed (grades 9-12) mathematics achievement test;
3. utilize textbooks that emphasize a conceptual/theoretical approach to mathematics;
4. participate each week in a 2½ hour rigorous, intense class discussion and presentation which focuses on the conceptual approach to mathematics;
5. solidify and apply concepts presented in class through self-study and completion of weekly homework assignments;
6. interact with other students who have common abilities and interests.

FEATURES OF THE PROGRAM

1. An MSU mathematics professor who is assisted by one or more university students with high mathematics ability and an interest in and aptitude for teaching teaches each class.
2. Each course is open only to eligible students who have demonstrated high mathematical ability on the SAT exam and who have the commitment to learn mathematics in an intensive accelerated course while maintaining satisfactory performance in non-mathematics middle school/high school courses.
3. In addition to the weekly class, regular study sessions are scheduled on both Sunday afternoons and Tuesday nights to enable students to ask questions and receive help on both current and previous material. Attendance at these study sessions is optional, but strongly encouraged for students who feel the need for some help outside of the regular class.

4. All CHAMP students are required to have a graphing calculator. These calculators will be used regularly throughout the CHAMP courses. The use of these calculators accomplishes several purposes, including: a user-friendly introduction to computing technology and some of its uses; a more extensive experience with graphs than might otherwise be possible; a more productive use of student time in dealing with concepts rather than tedious calculations; and access to solutions of interesting but computationally complex problems involving the course material.

5. Mathematical problem solving is emphasized throughout the CHAMP courses. In addition, extracurricular mathematical problems of general interest are posed regularly.

COURSE DESCRIPTIONS

Detailed descriptions of the CHAMP courses are as follows. While the descriptions are intended to give the basic content and spirit of these courses, it should be recognized that the textbook used to a large extent, determines the content of the courses. If it becomes necessary or desirable to change a text, this might bring about some minor changes not only in the course for which the text is changed, but also possibly in subsequent courses. It is the intent to keep the content and spirit of each course as near as possible to that given below.

ALGEBRA I

Current text:  *Algebra I: Expressions, Equations, and Applications*, by Paul A. Foerster

- Polynomials: terminology, evaluation, algebraic combinations, degree, long division
- Factoring: prime and common factors, difference of squares, quadratic trinomials, factoring by grouping
- Rational Expressions: dividing by monomials, simplifying by factoring, algebraic combinations, least common multiples, combinations of rational expressions
- Linear Equations: roots, literal equations, solutions of equations with rational expressions, story problems
- Linear Inequalities
- Graphs and the Cartesian coordinate system
- Positive integral exponents and roots
- Graphs of linear functions
- Functions: notation, evaluation, inverse of functions
- Lines: slope, various forms for equations of lines, parallel and perpendicular lines
- Variation: direct, inverse, joint
- Quadratic equations: solutions by factoring, completing the square, the quadratic formula
- Story problems involving linear and quadratic equations

ALGEBRA II

Current text:  *Algebra and Trigonometry: Functions and Applications*, by Paul A. Foerster

- Factoring of sums and differences of cubes
- Exponents: zero, negative exponents, laws of exponents, rational exponents, exponential growth and decay
- Radicals: rules, notation, combinations, rationalizing the denominator
- Complex numbers
- Logarithms: definition, properties, antilogs, computations
- Quadratic equations: solutions by factoring, quadratic formula, character of solutions, equations involving “disguised quadratics”
- Inequalities: solutions, graphing linear and quadratic inequalities
- Simultaneous Equations: solutions by graphing, elimination, and substitution, linear programming in two variables
- Simultaneous inequalities: solutions by graphing
- Direct and inverse variation
- Conic sections in simple positions: basic features of graphs of circles, parabolas, ellipses and hyperbolas, algebraic solutions of quadratic systems, translation of axes
- Polynomial and rational functions: remainder theorem, factor theorem, synthetic division, fundamental theorem of algebra, factors and zeros, Descartes rule of signs, rational solutions of polynomial equations
- Graphs of rational functions: intercepts, asymptotes, symmetry, asymptotic behavior
- Binomial theorem
- Sequences and series: arithmetic and geometric sequences, infinite geometric series, summation notation, sums of arithmetic and geometric series
- Matrices: determinants and inverses of 2 x 2 and 3 x 3 matrices, Cramer’s rule
- Problem solving in an algebraic setting
- A brief introduction to trigonometry: sines, cosines, and tangents, solutions to right triangles

GEOMETRY

Current text: Geometry, by Moise and Downs

- Introduction to mathematical logic: undefined terms, definitions, postulates, theorems
- Methods of proof: direct proof, indirect proof
- Points, lines, planes, length, angle measurement, perpendicularity
- Parallel lines, parallel postulate
- Angle measures in triangles and polygons
- Triangle congruence postulates and theorems: SAS, ASA, SSS, SAA
- Right triangles: the Pythagorean theorem, the hypotenuse-leg theorem
- Similarity of triangles and polygons
- Area and perimeter of triangles, polygons, and circles
- Circles: chords, angle measurement for central and inscribed angles
- Medians of a triangle, incenter, circumcenter, concurrence theorems for the medians, angle bisectors, and perpendicular bisectors of sides
- Inequalities in geometry
- Coordinate geometry in the plane and space
- Transformations in the plane: reflections, translations, rotations, rigid motions, similarity transformations
- Informal geometry in space: skew lines, parallel planes, perpendiculers to planes, dihedral angles, volume and surface areas, prisms, pyramids, spheres, cones, cylinders

COLLEGE ALGEBRA/TRIGONOMETRY

Current text: A Precalculus Course, by Brown and Robbins

- Functions: zeros, graphs, inverses
- Exponents and logarithms, growth and decay
- Basic analytic geometry: loci, intercepts, symmetry, lines, distance formula, midpoint formula slope, parallel and perpendicular lines
- Parametric equations, distance from a point to a line, angle between lines, linear inequalities
- Graphs of algebraic relations: loci, nonlinear equations and inequalities
- Analytic geometry in space: coordinates, distance formula, direction cosines, planes, lines
- Angles and radian measure
MATH TRANSITION SUPPORT

In addition to the regularly scheduled CHAMP sessions, there are optional classes in May. These classes are not required in any way for completing the regular CHAMP classes and are not needed by all students. The classes for first-year students cover a variety of subjects in which individual students need help. For the second-year students, the classes cover some topics from calculus that are covered in some pre-calculus courses. These classes are designed to facilitate the transition to calculus.
APPENDIX B

FUTURE MATHEMATICS PLACEMENT OPTIONS

Care should be exercised in choosing follow-up course work from this list. Courses with similar titles often differ significantly in the extent to which they meet the student’s long-range needs. No choices should be approved for any one student without prior counseling, with input from the head of the school’s math department, the intermediate school district’s Talent Development Consultant and the CHAMP instructors.

ADVANCED PLACEMENT CALCULUS – LOCAL DISTRICT

Some of the high schools in the Greater Lansing Area offer Advanced Placement (AP) Calculus in their mathematics sequence. This is a college-level calculus course presented in a high school setting. Students who take the course have the option to take a nationally standardized test from the College Board in the spring (for a fee of approximately $75). If students score well enough on the test, they will receive credit at most colleges and universities for up to one year of college calculus.

AP Calculus, taken at their high school, a neighboring high school, or online, is an option for students the year following graduation from CHAMP. After that the students may need to continue their calculus sequence at a college or university, or through virtual university courses.

LANSDING COMMUNITY COLLEGE

MTH 151  Calculus I

The first of a three-semester sequence in differential and integral calculus. Topics include limits, continuity, differentiation of rational and trigonometric functions, applications of derivatives, curve sketching, elementary indefinite integration and the Fundamental Theorem of Calculus.

Contact:  Karen Jacobs, Counseling and Advising Center
Lansing Community College
P.O. Box 40010
Lansing, MI 48901
Phone: (517) 483-1255

MICHIGAN STATE UNIVERSITY

MTH 132  Calculus and Analytic Geometry I

This beginning course in calculus and analytic geometry covers derivatives, curve sketching, definite and indefinite integrals, area, and volume. An Honors course, Math 152 H, is also available.

Contact: Office of Admissions and Scholarships
250 Administration Bldg.
Michigan State University
East Lansing, MI 48824
Phone: (517) 355-6532
MSU Virtual University

MSU Virtual University refers to MSU courses and instructional programs offered through the Internet and other technologically enhanced media. Courses typically follow the MSU calendar (Fall, Spring, Summer semesters). A list of available courses and enrollment information is available by visiting their website: http://www.vu.msu.edu.

OLIVET COLLEGE

MTH 151 Calculus I

This is a four semester hour course and is offered during the fall semester. Topics include differentiation, curve sketching, maxima and minima, definite and indefinite integrals, limit theory, volumes of revolution and related rates, area and volume applications.

Contact: Nicole Baker
Olivet College Registrar
Mott Academic Center
Olivet, MI 49076
Phone: (269) 749-7635

BAKER COLLEGE

MTH 141 Calculus I

This is a four semester hour course and is offered during the fall semester. Topics include functions, limits, continuity, differentiation, integration, logarithmic and exponential functions, inverse trigonometric functions, polar coordinates, parametric equations, conic sections, and sequences and series.

Contact: Jeremy Eccles, PhD
Dean of General Education
Baker College
1020 South Washington Avenue
Owosso, MI 48867
Phone: (989) 729-3387
E-mail: Jeremy.eccles@baker.edu

ADVANCED PLACEMENT COURSES ONLINE

Virtual AP courses can benefit both students and schools. Because courses are online, they are accessible to students whose schools aren’t able to offer them. Also, in certain circumstances having the courses on the Internet may provide students with greater flexibility than the traditional classroom. Online courses offer schools an opportunity to extend their curriculum to accommodate a wider variety of students’ needs. These AP college-level courses are most suited for students in a college preparatory curriculum who have strong independent study skills and are interested in the course topics. For more information regarding AP Courses Online or to check out the full range of online high school courses available through Michigan Virtual High School, visit http://www.mivhs.org.
POSTSECONDARY ENROLLMENT OPTIONS

Prior to March 1 of each year, local school districts are required to notify students (eighth grade and above) about The Postsecondary Enrollment Options Act (PSEO). The PSEO Act (also called Dual Enrollment) permits students to take classes in both the high school and college/university simultaneously. Students may take certain classes at colleges/universities essentially paid for with a percentage of the student’s state funding. Eligible students are those who are in grade 11 or 12, are enrolled in at least 1 high school course, and who have taken the Michigan Merit Exam beginning 2007-2008 in all subject areas (Mathematics, Science, Reading, Writing and Social Studies). If the student hasn’t achieved endorsements in all areas, the student is still eligible to take courses limited only to the areas in which he or she has received endorsements. Both 11th and 12th graders are also eligible to take courses within subjects for which there are no endorsements, such as philosophy, religion, psychology, sociology, anthropology, computer science, and/or foreign language courses not offered by the District, as long as they have taken all parts of the MME. State endorsement is required in the area the student wishes to dual enroll, where applicable. Fine arts programs are also available to the students. These courses may be taken for high school credit, college credit or both.

Passing one or more High School MME exams is a prerequisite to qualify for Postsecondary Enrollment, but these exams are normally given during the 11th grade year. Therefore, the parent or guardian of a 10th grade student planning to participate during 11th grade must request in writing early in the 10th grade year that the student be permitted to take all of the MME High School Test (as a 10th grader) at any time the test is regularly given, including scheduled retest times.

A student intending to participate in PSEO in 11th and/or 12th grade will want to plan his/her high school schedule giving special attention to the following areas:

- Attending student/parent information meetings about PSEO.
- Discussing PSEO with student’s high school counselor.
- Taking courses in areas tested by the High School MME examinations as early as possible.
- Attempting to Test Out of introductory high school courses when reasonable.
- Making a timely written request by parents that student be given exams in 10th grade.
- Familiarizing him/herself with entrance requirements and available course options at local postsecondary institutions, which the student is interested in attending after high school.

Questions about PSEO should be directed to your Local District Guidance Office or Intermediate School District CHAMP Consortium representative, or the Michigan State University Office of Gifted and Talented.
PLACEMENT EXAMINATION INSTRUCTIONS

A placement examination, to be administered at Michigan State University, must be taken by all applicants to CHAMP. This examination will be administered on a date soon after the information session for students and parents. The results of the examination are used, together with information on the application, to assign a student to a particular class within CHAMP. The examination results are taken into account, in conjunction with other data, in the selection procedure.

The examination is a 40-question, 40-minute test of the content of Algebra I. The examination may be taken at a number of scheduled times. If a student is unable to take the placement test when scheduled, he or she should contact Professor Seebeck to arrange to take the placement examination by special appointment.

TAKING THE PLACEMENT EXAMINATION IS A PART OF THE APPLICATION TO CHAMP. NO APPLICANT WILL BE ADMITTED WHO HAS NOT TAKEN THE PLACEMENT TEST.

CHAMP TIME LINE

<table>
<thead>
<tr>
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<th>Event Description</th>
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<tr>
<td>Late October</td>
<td>Students register for Midwest Talent Search and the SAT I: Reasoning Test.</td>
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<tr>
<td>Late January</td>
<td>SAT I test given to all MATS participants.</td>
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<tr>
<td>Late February</td>
<td>SAT I scores are received by the CHAMP Consortium representative at the ISD’s.</td>
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<tr>
<td>Mid March</td>
<td>Information is sent to school districts regarding which students are eligible for CHAMP.</td>
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<tr>
<td>April</td>
<td>General information meeting is held for prospective students and their parents.</td>
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<tr>
<td>Early May</td>
<td>Applications are due from students.</td>
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<td>Student placement tests are completed.</td>
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<tr>
<td>Mid May</td>
<td>Screening committee reviews applications and selects students. Students and their parents are notified.</td>
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<tr>
<td>Early June</td>
<td>Parent/student letters confirming participation are returned to CHAMP enclosing a $25 reservation fee.</td>
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<td>School districts are notified of which students will be participating in CHAMP for the next school year.</td>
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<tr>
<td>Late August</td>
<td>Parent and Student Orientation.</td>
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<td>CHAMP classes begin.</td>
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The CHAMP calendar and other information will be sent during the summer to all participants for the next school year. The CHAMP class schedule approximates the Michigan State University calendar.
A Brief History of CHAMP

When the Midwest Talent Search Program was initiated in Michigan in 1981, Kalamazoo College developed a program of accelerated mathematics to offer to highly able students identified through the Midwest Talent Search. The Kalamazoo model, called the Academically Talented Youth Program (ATYP), was based on similar highly successful programs that had been in operation at The Johns Hopkins University since 1971.

In December of 1984, Carol McCarthy, one of the primary people involved with the development and implementation of Kalamazoo’s ATYP program, gave a presentation to the Midwest Talent Search State Advisory Board at the Michigan Department of Education. Among those present were the gifted/talented education consultants of Clinton and Eaton counties and the Director of the Honors College at Michigan State University. They began talking excitedly about the feasibility of implementing a similar program at MSU.

In February of 1985, the first meeting was held for area educators interested in participating in a cooperative venture to develop and implement an accelerated math program for students in the tri-county area of Clinton, Eaton and Ingham. Representatives from the Michigan Department of Education, Clinton and Eaton Intermediate School Districts, and both the Honors College and the Mathematics Department at MSU gathered to talk seriously with Carol McCarthy about adapting the Kalamazoo model to the Greater Lansing Area. Ingham ISD wasn’t able to send a representative at that time, but soon became fully involved in the lengthy planning process that followed.

Subsequently, a working committee was formed made up of Donald Lammers and Chitra Smith of the MSU Honors College, Ed Ingraham and Peter Lappan of the MSU Department of Mathematics, Garry Michaels and Dorothy Lawshe of Ingham ISD, Patricia Greene of Eaton ISD and Jenny McCampbell of Clinton ISD. They worked out the many details that needed to be addressed in any large cooperative program.

The next months were filled with meetings involving teachers, counselors, principals, curriculum specialists and superintendents from the tri-county area in an effort to help local school districts provide CHAMP as an extension of their school programs for those students who might qualify.

By the spring of 1986, the committee was ready to begin the identification of students for a pilot program to be implemented in September of 1986. The pilot program had 16 students enrolled in two classes: one for those who had completed Algebra I, and one for those who had not.

By the fall of 1988, two first-year classes and two second-year classes were in place. Shiawassee joined the CHAMP consortium and began sending students in 1992. The program continues to respond to the needs of mathematically precocious students in the four county area.

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