

Math Syllabi for

Geometry

Algebra II

Precalculus

AP Calculus AB

AP Calculus BC

AP Statistics

Berrien County
Math & Science Center

Keith G. Calkins, and
Elvira Baumgartner

August 29, 2007

0.1 Parent Checklist:

We would appreciate your attention to the following checklist:

1. Periodically check your child's notebook and folders for completed, neat assignments. The textbook should be home every evening, because there is **an assignment every day**. Learning is a team effort.
2. Encourage development of good study skills, especially **organization** of time (more than one class item may be active at once) and materials. A visual calendar is suggested.
3. Create a positive study environment at home for your child.
4. Review your child's schedule to be sure they are getting adequate sleep and regular meals. Even good students fail to understand the long-term benefit of such when faced with short-term deadlines.
5. Ask your child if [s]he needs extra help. Addressed concerns rarely become problems.
6. Attend, whenever possible, Math & Science Center functions and conferences.
7. Remember: Math & Science activities need extra practice time just like sports, dance, and music.
8. I have read this course syllabus and will support the teacher in educating my child:

Parent's Signature: _____

Date: ____/____/2007

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Syllabus

1.1 General Information

2007–08 School Year (August 27, 2007—May 31, 2008)

Instructor:	Dr. Keith G. Calkins	Ms. Elvira Baumgartner
Class period:		
MW 8:00–8:50: Grade 9 (–8:55TT;–8:45F)	Geometry, SH100	?Accel. freshmen?, SH102
MW 9:40–10:30: Grade 10 (9:45–10:30TT/8:55–9:40F)	Algebra II, SH100	AP Statistics, SH102
M–F 11:30–12:20	Web-based Publishing, SH101	Web-based Publishing, SH101
MW(F) 12:25–2:10; F alt	AP Statistics, SH100	Precalculus, SH102
TTh 12:25–2:10 } F 1:25–2:10 }	{ AP Calculus AB, SH100 AP Statistics, SH100	AP Statistics
Office/work phone:	SH106, 471-6629	SH105, 471-6646
e-mail:	calkins@andrews.edu	baumgare@andrews.edu
Classroom phone:	SH100, 471-6646	SH102, 471-6646
Home/cell phone:	473-2572	313-5777
Office hours:	M–F 7:30–2:30 when not in class	Help Session by appointment
FAX	471-3713	471-3713
AU Math Office/Hallway/ISD lab: 471-3423/471-2038/471-6558		
Assistants: Irena Nesterova, Kelly Culmore, Monica Fukuda, etc.		
Bosses: Bob Moore, Math Department Chair, 471-3424 Tonya Snyder, MSC Coordinator, 471-7725 X360 or 471-6557 Dennis Lundgren, MSC Director, 471-7725 X107 Keith Mattingly, Dean, Coll. of Arts & Sci., 471-3411		

1.2 Disclaimer:

This syllabus (syllall.pdf) is subject to change should unanticipated events merit it. Please also see the rules at rules.htm and expectations in an alternate presentation.

1.3 Communication, Help Sessions

If the student needs extra help or is feeling frustrated, please make the teacher aware of the situation as soon as possible, so it does not turn into a major problem. **Tuesday and Wednesday evenings 7–9 p.m.** (starting week two) are scheduled as **help sessions** with a teacher or assistant in an ISD mathematics classroom (SH100/102). This is not a replacement for work which should be done during classtime nor is it “playtime.” Help will be provided on an equitable basis. If any student requires additional assistance, alternate arrangements must be made. Be prepared to ask questions in class. Do your share to ensure understanding.

1.4 Textbooks

The textbooks remain the property of the Math & Science Center and are expected to be treated with **respect**. They are not notebooks and more than ten extra sheets within their covers constitutes willful destruction of property. Said sheets may be shredded immediately at the teacher's discretion. Topic workbooks for Numbers ([./webtexts/numbtoc.htm](#)), Statistics Intro ([./webtexts/stattoc.htm](#)), Geometry ([./webtexts/geomtoc.htm](#)), and Probability & Distributions ([./webtexts/prodtoc.htm](#)), will be developed early and should be retained until graduation. Replacement is at cost with a minimum charge of \$5 per booklet.

1.5 Standards, Methods of Teaching, Course Goals

The National Council of Teachers of Mathematics (NCTM) has Professional Standards which guide our teaching. It is also our goal to make mathematics fun and interesting. We plan to return papers and correct mistakes as promptly as possible, maintain the integrity of the classroom, and otherwise create a positive, flexible, fair, and creative environment for all students. **We are keenly aware, that most of our students have yet to develop good study habits.** We also want our students to develop traits which will be sought after in the job market (such as punctuality and integrity).

1. We will promote classrooms as mathematical communities.
2. We seek logic and mathematical evidence as verification.
3. Help develop self-confidence in ability to derive correct answers.
4. Promote conjecturing, inventing, and problem-solving instead of merely finding the correct answers.
5. Develop a positive attitude toward mathematics and statistics.
6. Confidently use problem-solving approaches to investigate and understand mathematical content.
7. Recognize and formulate problems from inside and outside mathematics.
8. Clarify thinking about mathematical ideas and relationships.
9. Formulate mathematical definitions and discover generalizations.
10. Express mathematical ideas orally, symbolically, and in writing.
11. Read mathematics with understanding.
12. Ask clarifying and extending questions related to mathematics.
13. Utilize and value connections among mathematical topics and between mathematics and other disciplines especially by modelling real-world situations.
14. Appreciate the similarities of seemingly different mathematical systems.
15. Represent situations involving variable quantities with matrices, expressions, equations/inequalities.
16. Understand concepts of probability distributions, regressions, estimates, testing, inferences, and statistics and their uses.
17. Effectively use tables and graphs to interpret expressions, equations, and inequalities.
18. Develop the necessary background for further mathematics.

1.6 Course Requirements

Daily homework, quizzes, tests, and supplemental enrichment exercises (worksheets?) will be assigned. Small group activities will enrich the discovery process of mathematics as well as small group and/or individual projects. An interdisciplinary (EXPO/ISEF) project for freshmen and perhaps others is also scheduled. In the spring semester, this leads into Arts and Science Expo usually judged under the rules of the International Science and Engineering Fair (ISEF).

1.7 Evaluation Procedures (Grades)

Nine-week letter grades will be based on tests, quizzes, homework, worksheets, chapter reviews, notebooks, citizenship, attendance, class participation, preparation, and group/individual projects. Semester grades will be based on nine-week percentages, the semester exam, and, as applicable, the interdisciplinary project. The usual procedure in Berrien County of weighting each nine-week grade 40% and the semester exam 20% will be taken into account. However, the final Calculus test may serve as both a 9-week test and as a semester test, thus accounting for more than 33% of the semester grade. A (Excellent) and B (Good achievement, meeting all course requirements) level work is expected, otherwise **progress reports** will be issued as time permits, and parental contact initiated. In general, the following minimum percentages will guide grade assignment. Please note that especially the A+ grade is not based on percentage alone.

100%	A+	80%	B+	65%	C+	50%	D+
90%	A	75%	B	60%	C	45%	D
85%	A-	70%	B-	55%	C-	40%	D-

Plus (+) and minus (-) grades will be specified (see handbook), even though several school systems ignore them. Note that the handbook lists the grade of C as acceptable, but only “minimally meeting requirements of course” and any grade of D as **unsatisfactory** and not acceptable. The County-generated grade report, however, may indicate a different standard.

1.8 Homework, Quizzes, Worksheets, Chapter Reviews, Notebook, and Projects

Homework, chapter reviews, quizzes, worksheets, a notebook, projects, class participation and preparation, citizenship, attendance, *etc.* are **50% of your 9-week grade**. The exact breakdown is at the discretion of your teacher. Mathematics is learned by doing and thinking. Students will be encouraged to work together as much as practical, but homework and chapter reviews should reflect the students **own work and understanding**. Pure copying/cheating may result in no credit for that educational instrument and subject the student to further disciplinary actions (see handbook).

There is about 45 minutes (varies substantially with the student) of reading/homework to be done **every school day**. Often, a portion of the homework may be completed in class. Assignments are thus frequent, but of moderate length. **Work must be shown for each problem to receive credit**. Homework must be done **neatly**, presented in order, on standard-sized, white, 3-hole punched paper, with **no ragged edges** *i.e.* not torn out of a non-perforated spiral notebook). **Use of pencil (not pen) and eraser (not scribbles) encourages neatness and is also required**. A vertical problem solving format must also be followed. Work not meeting these standards, especially if done in crayon, reddish, or glittery tones will be refused. For A+ homework presentation ideas, please refer to this page. All homework is due at the start of class unless specified otherwise. webassign.com, a computerized homework grading system, is expected to be used in Precalculus this year. Please do not staple dissimilar items together (homework from different assignments, or

scratch paper to MML contests) or start the next homework on the same sheet of paper. Staples must be within $\frac{1}{8}$ " to $\frac{3}{8}$ " from each edge in the upper left hand corner (*i.e.* 45° angle and $\frac{1}{4}$ " optimal). Be prepared to present your homework to the class. Quiz and test questions often come from the textbooks, or even directly from the homework. Some homework may be graded on a mastery (redo/all or nothing) basis, with incorrect problems being sent back for correction until they are done correctly. Such redos should be dated and done in a **timely** manner (within one week).

Late homework loses value every day the Center is open. After one week, late work is only of remedial value. After two weeks, late work must be accompanied by a parental note clearly detailing the extenuating circumstances. However, after the scheduled start of the sectional test, **late work**, especially chapter reviews, **will not be accepted**. If absences intervene, please bring a parental note indicating excuse, preferably beforehand. Absences and timely written indication of excuses will be taken into consideration in determining the value of late work.

Extra credit for completing and turning in chapter reviews early will be rewarded. The bonuses are as follows: 10% for the first Center school day, 15% for two Center school days, 17.5% for three Center school days, 18.75% for four Center school days, up to a maximum of 20% in the limiting case. Although FAX/e-mail and similar technology can be used to submit work in a timely manner, the originals must be provided for the actual grading process. In general, quizzes may not be made up and may be "attendance" in nature (*i.e.* recorded as a zero not a **Do Not Record**). The interdisciplinary project will be included in your grade when required (see science class) or accounted as **extra credit** when not required. Participation as judges (for elementary school entries) by upperclassmen will also be rewarded with similar **extra credit**.

1.9 Quests, Tests, and Examinations

Tests are 50% of the 9-week grade. Marking period tests (called by some "midterms") and semester examinations are comprehensive in nature. One 3"x5" notecard per chapter will be allowed for each and every Geometry and Algebra II test, except those semester final exams where one 8.5"x11" sheet will be allowed. No magnification devices are allowed. **Test notes must be handwritten in the student's own handwriting**. Calculator "notes" are discouraged and even considered dishonest for some AP tests (statistics)! Make-up tests might be administered orally, without notes, or even as essays. Care will be taken to ensure test equivalency. Traditionally, students leaving (but not those graduating) at the semester have been allowed their entire notebook as notes for that test. Retakes on tests are discouraged and only granted under extenuating circumstances upon the teacher's discretion. In general, tests have a review section with the material least mastered from previous tests. A separate score for this section might be used if a retake is indicated. Generally, when tests are returned, selected problems are discussed and often redone in a mastery mode.

Possibly unannounced **quests** (big quiz/little test) may occur about a week after a test over similar material. Tests and associated test keys are returned and distributed for the personal use of the tested student only and are not intended to be shared except with concurrent students in the same grade and course. Violation of this expectation may result in a grade reduction.

1.10 Required/Recommended Materials, Retention

It is important to be organized when working mathematics. You should have a **small** (≤ 1 "") 3-ringed **notebook** with sections for: your parent-signed syllabus, tests and keys, vocabulary, new discoveries/conjectures, proofs, daily notes, and homework. You should study your notebook regularly. Current materials brought to class should be an inch or less. Our intent is to never keep notebooks after class, so organizing it with other subjects is an option. Notebooks will be graded periodically (especially **during** tests, quizzes, *etc.*). Geometry and Algebra II homework will often

be graded without being turned in. In addition to the notebook described above, other necessary materials are as follows: **paper, folders, pencils, graph paper, and a graphing calculator.** Geometry students need to also have **compass, straight-edge (ruler), and protractor.** A positive attitude and a smile are also good assets.

Just like good writing is based on learning the alphabet, how to read, good grammar, literature, *etc.*, good mathematics builds on the basics of numbers, expressions, functions, symbols, concepts, and vocabulary. With this in mind the following suggested minimal retention schedule has been developed to help answer the question as to how long various class documents should be retained: 1) homework should be kept until the end of the semester; 2) quizzes and review exercises should be kept all school year; 3) tests, exams, contests, and booklets should be retained until graduation. Of course, it isn't practical to bring everything all the time so some optimization of notebook content is expected. Half an inch, if optimized should suffice.

1.11 Absenteeism Policy

“Responsibility for making up work for an excused absence rests with the student (no exceptions). Make up work must be submitted to instructional staff within the equal number of days absent, plus one. Assignments made prior to absences are not considered make up.” (*Student Handbook*, pg. 6). Note: 99% of the homework assignments were given in the first week of school! Before any excused absence, students are expected to provide, **written details** regarding their absence (school function/family outing/*etc.*, duration, plans to make up missed work, *etc.*). Before or after an absence, students should make a point of checking for handouts, lecture notes, *etc.* Any parental/doctor/school notes **received** (not just shown) will be relayed to the attendance officer (currently the Center Secretary, formerly Barb Abbott) for processing. Please bring such parental notes indicating excuse, preferably beforehand. Homework is due upon return to class, unless otherwise arranged. **Make-up tests will occur the day of return to school**, unless otherwise prearranged. Students who were absent are expected to participate in the grading of homework they may not yet have completed. **Grading time is learning time.** For freshmen and sophomores, much of the lecture may be blended into the grading. To maintain a consistently fast pace, tests are generally returned the next class period and students who were absent will either be taking the test or possibly go over the test. Otherwise, these students will lose yet another day of exposure to the material. Each unexcused absence will potentially reduce the student's marking period grade by 4%. Each absence above three in any 9-week period will potentially reduce the student's marking period grade by 1% each.

1.12 Food, Vending, Litter, Dress, Citizenship, etc.

The university Food Service maintains vending machines in Smith Hall and elsewhere on campus. The Center exercises little control over content, pricing, and vending errors. Food Service is located in the Campus Center, a building the handbook expressly designates as off-limits. Thus student and parent communications should be directed via telephone to them at 471-3161. For juniors and seniors, if allowed to drive/ride with another student, various fast food options in the area may provide more nutritious options.

Gum is not allowed in the math classrooms due to problems with the all too common improper disposal of the hazardous waste product. Food and beverages have been a dilemma because science classes meet in labs where OSHA rules forbid such and computer classes meet in computer labs where these items are also forbidden. Math has been extremely tolerant over the years, especially regarding afternoon students whose schedules do not provide a lunch period. Freshmen and sophomores often arrive hungry (partly that's just being a teenager!). Students are expected to be responsible (avoid and promptly clean up spills), don't let food interfere with either your own or other's school

work, *etc.* Litter, especially from spiral notebooks, food, or drinks will not be tolerated. **PLEASE DO NOT DISPOSE OF LIQUID-FILLED CONTAINERS, PARTIALLY OR OTHERWISE, (unless well sealed) IN THE TRASH CAN.** Citizenship, including being responsible for your own mess, can factor significantly into a student's grade if warranted. Citizenship includes, but is not limited to, attendance and respect for others and their property. **Horseplay, teasing, and other such actions are generally disruptive and outside the expected decorum of Center students.** Students generally should expect not to be touched by other students and public display of affection (holding hands, kissing, *etc.*) should not be observed. All our classes are honors classes and corresponding behavior is expected from all our students, including: neatness, orderliness, and cleanliness. Please push your chairs in before you leave and return your area to its original, pristine condition. Vulgar or offensive language, cursing, or offensive behavior/gestures are unacceptable and accordingly will subject one to disciplinary action.

"Dress or grooming that attracts undue or negative attention is not acceptable. Short shorts and bare midriffs are examples of inappropriate dress." For the entire Smith Hall area this page 7 handbook statement shall be interpreted as follows: 1) short shorts/skirts (defined as exposing more than one hand (4" maximum) above the top of the kneecap when standing); 2) cleavage exposure: pectoral or gluteal (typically caused by low/loose necklines or waistlines); 3) undergarment exposure (sit/stand/bend properly and/or use adequate coverage); 4) tight-fitting clothes (such as outline pudenda or nipples); are all unacceptable. If dress is deemed inadequate, it will be called to the attention of the Center Coordinator and additional coverage even for sleeveless/spaghetti strap tops, in the form of a tee shirt, for example, may be provided. An August 4, 2005 USA Today article reports on a Tulane University study which shows women who emphasize their sexuality while at work by the way they dress, speak, and act got **fewer** promotions and raises than those who did not!

The bulletin board (and associated push pins), computers, TV's, overhead projector, black and white boards, chalk, markers, pointers, printer, VCR, posters, reference books, answer keys, *etc.* are not toys and are to be left alone unless instructed otherwise. You are expected to study in such a manner as to not disrupt your fellow students. ("Four foot or indoor voices" must be used when discussion is indicated.)

1.13 Allowed areas, Electronic Devices, etc.

Students not in a Center or elective class are expected to remain in the Smith Hall lobby area. When research or other needs take them elsewhere on campus, word should be left with a contact person should the need for contact arise. The Handbook (page 9) specifically lists the Bookstore and Campus Center as off limits during the school day.

The Handbook (page 9) specifically bans the use of personal electronic devices, such as cell phones, MP3/DVD players, recorders, *etc.* during class. The occasional need for emergency contact via vibrate instead of any obnoxious ring tones is understandable but must not be abused.

1.14 Computers, Office, etc.

The computers in the classroom are generally not available to freshmen and sophomores—they have computer class where such are provided. Any student use granted is with the intent that it not be disruptive to other students. Further use will be immediately denied if this ceases to be the case. Some teachers maintain a working office area within the classroom which is strictly off limits to Center students. Storage cabinets and drawers should not be accessed without explicit permission. Local phone calls may be made on the lobby telephone provided. Students should have prepaid phone cards for any long-distance calls placed on a regular basis. Other equipment (pencil sharpener, tape, stapler, pencils, paper, *etc.*) is provided and reasonable APPROPRIATE use is expected. Wasting of these resources is intolerable.

Freshmen Kickoff, August 30, 2006

Supplements

2.1 Students Beyond Grade Level Sequence

“Students entering the [Mathematics and Science] Center Program are required to have completed freshmen algebra. Occasionally students admitted to the Center have also completed a **sophomore level** course in geometry or even higher level. If the student has already been advanced beyond freshmen algebra, the Center will **strive to accommodate** this student. Our Center grade level mathematics program has, as its goals, integration with science and technology grade level courses. In addition our mathematics curriculum has been created so that each course goes beyond the traditional high school content and integrates discrete mathematical topics. These differences from the regular high school mathematics program and the advantage to students to interact with other highly capable students, like themselves, are reasons to keep all students participating in the full grade level program designed for them.” (*Student Handbook*, pg. 5, emphasis added)

In practical terms, this has meant a wide variety of scenerios have developed over the years. Math teacher Keith Calkins has been fully involved in this process since its inception during the 1994–95 school year. Further details can be viewed at `syllbeyy.tex`. To minimize preparation, students are synchronized with Center mathematics students taking the same course (*i.e.* different grade level) whenever practical. Placement evaluation after the first 9-week marking period is considered ideal at the freshman and possibly sophomore level. Placement must be finalized before semester grades are issued.

Students taking Geometry or Algebra II in eighth grade or via ATYP have been difficult to place at times and some schools have done away with that program due to pressure from their high schools. Our placement procedure takes this information into account. Some accelerate, others follow our normal course sequence. In 1999–00, 2004–05, and **2007–08** we resequenced students by teaching a section of AP Statistics. Summarized below are some of these numbers as of August 2007.

2.2 2007–2008 (Ramp-down Complete+3 years)

Course:	Geometry	Algebra II	Precalculus	Calculus AB	Calculus BC Fresh. Calculus	Other AP Statistics	Total
2011	30-???	??	?				30
2010		18				11	29
2009			25			2	27
2008				16-	+	3	19
2007				(23)	(2)		(25)
2006				(15)	(5)		(20)
2005				(21)	(4)		(25)
2004				(21)	(5)	(2=MP, “SB”)	(27+ “1”)

∴ Graduating years 1995–2003 omitted

Totals	30+???	18+??	25+??	16+?	0+????	16	105(323+6)
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2.3 Contests

Participation in mathematical contests is a good way to prepare for and enhance standardized test scores. Extra credit practice contests will be available as appropriate to facilitate preparation. All students are expected to make an honest effort to attempt each and every contest question. Contest material is considered an integral part of the course. It is expected that students receiving a grade of A will have **fully** participated in most contests. The contests already scheduled to be administered are as follows.

- The Michigan Mathematics Prize Competition (<http://www.math.oakland.edu/main/mmpc/> on **Wed., Oct. 10, 2007** or MMPC). This competition consists of 40 multiple-choice questions with 5 answers to be answered in 100 minutes, with no guessing penalty. Students with more than about 18 correct (top 5–10%) advance to part II of the competition on **Wed., Dec. 5, 2007**. Most years we have 3–14 students achieve this. Current plans are to again request a special afternoon testing session (12:25–2:05) to also accommodate our Center Juniors and Seniors, so please do not take it in your home school. The Math & Science Center pays the \$3 fee and requires all Sophomores, Juniors, and Seniors to participate. Except for accelerated students, Freshmen participation is voluntary but limited. Scores above a reasonable threshold may be awarded as **extra credit** test points for freshmen and sophomores, but considered part of the Precalculus and Calculus grades. In 2000 (GB, MS), 2003 (JL, GA), and 2004 (JL) our students made it into the top 100 or even top 50 and had opportunity to join the celebration.
- American Mathematics Contest (AMC-10, AMC-12, <http://www.unl.edu/amc> on **Tue., Feb. 12, 2008**). This contest is a feeder exam for the International Math Olympiad. It consists of 25 multiple-choice questions with 5 answers to be answered in 75 minutes. The scoring is notable in that there are 6 points for a correct answer, 1.5? points for a blank answer, and 0 points for a wrong answer—*i.e.* a changing guessing penalty. Students receiving a score of 100 (top 3–5%) or more on the AMC-12 or in the top 1% (over 120) on the AMC-10 are invited to take the American Invitational Mathematics Examination (AIME) (**Tue., March 18, 2008**). Only grade 10 or below may take the AMC-10, and only one of the two tests may be taken. The AIME is a 15 question, 3 hour, 3 digit integer answer exam. A handful of our students qualify each year. Sophomores will miss part of chemistry and Seniors will all have science the following(?) day. In the past, freshmen and sophomores were given the higher of their AMC score or their test grade for the test given within about a week of the exam. For Precalculus and Calculus, the AMC-12 may be considered a test grade.
- Michigan Mathematics League (MML, <http://www.mathleague.com/contests.htm> on (**Oct. 23, Nov. 18, Dec. 18, Jan. 15, Feb. 12, and March 18—all Tuesdays**, but given on Oct. 19, Nov. 16, Dec. 14, Jan. 11, Feb. 8, and March 14—all Fridays). For this series of 6 contests, all students take the same 6 question contest. Answers are either right or wrong, *i.e.* there is no partial credit. The contest will generally be administered on the Friday before since “all” math sections meet. Special permission has been secured in the past to allow testing in the morning and afternoon to accommodate our Center’s schedule. It shall be understood that the **contest is not to be discussed with anyone until after the next Tuesday** to ensure fairness nationwide. The Berrien County Math & Science Center was awarded top in region for all Math & Science Centers in Michigan in 1997, 1998, 2003, and 2004 and was 8th statewide in 2005! Five times the Michigan Mathematics League contest points will be added to the contestants test points (with 10 as the possible) for grade calculation (potentially **extra credit**).

For many years perfect Michigan Math League contests have been rewarded with \$20 at awards night. Be sure to take the contest at the appropriate time so it can be officially recognized.

2.4 Calculator Policy for the 2007–08 School Year

The TI-89 handheld instrument is more than a graphing calculator, such as the TI-83+ or TI-84+SE. It can perform symbolic algebra and symbolic calculus like the TI-92. Unlike the TI-92, it does not have a QWERTY keyboard and is in fact housed in a case very similar to others in the TI-8x series. The TI-89s started arriving in the Math and Science Center classrooms in October 1998. Usage policy has been formed as follows, based on the following major considerations.

Note: the TI-84+, TI-84+SE, and TI-89 Titanium were new fall 2004. No associated policy changes have been needed.

The new TI-Inspire with a QWERTY keyboard must be disallowed in 2007–08.

2.4.1 Considerations

- The TI-89 “calculator” does not have a QWERTY keyboard, but performs symbolic algebra/calculus like the TI-92 which does have a QWERTY keyboard. Historically, this difference was used to distinguish between allowed and disallowed electronic devices.
- The TI-89 will be allowed during 2007–08 on the MMPC, AMS-10, AMS-12, and the MML contests. (The AMCs will not allow the TI-92.)
- The AP Calculus (and AP Statistics) tests of May 2008 will again allow the TI-89 for those portions of the test allowing a calculator. The AP Calculus test has two equally weighted parts: multiple choice and free response. Each half is further divided into a calculator and no calculator portion. The free response portion that allows calculators is heavily graded on the written set-up and application of the calculator **not on the resultant answer**. Calculatorese is graded harshly.

2.4.2 Policy

- All students with a TI-89 or similar device must make known its presence in the classroom. We will gladly record the serial number as we already do with graphing calculators.
- The TI-89 and similar symbolic devices will not generally be allowed on any test or quiz except in our AP Calculus (or beyond) courses.
- The TI-89 and TI-92 are **not to be used** for homework, chapter reviews, or other similar activities, except for those problems specifically specifying use of a symbolic utility. Just as we expect you to be able to do basic arithmetic without a calculator, we expect you to be able to do basic algebra/calculus without a TI-89.
- Since one of the goals of the AP Calculus course is to prepare students for the AP Calculus test, the pattern of a no calculator/calculator portion will be implemented not only for the final test in May, but also any other test or quest.
- Students with TI-89’s or similar symbolic devices should be prepared to use a graphing calculator on test portions disallowing use of a symbolic device. Please bring an allowed calculator, if possible, since we have very few to loan.
- On classroom test portions where a TI-89 is allowed, a TI-92 will also be allowed.

2.5 Biography for Dr. Keith G. Calkins

This is just a short note to introduce your child's teacher to you.

Keith worked full-time for Andrews University in the Computing Center Technical Support division, and taught an occasional class for the Computer Information Science department 1978–1993. It was his responsibility to keep the Computing Center running, most of that time being responsible for maintaining the hardware and software of the mainframe Xerox Sigma computers. Sigmas sent men to the moon in the late 1960's but have yet! to be fully phased out of a few power utilities, transportation, and other real-time systems. During the 1997–98 school-year he and a colleague wrote a DOS-based Sigma emulator in GCC which performed four times faster than the original. A JAVA version was well begun during fall 2002. Because Xerox pulled out of the mainframe computer business in 1975, he was very involved with other users of similar computers around the world. Two projects of note were upgrading the FORTRAN compiler to pass the 1977 certification test suite (1988) and walking into NASA after their Sigma 9 was down for 2 weeks and fixing it in 5 hours (June 1987). Since then, he purchased the 80 tons of Sigma gear Andrews collected (1973–93) and has been salvaging it.

From 1993 until 1997 he taught all the mathematics classes in the Math & Science Center, which includes classes beyond AP Calculus AB as appropriate. With the expansion started in 1997, he has team-taught freshmen, sophomore, and seniors sections of 25 each. In 1999–00 and 2004–05 he taught AP Statistics to some of our Center juniors (12) or sophomores (10), most of whom passed the AP exam. This resequenced some otherwise accelerated students back with their colleagues. Last year he taught the Center underclassmen. He has taught various education and physics classes as well. This year he involved with all Center math courses but will formally assign grades to about 66 of our 105 center students.

Keith received his B.S. in Mathematics (1981) and Physics (1988 with honors) from Andrews University with minors in Chemistry and German. He received M.S. degrees also from Andrews University in Computer Information Science (1982) and Interdisciplinary Studies: Physics and Mathematics (1991). During 1991–93 he completed the coursework for his Ph.D. in Physics at Notre Dame while working at Andrews University and being a graduate teaching assistant at Notre Dame (and adding a second story to his house). Teaching well over one hundred bright high-school students left little, if any, time for research, so on Friday Aug. 25, 1995 he reviewed for and passed his oral comprehensive examination at Notre Dame and thus completed his third M.S. degree (1996). By August 2002 Keith completed an MAT from Andrews University. On October 1, 2003 Keith restarted Ph.D. research at Notre Dame, successfully defending his dissertation on March 16, 2005. His dissertation on the precise measurement of the D1 line in Cesium (10 ppt) is available at <http://etd.nd.edu> by searching by author. The 2007–08 school-year is his fifteenth with the program, as he works “under protest” at their attempted reclassification. Keith received his professional teaching certification in math, computer science, physics, and chemistry during the summer of 2005. He took graduate course work in school administration 2002–03.

Keith's wife Terri (B.A. 1984, M.A. 1986, History, Andrews University) works in the university history department as office manager. Her first book *Joseph, A Story* was published in March 2002. Her second book *Ruth & Boaz* was published in March 2005. Both are under her maiden name (Terri Fivash) and are available through amazon.com and bordersstores.com. She has completed three books in a series of six on King David and his wives. Their son Theron (age 17, twelfth grade) attends the Math and Science Center taking AP Statistics, Science, and MATH 215. Son Jared (age 14, ninth grade) joins his brother at the Berrien Springs High School this year. Keith's major hobbies are genealogy and computer related activities. A Geometry textbook, a forty acre Calkins Centennial Farm near Cadillac (Keith's place of birth and within two miles of his father's 160 acres), and remodelling also compete for his time.

2.6 Biography for Ms. Elvira Baumgartner

This is just a short introduction of your child's teacher:

Elvira Baumgartner came to the Math and Science Center program in the fall of 1999 as a teaching assistant. She assisted with Geometry and especially Precalculus. During the 2000–02 school-years she taught both sections of Precalculus as well as assisting in other ways. During the 2003–04 and 2006–07 school-years she taught Precalculus on a contract basis. She will be teaching Precalculus again and AP Statistics on a contract basis during the 2007-08 school-year and assisting with supervision. She also teaches various math and statistics courses on all campus of LMC. Elvira obtained her Master's degree in Structural Engineering from the reknown Nizhegorodsky Institute of Engineering and Architecture in Russia. She worked many years as an Architectural Engineer for the Central Electricity and Heating Agency in Russia before starting a Ph.D. program. She then came to the United States to continue with English, Structure, and Computer Programming coursework. Elvira has two daughters: Irena, 22, a Center graduate, now finishing college here at Andrews and Katia, age 12, in seventh grade at Berrien Springs Middle School.

2.7 Math & Science Center Math Assistants

Irena Nesterova

Major:	Poli. Sci. & French
Year:	Senior
e-mail:	irena@andrews.edu
birthday:	July 30

Several female college freshmen science majors are in the process of being hired at press time.

Note: we currently have the following gender imbalance in our program: (boys-girls by grade):
freshmen: 11-19; sophomores: 10-19; juniors: 17-10; seniors: 7-12; or 45-60.

2.8 Geometry—Course Description

Grade level: Grade 9 (Freshman)

Prerequisite: Successful Completion of Algebra I

High School Credit: 1

This course provides a rich, rigorous foundation in geometry, uniquely blended with set theory, descriptive statistics, and further work in algebra. Problem solving and technology including graphing calculators are integrated into each of these topics.

Textbooks

The primary textbooks used will be:

Calkins, Keith G. Numbers and their Application, pdf².

<http://www.andrews.edu/~calkins/math/webtexts/numbers.pdf>. 2007.

Calkins, Keith G. Introduction to Statistics, pdf².

<http://www.andrews.edu/~calkins/math/webtexts/statintr.pdf>. 2007.

Zalman Usiskin, *et al.* Geometry: UCSMP, 2nd ed. Scott, Foresman and Company, Glenview, IL, 1997. (Note, third edition was under preview 2006–07 but not available for 2007–08.)

Specht, Jones, Calkins, Euclidean Geometry, unpublished.

2.8.1 Geometry Course Outline

Grade 9, Integrated Geometry 8:00–8:50 MW +5Min TT; -5Min F

Tentative Course Outline (8/29/2007)

GRADE listed assignment that day Esp. Rev. unless noted otherwise
Most dates good to within 2 days

Day	Date	Preliminary Reading/Lecture	Homework due/graded
		Numbers and Their App., Calkins, pdf-2 http://www.andrews.edu/~calkins	Text/HW to be handed out piecemeal /webtexts/numball.pdf or statall.pdf
Mon.	Aug. 27	Jr./Sr. only—no fresh or soph.	11:30–12:20 only; AU electives start
Tue.	Aug. 28	Jr./Sr. only—no fresh or soph.	Freshmen Kickoff 7–9 pm
Wed.	Aug. 29	Jr./Sr. only—no fresh or soph.	11:30–12:20 only; AU electives
Thu.	Aug. 30	AU 11:30 Electives cancelled	for convocation
Fri.	Aug. 31	Labor Day Weekend—HS closed	AU has 11:30 electives
Mon.	Sep. 3	Labor Day—Center Closed	
Tue.	Sep. 4	Welcome, Intro, Syll, Assignments, NL0	Distributed
Wed.	Sep. 5	NL1: Let's Talk about Sets	Grade Homework NL0 today
Thu.	Sep. 6	NL2: How Do You Count?	Grade NL1-part today
Fri.	Sep. 7	NL: Counting, continued	Grade rest of NL1 today
Mon.	Sep. 10	NL3: Integers as Prime or Composite	Grade Homework NL2 today
Tue.	Sep. 11	shortened? class period	Grade Homework NL3 today?
Tue.	Sep. 11	Class Pictures	JWL steps 8:55 (rain date 9/??)
Wed.	Sep. 12	NL4: Powers, Place Value, ...	Lecture
Thu.	Sep. 13	NL4: ... and Bases	Grade Homework NL4 today
Fri.	Sep. 14	Extra Computer class time	Sophomores at Tremont (Smokies)
Mon.	Sep. 17	NL5: Logical Reasoning	Quiz NL1-4; read Geo 2.2 If-then
Tue.	Sep. 18	NL6: Ifs, Ands, Ors, and Buts	HW NL5; read Geo 2.3 Converses
Wed.	Sep. 19	NL7: Beyond the Integers: Fractions	HW NL6; read 11.2 Negation; Quiz?
Thu.	Sep. 20	NL8: More on Fractions	HW NL7; read 12.4 Proportions
Fri.	Sep. 21	NL9: Significant Figures, Sci. Notation	HW NL8
Mon.	Sep. 24	NL10: Beyond Rationality; Digging Roots	HW NL9; read Geo 8.6 PT
Tue.	Sep. 25	TEST, Numbers 1-9(10) (some Algebra)	Super-organize notebooks for grading
Tue.	Sep. 25	Freshmen Potluck at Greenley's	6–8pm
Wed.	Sep. 26	NL11: Pythagorean Theorem, Distance	HW NL10; read Geo 3.6 Parallel lines
Thu.	Sep. 27	NL12: Cartesians, Polynomials, Quadratics	HW NL11; read Geo 3.7 Perp. lines
Fri.	Sep. 28	NL13: It's Been Real	HW NL12; read Geo 3.4 Alg. Properties

Day	Date	Preliminary Reading	Class/Home Work
Mon.	Oct. 1	NL14: Transcendental Meditations	HW NL13; read Geo 8.8 Circle Area
Tue.	Oct. 2	NL15: Imagine more Complex Numbers	HW NL14
Wed.	Oct. 3	Review, Staple Numbers booklets An Introduction to Statistics, Calkins	HW NL15 graded Revised Text/HW handed out piecemeal
Thu.	Oct. 4	ST1: Definitions	assign Statistics project: Due 10/24
Fri.	Oct. 5	ST2: How/Why of Statistical Sampling	Grade HW ST1 today
Mon.	Oct. 8	ST3: Common Averages: MMMM	Grade HW ST2
Tue.	Oct. 9	ST4: What Does He Mean?	Grade HW ST3
Wed.	Oct. 10	ST5: Measures of Dispersion	Grade HW ST4
Wed.	Oct. 10	Mich Math Prize Competition, I	10 Freshmen by invitation only
Thu.	Oct. 11	ST6: The Normal, Bell, Gaussian Dist.	Grade HW ST5
Fri.	Oct. 12	ST7: Measurements of Position MML Extra Credit Due	Grade HW ST6 Friday, Oct. 12
Mon.	Oct. 15	ST8: Summ. and Displaying Data	Grade ST7 Start bringing Geo book Fri.
Tue.	Oct. 16	ST9: Hypothesis Testing	Grade HW ST8
Wed.	Oct. 17	ST10: t-test, χ^2 Goodness of fit	Grade HW ST9
Thu.	Oct. 18	TEST, Statistics (3/4); Review (1/4) UCSMP Geometry, 2nd ed.	Staple Statistics booklets Do ALL homework problems in section
Fri.	Oct. 19	1.1 Dots as Points	ST10 and Geo 1.1 quizzed due to MML
Fri.	Oct. 19	Michigan Math League Contest	MML 1 of 6 (s/b 10/23)
Fri.	Oct. 19	End of 1st "9"(7)-weeks	
—	—	Second 9-weeks Begins	Grades due Tue. Oct. 23, noon
Mon.	Oct. 22	1.2 Locations as Points	Go over test?
Tue.	Oct. 23	1.3 Ordered Pairs as Points	1.R Evens due Wednesday Oct. 31
Wed.	Oct. 24	1.4 Points in Networks	Statistics Project due—don't be late!
Thu.	Oct. 25	1.5 Drawing in Perspective	Biography Project assigned
Fri.	Oct. 26	1.6 The Need for Undefined Terms	
Mon.	Oct. 29	1.7 Postulates for Euclidean Geometry Ch. Rev. must show step-by-step sol.	Include all pertinent diagrams & Formulae
Tue.	Oct. 30	1.8 Betweenness and Distance	
Wed.	Oct. 31	2.1 The Need for Definitions	2.R Evens due at test
Thu.	Nov. 1	2.2 "If-Then" Statements	
Fri.	Nov. 2	2.3 Converses	
Mon.	Nov. 5	2.4 Good Definitions	
Mon.	Nov. 5	Parent-Teacher Conferences	Freshmen/Seniors
Tue.	Nov. 6	2.5 Unions and Int. of Figures	
Wed.	Nov. 7	2.6 Polygons	
Thu.	Nov. 8	2.7 Use of Auto. Drawer; (Tri. ineq.)	
Fri.	Nov. 9	2.8 Conjectures	
Sat.	Nov. 10	Freshman-Sophomore Lock-in	Sat. nite 8?pm–6am

Day	Date	Preliminary Reading	Class/Home Work
Mon.	Nov. 12	3.1 Angles and Their Measures	3.R Evens due Tue. Nov. 27
Tue.	Nov. 13	TEST, Chapters 1 & 2	
Wed.	Nov. 14	3.2 Arcs and Rotations	
Thu.	Nov. 15	3.3 Properties of Angles	
Fri.	Nov. 16	3.4 Properties of Algebra	Quizzed after contest today
Fri.	Nov. 16	Michigan Math League Contest	MML 2 of 6 (s/b 11/20)
Mon.	Nov. 19	3.5 One-Step Proof Arguments	
Tue.	Nov. 20	3.6 Parallel/3.7 Perp. Lines	See also NL10/NL11
Wed.	Nov. 21	Thanksgiving Break	no morning center classes (now)
Thu.	Nov. 22	Thanksgiving Day	
Fri.	Nov. 23	Thanksgiving Friday	
Mon.	Nov. 26	3.8 Drawing Parallel and Perp. Lines	
Tue.	Nov. 27	4.1 Reflecting Points	4.R Evens due at test
Wed.	Nov. 28	4.2 Reflecting Figures	
Thu.	Nov. 29	4.3 Miniature Golf and Billiards	
Fri.	Nov. 30	4.4 Composing Ref. over Parallel Lines	
Fri.	Nov. 30	MMPC Extra Credit due	
Mon.	Dec. 3	4.6 Translations and Vectors	
Tue.	Dec. 4	4.5 Composing Ref. over Intersect.Lines	
Wed.	Dec. 5	4.7 Isometries	
Wed.	Dec. 5	Mich Math Prize Competition, II	by invitation only (pm)
Thu.	Dec. 6	4.8 When are Figures Congruent?	
Fri.	Dec. 7	TEST, Chapters 3 & 4	
Mon.	Dec. 10	Presentations	Review Sheets for exam distributed?
Tue.	Dec. 11	Presentations	
Wed.	Dec. 12	Presentations	
Thu.	Dec. 13	Presentations	Review sheets perfected?
Fri.	Dec. 14	5.1 Corr. Parts of Congruent Figures	Quizzed after contest today
Fri.	Dec. 14	Michigan Math League Contest	MML 3 of 6 (s/b 12/18)
Mon.	Dec. 17	5.2 Congruence and Equality	Biology Final Exam
Tue.	Dec. 18	5.3 One-Step Congruence Proofs	Computer Science Final Exam
Wed.	Dec. 19	1st Semester Exam, Comprehensive	All Rev. sheet redos due at exam
Thu.	Dec. 20	5.4 Proofs Using Transitivity	Foul weather exam date
Fri.	Dec. 21	EXPO grading/party in Price?	Gift exchange? gag, charity
Fri.	Dec. 21	End of the 2nd Marking Period	Grades Due Fri. 1/11, noon
Dec.	24–Jan. 4	Winter Break	
		Second Semester Begins	
Mon.	Jan. 7	5.5 Proofs Using Reflections	5.R Evens due Fri. Jan. 11
Tue.	Jan. 8	5.6 Auxiliary Figures and Uniqueness	
Wed.	Jan. 9	5.7 Sums of Angle Measures in Polygons	
Thu.	Jan. 10	6.1 Reflection-Symmetric Figures	6.R Evens due at TEST
Fri.	Jan. 11	6.2 Isosceles Triangles	Eff. end of sem.–Grades due at noon
Fri.	Jan. 11	Michigan Math League Contest	MML 4 of 6 (s/b 1/15)

Day	Date	Preliminary Reading	Class/Home Work
Mon.	Jan. 14	6.3 Types of Quadrilaterals	
Tue.	Jan. 15	6.4 Properties of Kites	
Wed.	Jan. 16	6.5 Properties of Trapezoids	
Thu.	Jan. 17	Base School Semester Exams	Other partial group activities
Fri.	Jan. 18	Base School Semester Exams	??/Fun activities??
Mon.	Jan. 21	Center Closed	Martin L. King, Jr. Day
Tue.	Jan. 22	6.6 Rotation Symmetry	
Wed.	Jan. 23	6.7 Regular Polygons	
Thu.	Jan. 24	6.8 Regular Polygons and Schedules	
Fri.	Jan. 25	TEST Chapters 5 & 6 AMC10 Extra Credit Due	Friday, Jan. 25
Mon.	Jan. 28	7.1 Drawing Triangles	7.R Evens due Fri. Feb. 8
Tue.	Jan. 29	7.2 Triangle Congruence Theorems	
Wed.	Jan. 30	7.3 Proofs Using Triangle Con. Theorems	
Thu.	Jan. 31	7.4 Overlapping Triangles	
Fri.	Feb. 1	7.5 The SSA Condition and HL	Quizzed after contest today
Mon.	Feb. 4	7.6 Tessellations	Assign Tessellation/Origami Project
Tue.	Feb. 5	7.7 Properties of Parallelograms	
Wed.	Feb. 6	7.8 Suff. Conditions for Parallelograms	
Thu.	Feb. 7	7.9 Exterior Angles	
Fri.	Feb. 8	8.1 Perimeter Formulas	Quizzed after contest today
Fri.	Feb. 8	Michigan Math League Contest	MML 5 of 6 (s/b 2/12)
Mon.	Feb. 11	8.2 Fundamental Properties of Area	8.R Evens due at test
Tue.	Feb. 12	8.3 Areas of Irregular Regions	
Tue.	Feb. 12	Am. Math Competition (AMC10/12)	10 Freshmen by invitation only
Wed.	Feb. 13	8.4 Areas of Triangles	
Thu.	Feb. 14	8.5 Areas of Trapezoids	
Fri.	Feb. 15	8.6 Pythagorean Theorem	
Mon.	Feb. 18	Feb. 3rd Mon. Holiday—Center Closed	(Pres./Great Am. Day)
Tue.	Feb. 19	8.7 Arc Length and Circumference	
Wed.	Feb. 20	8.8 pi and sectors	
Thu.	Feb. 21	Review day for test	
Fri.	Feb. 22	TEST Chapters 7 & 8	
Mon.	Feb. 25	9.1 Points/Lines/Planes in Space	9.R Evens due at test
Tue.	Feb. 26	9.2 Parallel/Perpendic. Lines&Planes	
Wed.	Feb. 27	9.3 Prisms and Cylinders	

Day	Date	Preliminary Reading	Class/Home Work
Thu.	Feb. 28	9.4 Pyramids and Cones	
Fri.	Feb. 29	9.5 Spheres and Sections	Quizzed after contest today
Wed.	March ?	Cass Co. Science Olympiad	
Mon.	March 3	9.6 Reflection Symmetry in Space	
Tue.	March 4	9.7 Viewing Solids and Surfaces	Tess./Origami Proj. Due Wed. March 5
Tue.	March 4	Parent-Teacher Conferences	Freshmen/Juniors
Wed.	March 5	9.8 Making Surfaces	
Thu.	March 6	9.9 Maps and the 4 Color Problem	
Fri.	March 7	9-week TEST, Chapters 6-9	Comprehensive (Esp. 8 & 9)
Fri.	March 7	End of 3rd 9 weeks	Grades due at noon Tue 3/11
—	—	Last 9-weeks Begins	
Mon.	March 10	10.1 Surface Area of Prisms and Cyl.	10.R Evens due Mon. March 24
Tue.	March 11	10.2 Surface Area of Pyramids and Cones	
Wed.	March 12	10.3 Fundamental Properties of Volume	
Wed.	March 12	Berrien Co. Science Olympiad	
Thu.	March 13	10.4 Multiplication, Area, and Volume	
Fri.	March 14	10.5 Volumes of Prisms and Cylinders	Quizzed after contest today
Fri.	March 14	Michigan Math League Contest	MML 6 of 6 (s/b 3/18)
Mon.	March 17	10.6 Organizing Formulae	
Tue.	March 18	10.7 Volumes of Pyramids and Cones	
Tue.	March 18	Am. Inv. Math Exam 3H-15Q	by invitation only
Wed.	March 19	10.8 The Volume of a Sphere	
Thu.	March 20	10.9 The Surface Area of a Sphere	
Fri.	March 21	Good Friday—Center Closed	
Mon.	March 24	11.1 The Logic of Making Conclusions	See Extra Credits
Tue.	March 25	11.2 Negotiations	11.R Evens due on Monday April 14
Wed.	March 26	11.3 Ruling Out Poss.	
Wed.	March 26	Int. Sci. & Eng. Fair	ISEF—tentative?
Thu.	March 27	11.4 Indirect Proof	
Fri.	March 28	11.5 Proofs with Coordinates	
Mar	31–Apr 4	Spring Break	
Mon.	April 7	11.6 The Distance Formula	
Tue.	April 8	11.7 Equations for Circles	
Wed.	April 9	11.8 Means and Midpoints	
Thu.	April 10	11.9 Three-Dimensional Coordinates	
Fri.	April 11	12.1 The Transformation S(sub)k	12.R Evens due at Test
Mon.	April 14	12.2 Size Changes	Take new Algebra Contest!
Tue.	April 15	12.3 Properties of Size Changes	
Wed.	April 16	12.4 Proportions today	EXPO check-in? see also ISEF
Wed.	April 16	Berrien Co. Arts & Sci Expo begins	
Thu.	April 17	12.5 Similar Figures	
Fri.	April 18	12.6 Fundamental Theorem of Similarity	

Day	Date	Preliminary Reading	Class/Home Work
Mon.	April 21	12.7 Can There be Giants?	
Tue.	April 22	TEST, Chapters 10, 11 & 12	
Wed.	April 23	13.1 The SSS Similarity Theorem	13.R Evens due Tuesday May 6
Thu.	April 24	13.2 The AA and SAS Sim. Theorems	
Fri.	April 25	13.3 The Side-Splitting Theorem	
Mon.	April 28	13.4 Geometric Means in Right Triangle	
Tue.	April 29	13.5 Special Right Triangles	
Wed.	April 30	13.6 The Tangent of an Angle	
Thu.	May 1	13.7 The Sine and Cosine Ratios	
Fri.	May 2	13.8 More Work with Vectors and Area	
Mon.	May 5	14.1 Chord Length and Arc Measure	Take new Algebra Diagnostic?
Tue.	May 6	14.2 The Inscribed Angle Theorem	14.R Evens due at TEST
Wed.	May 7	Field Trip to Beach/Brookfield Zoo???	Schedule adjusts—date unknown B4 5/15
Thu.	May 8	14.3 Locating the Center of a Circle	
Fri.	May 9	14.4 Angles Formed by Chords or Sec.	
Mon.	May 12	14.5 Tangents to Circles and Spheres	
Tue.	May 13	14.6 Angles Formed by Tangents	
Wed.	May 14	14.7 Lengths of Chords, Secants, & Tan	
Thu.	May 15	14.8 The Isoperimetric Inequality	
Fri.	May 16	14.9 The Isoperimetric Inequality in 3D	
Sun.	May 18	Awards/Honors Night	BC ISD 7pm
Mon.	May 19	TEST, Chapters 13 & 14	Review Geo=1/2 Exam
Tue.	May 20	Review Statistics	1/10 of Final Exam
Wed.	May 21	Review Algebra	1/10 of Final Exam
Thu.	May 22	Review Ess. Geo.	1/10 of Final Exam
Fri.	May 23	Review Ess. Trig.	1/10 of Final Exam
Mon.	May 26	Memorial Day—Center Closed	
Tue.	May 27	Review Proofs	1/10 of Final Exam
Wed.	May 28	Projected Final Exam	Geometry
Thu.	May 29	Projected Final Exam	Computer Science
Fri.	May 30	Projected Final Exam	Biology
Mon.	June 2	Make-ups & Base School Exams	
Tue.	June 3	Make-ups & Base School Exams	
Wed.	June 4	Make-ups & Base School Exams	
Thu.	June 5	Books & Grades Overdue	missing books=¿no grade?
Fri.	June 6	Last day of school for students.	

2.9 Algebra II—Course Description

Course Title: Integrated Algebra II
Grade level: Grade 10 (Sophomore)
Prerequisite: Satisfactory completion of Geometry
High School Credit: 1

The major component of this course is advanced topics in Algebra. The students continue the study of statistics including probability, distributions, and linear regression. The course integrates geometry, algebra, statistics, discrete mathematics, algebraic and transcendental functions, and problem solving with the use of graphing calculators.

Textbooks

The primary textbooks used will be:
Foerster, Paul A. Algebra and Trigonometry: Functions and Applications, 2nd Ed. Addison-Wesley Publishing Co., 1994.
Calkins, Keith G. Introduction to Statistics, pdf².
<http://www.andrews.edu/~calkins/math/webtexts/statintr.pdf>. 2007.
Calkins, Keith G. Probability and Distributions, pdf².
<http://www.andrews.edu/~calkins/math/webtexts/probdist.pdf>. 2008.
Calkins, Keith G. All About Algebra, pdf¹.
<http://www.andrews.edu/~calkins/math/webtexts/algbii.pdf>. 2008.

2.9.1 Algebra II Course Outline

Grade 10, Integrated Algebra II 9:40(5)–10:30 MW (TT) 8:55-9:40 F

Tentative Course Outline: 8/29/07

GRADE listed assignment that day Esp. Rev. unless noted otherwise

Most dates good to within 2 days

Day	Date	Preliminary Reading/Lecture	Homework due/graded
		Algebra and Trig., Foerster, 1994 Ch. Rev. must show step-by-step sol.	Most of school year Mastry of DTQ exercises vital
Mon.	Aug. 27	Jr./Sr. only—no fresh or soph.	11:30–12:20 only; AU electives start
Tue.	Aug. 28	Jr./Sr. only—no fresh or soph.	11:30–12:20 only; AU electives
Wed.	Aug. 29	Jr./Sr. only—no fresh or soph.	11:30–12:20 only; AU electives
Thu.	Aug. 30	AU 11:30 Electives cancelled	for convocation
Fri.	Aug. 31	Labor Day Weekend—HS closed	AU has 11:30 electives
Mon.	Sep. 3	Labor Day—Center Closed	
Tue.	Sep. 4	Welcome, Intro, Syllabi, Assignments	Friday Schedule (Math 9:45-10:30)
Wed.	Sep. 5	1.1 (pg. 1-3) Sets of Numbers 1.2 (pg. 3-8) Field Axioms	1.1: 1–9 1.2: DTQ;1–10
Thu.	Sep. 6	1.3 (pg. 9–16) Var. & Expressions	1.3: DTQ;2,7,9,10,16–19,37–41
Fri.	Sep. 7	1.4 (pg. 16–20) Polynomials	1.4: DTQ;1–6,15–20,28–32
Mon.	Sep. 10	1.5 (pg. 20–26) Equations	1.5: DTQ;5–10,16–20,26–30
Tue.	Sep. 11	1.6 (pg. 27–32) Inequalities	1.6: DTQ;4–12,21–28; Make Proj. Assign.
Tue.	Sep. 11	Class Pictures	JWL steps 9:30 (rain date 9/??)
Wed.	Sep. 12	1.7 (pg. 32–47) Proofs	1.7: DTQ;2–5,7–12,14–16
Thu.	Sep. 13	1.8 (pg. 0–49) Review 1.8 Chapter 1 Review due Tuesday	1.7: 17–21; Chap 1 R/T due Tue 9/18 1.8: R1-R4, T4, T6, T11
Fri.	Sep. 14	Class Period on bus!	Great Smoky Mountain Trip
Mon.	Sep. 17	2.1 (pg. 50–52) 2 var. graphs	2.1: 1–5 BIG QUIZ over TREMONT
Tue.	Sep. 18	2.2 (pg. 53–57) function graphs	2.2: DTQ;3–10,15,16,19
Wed.	Sep. 19	2.3 (pg. 58–64) Real World $f(x)$	2.3: DTQ;6–16
Thu.	Sep. 20	2.4 (pg. 64–69) Relations 2.R Chapter 2 review/self test	2.4: DTQ;1–5,10,13–18 2.5: R1–R3,T1,T2 due at test
Fri.	Sep. 21	TEST, Chapters 1 & 2	With 2.R and notebooks
Mon.	Sep. 24	3.1 (pg. 72–74) Linear $f(x)$ intro	3.1: 1–3; Project assignments established
Tue.	Sep. 25	3.2 (pg. 74–82) $f(x)$ properties	3.2: DTQ;1,4,7,10,13,16,19,20,22,23,25
Wed.	Sep. 26	3.3 (pg. 82–86) Line forms	3.3: DTQ;1,4,7,10,13,14
Thu.	Sep. 27	3.4 (pg. 86–93) Linear Graphs	3.4: DTQ;1,4,7,10,13,16,19,22,25,28,31
Fri.	Sep. 28	3.5 (pg. 93–105) Math Models	3.5: DTQ;1,4,7,10,13,16,19

Day	Date	Preliminary Reading	Class/Home Work
Mon.	Oct. 1	Chapter 3 Review (pg. 72–109)	3.6: concepts, T2–T6, T10–T12 Due Tue
Tue.	Oct. 2	4.1 (pg. 110–112) Intro to Linear Sys.	4.1: 1–6
Wed.	Oct. 3	4.2 (pg. 112–119) Sol. of Linear Sys.	4.2: DTQ; 1,10,11,20,21,26,29
Thu.	Oct. 4	4.2 (pg. 112–119) More solutions	4.2: 32,34,36,39,43,50; Projects Due
Fri.	Oct. 5	4.3 (pg. 120–126) Order 2 Det. (ru-st)	4.3: DTQ; 1,10,11,16,18,19,22
Mon.	Oct. 8	4.7 (pg. 142–146) Augmented Matrices	4.7: DTQ; 1,4,8,11,15
Tue.	Oct. 9	4.4 (pg. 126–133) $f(x)$, models	4.4: DTQ; 1–6,10,13,16,25,26,29
Wed.	Oct. 10	Mich Math Prize Competition, I	40Q 5A; required for all soph.
Thu.	Oct. 11	4.5 (pg. 133–138) Linear with 3+vars	4.5: DTQ; 1*,3,5
Fri.	Oct. 12	4.6 (pg. 138–142) Linear with 4+vars	4.6: DTQ; 1,4,8,10,11,14,15
		MML Extra Credit Due	Friday, Oct. 13
Mon.	Oct. 15	4.8 (pg. 146–149) Aug. Mat. 2x3+	4.8: DTQ; 1,4,16,17
Tue.	Oct. 16	4.9 (pg. 150–152) Higher order Det.	4.9: 1–4 ;Appen. A as Ex. Cr. due by test
Wed.	Oct. 17	4.10 (pg. 153–157) Sys of Lin. Ineq.	4.10: DTQ; 1,4,7,10,13,16
Thu.	Oct. 18	4.11 (pg. 157–159) Linear Prgrmmng	4.11: DTQ; any 3 even; graph!
Fri.	Oct. 19	Chapter 4 Review	4.12: R4,T1,T2 Due on Wed
Fri.	Oct. 19	Michigan Math League Contest	MML 1 of 6 (s/b 10/23)
Fri.	Oct. 19	End of 1st "9"(7)-weeks	
		Second 9-weeks Begins	Grades due Tue. Oct. 23, noon
		Quadratics, Exponents, Logarithms	Chapters 5 & 6 this 9-weeks
Mon.	Oct. 22	TEST, notebooks	Chap. 1&2 25%; Chap. 3&4 75%
Tue.	Oct. 23	5.1 Intro. to Quadratic Functions	5.1: 1–5
Wed.	Oct. 24	5.2 Graphs of Quadratic Functions	5.2: DTQ; 1,4,7,10,13,16,19,22,32
Thu.	Oct. 25	5.3 Quadratic Formula	5.3: DTQ; 1,4,7,10,22,25,28,31,34,37
Fri.	Oct. 26	5.4 Imaginary and Complex Numbers	5.4: DTQ; 1,4,7,10,13,16,19,23,25
Mon.	Oct. 29	5.5 Evaluating Quad. Func.	5.5: DTQ; 1,4,7,10,13,15
Tue.	Oct. 30	5.6 Eq. of Quad. Func. from graphs	5.6: DTQ; 1,4,7,10,13,16
Wed.	Oct. 31	5.7 Quad. and Linear Math. Models	5.7: DTQ; any 3 even, any 3 odd
Thu.	Nov. 1	Chapter Review	5.8: R2,4,6; T1,2,4–7 Due Wed.
Fri.	Nov. 2	Cumulative Review Chap. 1–5	5.9: 1–10 take home "test" Due at test
Mon.	Nov. 5	TEST, Chap. (1-4 25%) Chap. 5 75%	Grade notebooks
Tue.	Nov. 6	6.1 Intro. to Exp. Functions	6.1: 1–5
Wed.	Nov. 7	6.2 Exp. for Integer exponents	6.2: DTQ; 1,4,7,10,13,16,19,22
Wed.	Nov. 7	Parent-Teacher Conferences	Sophomores/Juniors
Thu.	Nov. 8	6.3 Properties of Exponentiation	6.3: DTQ; 1,4,7,10,...,31,34,37,40,43
Fri.	Nov. 9	6.4 Exp. for Real exponents	6.4: DTQ; 1,4,7,10,...,34,37,40,43,46

Day Date	Preliminary Reading	Class/Home Work
Mon.Nov. 12	6.5 Powers/Radicals, no calculators	6.5: DTQ; 1,4,7,10,...,58,61
Tue. Nov. 13	6.6 Scientific notation	6.6: DTQ; 1,4,7,10,...,70,73
Wed.Nov. 14	6.7 Exponential Equations by BForce	6.7: DTQ; 1,4,7,13,16
Thu. Nov. 15	6.8 Solve Exp. by Logs	6.8: DTQ; 1,4,7,10,...,28
Fri. Nov. 16	6.9 Logs with other Bases	6.9: DTQ; 1,4,7,10,13,16,19,22
Fri. Nov. 16	Michigan Math League Contest	MML 2 of 6 (s/b 11/20)
Mon.Nov. 19	6.9 Logs with other Bases, continued	6.9: 25,28,31,34,37,40,43,46*
Tue. Nov. 20	6.10 Log properties	6.10: DTQ;1,4,7,10,13,16,19,22,25,28
Wed.Nov. 21	Thanksgiving Break	no morning center classes (now)
Thu. Nov. 22	Thanksgiving Day	
Fri. Nov. 23	Thanksgiving Friday	
Mon.Nov. 26	6.10 Log Properties, Quiz 6.1–6.10	6.10: 31,34,37,40,43,46,49,52*,55,56
Tue. Nov. 27	6.11 Change of Base	6.11: DTQ; 1,4,7,10,13,16,19,21*,22,28
Wed.Nov. 28	6.11 Change of Bases, continued Extra Credit: 6.11 due at sem. exam	6.11: 29*,31,33*,34,35*,36,41,46,51 30,32,40,42,44,48,50,52,54,56,58,60
Thu. Nov. 29	6.12 Inverses	6.12: DTQ; 1,4,7,10,13,16,19,22,
Fri. Nov. 30	6.12 Inverses, continued	6.12: 24,25,26,28,31*,34,35*
Fri. Nov. 30	MMPC Extra Credit due Chapter Review/Test—due at test	6.15: R4,R14;T1–4,6,9
Mon.Dec. 3	6.13 Exponential functions 6.14 Extra Credit	6.13: DTQ; 1,4,7,10,13,16 6.14: DTQ; 2,6,12 Due today
Tue. Dec. 4	TEST, Chapters (5) & 6	Distribute Review Sheet (Projects)
Wed.Dec. 5	7.1 Intro. to Rat. Algebraic Func.	7.1: 1–5;
Wed.Dec. 5	Mich Math Prize Competition, II	by invitation only (pm)
Thu. Dec. 6	7.2 Discontinuities & Asymptotes	7.2: DTQ; 1–4
Fri. Dec. 7	7.3 Special Products Factoring	7.3: DTQ; 1,4,10,16,22,28,34,40,46,52
Mon.Dec. 10	Presentation Day 1	
Tue. Dec. 11	Presentation Day 2	
Wed.Dec. 12	Presentation Day 3	
Thu. Dec. 13	Presentation Day 4	
Fri. Dec. 14	Review Algebra I	=1/20 of Semester exam
Fri. Dec. 14	Michigan Math League Contest	MML 3 of 6 (s/b 12/18)
Mon.Dec. 17	Review Essential Geometry due	=1/5 of Semester exam; Projects=1/5
Tue. Dec. 18	1st Semester Exam, Comprehensive	All Rev. sheet redos due at exam
Wed.Dec. 19	Review Statistics	=1/20 of Semester exam
Thu. Dec. 20	7.3 More Special Products	7.3: 58,64,70,76,82,88(1 HW E.C.),94
Fri. Dec. 21	Winter party in Smith?/Exam makeup	Duration and Location TBA
Fri. Dec. 21	End of the 2nd Marking Period	Grades Due Fri. 1/10, noon
Dec. 24–Jan. 4	Winter Break	
—	Second Semester Begins	
Mon.Jan. 7	7.4 sum/difference of cubes	7.4: DTQ;4,10,16*,22,28,34,40
Tue. Jan. 8	7.4 Middle+Term primes	7.4: 46,52,58,64,70,76,82,88

Wed. Jan. 9	7.5 Long Division	7.5: DTQ;1,4,7,10,13,16,19
Thu. Jan. 10	7.6 Integer/Rational Root Theorems	7.6: DTQ;4,10,16,22,28,34,40*,46,48*
Fri. Jan. 11	7.7 Rational Expressions */	7.7: DTQ;4,10,16,22,28,34,40,46,52,58
Fri. Jan. 11	Michigan Math League Contest	MML 4 of 6 (s/b 1/15)

Day	Date	Preliminary Reading	Class/Home Work
Mon.	Jan. 14	7.8 Rational Expressions +-	7.8: DTQ;4,10,16,22,28,34,40,44,46
Tue.	Jan. 15	7.10 Fractional Eq.; Extraneous Sol.	7.10: DTQ;1,2,4,10,13,16,19,22,28,34,40,43*
Wed.	Jan. 16	7.11 is Extra Credit?	7.9: DTQ;6,16,26; 7.11: 4 evens
Thu.	Jan. 17	Base School Semester Exams	Fun activities?
Fri.	Jan. 18	Base School Semester Exams	Fun activities?
Mon.	Jan. 21	Center Closed	Martin L. King, Jr. Day
Tue.	Jan. 22	Hand in—Chapter Review/Test	7.12: C1,T1–9
Wed.	Jan. 23	Review for Test	
Thu.	Jan. 24	TEST, (Review), Chapter 7	
Fri.	Jan. 25	8.1 Irrational Algebraic Functions AMC10 Extra Credit Due	8.1: 1–7 Friday, Jan. 24
Mon.	Jan. 28	8.2 Graphs of Irrational Functions	8.2: DTQ;1–5
Tue.	Jan. 29	8.3 Simple Radical Form	8.3: DTQ;1,4,7,10,13,16,19,22,25,28
Wed.	Jan. 30	8.3 More Radicals	8.3: 31,34,37,40,43,46,49,52,56,57ai
Thu.	Jan. 31	8.4 Radical Equations	8.4: DTQ;4,10,16,22,28,34,40,46,49
Fri.	Feb. 1	Chapter Review	8.7: C2,T1–10
Mon.	Feb. 4	Cumulative Review Chapters 6–8	8.8: 3,5,6,7,11
Tue.	Feb. 5	9.1 Quadratic Relations	9.1: 1-4;
Wed.	Feb. 6	9.2 Circles	9.2: DTQ;1,4,7,10,13,16,19,22
Thu.	Feb. 7	9.3 Ellipses	9.3: DTQ;1,4,7,10,13,16,19
Fri.	Feb. 8	9.4 Hyperbolas	9.4: DTQ;1,4,7,10,13,16
Fri.	Feb. 8	Michigan Math League Contest	MML 5 of 6 (s/b 2/12)
Mon.	Feb. 11	9.5 Parabolas	9.5: DTQ;1,4,7,10,13,15
Tue.	Feb. 12	Am. Math Comp. (AMC10/12)	25Q; 5A; moderate guess pen. all sop
Wed.	Feb. 13	9.6 Geometrical Definitions	9.6: no DTQ;1,4,7,10,13,16,17
Thu.	Feb. 14	9.8 Systems of Quadratics	9.8: DTQ;4,10,16,22,28
Fri.	Feb. 15	TEST, Chapters 7, 8, &9	lean and mean? 9.9?
Mon.	Feb. 18	Feb. 3rd Mon. Hol.—Center Closed	(Pres./Great Am. Day)
Tue.	Feb. 19	10.2 Complex number review	10.2: DTQ;4,10,16,22,28,31,33,34–38,43,44
Wed.	Feb. 20	10.3 Complex roots of Quadratics	10.3: DTQ;4,10,16,22,28,34,40,46,52,63,64
Thu.	Feb. 21	10.4 Fund. Theorem of Algebra	10.4: DTQ;4,10,16,22,28,34,40,46–52
Fri.	Feb. 22	Chapter 10 Review	10.7: C2,C3,T1–5 Due today
Mon.	Feb. 25	11.1 Introduction to Sequences	11.1: 1,4,7,10,15–17,21
Tue.	Feb. 26	11.2 Arithmetic & Geometric Seq.	11.2: DTQ;4,10,16,22,28,34,40,46
Wed.	Feb. 27	11.3 Arithmetic & Geometric Means	11.3: DTQ;4,10,16,22,28,34,36

Day	Date	Preliminary Reading	Class/Home Work
Thu.	Feb. 28	11.4 Introduction to Series	11.4: DTQ;1,4,7,10,13,16,19,
Fri.	Feb. 29	11.4 More Intro. to Series	11.4: 22,25,28,31,34,36,37*
Wed.	March ?	Cass Co. Science Olympiad	
Mon.	March 3	11.7 Series used in Models	11.7: DTS;8,13,16
Mon.	March 3	Parent-Teacher Conferences	Sophomores/Seniors
Tue.	March 4	11.8 Factorials	11.8: DTQ;1,4,7,10,13,16,19,22,25,31
Wed.	March 5	Intro. to Binomial Series	11.9: 1–7
Thu.	March 6	The Binomial Formula	11.10: DTQ;4,10,22,28,34,52
Fri.	March 7	Chapter 11 Review	11.11: C2,C4,T1,T4-6,T13 due
Fri.	March 7	End of 3rd 9 weeks	Grades due at noon Tue 3/11
—	—	Last 9-weeks Begins	
Mon.	March 10	TEST, Chapters 10&11, Review	
Tue.	March 11	15.1 Right Triangle Problems	15.1: DTQ;1,4,7,10
Wed.	March 12	15.1 More right triangle problems	15.1: 13,16,19,22,24
Wed.	March 12	Berrien Co. Science Olympiad	
Thu.	March 13	13.2 Arc/Rotation Measurement	13.2: DTQ;1,4,7,10,13,16,19,22
Fri.	March 14	13.3 Trig. Function Definitions	13.3: DTQ;1,6,11,16,21,26,31
Tue.	March 14	Michigan Math League Contest	MML 6 of 6 (s/b 3/18)
Mon.	March 17	13.3 Trig. Function Definitions	13.3: 36,41,46,51,56,61,66,71,76,81
Tue.	March 18	13.4 Approx value of trig func.	13.4: DTQ;1-10,21-28,33-38
Tue.	March 18	Am. Inv. Math Exam 3H-15Q	by invitation only
Wed.	March 19	13.5 Graphs of trig functions	13.5: DTQ;1,3-8,15-19
Thu.	March 20	14.1 Recip., Quotient, Pythagorean	14.1: DTQ;1,4,7,10,13,16,19,22,25,28
Fri.	March 21	14.2 Trigonometric Identities	14.2: DTQ;1,4,7,10,...,22,25,28,31,34*,36
Mon.	March 24	14.3 Composite arguments	14.3: DTQ;1-3,8,10,11,14,27-29,39-41
Tue.	March 25	14.9 Trigonometric Equations	14.9: DTQ,1-2,5-16,45,46,49,50
Wed.	March 26	15.2 Law of Cosines	15.2: DTQ;1,4,7,10,13,15
Wed.	March 26	Int. Sci. & Eng. Fair	ISEF—tentative
Thu.	March 27	15.3 Area of Triangle: $.5bc\sin A$	15.3: DTQ;1,4,7 for Q9 see 11.5
Fri.	March 28	15.4 Law of Sines	15.4: DTQ;1,4,7,10
Mar	31–Apr 4	Spring Break	
Mon.	April 7	15.5 SSA—Ambiguous Case	15.5: DTQ;1,4,7,10,13
Tue.	April 8	15.6 General Triangle Solution	15.6: DTQ;1-28—see TI-83 program
Wed.	April 10	15.6 More General Triangle Solution	15.6: Redo 22 and include Area (read!)
Thu.	April 10	15.R Chapter 15 Review	15.R C1-C4,T1-T3
Fri.	April 11	TEST Chapters 13, 14, 15	
Mon.	April 14	ST1/2: Definitions; Stat. Sampling	HW ST1/2
Tue.	April 15	ST3/4: Ave/Mean: MMMM	HW ST3/4
Wed.	April 16	ST5: Measures of Dispersion	HW ST5
Wed.	April 16	Berrien Co. Arts & Sci Expo	
Thu.	April 17	ST6/7: Normal Dist./Pos. Meas.	HW ST6/7
Fri.	April 18	ST8: Summ. and Displaying Data	HW ST8

Day	Date	Preliminary Reading	Class/Home Work
Mon.	April 21	PD01: Fundamental Defefinitions	HW PD01 see also 12.1 & 12.2
Tue.	April 22	PD02: Counting: Perms and Combos,+ ,x	HW PD02 see also 12.3 & 12.4
Wed.	April 23	PD03: Independence, Complementary	HW PD03 see also 12.5 & 12.6
Thu.	April 24	Probability quiz	
Fri.	April 25	PD04: What are the Odds?	HW PD04
Mon.	April 28	New Algebra Contest	
Tue.	April 29	PD05: Simulating Experiments	HW PD05
Wed.	April 30	PD06: Gen. Dist. and Exp. Values	HW PD06 see also 12.7
Thu.	May 1	PD07: Binomial Experiments and Distrib.	HW PD07
Fri.	May 2	Distribution quiz	
Mon.	May 5	PD08: Queuing and the Poisson Distrib.	HW PD08 see also 12.8
Tue.	May 6	PD09: Lorentzian Dist. and Voigt Pro.	HW PD09
Wed.	May 7	PD10: The Student t Distribution	HW PD10
Thu.	May 8	PD11: The Central Limit Theorem	HW PD11
Fri.	May 9	PD12: Correlation and Regression	HW PD12
Mon.	May 12	PD13: Hypo. test, Chi Square, ANOVA	HW PD13 see also 12.9
Tue.	May 13	PD14: Experimental Design	HW PD14 new
Wed.	May 14	PD15: End of Prob./Dist./Review	HW PD15 new
Thu.	May 15	Review for test	Review problems due at test (handout)
Fri.	May 16	TEST Probability and Distributions	
Sun.	May 18	Awards/Honors Night	UT? 7pm
Mon.	May 19	Rev. Stat., Prob., & Normal	1/5 Stat. I & II
Tue.	May 20	Rev. Alg. I & Ess. Geometry	1/5 Alg. I & Geo., SAT, PSAT
Wed.	May 21	Rev. Alg. II Func.&Systems	1/5 Chapters 1–4 (new Alg. Diag test?)
Thu.	May 22	Rev. Alg. II Quadratics, Exp., Log.	1/5 Chapters 5–6 (Computer test)
Fri.	May 23	Final Examination, Comprehensive	
Mon.	May 26	Memorial Day–Center Closed	
Tue.	May 27	Rev. Alg. II Other	1/5 Chapters 7–11,15 (Chemistry test)
Wed.	May 28	Projected Final Exam	Algebra II
Thu.	May 29	Projected Final Exam	Computer Science
Fri.	May 30	Projected Final Exam	Chemistry
Mon.	June 2	Make-ups & Base School Exams	
Tue.	June 3	Make-ups & Base School Exams	
Wed.	June 4	Make-ups & Base School Exams	
Thu.	June 5	Books & Grades Overdue	missing books= \neq no grade?
Fri.	June 6	Last day of school for students.	

2.10 Precalculus–Course Description

Course Title: Mathematical Analysis (or more commonly: Precalculus)

Grade Level: Grade 11 (Junior)

Prerequisite: Satisfactory completion of Geometry and Algebra II

High School Credit: 1

The course topics include college algebra, advanced trigonometry, and analytic geometry of two and three dimensions. Students experience a thorough analysis of all elementary functions and curve-sketching. Selected discrete mathematics topics, probability, the normal probability distributions, non-linear regression, and hypothesis testing are explored. Practice with proofs such as mathematical induction are included. Experience with graphing calculators is incorporated.

2.10.1 Textbooks

The primary textbook used will be:

Sullivan, Michael. Precalculus. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey, 2005.

2.10.2 Course Objectives

The following list (omitted!) is a set of specific course objectives for *Mathematical Analysis (Precalculus)*. This list is organized with respect to its four major course topics which include reviews and extensions of *Integrated Algebra II*, Probability and Statistics, and the development of Trigonometry and Precalculus.

2.10.3 Homework Assignments

Since 2005–06 this course has employed Web Assign at <http://webassign.net> (login page is <http://www.webassign.net/login.html> as a homework delivery system. An introductory homework is due on Sep. 10, 2007 2pm and the homework for chapter 1, section 1 is due by classtime Sep. 12. These are to be done using the computer delivery (paperless) system. Until then there will also be some paper-based homeworks Specifically, an Algebra Review (Appendix A, Section 1, all 1 mod 5 and 4 mod 5 problems or 1, 6, 11, 16, ... and 4, 9, 14, 19, ...) is due at the beginning of the second class period (Fri. Sep. 7) and a Geometry Review (Appendix A, Section 2, all evens) is due by end of the next week (Fri. Sep. 14, but no class that day).

Physics is using the same homework delivery system so student network access will be important. In addition, this system provides better controls over late homework and parental auditing of work completion.

Further assignment information will be provided in a timely manner.

Precalculus again this year has 105 minute class periods on “alternate” Fridays.

The following Fridays are currently scheduled as precalculus classes: Sep. 7, 21; Oct. 5, 19; Nov. 2, 16; Dec. 14; Jan. 11, 25; Feb. 8, 15, 22; March 14; April 11, 25; and May 9. You may note that many of these are MML contests days.

The following Fridays are currently schedules as physics classes: Sep. 14, 28; Oct. 12, 26; Nov. 9, 30; Dec. 7, 21; Jan. 18; Feb. 1, 29; March 7, 28; April 18; May 2, 16, and 23.

This can be a source of confusion so please make a note of this!

Berrien County Math & Science Center

On the Campus of Andrews University submitted to ETS for approval on Aug. ?, 2007

2.11 AP Statistics Course Syllabus

I. COURSE IDENTIFICATION

- A. Discipline: Mathematics
- B. Title: Advanced Placement Statistics
- C. Credit Hours: 1 High School (Potentially 4 college semester)
- D. Instructor: Dr. Keith G. Calkins and Ms. Elvira Baumgartner
- E. Office Number: Smith Hall 106 and 105
- F. Telephone: voice mail: 269 471-6629 and 6646; classroom: 269 471-6646
- G. E-mail address: **calkins@andrews.edu and baumgare@andrews.edu**
- H. Prerequisites: Algebra II or teacher's permission
Corequisite: A BCMSC science
- I. Semester & Year: Fall and Spring 2007–08

II. TEXTBOOKS AND/OR EQUIPMENT/SUPPLIES

- A. Required textbook: The Practice of Statistics, 3rd edition, Yates, Moore, & Starnes, W. H. Freeman and Company, New York, 2006, ISBN#0-7167-7309-0 or 978-0-7167-7309-2.
- B. Required textbook: Probability and Distributions, Keith G. Calkins, 1st LaTeX edition, 2007.
- C. Suggested Supplement: Barrons 2007 3rd edition New York, 2003, \$11.53=new or 5 Steps to a 5, 2008–09 edition, Duane Hinders, \$12.89=new at amazon.com.

Calculator: Texas Instrument TI-83 or TI-84 or equivalent.

The required textbooks are supplied to the students and the commercial books must be returned with only reasonable wear and tear. Calculators will be loaned as needed with parental permission.

III. COURSE DESCRIPTION

From the 2007–08 Handbook:

AP Statistics Students accelerated in mathematics beyond our normal sequence frequently take AP Statistics. The Advanced Placement Statistics course follows the Advanced Placement syllabus and students may take the AP test in May. Course study will include exploring data, planning a study, modelling patterns using probability and simulation, and statistical inference.

The purpose of this course is to prepare students for the Advanced Placement examination in Statistics given in May by the College Board. Although some students may choose not to take the exam, nonetheless all student should be prepared. Also, this course is not normally a part of our Math and Science Center curriculum so only students working beyond grade-level take it. In the plans for 2008–09 and beyond is direct college credit in STAT285 (Elementary Statistics) at Andrews University which is described as follows in the 2007–08 Bulletin:

STAT285 Elementary Statistics A study of basic descriptive and inferential statistics, including elementary probability and probability distributions, statistical inference involving binomial, normal, and t -distributions, and hypothesis testing. Prerequisite: MPE \geq P2. *Fall, Spring*

IV. GOALS AND OBJECTIVES

Upon successful completion of this course, the student should be able to:

- A. Display, interpret, summarize, compare, and contrast both univariate and bivariate data using standard displays, measures of center, spread, and position, such as boxplots, scatterplots, z -scores, correlation, regression, and data transformations.
- B. Plan well designed and conducted censuses, surveys, studies, and experiments using random sampling and assignment, experimental units, treatments, controls, blocking, pairs, and replication. Understand sources of bias and other such issues and how they affect generalizability of results.
- C. Understand how probability affects statistics through distributions, especially the binomial, geometric, and normal. Simulations and the Central Limit Theorem will be emphasized in modelling patterns.
- D. Construct confidence intervals for large samples for proportions, means, and the difference between two such; test the significance of proportions and means and the differences between two such; and apply the t -distribution to single and two sample situations. χ^2 goodness of fit and independence, hypothesis testing, types of error, and power are covered.

For more details see the College Board Course Description available at <http://www.collegeboard.com>

V. INSTRUCTIONAL METHODOLOGY

The methods of instruction used throughout this class will include presentation, written exercises, problem solving, computer-aided instruction, classroom activities, handouts, demonstrations, and classroom question/answer. Lecture may also be present but minimized in general harmony with the Center philosophy. Group work will be emphasized to facilitate verbal interaction and to effectively plan and perform data collection and analysis. Students should build statistical connections with other subjects, our community, and country, our world, and our universe.

For 2007–08 we anticipate 16 students in three sections. The eleven morning students will meet five days a week at approximately 9:45–10:30, whereas the five afternoon students will meet 2 or 3 days a week in block format 12:25–2:10: Juniors on Monday, Wednesday, and alternate Fridays, and Seniors on Tuesday, Thursday, and 1:25–2:10 on Friday. This schedule is forced due to the half day program and otherwise single section available schedule-wise for these students.

In general, the course covers the complete textbook and all even-numbered homework questions are handed in for grading on a redo (mastry) basis. Likewise, even chapter review questions are handed in, but for these points are assessed and recorded. Redos on reviews are encouraged, but points are awarded only at the teacher's discretion.

Free response questions are frequently assigned which are graded by an experienced AP [Calculus] reader (five years) in harmony with standard grading practices.

Tests contain a substantial quantity of multiple-choice questions, many modified from released exams.

Use of a statistical [graphing] calculator (TI-84 or equivalent) is required to analyze data and perform statistical testing. These capabilities include descriptive statistics (mean, standard deviation, box plots, scatterplots), correlation coefficient, and best fit line equations. The reading of standard computerized statistical output is also emphasized. Interaction with the data to: observe patterns, modify graphs, transform data, locate unusual/influential data points, identify subgroups, and simulate random events is encouraged. Practice on these techniques,

interpreting results, and supporting conclusions will be required. General familiarity with computers is assumed.

Students will become very familiar with each and every formula and table furnished to AP Statistics examinees.

Other standard teaching practices may be found in prior syllabi located at <http://www.andrews.edu/~calkins/math/sylla11.pdf>

VI. WRITING ACROSS THE CURRICULUM STRATEGY

Students will be given the opportunity to enhance their writing skills through development of presentations on assigned topics and responses to test questions or written assignments.

VII. GRADING CRITERIA AND REQUIREMENTS

Nine-week grades will be determined on the following basis.

Quizzes, Chapter Reviews, Notebook, Projects, Worksheets,	
Citizenship, class participation and other ancillary course material	25%
Homework (1 mod 5)	25%
Contests, Free Response, Quests, and Multi-chapter Tests	50%

Two separate nine-week grades will be given each semester. A comprehensive final exam will be given each semester. A separate letter grade for this exam will be assigned and reported. This exam is generally 20% and each nine week grade is generally 40% of the semester grade.

VIII. GRADING SCALE

100%	A+	80%	B+	65%	C+	50%	D+
90%	A	75%	B	60%	C	45%	D
85%	A-	70%	B-	55%	C-	40%	D-

Note that a grade of A+ is not strictly determined by percentage alone.

IX. MAKE-UP POLICY

Absences should be prearranged whenever possible and the student handbook allows a generous makeup period for excused absences. However, assignments made beforehand (such as all homework) are due as specified. Make-up quests, tests, and exams may be equivalent but not necessarily congruent.

X. ATTENDANCE/WITHDRAWAL POLICIES

Failure to attend 20 percent of the scheduled contact hours may result in serious consequences. Normal athletic events, track meets, regionals, conference meets, contests, competitions, proms, and other extracurricular activities should be arranged to only minimally impact course performance. Effective utilization of weekly evening help sessions can mitigate attendance issues.

XI. DISMISSAL

Students are dismissed from this class for behaviors that are abusive to the student, fellow students, or the instructor/lab assistants.

XII. ELECTRONIC DEVICES IN CLASS POLICY

Use of cellular phones, pagers, CD players, radios, I-PODs, MP3 players, and similar devices are **prohibited** in the classroom. Calculators must not be shared during testing.

XIII. RULES REGARDING ASSIGNMENTS

Students are advised to carefully read the student handbook regarding academic honesty, appropriate student behavior, substance abuse, and academic standards of progress.

XIV. ASSIGNMENT SCHEDULE

The scheduled course outline will be followed as closely as possible; however, changes may be made at the instructor's discretion.

Berrien County Math & Science Center
On the Campus of Andrews University

2.12 AP Calculus AB Course Syllabus

Approved by ETS June 22, 2007

I. COURSE IDENTIFICATION

- A. Discipline: Mathematics
- B. Title: Advanced Placement Calculus AB
- C. Credit Hours: 1 High School (Potentially 4 college semester)
- D. Instructor: To be determined (prepared by Dr. Keith G. Calkins)
- E. Office Number: Smith Hall 106
- F. Telephone: voice mail: 269 471-6629; classroom: 269 471-6646
- G. E-mail address: To be determined (**calkins@andrews.edu**)
- H. Prerequisites: Precalculus at BCMSC or equivalent
 Corequisite: Biochemistry (or other BCMSC science if accelerated)
- I. Semester & Year: Fall and Spring 2007–08

II. TEXTBOOKS AND/OR EQUIPMENT/SUPPLIES

- A. Required textbook: Calculus of a Single Variable, 8th edition, Larson, Hostetler, & Edwards, Houghton Mifflin Co., Boston, 2006, ISBN#0-618-50304-8.
- B. Required textbook: Multiple Choice Questions (and Solutions) in Preparation for the AP Calculus (AB) Examination, 7th edition, D & S Marketing System, Inc., New York, 1999.
- C. Required textbook: Calculus Cloze Exercises, Keith G. Calkins, 1st LaTeX edition, 2008.
Calculator: Texas Instrument TI-84 or TI-89 or equivalent.

The textbooks are supplied to the students and the commercial books must be returned with only reasonable wear and tear. Calculators will be loaned as needed with parental permission.

III. COURSE DESCRIPTION

From 2006–07 Handbook (2007–08 not yet available):

The Advanced Placement Calculus AB course follows the Advanced Placement syllabus and students may take the AP test in May. Advanced students may follow the BC course. Course study will include properties of functions, limits, differential calculus, and integral calculus.

The purpose of this course is to prepare students for the Advanced Placement examination in Calculus given in May by the College Board. All students are expected to be prepared for the AB exam while select students may opt to prepare for the BC exam (see separate syllabus). As such it covers a broad spectrum of first semester calculus materials necessary to prepare students for any second semester college calculus course. In the plans for 2008–09 and beyond is direct college credit in MATH141 (Calculus I) at Andrews University which is described as follows in the 2007–08 Bulletin:

MATH141, 142 is a standard introduction to single-variable calculus. MATH141 includes limits, continuity, derivatives, applications, and integration up through substitution. Formal definitions of limits, derivative, and Riemann integrals. Proofs of standard theorems, including the Fundamental Theorem of Calculus. Fulfills the

General Education Mathematics reasoning requirement. Prerequisite MPE=P5 or MATH167 or MATH168 with grade no lower than C.

IV. GOALS AND OBJECTIVES

Upon successful completion of this course, the student should be able to:

- A. Analyze graphs, find function limits, describe asymptotic and unbounded behavior, and exploit continuity, verbally and convincingly.
- B. Find/compute and use derivatives graphically, numerically, and analytically; at a point; of basic functions; for rates, slopes, concavity, other common applications; implicitly.
- C. Find/compute and use integrals graphically, numerically, and analytically; as Riemann sums; to model situations; apply initial conditions; and solve separable differential equations.

For more details see the College Board Course Description available at <http://www.collegeboard.com>

V. INSTRUCTIONAL METHODOLOGY

The methods of instruction used throughout this class will include presentation, written exercises, problem solving, computer-aided instruction, classroom activities, handouts, demonstrations, and classroom question/answer. Lecture may also be present but minimized in general harmony with the Center philosophy. Group work will be emphasized to facilitate verbal interaction.

About one fifth the homework questions from Sections 0.1 through 7.4 are required. Some topics/sections (Simpsons in 4.6, 5.9, Eulers in 6.1 and 6.3, Linear D.E. in 6.4, and Shells in 7.3) will be deemphasized to facilitate concentration on AP objectives. Cloze exercises over each section will facilitate reading the textbook and emphasize certain facts and theorems.

A similar quantity of chapter review exercises are also required. Note: since all odd solutions are available at <http://www.calcchat.com/> they will be worth much less than solutions to the even questions.

Weekly free response questions are assigned after chapter one which are graded by an experienced AP Calculus reader (five years) in harmony with standard grading practices.

Tests contain a substantial quantity of multiple-choice questions, many modified from released exams. A substantial portion of tests and exams must be done without an electronic calculator.

A graphing calculator (TI-84 or equivalent or TI-89) is required to plot function graphs in arbitrary windows; find function zeroes (solve equations numerically), calculate a function derivative numerically, and calculate a definite integral numerically. Practice on these techniques, interpreting results, and supporting conclusions will be required.

Other standard teaching practices may be found in prior syllabi located at <http://www.andrews.edu/~calkins/math/syllall.pdf>

VI. WRITING ACROSS THE CURRICULUM STRATEGY

Students will be given the opportunity to enhance their writing skills through development of presentations on assigned topics and responses to test questions or written assignments.

VII. GRADING CRITERIA AND REQUIREMENTS

Grades will be determined on the following basis.

Quizzes, Chapter Reviews, Notebook, Projects, Worksheets,	
Citizenship, class participation and other ancillary course material	25%
Homework (Sections 0.1–7.4, 1 mod 5)	25%
Contests, Free Response, Quests, and Multi-chapter Tests	50%

Two separate nine-week grades will be given each semester. A comprehensive final exam will be given each semester. A separate letter grade for this exam will be assigned and reported. This exam is generally 20% and each nine week grade is generally 40% of the semester grade.

VIII. GRADING SCALE

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IX. MAKE-UP POLICY

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Students are advised to carefully read the student handbook regarding academic honesty, appropriate student behavior, substance abuse, and academic standards of progress.

XIV. ASSIGNMENT SCHEDULE

The scheduled course outline will be followed as closely as possible; however, changes may be made at the instructor's discretion.

Grade 12, AP Calculus AB

12:25-2:10 TT 1:25-2:10 F

Tentative Course Outline: 6/20/07**GRADE listed assignment on date** Esp. Rev. unless noted otherwise**Most dates good to within 2 days** (in August version)

Day	Date	Preliminary Reading/Lecture	Homework due/graded
Mon.	Aug. 27	First Day AU College classes	Come early for elective textbooks
Mon.	Sep. 4	Labor Day—Center Closed	problems 1 mod 5 end in 1 or 6
Tue.	Sep. 4	Review Graphs & Models (p 1–9)	0.1: 1 mod 5 Textbook is Calculus
Thu.	Sep. 6	Review Models & Rates (p 10–18)	0.2: 1 mod 5 by Larson, et al
Fri.	Sep. 7	Review Function Graphs (p 19–30)	0.3: 1 mod 5 8th Edition, 2006
Tue.	Sep. 11	Review Fitting Models (p 31–36)	0.4: 1 mod 5
Tue.	Sep. 11	Class Pictures	JWL steps 1:00 (rain date ??/??)
Thu.	Sep. 13	Trig Review (hand out)	Necessary but no longer in textbook
Fri.	Sep. 14	MC & FR Questions in Prep for AP AP0: II-27,30; V-3; VI-7	7th edition, 1999 All to be done by end of year for self
Tue.	Sep. 18	QUEST, Chapter 0	1:00 Tuesday (Precalc. Review)
Thu.	Sep. 20	Stand and Deliver SH100	AP Calculus Movie—103 minutes
Fri.	Sep. 21	Calc Preview (p 41–47)	1.1: 1, 6, 11 (1 mod 5)
Tue.	Sep. 25	Finding Limits (p 48–58)	1.2: 1 mod 5
Thu.	Sep. 27	Eval. Limits (p 59–69)	1.3: 1 mod 5
Fri.	Sep. 28	Continuity & One-Sided (p 70–82)	1.4: 1 mod 5
Tue.	Oct. 2	Infinite Limits (p 83–90)	1.5: 1 mod 5
Thu.	Oct. 4	Chapter 1 Review (p 90–94) AP1: I-1,5,35,37; IV-1; VI-1	1.R: 1 mod 5 due at QUEST Scattered here by chapter for convenience
Fri.	Oct. 5	QUEST, Chapter 1	New Material (see standard Quest format)
Fri.	Oct. 5	MMPC Extra Credit due	
Tue.	Oct. 9	BioChem today? in exchange for	MMPC tomorrow
Wed.	Oct. 10	Mich Math Prize Competition, I	40Q 5A; required for all seniors
Thu.	Oct. 11	Tangent Line (p 95–106)	2.1: 1 mod 5
Fri.	Oct. 12	Basic Diff. Rules (p 107–118) MML Extra Credit Due	2.2*: 1 mod 5 (*double HW credit) Friday, Oct. 12
Tue.	Oct. 16	Prod./Quo. Rules (p 119–129) AP2: II-4,7,9,13,16,22,25,26,27,34,37; AP2: IV-4,8,13,24,26,28,30,31,32,36; AP2: VI-3,4,5,11,20,31,32,35,39,41;	2.3*: 1 mod 5 (*double HW credit) III-5,6,12,45 V-1,5,8,9,12,15,16,19,35,41,44 I-20
Thu.	Oct. 18	TEST, Sections 2.1–2.3 & Chap. 0&1	40%, 40%, 20%, chapters 0–2
Fri.	Oct. 19	The Chain Rule (p 130–140)	2.4*: 1 mod 5 (*double HW credit)
Fri.	Oct. 19	Michigan Math League Contest	MML 1 of 6 (s/b Tue 10/23)
Fri.	Oct. 19	End of 1st "9"(7)-weeks	Grades due? Tue. Oct. 24, noon

Day	Date	Preliminary Reading	Class/Home Work
Second 9-weeks Begins			
Tue.	Oct. 23	MMPC Extra Credit due	MML Extra Credit assigned.
Thu.	Oct. 25	Implicit Diff. (p 141–148)	2.5: 1 mod 5
Fri.	Oct. 26	Related Rates (p 149–157)	2.6: 1 mod 5
Tue.	Oct. 30	2.3 & 2.4 corrections must be handed	in by Friday November 2. (period)
Thu.	Nov. 1	QUEST, Chapter 2, Esp. Sec. 2.2–2.4	See assignment 2.R below
Fri.	Nov. 2	Chapter 2 Review (p 154-162)	2.R 1 mod 5 due at Quest (above)
Mon.	Nov. 5	Parent-Teacher Conferences	Freshmen/Seniors
Tue.	Nov. 6	Extrema (p 163–171)	3.1: 1 mod 5
Thu.	Nov. 8	Rolle's & Mean Value (p 172–178)	3.2: 1 mod 5
Fri.	Nov. 9	AP3: I: 2,15,21,24,31,36,40,42,43,45	
Tue.	Nov. 13	1st deriv. test (p 179–189)	3.3*: 1 mod 5, (see old 56)
Thu.	Nov. 15	2nd deriv. test (p 190–197)	3.4*: 1 mod 5, esp. 61
Fri.	Nov. 16	AP3: II: 5,8,9,11,17,22,28,31,32,33,35	
Fri.	Nov. 16	Michigan Math League Contest	MML 2 of 6 (s/b Tue 11/20)
Tue.	Nov. 20	Limits at Infinity (p 198–208)	3.5: 1 mod 5
Thu.	Nov. 22	Thanksgiving Day	Center Closed
Fri.	Nov. 23	Thanksgiving Friday	Center Closed
Tue.	Nov. 27	Sketching (p 209–217)	3.6: 1 mod 5
Thu.	Nov. 29	QUEST, Sections 3.1–3.6	
Fri.	Nov. 30	Optimization (p 218–228)	3.7: 1 mod 5, and 23*
Tue.	Dec. 4	Newton's Method (p 229–234)	3.8: 1 mod 5
Wed.	Dec. 5	Mich Math Prize Competition, II	by invitation only (pm)
Thu.	Dec. 6	Differentials (p 235–241)	3.9: 1 mod 5
Fri.	Dec. 7	AP3: III: 4,7,14,19,21,31,35,36,42	IV: 2,12,16,17,39
Tue.	Dec. 11	Chapter 3 Review (p 342-246)	3.R: 1 mod 5 due at Exam
Thu.	Dec. 13	QUEST, Chapter 3	(See assignment 3.R below)
Fri.	Dec. 14	AP3: V: 4,10,14,20,23,25,26,27,31,38,43	VI: 6,13,15,33,38,42,45
Fri.	Dec. 14	Michigan Math League Contest	MML 3 of 6 (s/b Tue 12/18)
Tue.	Dec. 18	Review for Exam	
Thu.	Dec. 20	1st Semester Exam, Comprehensive	All Rev. sheet redos due at exam
Fri.	Dec. 21	End of semester celebration	
Fri.	Dec. 21	End of the 2nd Marking Period	Grades Due Fri. 1/11?, noon
Dec.	22–Jan. 6	Winter Break	

Day	Date	Preliminary Reading	Class/Home Work
Second Semester Begins			
Tue.	Jan. 8	Antiderivatives (p 247–258)	4.1: 1 mod 5
Thu.	Jan. 10	Integration (p 259–270)	4.2: 1 mod 5
Fri.	Jan. 11	AP4: I: 3,6,14,19,26,27,28,32,33,39,41	
Fri.	Jan. 11	Michigan Math League Contest	MML 4 of 6 (s/b Tue 1/15)
Tue.	Jan. 15	Riemann Sum/Definite Int (p 271–281)	4.3: 1 mod 5
Thu.	Jan. 17	AP4: II: 1,6,10,14,15,16,18,19,39,41	AP4: II: 42,43
Fri.	Jan. 18	AP4: III: 1,8,11,13,17,18,22,23,29,37	(Home School Semester Exams)
Mon.	Jan. 21	Center Closed	Martin L. King, Jr. Day
Tue.	Jan. 22	Fund. Theorems (p 282–294)	4.4: 1 mod 5
Thu.	Jan. 24	Substitution (p 295–308)	4.5: 1 mod 5
Fri.	Jan. 25	AP4: IV: 5,9,18,19,22,27,33,45 AMC10 Extra Credit Due	Friday, Jan. 25
Tue.	Jan. 29	Numeric Integration (p 309–313)	4.6: 1 mod 5 (Simpson bonus)
Thu.	Jan. 31	Chapter 4 Review (p 314–320)	4.R: 1 mod 5 due Tuesday Feb. 5
Fri.	Feb. 1	Deriv. of logs (p 321–331)	5.1: 1 mod 5
Tue.	Feb. 5	QUEST, Chapter 4, esp. 4.3–4.4	
Thu.	Feb. 7	Int. of dx over x (p 332–340) AP4: V: 2,7,11,13,22,28,29,34,36,39,45 AP4: VI: 2,8,12,21,25,29,30,36	5.2: 1 mod 5
Fri.	Feb. 8	Inverse Functions (p 341–349)	5.3: 1 mod 5
Fri.	Feb. 8	Michigan Math League Contest	MML 5 of 6 (s/b Tue 2/12)
Tue.	Feb. 12	all about exp. (p 350–359)	5.4: 1 mod 5
Tue.	Feb. 12	Am. Math Comp. (AMC10/12)	25Q; 5A; severe guess pen. all sen.
Thu.	Feb. 14	logs other bases (p 360–370)	5.5: 1 mod 5
Fri.	Feb. 15	AP5: I: 6,8,12,17,18,23,25,44	II: 12,20,21,23,24,34,36,40
Mon.	Feb. 18	Feb. 3rd Mon. Hol.—Center Closed	(Pres./Great Am. Day)
Tue.	Feb. 19	QUEST, Sections 5.1–5.6	Pay for/reserve your very own AP tests!
Thu.	Feb. 21	Der. Inverse Trig. (p 371–379)	5.6: 1 mod 5
Fri.	Feb. 22	Int. Inverse Trig. (p 380–387)	5.7: 1 mod 5
Tue.	Feb. 26	AP5: III: 3,9,10,15,20,24,25,33,34,39,	40,41,43,44
Thu.	Feb. 28	Hyperbolics (p 388–398)	5.8: 1 mod 5 (bonus)
Fri.	Feb. 29	AP5: IV: 6,7,8,11,14,15,20,23,25,34,35,	38,41,43
Thu.	March ?	Cass Co. Science Olympiad	
Mon.	March 3	Parent-Teacher Conferences	Sophomores/Seniors
Tue.	March 4	AP5: V: 17,18,24,32,33,37,42; VI: 2,9,	14,15,17,18,19,24,26,28,40,44
Thu.	March 6	TEST, 9 week, Sections 0.1–5.8	All Homework due B4 Friday March 14
Fri.	March 7	Chapter 5 Review (p 399–402)	5.R: 1 mod 5 due at test (above)
Fri.	March 7	End of 3rd 9 weeks	Grades due at noon Tue 3/11?

Day	Date	Preliminary Reading	Class/Home Work
—	—	Last 9-weeks Begins	—
Tue.	March 11	Slope fields (p 401–412)	6.1: 1 mod 5 (but Euler’s bonus)
Wed.	March 12?	Berrien Co. Science Olympiad	
Thu.	March 13	Exp. Growth/Decay (p 413–420)	6.2: 1 mod 5
Fri.	March 14	Sep. Var. and Log. Eq. (p 421–431)	6.3: 1 mod 5 (but Euler’s bonus)
Fri.	March 14	pi day celebration	
Fri.	March 14	Michigan Math League Contest	MML 6 of 6 (s/b Tue 3/18)
Tue.	March 18	Region Area (p 445–455)	7.1: 1 mod 5 (Note: 6.4 is bonus)
Tue.	March 18	Am. Inv. Math Exam 3H-15Q	by invitation only
Thu.	March 20	The Disk Method (p 456–466)	7.2: 1 mod 5 and 62, 63
Fri.	March 21	Good Friday, Center Closed? Sr. class trip; Multiple Prom Dates	and other schedule disruptions
Tue.	March 25	AP7: I: 11,29; II: 44; III: 26,30;	IV: 10,21,27,40,42;
Wed.	March 26?	Int. Sci. & Eng. Fair I	SEF
Thu.	March 27	The Shell Method (p 467–475)	7.3: 1 mod 5 (all bonus)
Fri.	March 28	Arc Length/sur of rev. (p 476–486)	7.4: 1 mod 5
Mar 1–Apr 4		Spring Break	
Tue.	April 8	AP7: V: 30,40; VI: 10,22,34,37,43	
Thu.	April 10	TEST, Chapters 6 and 7	7.R due today
Fri.	April 11	Chapter 7 Review (p 513–516)	7.R: 1 mod 5 (41-51 bonus) due at Test
Tue.	April 15	QUIZ, Chapter 0 Review	Final Preparation for AP Exam on May 7
Tue.	April 15	Algebra Contest, 30Q, 30 Min.	On or after this date
Thu.	April 17	QUIZ, Chapter 1 Review	Final review of test grading quirks
Thu.	April 17?	Berrien Co. Arts & Sci Expo	
Fri.	April 18	QUIZ, Chapter 2 Review	Final Exam format info detailed below
Tue.	April 22	QUIZ, Chapter 3 Review	Final: Part I 12:30–1:00, 15Q, no calc.
Thu.	April 24	QUIZ, Chapter 4 Review	Final: Part II 1:05–1:35, 10Q, calc.
Fri.	April 25	QUIZ, Chapter 5 Review	Final: Part III 1:40–2:10, 2 of 6 free rep.
Tue.	April 29	Int. by Parts (p 525–533)	8.2: 1 mod 5 (bonus for examinees)
Thu.	May 1	Partial Fractions (p 552–560)	8.5: 1 mod 5 (bonus for examinees)
Fri.	May 2	L’Hopital’s Rule (p 567–577)	8.7: 1 mod 5 (bonus for examinees)
Tue.	May 6	Final Examination—ALL must take	three 30 minute parts as detailed above
Wed.	May 7	8am at BCISD	Official AP Calculus Exam
Thu.	May 8	AP8: These subjects have been	deemphasized on the AP test
Fri.	May 9	Chapter 8 Review	8.R: 1 mod 5, Due Friday, May 16 (bonus)
Tue.	May 13	Improper Integrals (p 578–588)	8.8: 1 mod 5 (bonus for examinees)
Thu.	May 15	Cumulative 4-year Examination	See Example in 1997 yearbook
Fri.	May 16	Final chance to get homework in is	Friday May 16, 2pm
Fri.	May 16	Density Experiment	
Sun.	May 18	Awards/Honors Night	Univ. Towers? 7pm

Math Notebook Scoring Rubric

Your notebook is a significant portion of your grade: 15% or about $\frac{1}{7}$. Not all of that is direct. Some of that is indirect through open-note quizzes, tests, *etc.* Some tests might be open notes. However, that fact might not be revealed until the moment tests are distributed. It is thus to the student's distinct advantage to keep the notebook available, complete, and organized. The notebook should be available anytime there is a question regarding grading, and especially during parent-teacher conferences. There it might serve as a *portfolio* to display the student's work. A good notebook can easily spell the difference between an A and a B (or a B and a C for that matter) since each letter grade interval (B, B+, A-, A, *etc.*) is 5%.

Organizational skills used to maintain your notebook will help you efficiently. They will also help you be better prepared for life in general (college, income taxes, an unannounced meeting with your boss over next year's budget, *etc.*) Items are graded on a 10 point scale corresponding with: excellent (10), acceptable (8), unsatisfactory (6), mediocre (4), and failing (0/2). The four items listed: notebook, organization, availability, and corrections each have equal weight.

The Physical Notebook						
10. Small ($\frac{1}{2}$ "-1" rings), 3-ring binder, used exclusively? for math.						
8. Large (more than 1"), 3-ring, multi-subject, subjects separate.						
6. Large (more than 1"), 3-ring, multi-subject, subjects jumbled.						
4. Pocket or manila folder, or spiral notebook.						
0/2. Stapled, paperclipped, rubber-banded, or otherwise assembled.						
Notebook Organization/Completeness/Neatness						
10. This notebook scoring rubric is at the front, with name on it. Separate sections for: tests, quizzes, notes, reviews, homeworks all labelled, in order, and present. Daily notes are dated, numbered, neat, and organized.						
8. Minor handout, one test, or a section missing.						
6. Notes, tests, homeworks, quizzes are intermingled, or a major section/handouts are missing.						
4. Multiple sections or handouts missing.						
0/2. No clear organization present.						
Tests, Reviews, and Homework Corrections						
10. Syllabus has parental signature. All distributed test keys present. All Tests, Reviews, Quizzes, and Homeworks corrections made. All Course outline revisions have been noted.						
8. Minor deviations from the above objectives.						
6. Major deviations from the above objectives.						
4. Catastrophic deviations from the above objectives.						
0/2. Insufficient evidence available to evaluate this criterion.						
Notebook Availability						
10. Notebook brought to class almost every day.						
8. Notebook brought to class 25%-90% of the time.						
6. Notebook at home (or in locker) except perhaps on test day.						
4. Notebook lives in locker: school is locked (closed) or can't always get it from locker before bus leaves.						
0/2. Notebook? What notebook? Or more than 10 sheets in your textbook.						

Mathematics Notebook, September 2007

Self-Evaluation Checklist

Check your notebook regularly, following these guidelines:

1. Keep this and other notebook evaluation sheets in the front of your notebook.
2. Be neat!
3. Be organized!
4. Clearly demarcate each day's notes (by drawing a horizontal line or starting the new side of a sheet).
5. Each day, use a heading that includes the date and the objectives for that day and/or number the pages.
6. Highlight or box off the major points.
7. Keep all current class handouts in your notebook.
8. Include sample problems with steps and reasons.
9. After each sample problem, write the reason for putting it in your notes.
10. Include comments in your own words to make your notes meaningful and helpful.
11. Include a summary statement at the end of each chapter's notes.
12. **Make homework and test corrections in a different color and date them.**
13. Do missed homework and have it graded.
14. Include vocabulary definitions, formulas, and theorems in a form which makes review easy, perhaps in a separate section.