

OAKLAND UNIVERSITY
COLLEGE OF ARTS AND SCIENCES
DEPARTMENT OF MATHEMATICS AND STATISTICS

COURSE INFORMATION SHEET

COURSE: MTH 1441, Precalculus, 4 Credits

CATALOG DESCRIPTION	<p>Functions, roots of polynomials, rational, exponential and logarithmic functions, trigonometric functions (including graphs, identities, inverse functions, equations and applications), complex numbers, analytic geometry and conic sections.</p>
PREREQUISITE	<p>One of the following prerequisites is required for enrolment in MTH 1441:</p> <ul style="list-style-type: none"> • A 2.0 or better in MTH 0662 (previously MTH 062 / MTH 012); • An equivalent course at another school; • A placement of R on the department's placement test; or • An ACT mathematics score of at least 22. <p>Prerequisites will be strictly enforced: failure to satisfy the prerequisites or documentation verifying satisfaction of the prerequisites will result in cancellation of your course registration.</p> <p>It is assumed that if you satisfy one of the above prerequisites, you have a good working knowledge of intermediate algebra, which includes but is not limited to manipulation of fractions, factoring, simplifying rational and radical expressions, solving linear inequalities and equations, and graphing. If you are not familiar with the above topics or cannot factor, simplify, or solve a problem without a calculator, it is recommended that you speak to your instructor to discuss an appropriate course of action.</p> <p>Students are sometimes unaware, until after they have taken a college mathematics course, how much more emphasis is placed in college courses on understanding and applying concepts, as opposed to learning to perform routine computations. Indeed, understanding of mathematical concepts and their applications are the central issues of college-level work. Students who have not been in such courses often underestimate the amount of time and hard work needed to succeed.</p>
COURSE OBJECTIVES	<p>The successful student in this course will:</p> <ul style="list-style-type: none"> • Be ready to succeed in Calculus; • Learn what is a function and how functions are used to model phenomena; • Learn to use and analyze polynomial, rational, exponential and trigonometric functions; <p>and</p> <ul style="list-style-type: none"> • Further develop algebraic skills in manipulating rational expressions of polynomials, exponential, logarithmic and trigonometric functions.
REQUIRED TEXT	<p><i>Precalculus</i>, by Stewart, Redlin and Watson, 7th edition, published by Cengage, with Webassign access.</p> <p>A scientific calculator.</p>
SYLLABUS	<p>For a day-to-day list of topics, see "MTH 1441 Schedule."</p>
COURSE COMPONENTS	<p>The course is composed of three components:</p> <ul style="list-style-type: none"> • Traditional lectures, three per week; • Workshops, three times per week, which includes group problem-solving. • Online tutorial and homework via Webassign.
WEB ASSIGN	<p>Enhanced Web Assign is a computer based learning software. The access code is included with the purchase of a NEW textbook from the campus bookstore. The access code can also be purchased from the website.</p>
MOODLE	<p>The first day handouts will be posted on Moodle, as well as the course code and registration information for WebAssign. You will also find course and instructor information and office hours. It is advisable you check Moodle for daily updates.</p>

DSS ACCOMMODATION	<p>Students with disabilities who may require special considerations should contact the Office of Disability Support Services. Such students should also notify their instructor as soon as possible.</p> <p>When the student receives the official DSS accommodation letter they should contact their instructor to schedule a brief meeting to review and explain how accommodations will be provided. No accommodations can be provided until the official letter from the DSS office has been given to the main lecture instructor and the student and main lecture instructor have met.</p>
DROPPING THE COURSE	<p>The Department of Mathematics and Statistics is committed to achieving the goal of an academically sound freshman and sophomore mathematical sciences curriculum in which most conscientious Oakland University students can expect to be successful. If you are considering dropping the course and wish to discuss the matter further, you are encouraged to contact your instructor.</p>
EMERGENCY CLOSING	<p>If the University is closed at the time of a scheduled examination (for example, because of snow), the exam will be given in the next lecture period when the university reopens. For example, if the university is closed on Monday, January 29, the exam will be given in the following lecture on Wednesday January 31.</p> <p>The Oakland University emergency closing number is 370-2000.</p>
ATTENDANCE	<p>Workshop attendance and participation are vital for success in this course. Students are expected to participate based on the guidelines below. To be in attendance means:</p> <ul style="list-style-type: none"> • Be on time for each workshop. • Stay on task during each workshop. • Stay the full period. (Do NOT leave early.) • Do not take or receive calls, messages, etc. • No electronics should be out during the workshop. (No cellphones, laptops, tablets, etc.) • Come prepared. Arrive with a pencil, textbook, and paper. • Students should not regularly leave the workshop.
STUDY HABITS	<p>Cultivating good work and study habits is necessary for doing well in mathematical sciences courses. You should keep on top of the subject by doing large amounts of homework (frequently working on problems not assigned), regularly reviewing earlier material, asking questions in class, and making good use of your instructor's office hours and The Tutoring Center hours for free peer tutoring. If you are having difficulty with a topic, get it clarified as soon as possible.</p> <p>If you make mistakes on exams or drills, rework these problems so you will not make similar mistakes later. Regular review of previous material help you avoid cramming, and the usual non-retention problems students encounter at the end of the course. Expect that you should spend at least two hours outside of class for each hour in class.</p>
ACADEMIC HONESTY	<p>Cheating is a serious academic crime. Oakland University policy requires that all suspected instances of cheating be reported to the Academic Conduct Committee for adjudication. Anyone found responsible for academic misconduct may get a 0.0 in addition to any penalty assigned by the Academic Conduct Committee. You must read the Academic Conduct Regulations of Oakland University. Working with others on homework is not cheating unless indicated by the instructor; handing in an assignment that has essentially been copied from someone else is cheating. Looking at someone else's work during an exam is cheating. Receiving help from someone else or consulting unauthorized material during an exam is cheating. Giving such assistance, even unintentionally, also constitutes cheating.</p> <p>Drill & Exam Technology and Dress Requirements: Bring a photo I.D. with you to each drill and exam. Do not wear hoodies, hats or ball caps. Your ears and face must be visible during drills and exams. (Religious exemptions may be allowed, e.g. kippah, coif/whimple/veil, hajib, etc.) While taking exams or drills wearing ear buds or iWatches is prohibited. Phones and all other technology must be turned off and placed out of sight.</p>

GRADING CRITERIA

GRADING CRITERIA AND SCALE	<u>Grading Criteria</u>	<u>Scale</u>
	Exam 1: 100 pt	95% – 100%: 4.0
	Exam 2: 100 pt	80% – 94.9%: 3.0 – 3.9
	Exam 3: 100 pt	65% – 79.9%: 2.0 – 2.9
	Exam 4: 100 pt	50% – 64.9%: 1.0 – 1.9
	Exam 5: 100 pt	Less than 50%: 0.0
	Exam 6: 100 pt	
	Drills: 100 pt	
	Final Exam: 250 pt	
	Online Assignments: 50 pt	
EXAMS	<p>There will be six 55-minute exams. The dates for these exams are January 12, January 29, February 12, March 5, March 19 and April 6. These exams may include prerequisite material or material from previous exams. All exams will:</p> <ul style="list-style-type: none"> • Be closed book and closed note; • Reflect both the content and general objectives of the course; and <p>Your responsibilities after an exam:</p> <ul style="list-style-type: none"> • Understand every solution. Even if you obtained the “right” answer, it is essential that you understand the presented solution. It highlights the essence of the problem and the key element tested. • If you find an error in the grading (or think you have found an error) you must notify your workshop instructor immediately and return the exam to your instructor before leaving the workshop. If you leave the workshop with the exam no adjustments will be made. 	
DRILLS	<p>The drill is designed to test your knowledge of the basic concepts presented in the workshop. The drills will either be given at the beginning or end of the workshop. With the exception of Course Info Drill which will be posted on the Lecture Moodle page. Drills must be taken in the workshop only. Drills cannot be taken early or late. There are no make-up drills.</p> <p>The content of each drill will be based on the concepts from that workshop or previous workshops. Each drill will consist of 3 to 10 questions. Each question will be worth one point. No partial credit will be awarded. The maximum number of points you may earn toward your drill grade is 100. The number of drill points available will be approximately 125.</p>	
FINAL EXAM	<p>The final exam is comprehensive and is worth 25% of the course grade. The material covered after the last exam may have a greater weight on the final exam than previous material. The final exam will reflect both the specific content and broad educational objectives of the course. The final exam is Friday, April 20th from 8:00 a.m. to 10:45 a.m.</p>	
CALCULATOR USAGE	<p>You will be permitted to use a scientific calculator on some exams, some drills and all homework assignments, but it is important to learn to use it effectively. In particular, know how to do complex calculations without writing down intermediate answers, and be aware of how many digits of accuracy you should keep and can expect an answer to have. To receive full credit on exams, be sure to show all the mathematical work necessary for setting up a calculation before using the calculator.</p> <p>If you are unsure if your calculator can be used please review the TI-30XIIS guidebook for a list of functions that your calculator is allowed to have. You are not required to purchase a TI-30XIIS, you can use a calculator with the same functions but you may not use a calculator that has functions not listed in the TI-30XSII guidebook!</p> <p>The list of approved and not approved calculators is posted in the Calculator Information section of the Lecture Moodle page. Any calculator not listed as approved cannot be used on exams. If your calculator is not on the list you should schedule a meeting with Dr. Connolly so the calculator can be reviewed.</p>	

ONLINE
ASSIGNMENTS

WebAssign is a computer-based learning software. WebAssign is worth 5% of your final grade. It is included with the purchase of a new textbook. It can be purchased separately, both at the bookstore and online at webassign.net. This software uses your browser (such as Firefox, Chrome, or Explorer) so you do not have to download anything, but you need Internet access.

- Go to www.webassign.net
- Click on "I have a class key"
- Enter the class key:

The day of each lecture meeting there will be an assignment in Web Assign. Each assignment will consist of problems from the workshop and problems dealing with current topics. The assignments are graded immediately. Each assignment will be posted at 3:50 p.m. the day of the workshop, and will be due the night before the next workshop at 11:59 p.m. There will also be review assignments for each exam. The average of the assignments will contribute 5% to your grade. **DO NOT WAIT UNTIL THE LAST MINUTE TO DO THE ASSIGNMENTS!**

Understand that internet access can sometimes fail. Maybe there is a storm that knocked out cables; maybe your computer crashed. This is not a problem for students who do their homework in a timely manner. It is a problem for students who wait until the last minute to do the problems. No extension will be given, for any reason whatsoever. If you are unable to complete an assignment as a result of technical issues, lack of access to a computer or a misunderstanding of the deadline no adjustments will be made.

To help mitigate potential computer-related issues, **the lowest 8 Web Assign homework will be dropped.**

In case of technical problems with WebAssign, do not ask your instructors. Use <https://webassign.com/support/student-support/> or 1.800.955.8272, option 1

DRILL AND EXAM
MOODLE GRADE
VERIFICATION

Students should regularly check that drill and exam grades have been accurately entered on the Moodle page.

Any inaccuracies with recorded scores must be reported to the workshop instructor immediately. **For any adjustment to be considered, you must provide the original graded work to verify that the score was incorrectly recorded.**

MAKE-UP
POLICY

No make-up exams or drills will be given.

There are no make-up exams and exams may not be taken early. You do not need to give a reason for missing an exam and you do not need to get my permission. I will enter zero for the missed exam. The final exam score, as a percent, will replace the score of the lowest (or two lowest) regular exam(s).

Therefore, your final exam score as a percent will replace the score of one (or two) missed regular exam(s) if it is higher. This policy applies to regular exam scores for all students whether the exam is missed or the exam is taken and the score is lower than desired. **Even if the final exam replacement applies, the regular exam scores on Moodle will not be changed.** The replacement score(s) will be used in the calculation of your course grade at the end of the semester.

Final exams cannot be taken before the date scheduled by the registrar's office. If you have an **approved, documented reason** to miss a final exam (a medical emergency sent you to the E.R., for instance), you will get a grade of INCOMPLETE and will be required to make arrangements with your instructor to take a final exam to complete the course and get your grade.

No make-up drill or exam and no adjustment will be given to a student who enrolls in the course after the date that a drill or exam is scheduled.

IMPORTANT
DATES

January 17: The last day for 100% tuition reimbursement, registration, to add a class, and a "no-grade" drop.

March 14: Last day official withdrawal.

February 19 - 23: Winter Recess - No Classes

April 17: Last day of class

April 20: Final Exam: 8:00 am - 10:45 am

Note the following:

Wednesday, January 17: Last Day for 100% Tuition Refund; Last Day for a No-Grade Drop

Wednesday, March 14: Last Day for Official Withdrawal

Monday, February 19 through Friday, February 23: Winter Recess – No Classes

Schedule is subject to change.

Date	Day	Sections	Topics*
January 3	W	2.1, 2.2	Functions; Graphing Functions
5	F	2.2, 2.3	Graphing Functions, Getting Information from the Graph of a Function
8	M	2.4	Average Rate of Change of a Function
10	W	2.5	Linear Functions and Modeling
12	F		Exam I: Sections 2.1 to 2.5
15	M		Martin Luther King Day – No Classes
17	W	2.6	Transformations of Functions
19	F	2.7	Combining Functions
22	M	2.8	One-to-One Functions and Their Inverses
24	W	3.1	Quadratic Functions and Models
26	F	3.2	Polynomial Functions and Their Graphs
29	M		Exam II: Sections 2.6 to 2.8; Sections 3.1, 3.2
31	W	3.3	Dividing Polynomials
February 2	F	3.4	Real Zeros of Polynomials
5	M	3.5	Complex Numbers
7	W	3.6	Complex Zeros and the Fundamental Theorem of Algebra
9	F	3.7	Rational Functions
12	M		Exam III: Sections 3.3 to 3.7
14	W	4.1, 4.2	Exponential Functions, The Natural Exponential Function
16	F	4.3	Logarithmic Functions
26	M	4.4	Laws of Logarithms
28	W	4.5	Logarithmic Equations
March 2	F	4.5	Exponential Equations
5	M		Exam IV: Sections 4.1 to 4.5

Date	Day	Sections	Topics*
7	W	4.6	Modeling with Exponential and Logarithmic Functions
9	F	5.1	The Unit Circle
12	M	5.2	Trigonometric Functions of Real Numbers
14	W	5.3, 5.4	Trigonometric Graphs; More Trigonometric Graphs
16	F	5.5	Inverse Trigonometric Functions and Their Graphs
19	M		Exam V: Section 4.6; Chapter 5
21	W	6.1	Angle Measure
23	F	6.2, 6.3	Trigonometry of Right Triangles; Trigonometric Functions of Angles
26	M	6.4	Inverse Trigonometric Functions and Right Angles
28	W	6.5	The Law of Sines
30	F	6.6	The Law of Cosines
April 2	M	7.1	Trigonometric Identities
4	W	7.2	Addition and Subtraction Formulas
6	F		Exam VI: Chapter 6; Sections 7.1, 7.2
9	M	7.3	Double-Angle and Half-Angle Formulas
11	W	7.4	Basic Trigonometric Equations
13	F	7.5	More Trigonometric Equations
16	M		Review

* Schedule is subject to change