OAKLAND UNIVERSITY

DEPARTMENT OF MATHEMATICS AND STATISTICS

STUDENT INFORMATION SHEET AND SYLLABUS

COURSE: MTH 1555, Calculus II, 4 Credits

SEMESTER: Winter 2018

Faculty	Office	Section	Class Time	Room	Phone	Email
Prof. S. Saleem	**393 MSC**	**12975**	**8:00 am - 9:07 am**	**MWF 163 SFH**	**370-4031**	**sdsaleem@oakland.edu**

Attendance at every class is expected.

OFFICE HOURS: : MW: 12:00 – 1:00 PM, TR : 10:00 – 11:00 AM

CATALOG DESCRIPTION FOR MTH 1554 - 1555: A comprehensive study of analytic geometry, limits, differentiation and integration of functions of one real variable, including transcendental functions, infinite series, indeterminate forms, polar coordinates, numerical methods and applications. Each is offered fall and winter semester.

ADDITIONAL SUPPORT: You are encouraged to make use of supplemental instruction (SI). One section is offered; location and meeting times are given above. SI involves group activity designed to support the material and problem solving. You are encouraged to use the Tutoring Center (103 NFH) for peer tutoring, study skills seminars, videotapes on mathematical topics, and more.

PREREQUISITES: A 2.0 or better in MTH 1554 or an equivalent course at another school. **Prerequisites are strictly enforced: failure to satisfy the prerequisite or failure to provide in a timely manner documentation verifying satisfaction of the prerequisite will result in cancellation of your registration in the course.** In order to do well in this course, you need to have skills in calculus of a single variable through definite integrals and their applications as well as a solid background in college algebra, trigonometry, and analytic geometry. **A prerequisite test will be given on Monday, January 8, 2018 in the daytime sections. For the evening section, please see your specific syllabus.**

TEXT: *Calculus, Single Variable, Early Transcendentals, 8th Ed.* (or *Calculus, Early Transcendentals, 8th Ed.* for students who are planning to take MTH 2554) by Stewart, published by Brooks/Cole Cengage Learning. The material to be covered is contained in chapters 6-11. (See detailed syllabus below). You are expected to purchase a copy of this textbook. A student solutions manual, containing worked-out solutions to many of the exercises, is available at the book center, but its purchase is totally optional (homework will be assigned from both those exercises that have answers in the back of the text and/or solutions in the manual and those that do not). In addition, a copy of the textbook, and other material will be available on 2-hour reserve at Kresge Library.

GENERAL EDUCATION LEARNING OUTCOMES: For the General Education Integration area of Knowledge Applications, the student will be able to synthesize their knowledge, to see connections among the various disciplines and to apply their knowledge to real world problems. This integrated knowledge forms the basis for students to continue to learn and grow throughout their lives and prepares them for productive lives of service and leadership.

COURSE OBJECTIVES: Chapter 6: Applications of Integration; Chapter 7: Techniques of Integration; Chapter 8: Further Applications of Integration; Chapter 9: Differential Equations; Chapter 10: Parametric Equations and Polar Coordinates; Chapter 11: Infinite Sequences and Series.

CALCULATOR POLICY: For this course, a graphing calculator is strongly recommended. No matter what kind of calculator you have, it is important to learn to use it effectively. In particular, know how to do long calculations without writing down intermediate answers, and be aware of how many digits of accuracy you can expect an answer to have. Try to use your calculator imaginatively, too; for example, calculators often provide you with ways to verify an answer (e.g. by graphing with a graphing calculator, or plugging in particular values of variables). To receive full credit for your work, be sure to show all the mathematical work necessary for setting up a calculation before using the calculator. Calculators will not be allowed on exams.

EXAMS: In the daytime sections, there will be 3 one hour exams (worth 100 points each) scheduled for **Friday, February 2, Friday, March 9, and Wednesday, April 4, 2018.** The hour exams and the final exam are closed-book exams. For the evening section, please see your specific syllabus.

QUIZZES: There will be Five Quizzes in the semester. All Quizzes will be taken on Friday. The date & materials for each quiz will be announced in class on Wednesday. The Quizzes worth 100 points.

FINAL EXAM: **The final examination is comprehensive**. It will be given on **Friday, April 20, 2018** at **8:00 am-10:45 am** in a room to be announced. The final exam is worth 200 points. For the evening section, see the corresponding handout for information on the final exam.

EMERGENCY CLOSING: If the University is closed at the time of a scheduled in-class exam or quiz, (for example, because of snow), it will be given during the next class period when the University reopens. The Oakland University emergency closing number is 248-370-2000.

GRADING POLICY: Your course grade will be based upon a weighted percentage taken from your homework, hour exams, and final exam. There is no fixed grading scale for this course; a conversion formula from your percentage score to Oakland University grades will be determined with each exam and announced upon return of the exam. The following list shows the lowest possible grade that a given percentage score will earn:

Grading Criteria		Scale	
Test 1:	100 pt	95% – 100%:	4.0
Test 2:	100 pt	80% – 94.9%:	3.0 – 3.9
Test 3:	100 pt	65% – 79.9%:	2.0 – 2.9
Quizzes:	100 pt	50% – 64.9%:	1.0 – 1.9
Final Exam:	200 pt	Less than 50%:	0.0

MAKE-UP POLICY: No make-up exams or make-up quizzes will be given, unless you miss one due to university business. If you miss an exam and have a valid documented excuse, your final exam will be used to calculate the score of the excused exam; otherwise the missed exam will count as a 0.

Important Dates

January 17: Last day for 100% tuition refund and "no record" drop
February 17: Midterm evaluation deadline
February 17-25 : Winter Recess (no classes)
March 14: Last day of official withdraw (W grade)
April 17: Last day of classes
April 20: Final Exam, 8:00 - 10:45 AM

ACADEMIC HONESTY: Cheating is a serious academic offense. Oakland University policy requires that all suspected instances of cheating be reported to the Academic Conduct Committee for adjudication. Anyone found guilty of cheating in this course will receive a course grade of 0.0, in addition to any penalty assigned by the Academic Conduct Committee. Working with others on a homework assignment does not constitute cheating; handing in an assignment that has essentially been copied from someone else does. Receiving help from someone else or from unauthorized written material during a quiz, exam, or final exam is cheating, as is using a calculator as an electronic "crib sheet." Providing such assistance for someone else also constitutes cheating.

STUDY HABITS: 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 Academic Skills Center. If you are having difficulty with some concept or mathematical procedure, you should get it clarified as soon as possible. If you make mistakes on exams or quizzes, rework these problems with the idea that you will not make similar mistakes later. Regular reviewing of older material in the course will put you in good stead when it comes to final exam time. This will help you to avoid the usual non-retention problems that students encounter at the end of the course. You should expect that doing

all of these things will take at least two hours outside of class for each hour in class. Many students find it helpful to spend some of this time working with others, in study groups.

DROPPING THE COURSE: 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.

VETERAN SUPPORT SERVICES: The Office of Veteran Support Services (VSS) is the campus office responsible for supporting student veterans and military families. Through VSS, veterans and their dependents can be connected to campus and community resources to help ensure they are receiving the benefits they have earned. Student veterans and military dependents who wish to learn more about the services afforded to them should contact VSS, by visiting 116 North Foundation Hall, emailing VSS@oakland.edu, by phone at 248-370-2010 or visiting our website at http://wwwp.oakland.edu/veterans/.

TENTATIVE (INTENDED) SYLLABUS WINTER 2018

Monday	Tuesday	Wednesday	Thursday	Friday
		Jan. 3 First Day First Day of Class, Review of some concepts from Calc I.		**Jan. 5** 6.5 Ave. Val. of a Function 6.1 Area Between Curves
Jan. 8 **PREREQ. TEST** 6.1 continued	**Jan. 9**	**Jan. 10** 6.2 Volumes	**Jan. 11**	**Jan. 12** 6.3 Volumes by Cylindrical. Shells
Jan. 15 Martin Luther King, Jr Holiday NO CLASSES	**Jan. 16**	**Jan. 17** 6.4 Work	**Jan. 18**	**Jan. 19** 7.1 Integration by Parts
Jan. 22 7.2 Trig. Integrals	**Jan. 23**	**Jan. 24** 7.3 Trig. Substitution	**Jan. 25**	**Jan. 26** 7.3 Trig. Substitution cont, 7.4 Partial Fractions
Jan. 29 7.4 Partial Fractions, (7.5)	**Jan. 30**	**Jan. 31** **REVIEW**	**Feb. 1**	**Feb. 2** **EXAM #1**
Feb. 5 7.7 Approx. Integration	**Feb. 6**	**Feb. 7** 7.8 Improper Integrals	**Feb. 8**	**Feb. 9** 8.1 Arc length
Feb. 12 8.2 Area of Surface of Revolution	**Feb. 13**	**Feb. 14** 8.3 Applications to Physics and Engineering	**Feb. 15**	**Feb. 16** 8.3 Applications to Physics and Engineering cont.
Feb. 19 **WINTER RECESS**	**Feb. 20** **WINTER RECESS**	**Feb. 21** **WINTER RECESS**	**Feb. 22** **WINTER RECESS**	**Feb. 23** **WINTER RECESS**
Feb. 26 10.1 Par. Eqns. 10.2 Calc. with Par. Curves	**Feb. 27**	**Feb. 28** 10.3 Polar Coordinates	**March 1**	**March 2** 10.4 Areas and Lengths in Polar Coords
March 5 10.4 Areas and Lengths in Polar Coords cont.	**March 6**	**March 7** **REVIEW**	**March 8**	**March 9** **EXAM #2**
March 12 11.1 Sequences	**March 13**	**March 14** 11.2 Series	**March 15**	**March 16** 11.3 The Integral Test and Estimates of Sums

March 19 11.4 The Comparison Tests	**March 20**	**March 21** 11.5 Alternating Series	**March 22**	**March 23** 11.6 Abs. Convergence and the Ratio & Root Tests (11.7)
March 26 11.8 Power Series	**March 27**	**March 28** 11.9 Reps. of Functions as Power Series	**March 29**	**March 30** 11.9 Reps. of Functions as Power Series cont.
April 2 **REVIEW**	**April 3**	**April 4** **EXAM #3**	**April 5**	**April 6** 11.10 Taylor and Maclaurin Series
April 9 11.11 Applications of Taylor Polynomials	**April 10**	**April 11** 9.1 Modeling with DEs, 9.3 Separable DEs	**April 12**	**April 13** Review, Catch Up
April 16 Last day of class, Review, Catch Up	**April 17**	**April 18**	**April 19**	**April 20** **FINAL EXAM** **8:00 am-10:45 am**