

# Calculus I with Applications

## MATH 1451-D01

### Spring 2015

**Instructor:** Dr. Sophia Jang

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**Text:** K. Smith, M. Strauss and M. Toda– Calculus, 6th National Edition, Kendall Hunt

**Prerequisites:** C in MATH 1350 or 1550, or 7 on MPE, or B in MATH 1321, or C in 1321 with 5 on MPE, or 660 on SATM, or 29 on ACTM, or 3 on AP AB Calculus with 5 on MPE

**Learning Outcomes:** Math 1451 satisfies part of the university Core Curriculum requirement in Mathematics. In Math 1451 students will develop skills to:

- be able to explain the concept of continuous functions
- compute instantaneous rate of change
- compute derivatives of polynomial and transcendental functions
- use differentiation to solve related rate and optimization problems
- compute definite and indefinite integrals
- apply specific concepts to certain problems from the real world and other sciences
- adequately communicate mathematical information in writing, verbally and graphically, by using words, numerical answers, algebraic expressions, logical sentences, as well as graphs
- identify, understand and apply mathematical and logical reasoning to theoretical and applied problems
- identify and interpret mathematical information contained in formulas, graphs and tables, in particular: (a) modeling rates of change in rectilinear motion; (b) linear approximations; (c) optimization and applications to physical problems; (d) Riemann sums and integration.

**Assessment of Learning Outcomes:** Learning outcomes will be assessed through homework exercises, and examinations. You are expected to keep track of your progress on homework assignments and tests. We will have weekly homework assignments, two online exams, one proctored exam and a proctored comprehensive final exam. The weights given to individual assessment types are as follows: Homework: 10 %; Exams: 20 % each; Final Exam: 30 %.

Exam I (Online): Wednesday February 4, 8:00 am - 10:00 pm CST

Exam II: Wednesday March 4, 6:30 pm - 8:00 pm CST

Exam III (Online): Friday April 10, 8:00 am - 10:00 pm CST

Final Exam: Monday May 11, 10:30 am - 1:00 pm CST; Room TBA

**Schedule** (subject to change)

<i>Dates</i>	<i>Sections</i>	<i>Dates</i>	<i>Sections</i>	<i>Dates</i>	<i>Sections</i>
1 – 14	1.1	2 – 20	3.5	3 – 30	4.6
1 – 16	1.2	2 – 23	3.5	4 – 1	4.7
1 – 19	<i>No class</i>	2 – 25	3.6	4 – 3	5.1
1 – 21	1.3	2 – 27	3.6	4 – 6	<i>No class</i>
1 – 23	1.4	3 – 2	<i>Review</i>	4 – 8	<i>Review</i>
1 – 26	1.5	3 – 4	<i>Exam II</i>	4 – 10	<i>Exam III</i>
1 – 28	2.1	3 – 6	3.7	4 – 13	5.2
1 – 30	2.2	3 – 9	3.8	4 – 15	5.3
2 – 2	<i>Review</i>	3 – 11	4.1	4 – 17	5.4
2 – 4	<i>Exam I</i>	3 – 13	4.2	4 – 20	5.5
2 – 6	2.3	3 – 16	<i>Spring break</i>	4 – 22	5.6
2 – 9	2.4	3 – 18	<i>Spring break</i>	4 – 24	5.7
2 – 11	3.1	3 – 20	<i>Spring break</i>	4 – 27	5.8
2 – 13	3.2	3 – 23	4.3	4 – 29	5.9
2 – 16	3.3	3 – 25	4.4	5 – 1	<i>Review</i>
2 – 18	3.4	3 – 27	4.5	5 – 4	<i>Review</i>

**Class Pace and Homework:** It is expected that students will have to cover roughly a text-book section every weekday. A set of Homework problems will be assigned every week. Students complete their homework via WeBWorK. The URL for this course is <http://webwork.math.ttu.edu/webwork2/spr15rjangm1451sD01>

**Exams:** Two online exams and one proctored exam will be given over the course of the semester, according to the schedule above. Exceptions allowed only in case of time conflicts, with official documentation.

Final exam is scheduled for May 11th, 10:30 am - 1:00 pm. In case you work, please notify your supervisor that you will be absent from work during the final on May 11, 2015. Students will be expected to take the final as scheduled. Students who live close enough to Lubbock (150 miles around Lubbock) will be required to take the Final Examination at Texas Tech University in Lubbock, at the Mathematics Department, Academic Testing Services or one of the associated facilities. If students have a conflict in schedule or are far away from Lubbock, they need to provide necessary documentation and arrange a different examination date and time. All students will be required to take the final examination in an Official University or College Testing Center. Depending on their geographic location, each student and instructor should make arrangements with a certified testing service. The student is responsible for the testing fee (most US-based universities charge \$15 to \$30 fees for any distance exam administered in their testing center). In case no agreeable solution can be found, the University Testing Services in Lubbock Texas will be designated to administer the examination and the student is responsible for the fee and travel expenses. Each individual

instructor is responsible for providing the tests to the proctors. Students are required to present their photo IDs during the final exam.

**Other Important Dates:** January 30 is the last day to drop a course without academic penalty. March 25 is the last day to drop a course with penalty. April 30 is the last day to withdraw from the university.

**Make-ups:** No make-ups will be given and no late work accepted for any reason except those noted below.

**Absence Due to Religious Observance:** A student who is absent from classes due to observance of a religious holy day will be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. Notification must be made in writing and delivered in person no later than the 15th class day of the semester.

**Absence Due to Officially Approved Trips:** The person responsible for a student missing class due to a trip should notify the instructor of the departure and return schedule in advance of the trip.

**Academic Integrity:** It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work that they have not honestly performed is regarded by the faculty and administration as a serious offense and renders liable to serious consequences, possibly suspension.

**Students with Disabilities:** Any student, who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from AccessTECH. No requirement exists that accommodations be made prior to completion of this university procedure.