Math 172 (Calculus),   **Section 502**   **Spring 2020**
                              Instructor: Dr. Mariya Vorobets

Class hours: MWF 10:20 – 11:10   BLOC 164

Recitations: T 3:55 – 4:45   BLOC 164

Web page: `http://math.tamu.edu/~mvorobet/Math172/S20`

Office: BLOC 223A, e-mail: `mvorobet@math.tamu.edu`

Office hours: MWF 11:30 – 1:00, or by appointment

Course Description: (4.0 credits) Techniques of integration, applications of integrals, improper integrals, sequences, infinite series, vector algebra and solid analytic geometry. Designed to be more demanding than MATH 152. Prerequisite: MATH 147, MATH 151 or MATH 171 or equivalent with a grade of C or better.

Course Objectives: After taking this course, students should be able to compute integrals using the methods of substitution, parts, trig substitutions and partial fractions. They should be able to evaluate improper integrals and approximate integrals numerically. They should be able to use integrals to compute: area; average value; volume by slicing and revolution; mass and center of mass of a bar; arc length and surface area of revolution of parametric curves; slope of, area inside, and arc length of polar curves; and work. Students should understand sequences and infinite series including how to use and explain convergence tests and error estimates.

Text: Stewart, Calculus: Early Transcendentals, eighth edition.

Course Web Page: The course web page will be my main source of communication to you aside from class and office hours. Check the course page regularly for announcements, exam information and the course schedule.
    The Mathematics Department has a web-page for Math 172
    `http://www.math.tamu.edu/courses/math172/`

Email Policy: Check your official TAMU email account regularly. You are responsible for any information I send via email. Because of the privacy rights, I cannot discuss grades via email or over the phone. Please include your name and the section number in the subject line.

Topics covered:

- Review of Riemann integration and the Fundamental Theorem of Calculus (5.2-5.3)

- The method of substitution (5.5)

- Areas between curves (6.1)

- Volumes (6.2-6.3)

- Work (6.4)

- The Mean Value Theorem (6.5)

- Integration by parts (7.1),

- Trigonometric integrals (7.2)

- Trigonometric substitutions (7.3)

- Integration via partial fractions (7.4)

- Improper integrals (7.8)

- Arc length (8.1)

- Areas of rotational surfaces (8.2)

- Parametric curves (10.1-10.2)

- Polar coordinates (10.3)

- Sequences and infinite series (11.1-11.2)

- Convergence, absolute convergence, and tests for convergence (11.3-11.6)

- Power series, Taylor and Maclaurin series (11.8-11.10)

Calculator Policy: Calculators are not allowed on exams or quizzes, although they may be used on homework assignments. Use of a calculator on a quiz or exam is considered academic dishonesty and will be reported to the Aggie Honor Council.

Suggested Homework: There will be no graded homework. However, if you want to susceed in the course, you are strongly recommendet to solve as many problems as possible from the following list
https://www.math.tamu.edu/courses/math172/currenthw.html

In-class activities: Before each class you will be given a reading assignment. During lecture time the students will work in groups of $5 - 7$ to complete the activity with my supervision/help. Some of the activities will be turned in for grading.

Quizzes: Quizzes will be given regularly, almost every week (except for the first week and exam weeks) during the recitation meeting on Tuesdays. All of them are mandatory, although, a couple of worst grades will be dropped at the end of the semester.

Examinations: Your grade will be determined by quizzes, in-class activities, three midterms, and a cumulative final exam.

The tentative midterms dates are: Exam I Feb. 7, Exam II March 6, Exam III April 20.

No collaboration on the midterms is allowed. The use of books, cell phones, calculators or notes of any sort during exams is not permitted.

A two-hour comprehensive FINAL examination will be given on May 4, at 8:00 - 10:00 in the classroom.
NOTE: If your final exam grade is higher than your lowest taken midterm exam score, the grade on your final will replace that lowest exam grade in the course grade calculation. In order for you to be eligible for this, you must have taken the first three exams.

Grading Policy: EXAM I = 20%, EXAM II = 20%, EXAM III = 20%, QUIZZES = 10%, ACTIVITIES = 10%, FINAL EXAM = 20%.

I may curve any grade and will then compute the course grade by the following rule: A for $88 - 100\%$, B for $78 - 87\%$, C for $68 - 77\%$, D for $58 - 67\%$, and F for $0 - 57\%$.

Weekly schedule: The (tentative) weekly schedule is posted on the MATH 172 course homepage at
http://www.math.tamu.edu/courses/math172/currentsched.html

Help Sessions and Week in Review: The Mathematics Department offers help sessions and Week-in-Review for Math 172 students. See
http://www.math.tamu.edu/courses/helpsessions.html
and
http://www.math.tamu.edu/courses/weekinreview.html
for schedule and more information.

Make-up Policy:

- No make-ups will be given without written evidence of an official University excused absence (see *University Student Rules*). In addition, you must notify me **NO LATER** than the end of the second working day after the missed assignment.

- In the case of injury or illness, students are required to obtain a confirmation note from a health care professional affirming date and time of a medical office visit regarding the injury or illness.

- Make-up exams will be only allowed due to excused absences and the next possible make-up time be chosen from `http://www.math.tamu.edu/courses/makeupexams.html`

Late Work Policy: Late work (for which you do not have a University approved excused absence) will NOT be accepted. This includes all written and online assignments.

Scholastic Dishonesty: Copying work done by others, either in-class or out-of-class, is an act of scholastic dishonesty and will be prosecuted to the full extent allowed by University policy. Collaboration on assignments, either in-class or out-of-class, is forbidden unless I grant permission.If you cheat on an assignment, you will receive a zero. Also, you will be reported to the University.

Remember the Aggie Code of Honor:

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"An Aggie does not lie, cheat, or steal or tolerate those who do."

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For more information about the Honor Council Rules and Procedures visit the web site:
`http://www.tamu.edu/aggiehonor`

Copyright notice: All course materials (both printed and web-based) are protected by U.S. Copyright Laws. No multiple copies can be made without written permission by the instructor.

Students with disabilities: Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit `http://disability.tamu.edu`. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.