Framingham State University
Department of Mathematics
Math 220 - Calculus II
Summer 2017

Syllabus

Course Name: Math 220 - Calculus II

Description: A study of the applications of integration, first-order linear and separable differential

equations, techniques of integration, improper integrals, calculus of parametric curves

in rectangular and polar coordinates, sequences, series, and Taylor and Maclaurin

Series.

Pre-requisites: Completion of MATH 219 Calculus I with a minimum grade of C (2.00) or better.

Schedule: MoTuWeThFr, 2 hours each day. Exact time and location TBD.

For every hour in class, you should dedicate at least two additional hours studying

for this course. Students should not make any travel plans that would require them

to leave before August 11, 2017.

Textbook: Calculus, 8th Edition, by James Stewart. Published by Brooks Cole, ISBN-13: 978-

1285740621.

Instructor: Catalin Zara, Associate Professor of Mathematics, UMass Boston.

Email: catazara@gmail.com

Website: czara.aczsite.net

Assignments: *Exams*: There will be two in-class exams on July 24 and August 11.

Calculators will not be required and will not be allowed on exams.

Make-up exams will be allowed only with an official excuse. In all other situations, a

missed exam will get a score of zero.

Quizzes: There will be 20-minute quizzes on July 10, July 17, July 31, and Aug 7, on the topics covered the previous week. There will be no make-up quizzes, but the lowest score will not be counted. Calculators will not be required and will not be allowed.

Homework: For each section you will have an online problem set, using WeBWorK. Homework will normally be due each Sunday evening, except the last assignments, which will be due Thursday evening. Late homework will be penalized.

Grading:

Assignment	Points		Final grade	Points	Percentage
Exam 1:	100 points		A	315	90%
Exam 2:	100 points		B	280	80%
Quizzes:	100 points		C	245	70%
Homework:	50 points		D	210	60%
Total:	350 points				

Attendance: Regular class attendance is required and active class participation is expected. Students are responsible for material and announcements missed due to an absence. Please come to class on time and turn off your cell phone before the class begins.

Student conduct: Integrity is essential to academic life. Consequently, students who enroll at Framingham State University agree to maintain high standards of academic honesty and scholarly practice. They shall be responsible for familiarizing themselves with the published policies and procedures regarding academic honesty. Academic honesty requires but is not limited to the following practices: appropriately crediting all published and unpublished sources, whether quoted, paraphrased, or otherwise expressed, in all of the student's oral and written, technical and artistic work; and observing the policies regarding the use of technical facilities. Infractions of the Policy on Academic Honesty include, but are not limited to:

(1) Plagiarism: claiming as one's own work the published or unpublished literal or a paraphrased work of another. It should be recognized that plagiarism is not only academically dishonest but also illegal.

(2) Cheating on exams, tests, quizzes, assignments, and papers, including the giving or acceptance of these materials and other sources of information, without the permission of the instructor(s).

(3) Unauthorized collaboration with other individuals in the preparation of course assignments.

(4) Submitting without authorization the same assignment for credit in more than one course.

(5) Use of dishonest procedures in computer, laboratory, studio, or field work. Further clarification on academic honesty will be provided, when appropriate, in individual courses.

(6) Misuse of the University's technical facilities (computer machinery, laboratories, media equipment, etc.), either maliciously or for personal gain. Examples include but are not necessarily limited to:

  • Accessing the private files of another person or agency without express permission.

  • The unauthorized use of technical facilities for purposes not connected with academic pursuits. When evidence indicates that a student has

improperly used a technical facility, an appropriate supervisor (faculty or staff member) may take appropriate action reflecting the seriousness of the infraction, ranging from a verbal warning to, but not beyond, denial of use of the facility. If coursework has been plagiarized, the supervisor will also inform all concerned faculty members, who may take action as described in the procedures for handling cases of alleged infractions of academic honesty.

Expectations: Students enrolled in this course are expected to be:
- Motivated and disciplined;
- Adequately familiar with background material;
- Committed and actively involved in their own learning;
- Able to work in groups;
- Secure enough to ask for help.

Goals: By fully participating in all course activities, students will be able to:
- Use basic techniques to compute definite and indefinite integrals;
- Model physical phenomena using differential equations and solve simple differential equations;
- Use convergence tests to analyze the behavior of infinite series;
- Represent and approximate functions using power series;

Changes:

Any changes or class cancellations will be announced in class or by e-mail or will be posted online. Course materials and announcements are posted on the piazza account: https://piazza.com/... (to be determined)

Schedule:

Week 1: Review (Definite Integrals. Antiderivatives. The FTC. Exponentials. Logarithms. Substitution Rule.) Inverse Trigonometric Functions. Indeterminate Forms. L'Hospital Rule. Integration By Parts. Trigonometric Integrals.

Week 2: Trigonometric Substitutions. Integration of Rational Functions. Improper Integrals. Strategies for Integration. Modeling with Differential Equations. Direction Fields.

Week 3: Separable Equations. Exponential Growth and Decay. Parametric Curves in Rectangular and Polar Coordinates. Calculus with Parametric Curves. Areas and Lengths in Polar Coordinates.

Week 4: Sequences. Series. Test for Divergence. Integral Test. Comparison Tests. Alternating Series.

Week 5: Absolute Convergence. Ratio Test. Root Test. Strategies for Series. Power Series. Functions as Power Series.

Week 6: Maclaurin and Taylor Series. Binomial Series. Applications of Power Series.