Time: MWF 1:40 PM - 2:50 PM
Room: EDB 109

Instructor: Luis Recoder-Núñez, Ph.D.
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Office Hours: M 12:00 PM-1:30 PM; T 10:00 AM-12:00 PM; F 12:00 PM-1:30 PM

Prerequisite: MATH 221 (C- or higher)

Textbook: Good news: your textbook for this class is available for free online, in web view and PDF format! You can also purchase a print version, if you prefer, via the campus bookstore or from OpenStax on amazon.com.

You can use whichever formats you want. Web view is recommended—the responsive design works seamlessly on any device. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version. (Simple printouts by third parties on Amazon are not verifiable and not as high-quality.)

Calculus Volume 3 from OpenStax https://openstax.org/details/books/calculus-volume-3

Course Description: Continuation of MATH 221. Parametric equations, polar coordinates, two- and three-dimensional vectors, three-dimensional analytic geometry, functions of several variables, partial differentiation, double and triple integrals.

Topics covered:

2 Vectors in Space
2.1 Vectors in the Plane
2.2 Vectors in Three Dimensions
2.3 The Dot Product
2.4 The Cross Product
2.5 Equations of Lines and Planes in Space
2.6 Quadric Surfaces
2.7 Cylindrical and Spherical Coordinates

3 Vector-Valued Functions
3.1 Vector-Valued Functions and Space Curves
3.2 Calculus of Vector-Valued Functions
3.3 Arc Length and Curvature
3.4 Motion in Space

4 Differentiation of Functions of Several Variables
4.1 Functions of Several Variables
4.2 Limits and Continuity
4.3 Partial Derivatives
4.4 Tangent Planes and Linear Approximations
4.5 The Chain Rule
4.6 Directional Derivatives and the Gradient
4.7 Maxima/Minima Problems
4.8 Lagrange Multipliers

5 Multiple Integration
5.1 Double Integrals over Rectangular Regions
5.2 Double Integrals over General Regions
5.3 Double Integrals in Polar Coordinates
5.4 Triple Integrals
5.5 Triple Integrals in Cylindrical and Spherical Coordinates
5.6 Calculating Centers of Mass and Moments of Inertia
5.7 Change of Variables in Multiple Integrals

6 Vector Calculus
6.1 Vector Fields
6.2 Line Integrals
6.3 Conservative Fields
6.4 Green’s Theorem
6.6 Surface Integrals Optional
6.7 Stokes’ Theorem Optional

Course Requirements: A general rule for any college course is that you are expected to put at least 2 hours of work outside of class for every hour in class. For Math 222, the expectation is at least 8 hours per week outside of class.

Homework: Homework assignments will be posted on Edfinity at the end of every class. To enroll for Math 222-02-Fall 2021, please follow the steps below:

1. If you already have an Edfinity account from a previous course, please sign into it. Otherwise, go to step 2.
2. Go to the following registration link: https://edfinity.com/join/DNA3GNFC
3. You will be prompted to pay (if applicable) and enroll in our section.
4. Start working on your assignments :)

It is strongly recommended that the homework assigned on a given week be completed by Monday of the following week. However, the deadline to do all the assignments for this course is the day of the final exam.
Covid19 Measures:

1. Getting fully vaccinated: Vaccines are safe and effective and readily available. The Board of Regents that governs CCSU has determined that a vaccine mandate is in force for Fall 2021. The university has organized free walk-up clinics on campus for those not yet vaccinated and is offering the possibility of gift cards as well. For full details: https://www.ccsu.edu/blueprint/get-vaccinated.html

2. Wearing face masks: Protecting ourselves and each other requires measures to prevent the spread of COVID-19, which is an airborne virus. Wearing face masks of an approved character (not scarves or bandanas) significantly reduces both the possibility of someone infected spreading the virus, and others not infected from contracting it. CCSU has adopted a policy requiring the wearing of appropriate face masks by all members of the community, and in particular students and faculty while in class or in buildings. Anyone coming to class without an approved face mask will be required to obtain one at the “mask station” nearest our building; class will not be held with anyone not masked.

3. Maintaining social distancing: Social distancing helps in preventing the spread of the virus. In class, we will keep our desks at the designated 3-foot separations and will not move them for group work. Outside of class, please maintain social distancing, even if the door of the classroom is not open when you arrive. When leaving class, students will exit by row. These measures will be taken to respect the social distancing requirement.

4. Getting tested if exposed: If you learn that you have been in contact with anyone who has become infected, you need to get tested to determine if you have also been infected. Even a brief encounter may result in infection, given the communicability of the Delta variant. Testing is free and simple. You can find a testing center (e.g., CVS or Walgreen’s) online, or purchase a home testing kit. Do not come to class until you have recorded a negative test result.

5. Isolating if you have symptoms: If you have any symptoms, including flu-like symptoms, loss of sense of taste or smell, or any other symptom associated with COVID-19, you must immediately inform university authorities and follow quarantine procedures and stay home until your symptoms cease and you test negative for COVID-19. If your symptoms are significant, do not hesitate to contact a physician for medical advice and care, or go to a health care clinic near your home.

6. Preparing to go remote: We cannot predict what will happen in the coming weeks and months, including whether the infection rate will significantly increase (or perhaps decline), and what measures the university and the state may take. In the case where the pandemic spikes to an unacceptable degree, we may go entirely remote—that is to say, fully online. That decision will be made by the university and system authorities, not individually by your instructors. Should we go remote, you will be informed as to how the class will continue online and any other changes that may be required.
Resources Available:

1. If you have difficulties in solving the problems, you are strongly encouraged to make an appointment with me to address your questions. Do not wait until just before the first test to do so.
2. Free tutoring is available in The Learning Center which is located in Diloretto D-316. A schedule for hours the Center is open will be posted soon after the beginning of the summer session.
3. Form a study group with other students in your section. Explaining solutions to homework problems to each other is a good way to learn.
4. A list of private tutors for hire is available in the math department office, Room 128 Marcus White, (860) 832-2835.

University Policies:

1. You must take the final examination at the time specified in the course selection book: Wednesday, December 8, 2021 from 1:00 PM-3:00 PM.

2. Central Connecticut State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon age; ancestry; color; gender identity and expression; intellectual disability; learning disability; mental disorder; physical disability; marital status, national origin; race; religious creed; sex, (including pregnancy, transgender status, sexual harassment and sexual assault); sexual orientation; or any other status protected by federal or state laws. Any student who has concerns about this should contact the Office for Equity & Inclusion (OEI) at 860-832-1652, Student Affairs at 860-832-1601, or their faculty member. The OEI is located on the main floor of Davidson Hall, room 119.

3. If you are a student with a documented disability, and would like to request academic accommodations, you are encouraged to contact Student Disability Services (SDS) at 860-832-1952, or email disabilityservices@ccsu.edu. Please visit the SDS website at http://www.ccsu.edu/sds/ to download an Intake form and documentation requirements. Temporary impairments may also qualify for accommodations. Central Connecticut State University provides reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act for students with documented disabilities on an individualized basis.

4. Central Connecticut State University (CCSU) will not tolerate sexual misconduct against students, staff, faculty, or visitors in any form, including but not limited to: sexual assault, sexual exploitation, sexual harassment or stalking, as defined in CCSU policies. For additional information, please consult the CCSU policies at http://www.ccsu.edu/diversity/policies/index.html. All faculty members and staff have a duty to report incidents of sexual harassment including sexual misconduct, intimate partner violence and stalking to Pamela Whitley, Title IX Officer, Office for Equity & Inclusion, Davidson Hall, 119.

To file a report, contact: Equity & Inclusion (860-832-1652), Student Conduct (860-832-1667), or Student Affairs (860-832-1601). For criminal complaints, contact the University Police (860-832-2375).

For support and advocacy, contact: Office of Victim Advocacy at 860-832-3795 (Diloretto D-305) at 860-832-3795; Student Wellness Services at 860-832-1945 (confidential), Women’s Center at 860-832-1655, the local YWCA’s Sexual Assault Crisis Services Hotline at 860-223-1787 (confidential) and Prudence Crandall Center for Domestic Violence (confidential) at 888-774-2900 (24-hour hotline).
5. All students are expected to demonstrate integrity in the completion of their coursework. Academic integrity means doing one's own work and giving proper credit to the work and ideas of others. It is the responsibility of each student to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism. Students who engage in plagiarism and other forms of academic misconduct will face academic and possibly disciplinary consequences. Academic sanctions can range from a reduced grade for the assignment to a failing grade for the course. From a disciplinary standpoint, an Academic Misconduct Report may be filed and a Faculty Hearing Board may impose sanctions such as probation, suspension or expulsion.

For further information on academic misconduct and its consequences, please consult the Student Code of Conduct (http://www.ccsu.edu/StudentConduct/codeofconduct.asp) and the Academic Misconduct Policy (http://www.ccsu.edu/AcademicIntegrity/).

6. In the event of a weather emergency which requires curtailment or cancellation of classes, listen to WTIC (1080 AM) or call (860) 832-3333 for the “general snow message.”

7. The last day to withdraw from a course without instructor approval is Wednesday, November 17th. It is strongly recommended that students consult with their academic advisors prior to deciding to withdraw. Cessation of attendance, notice to the instructor, or telephone calls to the Registrar’s Office are not considered official notice of a student’s intention to drop the course. After November 17th, withdrawals are allowed only under extenuating circumstances and require approval of the course instructor and department chair (in that order).

**Exams:** There will be three non-cumulative tests and a Final cumulative test given on Monday, September 27, 2021; Wednesday, October 27, 2021; Wednesday, December 1, 2021; Wednesday, December 8, 2021 respectively. The final exam will be from 1:00 PM-3:00 PM.

**Quizzes:** There will be five online quizzes on the following tentative days: Wednesday, September 15, 2021; Monday, October 4, 2021; Friday, October 22, 2021; Wednesday, November 10, 2021; Monday, December 6, 2021.

**Grading:** Your grade for the course will be computed as follows: Three partial exams 55 %, final exam 20 %, quizzes 15%, Homework 10%.

Minimum averages for your final grade are indicated below.
A 93%, A- 90%, B+ 87%, B 83%, B- 80%, C+ 77%, C 73%, C- 70%, D+ 67%, D 63%, D- 60%.