MATH 283-1002 INTERMEDIATE CALCULUS III
FALL SEMESTER (August 28 - December 9, 2017)

Instructor: Dr. A. Muleshkov, Associate Professor of Mathematics

Location: TBE B-172       Time: Mo We 2:00 - 3:45 P. M.

Office: CDC-1020
Office Phone: 895-0387 (Voice mail is available.)
Office Hours: Mo Tu We Th 1:00 - 1:55 P. M.

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Textbook: James Stewart, Essential Calculus Early Transcendentals, 2nd E Edition(Chapters 11, 10, 12,some of 13)

Learning Outcomes:  Operation with vectors and their application in 3D Analytic Geometry of points, straight lines, and planes; recognition and description of quadric surfaces; finding arc length, tangent, principal normal, bi-normal vectors and lines, osculating, normal, and rectifying planes, curvature and torsion for a given space line; finding velocity, speed, acceleration, tangential and normal components of the acceleration for a given space point motion; relative motion; domain, range, graph, level curve/surface, continuity, partial derivative, differential and differentiability, linearization, directional derivative, gradient, absolute and local extreme values, saddle points, etc. for an elementary and arbitrary function of two or more variables; evaluation of double and triple integrals for simple and convenient domains in Cartesian/polar/spherical/cylindrical/generalized/arbitrary coordinates and their application for finding area, surface area, volume, mass, center of mass, centroid, moments of statics, moments of inertia, etc. for a solid, lamina, wire, shell, rod, etc.; scalar and vector fields: work, curl, potential, divergence, flux, Stokes’ theorem, divergence theorem, Green’s theorem.

Prerequisite: MATH 182 (minimal grade C) (C’ is not enough.)

The final grade for the course is obtained from the total (max. 600 points) of the following:

-- weekly quizzes - 150 points
-- midsemester exam - 140 points
-- final exam (partially comprehensive) - 210 points
-- instructor’s discretion - 40 points
-- weekly homework - 60 points
There are going to be recitation/discussion classes taught by my graduate students Mr. Tan Nguyen and Mr. Jorge Reyes every Friday. During their classes, they are going to solve problems, answer questions, collect and return homework, and administer quizzes. There will be a quiz (on the material covered in class during the previous week at the end of Friday’s recitation) or a test (on Friday) every week with a few exceptions, e.g. the last week. No calculators or other electronic devices, notes, or textbooks are allowed to be used during the examinations.

The homework (on my Web site) for a section is due at the beginning of the recitation on the first Friday after the section has been fully covered in class. All work must be shown to receive any credit. A solution that includes only the answer will receive 0 points. On the other hand, the answer always needs to be given.

This is a very serious course. Since MATH 283 is the 3rd and most difficult of the sequence MATH 181, MATH 182, and MATH 283, the student who studies MATH 283 needs to know the material of the first two courses as well as Precalculus, College Algebra, and Trigonometry very well. For example, it is impossible to study partial derivatives, gradients, etc. without good knowledge of derivatives, to study limits, continuity, and extreme values of functions of two or more variables without good knowledge of limits, continuity, and extreme values of functions of one variable, to study multiple integration without good knowledge of single integration. These are only a few examples of the relationship of MATH 283 with the previous two Calculus courses. Actually, mastery of integration techniques is most important for understanding the course. Students are encouraged to review them extensively from the beginning of the semester and seek Mr. Tan’s and my assistance if needed. The multidimensionality also makes MATH 283 much more difficult than MATH 181 and MATH 182.

Accordingly, students should plan to allow sufficient time. Regular attendance, prompt arrival, and taking elaborate notes are strongly recommended; students who do not maintain these good habits do not usually succeed in this difficult course. Knowledge of phone number of and keeping in touch with a classmate could be very helpful. Participation in a study group, e.g. “Dr. Muleshkov’s Students”, is even better.

In this class, the textbook is only a tool. Very often, methods that are stronger and/or easier than the ones given in the textbook are going to be presented in class. Handouts with the minimal number of formulas to be memorized are essential part of this course. Some of them are the result of several tens of years of effort and experience with students’ difficulties. Timely learning of the handouts could facilitate students’ studies a lot.

Please keep this syllabus for future reference. If you have any questions or concerns about the issues raised here or other issues, please come to my office hours.

**Academic Misconduct** – Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV’s function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the **Student Academic Misconduct Policy** (approved December 9, 2005) located at: [http://studentconduct.unlv.edu/misconduct/policy.html](http://studentconduct.unlv.edu/misconduct/policy.html).
Copyright – The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: http://www.unlv.edu/provost/copyright.

Disability Resource Center (DRC) – The UNLV Disability Resource Center (SSC-A 143, http://drc.unlv.edu/, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Religious Holidays Policy – Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor no later than the end of the first two weeks of classes, January 29, 2016, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: http://catalog.unlv.edu/content.php?catoid=6&navoid=531.

Incomplete Grades - The grade of I – Incomplete – can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student’s control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving “I” grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Tutoring – The Academic Success Center (ASC) provides tutoring and academic assistance for all UNLV students taking UNLV courses. Students are encouraged to stop by the ASC to learn more about subjects offered, tutoring times and other academic resources. The ASC is located across from the Student Services Complex (SSC). Students may learn more about tutoring services by calling 702-895-3177 or visiting the tutoring web site at: http://academicsuccess.unlv.edu/tutoring/.

UNLV Writing Center – One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student’s Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: http://writingcenter.unlv.edu/.

Rebelmail – By policy, faculty and staff should e-mail students’ Rebelmail accounts only. Rebelmail is UNLV’s official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students’ e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. Emailing within WebCampus is acceptable.
**Final Examinations** – The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: [http://www.unlv.edu/registrar/calendars](http://www.unlv.edu/registrar/calendars).

Any other class specific information - (e.g., absences, make-up exams, extra credit policies, plagiarism/cheating consequences, policy on electronic devices, specialized department or college tutoring programs, bringing children to class, policy on recording classroom lectures, etc.)