**Calculus with Analytic Geometry III -- Spring 2015**

**MTH 231 - Calculus with Analytic Geometry III.** Vectors, curves, and surfaces in space. Derivatives and integrals of functions of more than one variable. A study of the calculus of vector-valued functions. PR: MTH230. 4 hours.

* Time and Place: 5:00 - 5:50 pm MTWR at 513 Smith Hall.
* Instructor: [Peter Saveliev](http://inperc.com/wiki/index.php?title=Peter_Saveliev) (call me Peter)
* Office: 713 Smith Hall
* Office Hours: MW 2:30-4:45 (walk-in), or by appointment
* Office Phone: x4639
* E-mail: saveliev@marshall.edu
* Class Web-Page: [math02.com](http://math02.com)
* Prerequisites: excellent algebra skills, good understanding of the derivative and the integral, fluent differentiation and integration -- [Calculus I -- Fall 2012](http://inperc.com/wiki/index.php?title=Calculus_I_--_Fall_2012) and [Calculus II -- Fall 2014](http://inperc.com/wiki/index.php?title=Calculus_II_--_Fall_2014)
* Text: [Calculus by Rogawski](http://inperc.com/wiki/index.php?title=Calculus_by_Rogawski), Chapters 11 - 17
* Computer Restrictions: no better than graphic calculator TI-83 or TI-83+
* Outcomes: the student will learn to analyze parametric curves, functions of several variables, and vector fields, apply these concepts and tools to study processes and patterns in physical and other sciences, become familiar with vector calculus.
* Activities: the student will practice each outcome via the homework given in the textbook and online.
* Evaluation: the student achievement of each outcome will be assessed via
	+ quizzes: taken from the textbook's exercise sets
	+ homework: accessed and graded online, provided by Webwork, <http://webwork.marshall.edu/webwork2/S15-Math-231-Saveliev/>
	+ tests: based on the textbook's exercises
* Grade Breakdown: TOTAL = .05×A + .40×(Q + H) + .20×M + .35×F
	+ attendance and participation: 5%
	+ quizzes and online homework: 40%
	+ midterm: 20%
	+ final exam: 35%

**Course policy**

*Note: Some parts of this policy may not apply to your specific course. See your syllabus.*

**1. Homework.** You should start with the textbook and lectures. Read the section and try all relevant exercises. Contemplate... Then you may test yourself with an actual assignment. Repeat as needed. Remember:

Homework ≠ homework assignment.

The reason is that those assignments will only cover a small part of what you need to know.

**2. Quizzes.** They will be 5-10 minutes long, open book.

**3. Written Assignments.** You can discuss them with other students but you can't copy. Nor should you use the internet to search for answers. Unless a special arrangement has been made, the submission should be on paper. Please staple. Everything should be written legibly with generous margins and room between the lines. Always state the problem being solved at the top of the page. Assignments submitted in TeX may receive extra credit of one point provided the TeX code or the PDF is emailed to me -- in addition to the paper -- as it might be posted online.

**4. Online Assignments.** They are provided via [Webwork](http://webwork.marshall.edu/webwork2/). You will be able to ask for help from inside the application. If I am available, I'll try to reply immediately. Please anticipate possible technical problems as the deadlines are firm.

**5. Exams.** Midterms will be based on the material covered since the last exam. The final exam will be comprehensive and cumulative. The material since the last midterm will receive more emphasis.

**6. Writing.** You should write in complete sentences, including all algebra. For advanced courses, examine also [Student's guide to proof writing](http://inperc.com/wiki/index.php?title=Student%27s_guide_to_proof_writing).

**7. Calculators.** You won't need them but they are allowed in class. Your syllabus lists computer *restrictions* not *requirements*. Any equipment more complex than what's indicated is not allowed. This applies to quizzes, tests, and the homework assignments. You can certainly use them to test your answers. Whatever you submit, it should be able to stand on its own -- without references to a calculator. For example, the graph of a function with no explanation where it came from is inadequate. There will be no instruction on how to use them.

**8. Missed Assignments and Exams.** There will be no late homework accepted or make-up tests given. However, you will receive credit if

1. you have a valid reason for absence: illness, death in the family, approved institutional activity, etc (see the [university excused absence policy](http://inperc.com/wiki/index.php?title=University_excused_absence_policy)); and
2. you submit an explanation in the form of an e-mail (you may be asked to provide a note from a relevant authority).

In that case, the missed score is assigned based on your other scores: next homework/quiz, next test, or the final exam. There is no provision for missing the final exam without a valid excuse. One weekly assignment (quiz or homework) may be dropped.

**9. Grades.** Individual problems will be graded with a score between 0 and 10. These scores correspond to the latter grades as follows:

*A*: .90−1.00*B*: .80−.89*C*: .70−.79*D*: .60−.69*F*: <.60

The zero score will be given for problems not submitted or not attempted and I will give partial credit if you've made meaningful progress in the problem.

Scores are assigned to individual problems in homework, quizzes, and exams; this [spreadsheet](http://inperc.com/files/personal_gradebook.xlsx) does the rest. Please download and use it. These scores are combined according to the formula provided in your syllabus and the total score determines your letter grade according to the scale above. There will be no curving. The final exam scores won't be released until the grades are posted by the university.

**10. Attendance.** You should make all efforts to be there and on time. Expect a high degree of "continuity" from one period to the next, so that if you miss a class (for any reason), next time you may feel lost unless you work out the lesson at home. If you have missed a class without a valid excuse, you are not allowed to attend the next class without permission.

**11. In Class.** During the lectures, feel free to interrupt me at any time if you want to ask a question. You don't have to raise your hand. In fact, I expect you to participate in class work by asking questions, answering questions, pointing out mistakes, making suggestions, comments, etc. Immediate feedback will be greatly appreciated! Bring the book.

Please refrain from any disruptive activities, which include but aren't limited to:

* coming late, leaving early;
* using cell phones, laptops, or other electronic equipment (other than the permitted calculators, or the electronic version of the textbook);
* eating, drinking (bottled water is OK).

**12. Office Hours.** A few hours every a week are set aside for meeting students one-on-one, in my office. You can walk in at any time during these hours. You can ask for help with homework problems that *you have tried* (bring your work!), explanations of the material, hints, etc., but not for the actual solutions. You can test your ideas on me. Consider also the tutoring services provided by the department and the university.

**13. Academic Integrity.** Cheating will result in the zero grade for the assignment.

**14. Final Request.** You should save a copy of this document as well as a copy of your course-specific syllabus. When you want to ask me a question about any of the issues discussed above (such as your current grade, missed assignments, etc), you should bring these documents with you. If you don't, I'll know that you haven't read this.