**Professor:** David McClendon (2046 ASC, phone x2574 (231-591-2574 off campus), hours MTR 1-2 or by appointment, email: DavidMcClendon@ferris.edu

**Class meeting times and location:** MTWR 8:00-8:50 AM in STR 108.

**Web:** I maintain a personal web page at http://mcclendonmath.com/320.html; this page contains handouts, old exams, and some notes.

**Required materials:** You need two items for this course:

1. My lecture notes, which are available in either of two places:
   - as a Course Pack, available at the FSU bookstore
   - online, at my web page as a pdf file
2. The software package *Mathematica*; a link to where you can download this software is on my web page.

**Recommended materials:** I recommend also that you also bring colored pens or pencils, for better note-taking, and a three-ring binder, to keep the notes and other handouts.

**Prerequisite:** MATH 230 with a grade of C- or better, or the equivalent. This means knowledge of limits, derivatives and integrals for functions of the form $y = f(x)$.

**Course material:** Multivariable calculus. This means functions of several variables, limits, partial and total derivatives, multiple integrals and vector fields, with applications.

**Learning outcomes:** After completing MATH 320, it is my hope and expectation that students will be able to:

1. Solve problems involving conic sections, quadric surfaces, parametric equations and coordinate systems.
2. Compute and interpret quantities involving vectors, vector-valued functions and vector geometry.
3. Compute limits of vector-valued functions and functions of several variables; determine whether such functions are continuous.
4. Compute quantities related to differentiation of functions of several variables and vector-valued functions.
5. Compute double, triple, and line integrals, and solve problems applying such integrals.

**Grading policy:** Homework: $20\%$. Three midterm exams: $18.333\%$ each. Final exam: $25\%$. Grades will be curved at the end of the semester, but an average of $90\%$ guarantees you at least an A-, an average of $80\%$ guarantees you at least a B-, etc.

**Attendance policy:** I have no formal attendance policy. That said, **nothing** is more correlated with strong performance in my classes than attendance in lectures.

**Homework:** There are regular homework assignments, due on the dates listed on attached course calendar. Some of the homework consists of lab assignments which will be distributed in class; other homework problems come from the end of each chapter in the lecture notes. Both the lab assignments and the homework from the lecture notes make use of *Mathematica*.

Problems in the notes marked with (★) are optional, extra credit problems, which are due whenever the assigned problems "pass" them. Please turn these in on separate paper from the required problems.

You can turn in homework in class, during office hours or by putting it in the slot next to my office door marked "MATH 320". If you submit your homework late, but before I have graded the assignment, then I accept it without penalty. However, if I have already graded the assignment, then late homework is not accepted.

I will grade a subset of problems from each assignment for correctness. Not all problems count the same, and not all assignments count the same.

**Midterms:** There are three midterm exams, given in class on **Monday, February 12**, **Thursday, March 21** and **Wednesday, April 24**. No calculators, computers, notes or study aids are permitted.

The second and third midterm exams also have a take-home component, on which you may use calculators, *Mathematica*, and your notes. You may not get help from the internet, other books or apps, or other people on these questions.

**Final exam:** The final is cumulative, and will be done in class on **Thursday, May 2** at 8:00 AM. No calculators, computers, notes or study aids are permitted.

**Getting help:** The best place to receive help is my office. In class, I will not have time to take homework questions, and I will not be able to present all perspectives on a topic. In office hours, I am able to discuss the material at a much more friendly pace and offer some alternate viewpoints that may help you understand the material better.

If you cannot make my scheduled office hours, you can come talk to me almost any time I am on campus. Also, I am more than happy to make an appointment to discuss the material with you, and I can also videoconference with you through Zoom or Skype, if needed. I also know some more advanced students whom I can recommend as a tutor. Send me an email.

**Students with disabilities** who require reasonable accommodations to fully participate in course activities or meet course requirements should register with the Educational Counseling and Disability Services office (x3057, ecds@ferris.edu). While ECDS will send me a letter outlining the accommodations to make for you, I would appreciate it if you could contact me immediately for assistance with any necessary classroom accommodations.

**Academic dishonesty:** Papers will be monitored for "magic answers". Issues with academic dishonesty are taken very seriously, will almost always result in an F for the class, and will be referred to the Office of Student Conduct.