
KELLOGG COMMUNITY COLLEGE
MATH 241
Calculus III
Fall 2017 Course Syllabus

Last Date to Drop: September 15, 2017

Last Date to Withdraw: December 3, 2017

COURSE NUMBER/TITLE/CREDITS:

MATH 241-01 – Calculus III - 4 Credit Hours

SCHEDULE:

MTR 7:10 AM – 8:25 AM Classroom: C Building-203

INSTRUCTOR INFORMATION:

Anna Cox

E-mail: coxa@kellogg.edu

Telephone: (269) 660-2333

Office: Classroom Building 401X

OFFICE HOURS: Please see: <http://academic.kellogg.edu/coxa/>

Additional office hours are available by appointment (*Don't hesitate to make one!*)

PREREQUISITE: A grade of C or better in MATH 142.

DESCRIPTION: *Prerequisite: Mathematics 142 or departmental approval.* Vector calculus, partial derivatives, multiple integrals and applications. This course is required prior to enrollment in Mathematics 242.

LENGTH: One semester, 64 hours of instruction, 4 credit hours.

START DATE: August 31, 2017 **END DATE:** December 18, 2017

TEXTBOOK: *THOMAS' CALCULUS Thirteenth* by Weir and Hass, publisher: Addison Wesley Longman. There are multiple choices for purchasing textbooks, including the Kellogg Community College bookstore (www.kellogg.edu - follow the on campus link to the bookstore). Please be advised that each student should fully investigate the refund policies of book retail stores, including the Kellogg Community College bookstore, PRIOR to purchasing a book for any course. When purchasing a book from the Kellogg Community College bookstore, students are encouraged not to break a textbook's binding, or open a book in shrink-wrap covering, prior to attending the first course session in order to verify that a correct book has been purchased. Students are advised to keep all receipts from book purchases.

SUPPLEMENTAL MATERIALS/CALCULATORS: I recommend bringing a picture taking device for in-class problems. Problems get long and taking a picture is a time saving strategy. TI-Nspires are highly recommended for this course

BELIEFS ABOUT STUDENT LEARNING:

Learning is a life-long process that is enhanced through formal classroom experiences. While textbooks, tutors, and instructors exist to assist in learning, ultimately the responsibility and reward of learning rests on the learner.

BELIEFS ABOUT TEACHER'S ROLE:

The teacher provides an environment which enables and encourages each learner to achieve his/her educational goals. The teacher clearly defines expectations for success in the course. The teacher is accessible to student needs and is open to students' ideas, yet remains consistent and demanding. The teacher expects each student to strive for excellence.

METHOD OF EVALUATION:

Students will earn points for successful completion of:

- | | |
|---|----------------|
| 1. Tests | @50-100 points |
| 2. Daily Work (homework, quizzes, projects) | @2-50 points |
| 3. Comprehensive Final Exam | @150 points |
| 4. Attendance | @ 50 points |

| | | |
|----------------|----------|---|
| Grading Scale: | 90 - 100 | A |
| | 80 - 89 | B |
| | 70 - 79 | C |
| | 60 - 69 | D |
| | 0 - 59 | F |

Plus and minus grades will be determined by the instructor at the end of the semester.

Homework assignments will be collected daily at the start of class and will be worth 2 points each day. You must show work when it is warranted on homework assignments, I will not accept just neatly printed answers. Homework must be turned in at the start of class or it will not be accepted. If you are absent, homework may **NOT** be turned in late. I will drop 4 homework assignments for the semester to allow for absences, sickness, family emergencies etc. **No homework assignments will be received late for any reason.**

AUDITS: I will not approve your desire to change to audit status unless you are passing with a "C" grade and unless you give me a commitment to attend class.

DROP/ADD PROCEDURES: Drop/Add procedural information may be found at:

<http://www.kellogg.edu/catalog>. The drop/add dates for every course may be found on the KCC web site at: www.kellogg.edu follow the schedule link.

INCOMPLETE GRADE: I will consider granting an incomplete grade only in rare circumstances such as a lengthy illness that precludes successful completion of the course within this semester. I will not grant an incomplete grade if you are failing or receiving a "D" grade at the time you request an incomplete grade.

For information regarding additional grading policies, please visit the KCC catalog at:

<http://www.kellogg.edu/catalog>

POLICIES ON ATTENDANCE:

KCC Required Statement: Regular attendance is an essential part of the educational experience and a requirement for an adequate evaluation of each student's academic progress. Excessive absence is reported to the Academic Advising department. An Advisor will reach out to students to discuss options for success. Continued absenteeism may lead to administration action. Faculty are required to report to the Financial Aid office students who have never attended class. Federal aid may be reduced if a student does not begin attendance in all classes. This includes online courses. For more information, please visit: <http://www.kellogg.edu/wp-content/uploads/2016/08/Handbook-2016-2017.pdf>

The student is responsible for all work missed due to absence. I also expect to be notified before class that a student will not be attending a class, this can be done via e-mail or a phone call. I consider this common courtesy. Class begins promptly at the scheduled time. I expect that everyone will be attentive. In the event that you must arrive late, please enter the room unobtrusively. Excessive absences will directly affect a student's grade. Please be considerate and turn off cellular phones and pagers. An ADMINISTRATIVE

WITHDRAWAL will be initiated when the instructor believes it is no longer possible for the student to pass the course.

Note on late quizzes and tests:

1. Quizzes: No quizzes will be made up.
2. Tests: It is assumed that when a test is given during a class period that all students will be ready to take the test at that time. If you are unable to attend class due to unforeseen circumstances you must contact me immediately and make up the test in the testing center (Lane Thomas bldg., third floor) **BEFORE** the next class period. **Students who have not made up the test prior to the next class period will receive a grade of zero.**

Note: Some circumstances, such as extended illness, death in the family, will make this policy void, but they need to be discussed with the instructor. You must email, or phone me with these extended circumstances.

ACADEMIC INTEGRITY POLICIES: Ethical conduct is the obligation of every member of the KCC community. Breaches of Academic integrity constitute serious breaches of ethical conduct. Academic integrity requires that all academic work be wholly the product of an identified individual or individuals. This policy demonstrates KCC's concern for academic integrity and guarantees a fair procedure for handling these concerns. Examples of unethical conduct include: cheating, fabrication, and plagiarism. For more information regarding KCC's Student Code of Conduct, please visit: <http://www.kellogg.edu/wp-content/uploads/2016/08/Handbook-2016-2017.pdf>.

CODE OF CONDUCT: Kellogg Community College students are expected to model the skills and behaviors of working professionals. This includes exhibiting behaviors which support respect and courtesy in the class environment. For more information regarding KCC's Student Code of Conduct, please visit: <http://www.kellogg.edu/wp-content/uploads/2016/08/Handbook-2016-2017.pdf>.

USE OF TECHNOLOGY & STUDENT EMAIL ACCOUNTS: The College has a variety of computer systems which are provided for the use of students and are to be used for education, research, academic development, and public service only. You are responsible for seeing that the computing facilities are used in an effective, efficient, ethical, and lawful manner. Computer systems, such as e-mail, are intended for college related activities only. Inappropriate messages and/or materials are not to be sent or stored. For more information, visit the KCC web page at: www.kellogg.edu.

OFFICE HOURS: I am more than happy to make time for you if you have shown a true desire to succeed in this class. The only way I can help you do your best is if I know you are having troubles, so **please** feel free to ask questions or come in to see me. My office hours are posted on my door and you have received a copy of my schedule. If these times will not work for you, please ask me to set up an appointment with you. I am more than happy to accommodate your schedule where possible.

DISABILITY SERVICES: While ensuring the academic integrity of its programs, Kellogg Community College is dedicated to providing the reasonable accommodations needed to ensure equal access to educational opportunities for individuals with verified disabilities. Disability services are provided to students who self-disclose a disability to the [Support Services Department](#) and provide appropriate documentation. Support Services may be reached at 269.965.4150 or supportservices@kellogg.edu.

RETAIN THIS SYLLABUS: This syllabus is a record of learning outcomes associated with this course. Many institutions will require a copy of this syllabus to grant you transfer credit. It is your responsibility to retain a copy for future use.

RETAIN THIS SYLLABUS & SYLLABUS DISCLAIMER:

This syllabus is a record of learning outcomes associated with this course. Many institutions will require a copy of this syllabus to grant transfer credit. It is the student's responsibility to retain a copy for future use.

Information contained in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the semester. However, this syllabus should not be considered a contract between Kellogg Community College and any student, nor between the instructor and any student. The instructor reserves the right, acting within the policies and procedures of Kellogg Community College, to make changes in course content or instructional techniques without notice or obligation.

SAFE AND SUCCESSFUL CAMPUS ENVIRONMENT:

KCC is dedicated to providing a safe environment which is conducive to success for all students. When staff notice that a student is struggling emotionally, intellectually, or behaviorally with classroom expectations, they may notify the appropriate personnel on campus to intervene and provide assistance to that student. Academic assistance is available in The Bridge and through Academic Advising; personal counseling is also available in Support Services.

Students whose behavior suggests they are struggling may also be contacted by the KCC Director of Student Relations or by KCC Public Safety. If students have safety concerns about others' behavior in class or on campus, those students are encouraged to discuss their concerns with KCC Public Safety directly.

ACADEMIC SUPPORT SERVICES:

Kellogg Community College is committed to your academic success. If for any reason a student is struggling with a class, speak to the Professor immediately. They are the best resource. Additional resources available include The Bridge (<http://www.kellogg.edu/services/the-bridge/>) and Support Services (<http://www.kellogg.edu/services/student-support-services/>).

HONORS CONTRACT INFORMATION:

Honors contracts are a way for students to turn any college-level KCC course into an honors course, giving them the flexibility to take ownership over learning. At the beginning of the semester, with instructor approval, a student may work with the instructor to develop a unique honors project beyond the course syllabus. Once the honors project is clearly defined and the student's project has been approved by the instructor, the student works independently on that project during the semester and may seek support from the instructor as needed; then, at the end of the semester, when the student successfully completes the honors project as outlined in the contract **and** earns at least a B+ in the course, the student will earn honors designation on their transcript. To download the honors contract and learn more about the Honors Program, please visit <http://www.kellogg.edu/academics/honors-program/>.

ASSISTANCE:

- **Classmates:** Study together on your practice assignments and for tests. All recent research has shown that learning in-groups is more effective than learning alone.
- **Ask questions** in class. Be prepared with your questions from your practice homework when you come to class.
- **Obtain help from me.** See my schedule for times I am available. My college address is coxa@kellogg.edu. If you do not receive an e-mail back from me, assume that I did not receive it.
- **Checking practice homework:** Check your answers in the following references:
- Carefully worked out solutions for all odd-numbered exercises are in the calculus *Student's Solutions Manual, Part II* that can be purchased through the bookstore if you did not obtain one with your textbook.

**** Suggestions for Success in this Class *****

If you are feeling like you need help: come see me!!!

Keep an organized notebook!!! Review your notes and homework on a regular basis.

- I. AS SOON AS YOU CAN AFTER CLASS, SIT DOWN AND . . .
 - A. Begin to list everything you can remember doing in class.
 - B. Read your notes from class and write examples of things discussed.
 - C. Write ten questions involving simple skills, concepts, and ideas presented in class. Place them each on a 3 x 5 card.
 - D. Read the text for the next day's lecture. Just because this is a math course, don't think you're excused from reading the text!!
 - E. Attempt to do all example problems in the text without looking at the given solutions.
 - F. Add facts to your 3 x 5 cards as you learn from the text.
 - G. Review your 3 x 5 cards every few days.
- II. Do the assigned homework problems - they are specially chosen to prepare you for the exams!
- III. Ask questions in class about problems or concepts you don't understand before you get "too lost".
- IV. Seek help outside of class with myself and/or the available tutors if you are still having trouble.

LEARNING ACTIVITIES

CLASS HOURS (APPROXIMATE)

| | | |
|------|---|----|
| I. | 3-Dimensional Analytic Geometry | 10 |
| | A. Vectors in a plane | |
| | B. Cartesian coordinates and vectors in space | |
| | C. Dot and cross products | |
| | D. Lines and plane in space | |
| | E. Quadric surfaces | |
| | F. Translation of axes | |
| | G. Spherical and cylindrical coordinates | |
| II. | Vector-valued Functions | 6 |
| | A. Vector-valued functions and space curves | |
| | B. Vector differentiation and applications | |
| | C. Velocity and unit tangent vectors | |
| | D. Curvature | |
| III. | Partial Differentiation | 15 |
| | A. Partial derivatives. | |
| | B. Chain rule. | |
| | C. Gradient. | |

- D. Total differential.
- E. Higher order differentials.
- F. Series expansion in two independent variables.
- G. Maxima and minima in two independent variables.
- H. Exact differentials.
- J. Radius of curvature.

IV. Multiple Integration 13

- A. Double integral.
- B. Iterated integrals
- C. Transformations.
- D. Applications of double integrals.
- E. Triple integrals and their applications.

V. Vector Calculus 15

- A. Line integrals
- B. Vector fields and work
- C. Green's Theorem
- D. Surface integrals
- E. Surface Integrals
- F. Stoke's Theorem
- G. Divergence Theorem
- H. Surface and Areas

VI. Testing 6