

SIGNATURE ROUTING LOG



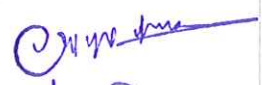

General Information:

Proposal Type: Course Program Other
 Proposal Name¹ (course prefix & number, pgm major & degree, etc.): MA 113
 Proposal Contact Person Name: David Royster Phone: 7-1258 Email: david.royster@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
DUS	08/20/2010	David Royster / 7-1258 / david.royster@uky.edu	
Mathematics Chair		Zhongwei Shen / ph / email	
		/ /	
		/ /	
A&S Ed. Policy Cmte.		G. Murthy, Nat. Sci. / 7-4729 / ganpathy.murthy@uky.edu	
A&S Dean		Anna Bosch, Associate Dean / 7-6689 / bosch@uky.edu	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ²
Undergraduate Council	3/1/2011		
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

¹ Proposal name used here must match name entered on corresponding course or program form.

² Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

APPLICATION FOR COURSE CHANGE (MAJOR AND MINOR)

Complete 1a – 1f & 2a – 2c. Fill out the remainder of the form as applicable for items being changed.

1. General Information.

- a. Submitted by the College of: Arts & Sciences Today's Date: 10/29/2010
- b. Department/Division: Mathematics
- c. Is there a change in "ownership" of the course? YES NO
 If YES, what college/department will offer the course instead? _____
- d. What type of change is being proposed? Major Minor¹ (place cursor here for minor [change] [OSC1] definition)
- e. Contact Person Name: David Royster Email: david.royster@uky.edu Phone: 7-1258
- f. Requested Effective Date: Semester Following Approval OR Specific Term²: Summer II - 2011

2. Designation and Description of Proposed Course.

- a. Current Prefix and Number: MA 113 Proposed Prefix & Number: 229
- b. Full Title: Calculus I Proposed Title: Calculus I
- c. Current Transcript Title (if full title is more than 40 characters): Calculus I
 Proposed Transcript Title (if full title is more than 40 characters): _____
- d. Current Cross-listing: N/A OR Currently³ Cross-listed with (Prefix & Number): _____
 Proposed – ADD³ Cross-listing (Prefix & Number): _____
 Proposed – REMOVE^{3,4} Cross-listing (Prefix & Number): _____
- e. Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours⁵ for each meeting pattern type.

Current: _____ Lecture _____ Laboratory⁵ _____ Recitation _____ Discussion _____ Indep. Study
 _____ Clinical _____ Colloquium _____ Practicum _____ Research _____ Residency
 _____ Seminar _____ Studio _____ Other – Please explain: _____

Proposed: _____ Lecture _____ Laboratory _____ Recitation _____ Discussion _____ Indep. Study
 _____ Clinical _____ Colloquium _____ Practicum _____ Research _____ Residency
 _____ Seminar _____ Studio _____ Other – Please explain: _____

- f. Current Grading System: Letter (A, B, C, etc.) Pass/Fail
 Proposed Grading System: Letter (A, B, C, etc.) Pass/Fail

g. Current number of credit hours: _____ Proposed number of credit hours: _____

¹ See comment description regarding minor course change. *Minor changes are sent directly from dean's office to Senate Council Chair.* If Chair deems the change as "not minor," the form will be sent to appropriate academic Council for normal processing and contact person is informed.

² Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

³ Signature of the chair of the cross-listing department is required on the Signature Routing Log.

⁴ Removing a cross-listing does not drop the other course – it merely unlinks the two courses.

⁵ Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See SR 5.2.1.)

APPLICATION FOR COURSE CHANGE (MAJOR AND MINOR)

- h. **Currently, is this course repeatable for additional credit?** YES NO
- Proposed to be repeatable for additional credit?* YES NO
- If YES: Maximum number of credit hours: _____
- If YES: Will this course allow multiple registrations during the same semester? YES NO

i. **Current Course Description for Bulletin:** _____

Proposed Course Description for Bulletin: _____

j. **Current Prerequisites, if any:** _____

Proposed Prerequisites, if any: _____

- k. **Current Distance Learning(DL) Status:** N/A Already approved for DL* Please Add⁶ Please Drop

*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box) that the proposed changes do not affect DL delivery.

- l. **Current Supplementary Teaching Component, if any:** Community-Based Experience Service Learning Both
- Proposed Supplementary Teaching Component:* Community-Based Experience Service Learning Both

3. **Currently, is this course taught off campus?** YES NO
- Proposed to be taught off campus?* YES NO

4. **Are significant changes in content/teaching objectives of the course being proposed?** YES NO
- If YES, explain and offer brief rationale:

5. **Course Relationship to Program(s).**

- a. **Are there other depts and/or pgms that could be affected by the proposed change?** YES NO
- If YES, identify the depts. and/or pgms: _____
- b. **Will modifying this course result in a new requirement⁷ for ANY program?** YES NO
- If YES⁷, list the program(s) here: _____

6. **Information to be Placed on Syllabus.**

- a. Check box if changed to 400G or 500. If changed to 400G- or 500-level course you must send in a syllabus and *you must include the differentiation* between undergraduate and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate students. (See SR 3.1.4.)

⁶ You must *also* submit the Distance Learning Form in order for the course to be considered for DL delivery.

⁷ In order to change a program, a program change form must also be submitted.

Distance Learning Form

This form must accompany every submission of a new/change course form that requests distance learning delivery. This form may be required when changing a course already approved for DL delivery. **All fields are required!**

Introduction/Definition: For the purposes of the Commission on Colleges Southern Association of Colleges and Schools accreditation review, *distance learning* is defined as a formal educational process in which the majority of the instruction (interaction between students and instructors and among students) in a course occurs when students and instructors are not in the same place. Instruction may be synchronous or asynchronous. A distance learning (DL) course may employ correspondence study, or audio, video, or computer technologies.

A number of specific requirements are listed for DL courses. **The department proposing the change in delivery method is responsible for ensuring that the requirements below are satisfied at the individual course level.** It is the responsibility of the instructor to have read and understood the university-level assurances regarding an equivalent experience for students utilizing DL (available at <http://www.uky.edu/USC/New/forms.htm>).

Course Number and Prefix: MA 113	Date: 10/27/2010
Instructor Name: David Royster	Instructor Email: david.royster@uky.edu
Check the method below that best reflects how the majority of course of the course content will be delivered.	
Internet/Web-based <input checked="" type="checkbox"/>	Interactive Video <input type="checkbox"/>
	Hybrid <input type="checkbox"/>

Curriculum and Instruction	
1.	<p>How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?</p> <p>We will be using BlackBoard as the main carrier for this course. By using the LMS we will be able to track the access of the students to the materials that we are making available. Students will be able to contact the instructor through BlackBoard and via email. There will be opportunities in almost every lesson for students to involve themselves in a discussion about the material covered. These discussion prompts have been tested in prior opportunities to teach online.</p> <p>The course syllabus conforms to the University Senate Syllabus Guidelines, specifically the Distance Learning Considerations.</p>
2.	<p>How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.</p> <p>These students have the same textbook, the same course goals, and the same homework as students in the face-to-face offerings of the course. The exams will be comparable. These students will have more of an opportunity to explore the interconnections of Calculus and science and engineering through links that are interspersed with the material in the course.</p>
3.	<p>How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.</p> <p>All work will be done through BlackBoard and myUK. Exams will be given through an exam proctor. All math instructors are working to find appropriate locations for proctors for exams and will work extensively with the community and technical college system here and out-of-state to find testing facilities that are secure and quiet for the students in this course. The homework system, MathClass, has been used with MA 113 for at least three years and has been found to be a secure system for students to submit homework and check grades.</p>

Abbreviations: TASC = Teaching and Academic Support Center DL = distance learning DLP = Distance Learning Programs

Distance Learning Form


This form must accompany every submission of a new/change course form that requests distance learning delivery. This form may be required when changing a course already approved for DL delivery. **All fields are required!**

4.	<p>Will offering this course via DL result in at least 25% or at least 50%* (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?</p> <p>No</p> <p>If yes, which percentage, and which program(s)?</p> <p><small>*As a general rule, if approval of a course for DL delivery results in 50% or more of a program being delivered through DL, the effective date of the course's DL delivery will be six months from the date of approval.</small></p>
5.	<p>How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?</p> <p>The are informed of the offerings from TASC, UKIT, DLLS, and other student services in the syllabus and in the introduction to the class online. Students needing more assistance will work with the instructor to identify the type of assistance needed and how to help said student to find the appropriate assistance.</p>
<i>Library and Learning Resources</i>	
6.	<p>How do course requirements ensure that students make appropriate use of learning resources?</p> <p>The students are directed to a number of online sources that have been vetted by the instructor as appropriate and correct for Calculus I students. Students will be introduced to other online resources as course develops.</p>
7.	<p>Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.</p> <p>Students will have the materials that they need. Reading materials will be provided online. Software required for the course is freely available for download and students are directed where to find it, how to download it, and how to use it.</p>
<i>Student Services</i>	
8.	<p>How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Teaching and Academic Support Center (http://www.uky.edu/TASC/index.php) and the Information Technology Customer Service Center (http://www.uky.edu/UKIT/)?</p> <p>By syllabus and in the announcements online.</p>
9.	<p>Will the course be delivered via services available through the Teaching and Academic Support Center?</p> <p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>If no, explain how students enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.</p>

Abbreviations: TASC = Teaching and Academic Support Center DL = distance learning DLP = Distance Learning Programs

Distance Learning Form

This form must accompany every submission of a new/change course form that requests distance learning delivery. This form may be required when changing a course already approved for DL delivery. **All fields are required!**

10.	Does the syllabus contain all the required components, below? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Instructor's <i>virtual</i> office hours, if any. <input type="checkbox"/> The technological requirements for the course. <input type="checkbox"/> Contact information for TASC (http://www.uky.edu/TASC/ ; 859-257-8272) and Information Technology Customer Service Center (http://www.uky.edu/UKIT/ ; 859-257-1300). <input type="checkbox"/> Procedure for resolving technical complaints. <input type="checkbox"/> Preferred method for reaching instructor, e.g. email, phone, text message. <input type="checkbox"/> Maximum timeframe for responding to student communications. <input type="checkbox"/> Language pertaining academic accommodations: <ul style="list-style-type: none">○ "If you have a documented disability that requires academic accommodations in this course, please make your request to the University Disability Resource Center. The Center will require current disability documentation. When accommodations are approved, the Center will provide me with a Letter of Accommodation which details the recommended accommodations. Contact the Disability Resource Center, Jake Karnes, Director at 859-257-2754 or jkarnes@email.uky.edu." <input type="checkbox"/> Information on Distance Learning Library Services (http://www.uky.edu/Libraries/DLLS) <ul style="list-style-type: none">○ Carla Cantagallo, DL Librarian○ Local phone number: 859 257-0500, ext. 2171; long-distance phone number: (800) 828-0439 (option #6)○ Email: dllservice@email.uky.edu○ DL Interlibrary Loan Service: http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16
11.	I, the instructor of record, have read and understood all of the university-level statements regarding DL. Instructor Name: David C. Royster Instructor Signature: 

Abbreviations: TASC = Teaching and Academic Support Center DL = distance learning DLP = Distance Learning Programs

University Senate Syllabi Guidelines

MA 113
adding DL

General Course Information

- Full and accurate title of the course.
- Departmental and college prefix.
- Course prefix, number and section number.
- Scheduled meeting day(s), time and place.

Instructor Contact Information (if specific details are unknown, "TBA" is acceptable for one or more fields)

- Instructor name.
- Contact information for teaching/graduate assistant, etc.
- Preferred method for reaching instructor.
- Office phone number.
- Office address.
- UK email address.
- Times of regularly scheduled office hours and if prior appointment is required.

Course Description

- Reasonably detailed overview of the course.
- Student learning outcomes.
- Course goals/objectives.
- Required materials (textbook, lab materials, etc.).
- Outline of the content, which must conform to the Bulletin description.
- Summary description of the components that contribute to the determination of course grade.
- Tentative course schedule that clarifies topics, specifies assignment due dates, examination date(s).
- Final examination information: date, time, duration and location.
- For 100-, 200-, 300-, 400-, 400G- and 500-level courses, numerical grading scale and relationship to letter grades for *undergraduate* students.

? provide website where posted now

- For 400G-, 500-, 600- and 700-level courses, numerical grading scale and relationship to letter grades for *graduate* students. (Graduate students cannot receive a "D" grade.)

need review need

- Relative value given to each activity in the calculation of course grades (Midterm=30%; Term Project=20%, etc.).
- Note that undergraduate students will be provided with a Midterm Evaluation (by the midterm date) of course performance based on criteria in syllabus.

- Policy on academic accommodations due to disability. Standard language is below:
If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Course Policies

- Attendance.
- Excused absences.
- Make-up opportunities.
- Verification of absences.
- Submission of assignments.
- Academic integrity, cheating & plagiarism.
- Classroom behavior, decorum and civility.
- Professional preparations.
- Group work & student collaboration.

214 review
11/12/10

MA 113 – Calculus I

Summer 2011: Online/UK BlackBoard

Instructor: David Royster

Office phone: (859) 257-1258

Preferred method on contact: *email*

Teaching/Grad. Assist: TBD

Email: david.royster@uky.edu

Office address: Patterson Office Tower 759

Office Hours: Daily 0800-0900

email: TBD

Instructor Access

This course is offered in an asynchronous format, meaning that you can access the materials at a time best suited for you during the day – within the time frame set by university, the semester and the instructor. While the computer is available 24/7, your instructor is not. We will adhere to the following schedule. All emails and inquiries will be answered within 24 hours of the time that said inquiry is received by the instructor. Most communications will be held through email, but should the necessity arise, the instructor may call you or have technical assistance call you to help manage a problem with the computer. Please feel free to email me at any time. You will receive a response within 24 hours.

Virtual Office Hours: Virtual office hours will be determined following an initial survey of students to find the best time – the time at which most if not all are available.

Overview of course

A course in one-variable calculus, including topics from analytic geometry. Derivatives and integrals of elementary functions (including the trigonometric functions) with applications.

Student Learning Outcomes:

Upon successful completion of Calculus I (MA 113) the student will be able to:

- 1) Use and interpret the derivative in algebraic, graphical, and numerical contexts to model and solve optimization problems.
- 2) Approximate and interpret the integral in algebraic, graphical, and numerical contexts to model and solve summation application problems such as distance traveled, average value, total change, and areas and volumes of geometrical figures and solids, respectively.
- 3) Use and interpret the graph of the derivative and the graph of the antiderivative to model real world applications such as position, velocity, and acceleration of objects.
- 4) Compute the derivative, antiderivative, and definite integral of standard functions using various analytical and numerical techniques.
- 5) Use the antiderivative and the Fundamental Theorem of Calculus to demonstrate the connection between derivatives and integrals.
- 6) Approximate the derivative of a function using the limit definition, and through algebraic, graphical, numerical means and interpret it as a rate of change.

Course Goals/Objective:

In Calculus I, we will learn about derivatives, integrals and the fundamental theorems of calculus. We begin by introducing the notion of a limit. Limits are essential to defining derivatives and integrals. By the end of the semester you should know precise definitions of continuity, the derivative, and the integral and understand the fundamental theorem of calculus which relates the latter two. We will illustrate the methods and ideas of calculus by applying them to solve several physical and geometric problems.

We will cover most of Chapters 1 to 5 of Stewart's book. Please see the course calendar for a detailed listing of sections.

Exposure to the precision needed in Calculus will foster critical thinking and rational reasoning. In order to help you learn to formulate and communicate mathematical ideas, there will be six written assignments. Your solutions to these assignments are expected to be carefully drafted documents that are written up in complete sentences. You should lay out and explain all the arguments you used to arrive at your solution.

Required materials (textbooks, lab materials, etc.):

Textbook: Suggested – *Calculus (Early Transcendentals)*, 6e, by James Stewart, ISBN 978-0-495-001166-8 or 0-495-01166-5. The book *Single Variable Calculus (Early Transcendentals)*, 6e by James Stewart may be used also.

Worksheets: Worksheets will be provided online at the class website throughout the course.

Software:

- 1) You will need a graphing calculator and/or access to the software WinPlot (or Graph if using a Mac).
- 2) You will need access to a reliable email program
- 3) You will need access to an Office-type suite of programs (word processing and spreadsheet are essential). Either MS Office, Google Docs, or OpenOffice should suffice.
- 4) You will need to download MathPlayer (free) if using Internet Explorer. It is not necessary if using Firefox. If you are using Firefox you will need to read the material about download the free Math fonts.
- 5) You should plan to use Internet Explorer 7, Firefox 3.6 or Safari for your browser.

Grading:

You can earn up to 500 points in the course based on the following activities:

3 exams	300 (100 points each)	20%
Final exam	100	20%
<u>Homework and attendance</u>	<u>100</u>	<u>20%</u>
Total	500	100%

The 100 points for homework and attendance are computed based on the following components:

		%'age of HW/ATT	%'age of course
Web homework	100 points	50%	10%
Written assignments	80 points (12.5 points each)	40%	8%
Participation in discussions	20 points	10%	2%
Total divided by 2	100 points		

Your course grade will be based on the number of points you earn according to the following scheme:

Total earned course points (out of 500)

	450-500	400-449	350-399	300-349	0-299
Final course grade	A	B	C	D	E

Students will be provided with a Midterm Evaluation (by a date not to exceed the middle of the term) of course performance based on criteria given above.

Homework and Quizzes:

Homework, assignments, quizzes and test dates are outlined on the MA 113 Course Website at <http://www.math.uky.edu/~uwenagel/CALC-I-f10/MA113-home.html>

There are three types of homework, details are described below; only the first two count towards the grade:

1. we b-based homework,
2. 6 written assignments,
3. optional homework.

1. Web-based Homework:

The bulk of the homework will be completed using the well tested web-based homework system that grades your solutions and records your scores. You find it at www.mathclass.org (see below for administrative details on using this website). Each homework set comes as a common version and a personal version. When entering answers to the common version into the system, it will tell you whether or not your answer was correct and, if necessary, provides you with the correct solution. When entering answers to the personal version you will see whether or not it is correct, but nothing else. This way, the common version serves as a study guide for the personal version. Only correct solutions to your personal version of the homework assignment give you credit! Notice that for each web-based homework problem you may resubmit your answer as often as you wish before midnight of the due date! Only your final (and hopefully correct answer) will be recorded for your homework grade. You may find your score at www.mathclass.org by clicking homework scores on the main page. We recommend to approach the web-based homework assignments via the following rules.

- a) Start to work on an assignment as soon as the corresponding material is discussed in class.
- b) Print out copies of your personal and of the common version (it is free in the Mathskeller, the student staff will show you how to do so) and put them in a notebook.
- c) Get together with classmates to work on the problems via the printouts. The best thing is to work together on the common version. Write down the solutions in your notebook and only thereafter enter your solutions on the webpage. Check your answers by entering them into the system, and, if necessary, rework the problem and try to understand the correct answer provided to you by the system.
- d) Thereafter work on the problems of your personal version and remember: only correct solutions to your personal version will earn you credit.
- e) Bring the notebook with you when you go to office hours.
- f) You are encouraged to discuss homework problems and the course material with each other. However, when it comes time for you to write up or enter the solutions, we expect you to do this completely on your own. It would be the best for your understanding if you put aside your notes from the discussions with your classmates and wrote up the solutions entirely from scratch.
- g) If necessary, you may take the common version of the homework set with you to recitation and seek help.
- h) If you feel you have worked a problem correctly and WHS marks it incorrect, please contact your teaching assistant or lecturer, for example, by e-mail.

2. Written Assignments:

These assignments are intended to help you learn to communicate mathematics and to present clear, well-written solutions to problems. Your solutions will be graded by humans for mathematical correctness and for clarity of exposition. Students who wish to receive full credit should write in complete, grammatically correct sentences. You should give clear reasoning and present the steps of your solution in logical order.

3. Optional homework:

There are various optional homework problems that do not count towards your grade: the web-based assignments Ao, AR, BR, CR, DR as well as optional homework assignments from the textbook, listed in the course calendar.

The optional assignment Ao is intended to introduce you to the syntax to enter mathematical expressions in the web homework system. The review assignments AR, BR, CR, and DR are study guides for each exam. All students are strongly advised to complete these review assignments and do optional homework from the textbook.

Quizzes will be given regularly during recitations (see the course calendar). The quizzes will not be graded. They should help you to cope with a test situation where you have to work the given problems with closed books and a limited amount of time.

Calculator Policy: You **may** use calculators on the homework and exams. You may not use any machine (carbon-based life form or silicon-based) that has **symbolic manipulation capabilities** of any sort on any exam. This precludes the use of TI-89, TI-Nspire CAS, HP 48, TI 92, Voyage 200, Casio Classpad or laptop computer. Also, you may **not** use your cell phone, *iPhone*, or *Blackberry* on any exam – even if you forget your regular calculator. If it runs *Windows*, UNIX, Linux, Ubuntu, MacOS, PalmOS, or any derivatives or associates thereof, you may not use it on the exams.

Tentative course schedule:

There will be an exam every two weeks on Thursdays. The final examination details will be worked out with the student as they identify test proctors with whom they will be working while taking the tests.

Course Policy on Academic Accommodations due to disability: If you have a documented disability that requires academic accommodations, please contact me as soon as possible by email. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Distance Learning Considerations:

Technical Assistance: For any issues other than questions about specific mathematical software required by me, you will need to contact technical help here at UK. For technical assistance with the delivery or receipt of the course, please contact Teaching and Academic Support Center (<http://www.uky.edu/TASC/index.php>) or the Information Technology Customer Service Center (<http://www.uky.edu/UKIT>).

Library Services: For information on Distance Learning Library Services

(<http://www.uky.edu/Libraries/DLLS>) please contact:

Carla Cantagallo, DL Librarian, (859) 257-0500, ext. 2171 or toll free (800) 828-0439, Option #6, email: dllservice@email.uky.edu,

or the website: http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llilb_id=16.

Course Policy for Attendance:

Your attendance is recorded automatically by BlackBoard. You must be logged in and reading a module for 30 minutes or more for me to know that you have perused the module. You will be expected to pass a quiz to allow you to go on to the next material.

There are no absences in this type of course. The course is offered asynchronously and each student will have time to read and complete the work in the time allotted. Should there be an emergency situation, the student needs to contact me as soon as possible to let me know the nature of the problem (technical, natural disaster, personal) and we will work out a reasonable path to completion of the work.

Course Policy for Submission of Assignments:

All assignments will be submitted on *MathClass* or *BlackBoard*. The computer will shut off submission of the assignments at the time designated by the instructor. Times at which the assignments close are clearly posted in each of the computer programs and will be sent in reminders to the students.

Course Policy on Academic Integrity:

Students are encouraged to work together to understand a problem and to develop a solution. However, the solution you submit for credit must be your own work. In particular, you should write your solutions to the written assignments independently. Copying on exams and usage of books, notes, or communication devices during examinations is not allowed. Cheating or plagiarism is a serious offense, and it will not be tolerated. Students are responsible for knowing the University policy on cheating.

Course Policy on Classroom civility and decorum:

The university, college and department have a commitment to respect the dignity of all and to value differences among members of our academic community. There exists the role of discussion and debate in academic discovery and the right of all to disagree respectfully from time-to-time. Students clearly have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students (S.R. 6.1.2). Equally, a faculty member has the right — and the responsibility — to ensure that all academic discourse occurs in a context characterized by respect and civility. Obviously, the accepted level of civility would not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin or other such irrelevant factors. Please remain cognizant of this policy on all online discussions in the course.

Course Policy for Group work & student collaboration: (if applicable)

There may be the opportunity to partake in an online group project this course. Part of the group assignment will be that the team must explain the involvement of each member in the project and/or assess the contribution of each other to the final product. This will not be the only evaluation made of individual student performance, though.

MA 113 Calculus I Overview

Calculus is an important building block in the education of any professional who uses quantitative analysis (e.g., engineers, scientists, economists, mathematicians, etc.). It introduces and develops the mathematical skills required for analyzing change and creating mathematical models that imitate real-life situations. The general goals of this first semester calculus course are to expand the students' knowledge of calculus, and to use the calculus environment to develop critical thinking and problem solving skills.

Course Objectives:

By the end of this course you should be able to:

1. Describe the concept of limit, and calculate limits graphically, numerically, and analytically.
2. Describe what a derivative is, and calculate derivatives through the use of the definition and the basic rules of differentiation.
3. Find derivatives of algebraic, trigonometric, exponential, and logarithmic functions using basic differentiation formulas.
4. Find derivatives of algebraic, trigonometric, exponential, and logarithmic functions using the chain rule.
5. Use the derivative to find extrema, and solve applied problems involving extrema.
6. Use the methods of calculus to find necessary information for curve sketching.
7. Find derivatives by using implicit differentiation, and solve applied problems involving related rates.
8. Describe an antiderivative of a function, and calculate indefinite integrals by using the basic rules of antidifferentiation and the method of substitution.
9. Describe the definite integral in terms of limits and Riemann sums, and compute a definite integral by means of the definition, the Fundamental Theorem of Calculus, basic properties of definite integrals, and areas of common geometric figures. Use the definite integral and its properties to define the natural logarithm function and then determine the derivative of the natural logarithm. Apply the notion of the definite integral to compute areas of regions in the plane.

OUTLINE OF COURSE TOPICS:

- 01-Introduction to Calculus
- 02-Introduction to Number and Mathematics
- 03-The Real Numbers - not Reality Numbers
- 04-Library of Functions
- 05-Limits of Functions
- 06-Continuity
- 07-Infinite Limits
- 08-Rates of Change and Tangent Lines
- 09-Derivatives
- 10-What the Derivative Tells us about the Function
- 11-Derivative Rules

12-The Chain Rule
13-Parametric Equations
14-Implicit Differentiation
15-Inverse Functions
16-Related Rates
17-Maxima and Minima
18-Mean Value Theorem
19-Shape of the Graph
20-Optimization
21-Indeterminate Forms and l'Hospital's Rule
22-Newton's Method
23-Antiderivatives
24-Areas & Distance
25-The Definite Integral
26-The Fundamental Theorem of Calculus
27-Indefinite Integrals and Total Change
28-Integration using the Substitution Method

University of Kentucky

MA 113 online: Proctor Approval Form

Student's Name

Student's Email Address

Proctor's Name

Proctor's Position

Proctor's Place of Employment Address (Please print plainly)

Phone Number

Email Address

Signature

By signing, I indicate that the above information is correct, that I meet the criteria described below for a test proctor, and that I will help the student follow the instructions included below.

Acceptable proctoring locations could include a public library, a local school or university, or a local place of worship. Other locations are possible and can be discussed with the instructor.

Your proctor could be selected from the following categories. Other possibilities can be discussed with your instructor.

- Military testing, training or education officer
- Military commander two ranks above student
- Community or Area Learning Center staff
- Training/testing agency staff
- College/school/institute education staff
- Human Resources staff
- Workplace supervisor two levels above student
- Library staff
- Ordained Clergy
- Law Enforcement training or education office

Please note: The examination proctor may not be related to the student or live at the same residence.

**Upon completion of the form, please return to: Casey Monday or Beth Kelly
Department of Mathematics
715 Patterson Office Tower
University of Kentucky
Lexington, KY 40506-0027**

To the Examination Proctor:

The student named above has submitted your name as one who would assist him/her in completing an online course from University of Kentucky by serving as an examination proctor. We recognize the commitment required of you to serve in this capacity and appreciate your willingness to help this student work toward an important educational objective.

Please return this completed form to Casey Monday or Beth Kelly and retain this page for your use.

The following list of instructions is extremely important to maintaining the integrity of this online course. It is important that they be **followed as written**. If questions arise during the time you are serving as an examination proctor, please feel free to email Casey Monday at cgregory@ms.uky.edu or Beth Kelly at bkelly@ms.uky.edu to seek clarification.

Instructions:

1. The examination is to be completed as nearly as possible under conditions normally found in a classroom testing environment. Interruptions to the student should be avoided. The student is not allowed to have access to any books, manuals, notes, etc., during any examination unless noted by the university instructor directly to the examination proctor. Since this is a mathematics course, the student will be allowed a calculator on all exams. Any exception would accompany the examination copy sent to the proctor.
2. The university instructor will notify the proctor about the maximum time limit for completing the examination. Normally, Ma 123 exams are two-hour exams.
3. The student is not to be left unsupervised at any time while completing an examination.
4. Students are not allowed to keep or make copies of any part of an examination.
5. After taking the exam, the student should hand in the exam to the proctor who will then place the exam in a pre-addressed envelope provided by the student, seal the envelope, and sign across the top with the time and date. The proctor will then mail the envelope to the Ma 123 instructor as soon as possible.

If the examination proctor finds these arrangements agreeable, please sign the attached form, provide the complete mailing address where correspondence should be sent, and return the form to Casey Monday or Beth Kelly at the address on the previous page.