Math 115 – Preparation for Calculus
Fall 2017
Lecture AL1 at 9:00-9:50am MWF in 116 Roger Adams Lab
Lecture AL2 at 1:00-1:50pm MWF in 100 Gregory Hall
Lecture AL3 at 8:00-8:50am MWF in 100 Gregory Hall

Discussion sections meet on Tuesdays for 50 minutes; times vary by student

Lecture(s): AL1 and AL2
Instructor: Jennifer McNeilly
Office: 326 Altgeld Hall
Email*: jrmcneil@illinois.edu
Tentative Office Hours: Thursdays 9:30 - 11am
Office Hours Location: 326 Altgeld

Lecture(s): AL3
Instructor: Corey Stone
Office: 24 Illini Hall
Email*: cdstone@illinois.edu
Tentative Office Hours: Fridays 10 - 11am
Office Hours Location: 24 Illini Hall

*Email is the best way to reach us.

Welcome to Math 115:
The purpose of Math 115 is to prepare students to take Math 220: Calculus at the University of Illinois. We will do that by reviewing some concepts you should have seen in previous high school mathematics courses, but will explore the mathematics more deeply and from an advanced viewpoint. The goals are to introduce you to the underlying logic and reasoning, create a familiarity with mathematical notation, and give you opportunities to improve your critical thinking, problem solving, and study skills.

The remainder of this document provides details about the different course components, requirements, and policies. It is critical that you read and understand all of the information provided here and keep this document for your reference throughout the semester.

Prerequisites:
While we will review concepts from algebra and trigonometry at times, this course is designed for students who have already had coursework on these topics. If you know that you need more exposure to algebra topics, you may want to consider taking Math 112: College Algebra before Math 115.

Placement Exam:
All students enrolled in Math 115 must have a minimum score of 65% on a recent ALEKS PPL Mathematics Placement Exam. This score must be earned between April 17, 2017 and September 1, 2017 or you will be automatically dropped from the course. For more information about the placement exam requirement, see http://www.math.illinois.edu/ALEKS/ and for questions, contact the Math Undergraduate Office at mathadvising@illinois.edu

Website:
We will be maintaining a website for this class through Illinois Compass 2g. This site will contain links to assignments and course materials as well as general information, announcements, answers to frequently asked questions, etc. You should always check the website before e-mailing us with questions. In fact, if you e-mail us with a question and we do not respond, it is probably because that information is available on the website. Here is the URL to access Illinois Compass 2g: https://compass2g.illinois.edu
Class Materials:

1. **Lecture Notes:**
   The notes you take during lecture are a very important component of the course; you should consider them the required text. They are meant to be read again later. In the lectures, we are telling you what we believe is important. Many topics will be presented in a different manner than the recommended text(s) and others may not be covered in the text(s) at all. Many of you will find it helpful to rewrite your notes and then attend office hours or tutoring to ask questions over anything you still do not understand. Be aware that we may use colors to separate ideas during lecture. You may find it useful to have different colors when taking notes. We will post lecture outlines on the course website that you may either print and bring to class with you or simply use as a reference to complement the notes you take in lecture.

2. **i-clicker:**
   In order to provide a lecture environment more conducive to participation and interaction, each student is required to have an i-clicker (student remote for a classroom response system) with which to answer various questions during lecture. You may use either the original i-clicker or an i-clicker2 (only multiple-choice style questions will be asked so the alpha-numeric feature of the i-clicker2 is not necessary). A small portion of your course grade will be based on your participation in the i-clicker questions asked in lecture.

3. **Recommended Supporting Text:**
   This is the text that is required for the standard Calculus sequence (Math 220/221, 231, 241) on this campus. (Recall that we expect that Math 115 students will be taking Math 220 next semester.) The appendices and Chapter 1 contain many of the pre-calculus topics we will cover in this course. Chapter 2 and Chapter 11 also contain some of the material in this course. Note that Math 115 does NOT follow this text in any sequential way. While we may select practice or homework problems from this text, since we are not requiring students to purchase it, we will deliver the homework in a format separate from the text. There are also copies of this text on reserve in the Mathematics Library on the second floor of Altgeld and in Grainger Library.

   (b) *Precalculus* from OpenStax, www.openstax.org/details/precalculus
   This text is available online for free. It presents topics of precalculus addressed in a more traditional way. You may find it to be a good resource when studying course notes or working on the homework. We may also post links to other online resources throughout the semester that might be useful.

**Grading:**
Your course grade will be based on the following:

- Participation (i-Clicker and Discussion) 5%
- Homework (Written and Electronic) 15%
- Quizzes 10%
- Exam 1 10%
- Exam 2 15%
- Exam 3 15%
- Final 30%
Maximum cutoffs for letter grades will be the traditional 90%, 80%, etc with plus and minus grades given at the following intervals.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Cutoffs</th>
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<tbody>
<tr>
<td>A+</td>
<td>96.67-100</td>
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<tr>
<td>A</td>
<td>93.34-96.66</td>
</tr>
<tr>
<td>A-</td>
<td>90-93.33</td>
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<tr>
<td>B+</td>
<td>86.67-90</td>
</tr>
<tr>
<td>B</td>
<td>83.34-86.66</td>
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<tr>
<td>B-</td>
<td>80-83.33</td>
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<tr>
<td>C+</td>
<td>76.67-80</td>
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<tr>
<td>C</td>
<td>73.34-76.66</td>
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<tr>
<td>C-</td>
<td>70-73.33</td>
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<tr>
<td>D+</td>
<td>66.67-70</td>
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<tr>
<td>D</td>
<td>63.34-66.66</td>
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<tr>
<td>D-</td>
<td>60-63.33</td>
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<td>F</td>
<td>below 60</td>
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</tbody>
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You must pass the final exam in order to pass the course.

**Participation (i-Clicker):** Multiple i-Clicker questions will be asked during each lecture. Some of these questions will be used to help assess how much the class remembers about a topic that is considered review material. Others will be used to give students a chance to apply the concept that was just presented in lecture. Students will often be expected to discuss the problem with those around them for a couple minutes prior to choosing an answer.

By answering i-Clicker questions during lecture, you will earn credit towards the participation portion of your overall grade. You will be able to earn most of the points by simply participating in the i-Clicker questions. You will be able to earn additional points by answering the questions correctly. More details about how i-clicker points will be calculated will be presented in class and posted on the course website.

*Ample opportunities will be provided to earn i-Clicker points.* Many more i-Clicker points will be offered than what will be required to earn full participation credit for the semester. Thus, there is no reason to be tempted to ask a friend to click for you if you are not in lecture. Clicking for someone else is considered cheating. Similarly, we will not offer ”makeup” points for days you miss lecture or have a technical problem with your i-Clicker; as long as you are regularly attending lecture and participating in the questions asked, you should be able to earn enough points for full participation.

See the course website for information about how to register your i-Clicker.

**Participation (Discussion):** All students enrolled in a Math 115 lecture should also be enrolled in a discussion section that meets on Tuesdays. A typical discussion class will consist of a short quiz (more information on quizzes below) followed by time spent working in small groups on a worksheet or activity. Each discussion section will be graded out of 3 points as follows:

- **(1 point) Attendance:** Your attendance in discussion is mandatory. You are expected to be on time and stay for the entire class. If you are more than 15 minutes late to discussion or leave early, you will earn 0 for the attendance portion of your grade that day.

- **(2 points) Preparation and Participation:** You are expected to come to discussion with your lecture notes ready to discuss the course material with your classmates in order to gain a more conceptual understanding of the material.

In the event that you miss a discussion due to illness or a last minute emergency, it is your responsibility to contact your discussion TA or a classmate to find out what you missed. No options will be offered to ”makeup” discussion days. To accommodate for this policy, your lowest two discussion grades will be dropped at the end of the semester.

**Homework:**
There will be three types of homework assigned throughout the course: Written homework assignments and electronic homework assignments will have required due dates and will be graded as part of your overall course grade. Suggested practice assignments will not be collected or graded. All three types of assignments will be useful in your preparation for quizzes and exams.
1. **Written Homework**: Written homework will be posted in the homework folder on the course website and will be due most weeks during discussion section (on Tuesday).

The purpose of the written homework is to use the basic tools and examples that are provided in lecture to solve new problems rather than simply to reproduce computations that were presented as lecture examples.

We expect that students will struggle with some of the written homework problems. You are encouraged to work together and discuss problems with classmates. Make use of office hours and tutoring. It is your responsibility to ensure you understand the concepts and ideas reinforced or presented in written homework. To that end, even if group work was used to solve the problems, all students are required to compose and submit written homework assignments individually.

A selection of problems from each written homework assignment will be graded for correctness. Points for each homework assignment will be awarded based on the correctness of the solutions to the selected problems as well as:

- Completeness: A serious effort was made at providing solutions to all the assigned problems.
- Neatness: Solutions are clearly and neatly written on loose-leaf paper (not spiral-bound) with generous use of whitespace and pages are stapled together with the student’s name and discussion section written on each page.

All written homework assignments will be collected in discussion. You must turn your homework in at the discussion for which you are registered. Under no circumstances will students be allowed to hand in homework after their discussion. You are always welcome to turn in an assignment early if you think there is some reason you may not make it to class the day it is due.

As a result of this no late homework policy, to accommodate illness and unexpected absences, every student’s lowest written homework grade will be dropped when calculating final grades.

2. **Electronic Homework**: Electronic homework assignments will be assigned regularly using Lon-Capa and/or Illinois Compass. The due dates for all electronic homework assignments will be posted on the course website and announced in lecture. You are responsible for meeting the deadlines; running out of time or running into technical issues at the last minute will not be considered valid reasons for missing a deadline. Thus you are encouraged to start the electronic homework well in advance of the deadlines.

More information about electronic homework will be presented in class and posted on the course website.

3. **Suggested Practice**: Periodically we will post suggested problems that do not need to be written up carefully and turned in for a grade, but should still be done to help you prepare for quizzes and exams.

**Quizzes**: Quizzes will be given most weeks during your discussion section. Quizzes will be given at the very beginning of discussion so it is important that you arrive on time. Students who arrive after the quiz has begun will not be given extra time to complete the quiz. Students who arrive after the quiz is finished will be given a 0 on the quiz. No makeup quizzes will be offered. To accommodate for these policies, your lowest two quiz scores at the end of the semester will be dropped.

**Exams**: There will be 3 Exams given during the semester for this course. They will be *evening exams* - starting at 7pm sharp and lasting for approximately 60 minutes.

Exam 1 Thursday, September 21
Exam 2 Wednesday, October 25
Exam 3 Wednesday, December 6
You must bring an official picture ID (I-card, driver’s license, passport, etc.) with a clear picture to all exams. A Conflict Exam will be offered, if necessary, early the following day for each exam. The Conflict Exam is intended for those students who have another University course or exam at the time of our regularly scheduled evening exam. Travel plans to non-University related events or social plans are not adequate reasons for requesting a Conflict Exam. Students with acceptable conflicts will be asked to provide detailed information about the conflicting course or exam at least a week before our exam, and the conflict will be verified. In the event that you miss an Exam or a Conflict Exam due to a last minute emergency, your instructor must be notified by e-mail or a phone call to their office within 24 hours. Failure to notify constitutes an acceptance of a zero for that Exam. With a valid and verifiable excuse (official documentation will be required) we will discuss options for either making up a missed exam or being excused. No accommodations will be made for unexcused absences and it is completely our discretion whether or not your absence is deemed excused or if there will be a penalty assessed for your absence from the exam.

**Final**: The final exam will be cumulative and has tentatively been scheduled for:

**Wednesday, December 20 from 8-11am**

A conflict exam will be offered for those who have a non-combined final exam for another course scheduled at this time. It will be held at one of the following times:

**Wednesday, December 20 from 1:30-4:30pm**

Please note these dates/times before making any travel plans for Winter Break. Leaving campus before the end of final exam week is not a valid reason to take the conflict final exam.

Failure to take the final exam will result in a failing grade for the semester.

**Calculators**: In the University of Illinois calculus sequence, the use of calculators has not been allowed on either homework or exams. It is expected that students can do basic arithmetic, geometry and trigonometry without the aid of a calculator. As a result, you need to begin to learn to do mathematics this way now. The use of a calculator will generally not be needed (and should not be used) in the completion of homework assignments. In this class, calculators will not be allowed during any exam. The use of a calculator during an examination period will be construed as cheating on that exam.

**Returned Work and Grade Disputes**: Written Homework, Quizzes, and Exams will be returned in discussion sections. Grading issues on quizzes and written homework should be discussed with your TA and must be initiated using the Grade Explanation Form posted on the course website. Similarly, grading issues on exams should be discussed with your large lecture instructor and initiated using the Grade Explanation Form. You have exactly one week after they day papers are passed back to discuss these issues. After this time, no changes will be made to your score.

**Classroom Decorum**: This is a very large lecture with many people. The classroom environment should be conducive to learning by all. Thus, your behavior should be in no way disruptive to your classmates. Cell phones and music players are to be turned off during lecture, and please keep chit-chat to a minimum. If your behavior is disrespectful or disrupts the learning of others, you will be asked to leave.

**Academic Integrity**: This course adheres strictly to the University’s Student Code Article 1 Part 4 Policy on Academic Integrity. Cheating on exams, or indeed any aspect of the course, will result in serious implications, including potentially a failing grade in the course. University policy dictates that any charge of cheating which results in a guilty decision, however small, MUST be documented both with the student’s college and also the Senate Committee on Academic Discipline. Cheating instances will follow you and may influence decisions made about you in the future.
**Academic Accommodations:** If you are entitled to accommodations sanctioned by DRES, your instructor needs to be notified with official documentation no later than one week into the course. Due to the evening exams, exam accommodations will need to be handled on a case-by-case basis. Your instructor(s) need to be notified at least five business days in advance to coordinate the scheduling of your exam.

**Attendance:** If you miss a lecture or arrive late, then you need to contact someone else in the class to get the lecture notes. Also, there will often be announcements made in class about the tutoring rooms, room changes for exams, etc. Once again, if you miss lecture or arrive late, it is your responsibility to check the website or talk to someone else in the class about any important announcements.