Math 122B: First Semester Calculus, Fall 2014
Section 020 4:00-5:05PM, MTWR, HARV 208

Instructor: Nick Henscheid
Office: Math 702
Office Hours: TBA - see course website
Email: nhenscheid@math.arizona.edu
Course Website: http://math.arizona.edu/ nhenscheid/teaching/122BF14

Text: Calculus, 6^{th} edition, Hughes-Hallett et al.

Attendance: You are expected to attend every scheduled class and to be familiar with the University Class Attendance policy as it appears in the General Catalog. It is your responsibility to keep informed of any announcements, syllabus adjustments or policy changes made during scheduled classes, by email, or on the course webpage. Please behave in accordance with the Student Code of Conduct and the Code of Academic Integrity. The guiding principle of academic integrity is that a student's submitted work must be the student's own. University policies can be found at http://deanofstudents.arizona.edu/policiesandcodes.

Homework/Quizzes: (120 Points) Homework and quizzes will come in two formats throughout the semester:

1. Simplifying Expressions worksheet from 122A. Due Thursday 9/18, worth 20 points.

2. Computer graded problems will be assigned and turned in using the WebAssign system which comes with your book. WebAssign problems will typically be due the day *after* we finish the section in class. See 'homework tips' at the end of the syllabus to read my advice about online homework. To create an account for this class go to http://webassign.net, click on the I Have a Class Key button. Our class key is **arizona 7148 2452** . You must do this even if you have used WebAssign in the past or are using it for another course this semester. There is a 14-day grace period (from the first day of class) before you must purchase/ submit your access code for this class. Each time you login, you will see a reminder.

3. Written homework problems will be assigned frequently, and quizzes will be based on (or taken directly from) these homework questions. Here's how it will typically work:

   - Problems for the week will be posted to the course website early in the week, with some brief solutions/hints for guidance. Problems will cover material from the previous Thursday up through Wednesday of the current week.
   - You will write up your solutions according to the format described in 'written homework format' at the end of the syllabus, and have them ready for class on Thursday.
   - On Thursday at the beginning of class, we will take a short (10-15 min) quiz. Again, quiz questions will be based on the written homework questions, so if you *actually do the homework*, you should be fully prepared for the quiz. **I will collect your homework solutions and quizzes, but only grade the quizzes for correctness - the homework will only be graded for completion.** For example, out of 20 points,

you'll get 5 points for turning in a complete set of solutions, and the remaining 15 points are for correct quiz responses.

- This system is subject to minor modification based on our weekly schedule.

A final total homework/ quiz score based on 120 possible points will be assigned using some form of weighted average - for example, WebAssign might be worth 20/120 and written/quizzes might be worth 80/120. The common assignment due 9/18 is worth 20/120, as agreed upon by all the 122B instructors.

In-Class Exams: (400 Points) The three in-class exams are tentatively scheduled for Monday, October 6^{th}; Monday November 3^{rd}; and Thursday December 4^{th}. Each exam will be worth between 100 and 150 points, totaling 400 between the 3. In general, there will be no make-up exams in the course. However, in complex and unusual circumstances beyond your control, a make-up exam may be given on a case-by-case basis. This will require providing a detailed account of the situation and supporting documents. Approval in these cases is at the sole discretion myself and/or the dean of students.

Final Exam: (200 Points) The final exam is a comprehensive common department exam. It is scheduled for Monday, December 15 from 1:00-3:00 pm. Additional information and a study guide will be made available on the course website. The University's Exam regulations will be strictly followed (see http://www.registrar.arizona.edu/schedule2144/exams/examrules.htm).

Calculators: A graphing calculator is an important tool that will be used throughout this course. We recommend any model in the TI-83 or TI-84 series. Models that can perform symbolic calculations (also known as CAS) are NOT allowed on exams and quizzes. CAS models include (but are not limited to) the TI-89, TI NSpire CAS, HP 50g, and Casio Classpad 330. Students are not allowed to share calculators during exams and quizzes, and no, you cannot use your phone as a calculator.

Grades: There is a total of 720 points available in this class. Final grades will be assigned according to the following chart, where P is given by the following formula, rounded up to the nearest tenth:

$$P = \frac{100}{720}\left(100 * \frac{\text{Total HW\&quiz points earned}}{\text{Total HW\& quiz points possible}} + \text{122A Assignment Score} \right.$$
$$\left. + \text{Total of Midterms} + \text{Final exam score}\right)$$

A	$90 \leq P \leq 100$
B	$80 \leq P \leq 89.9$
C	$70 \leq P \leq 79.9$
D	$60 \leq P \leq 69.9$
E	$0 \leq P \leq 59.9$

Note: A grade of C or better in Math 122B or 125 is a necessary prerequisite for Math 129 (Calculus II). Students who receive a D in Math 122B or 125 will receive credit for the course

towards graduation requirements, and will be able to use their course for the general education math requirement, but will not be automatically qualified to register for Math 129.

Students with Disabilities: If you anticipate issues related to the format or requirements of this course, please meet with me to discuss ways to ensure your full participation in the course. If you determine that format, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (621-3268; drc.arizona.edu). You should notify me of your eligibility for reasonable accommodations as soon as possible, at which point we can plan how best to coordinate your accommodations.

Withdrawing From the Course: You may withdraw from the course with a deletion from your enrollment record through September 27^{th} using UAccess. You may withdraw with a grade of "W" or change to Audit through November 9^{th} using UAccess. The University allows withdraws after this date, but only with the Deans signature. Late withdraws are dealt with on a case-by-case basis, and requests for late withdraw without a valid reason may or may not be honored. **Note: these withdrawal dates are different than other courses because 122B is late-start!**

Incompletes: The grade of I (incomplete) will be given if **all** the following conditions are met:

1. The student has completed all but a small portion of the required work.
2. The student has scored at least 50% on the work completed.
3. The student has a valid reason for not completing the course on time.
4. The student agrees to make up the material in a short period of time.
5. The student asks for the incomplete before grades are due, 48 hours after the final exam.

Written Homework Format Please follow these guidelines - it makes my life easier, which in turn makes your life easier.

- Please use standard size (8.5-by-11) loose-leaf paper. If you tear paper from a notebook, make sure you remove the fringe (you'll understand why if you ever have to grade hundreds of pages of homework a week).
- Please staple! Super simple. Don't expect me to bring a stapler to class.
- Please label your assignments with your name, 122B-020, the assignment due date and assignment number in the upper right corner.
- Write legibly and in a **one-column format**, and draw a horizontal line between each problem.

Homework Tips

WebAssign Here are some thoughts on making online homework work for you:

- **The primary goal is to learn the material, not to get the best score.** I've seen students get close to 100% on WebAssign homework and fail the course overall, mainly because they treat WebAssign like a game instead of deliberate practice.
- Work through every problem **in detail** on your own paper as though you were going to turn it in. Only then should you submit your result!
- You get multiple tries on most questions, but if you get a question wrong the first time you should think very carefully about why before submitting more attempts - don't just change values at random.
- Be careful with answer formatting! For example, X and x are different variables and $\pi \neq 3.14$. Sometimes the reason you got a question wrong isn't that your work is wrong, but that you entered it wrong (this is a fundamental flaw with online homework, but it is what it is!)
- If you've submitted 2 answers for a question and you're still wrong, go talk to a friend, a tutor or me before submitting another answer! This is a good reason to start the assignment as soon as you can - don't put it off until the day it is due.

Frequently Asked Questions

1. Do you allow late homework?

   A: I am somewhat flexible on WebAssign (send me an email), but not written homework/quizzes unless you have a university-sanctioned excuse.

2. Is anything graded 'on a curve'?

   A: No, at least not in the way you're thinking of. Grading rubrics are a subtle thing, and I try to account for the difficulty of questions for example on an in-class exam. The main reason we can't curve anything: there are literally hundreds of other students taking the same course, so we try to maintain grading consistency across all sections as much as reasonably possible.

3. How do I do better?

   A: Typically, students do poorly in math classes for one of three reasons: 1. They're not prepared for the course. This is why we have 122A/122B, so hopefully this won't be a problem for you. 2. They're not working hard enough. Be honest with yourself, are you *actually* doing all the work, or are you just faking it to get the grade like you do (and get away with!) in other classes? 3. They're not working *correctly*. I see a lot of students work really hard and not get anywhere, typically because they're treating math like other subjects. Math requires focused, deliberate *training* through problem solving, not just study and memorization!

Math 122B

September 17 – December 10, 2014

(MTWR)

Monday	Tuesday	Wednesday	Thursday	Friday
Sep 15	*Sep 16*	*Sep 17* Introduction 2.1-How Do We Measure Speed?	*Sep 18* 2.1-continued 2.2-The Derivative at a Point Assignment from Math 122A due	*Sep 19*
Sep 22 2.2-continued 2.3-The Derivative Function	*Sep 23* 2.3-continued 2.4-Interpretations of the Derivative	*Sep 24* 2.5-The Second Derivative	*Sep 25* 2.6-Differentiability	*Sep 26*
Sep 29 2.6-continued 3.1-Powers and Polynomials	*Sep 30* 3.2-The Exponential Function	*Oct 1* 3.3-The Product and Quotient Rules	*Oct 2* 3.3-continued	*Oct 3*
Oct 6 **EXAM 1**	*Oct 7* 3.4-The Chain Rule	*Oct 8* 3.4- continued	*Oct 9* 3.5-The Trigonometric Functions	*Oct 10*
Oct 13 3.6-The Chain Rule and Inverse Functions	*Oct 14* 3.6- continued 3.7-Implicit Functions	*Oct 15* 3.7-continued 3.8-Hyperbolic Functions	*Oct 16* 3.9-Linear Approximations	*Oct 17*
Oct 20 3.10-Theorems About Differentiable Functions	*Oct 21* 4.1-Using First and Second Derivatives	*Oct 22* 4.1- continued	*Oct 23* 4.2-Optimization	*Oct 24*
Oct 27 4.2- continued	*Oct 28* 4.3-Optimization and Modeling	*Oct 29* 4.3-continued	*Oct 30* Review	*Oct 31*

Sep 27 - Last day to drop with deletion from record using UAccess
Oct 8 - Last day to file for GRO
Oct 10 - Honors Convocation 3:00-5:00
Nov 9 - Last day to withdraw with W using UAccess
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September 17 – December 10, 2014

(MTWR)

Monday	Tuesday	Wednesday	Thursday	Friday
Nov 3 **EXAM 2**	*Nov 4* 4.4-Families of Functions and Modeling	*Nov 5* 4.4-Continued	*Nov 6* 4.6-Rates and Related Rates	*Nov 7*
Nov 10 4.6- continued	*Nov 11* **Veteran's Day** **No Classes**	*Nov 12* 4.7-L'Hopital's Rule, Growth, and Dominance	*Nov 13* 4.7- continued	*Nov 14*
Nov 17 5.1-How Do We Measured Distance Traveled	*Nov 18* 5.2-The Definite Integral	*Nov 19* 5.3-The Fundamental Theorem and Interpretations	*Nov 20* 5.4-Theorems About Definite Integrals	*Nov 21*
Nov 24 6.1-Antiderivatives Graphically and Numerically	*Nov 25* 6.2-Constructing Antiderivatives Analytically	*Nov 26* 6.2- continued	*Nov 27* **Thanksgiving** **No Classes**	*Nov 28* **Thanksgiving** **No Classes**
Dec 1 6.3-Differential Equations and Motion	*Dec 2* 6.4-Second Fundamental Theorem of Calculus	*Dec 3* 6.4- continued	*Dec 4* **EXAM 3**	*Dec 5*
Dec 8 7.1-Integration by Substitution	*Dec 9* 7.1- continued	*Dec 10* Review	*Dec 11*	*Dec 12*
Dec 15 **FINAL EXAM** **1:00-3:00 pm**	*Dec 16*	*Dec 17*	*Dec 18*	*Dec 19*

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