Announcements from lecture

Wednesday Dec 7

- Today is the last day of class.
- Final Exam is **Wednesday Dec 14** from 8:00 to 11:00 AM (morning).
- Bring the following to the final exam:
  - Pencil and eraser (part of the exam is multiple choice, and the Scantron form must be filled in pencil).
  - University ID (I-card)
  - **Know your NetID** (needed for Scantron form) - your email address has the form NetID@illinois.edu.
  - Registration for the conflict exam closes at 5pm today. (If you are registered then you have already received an email from the Head TA.)
  - Please check our records of your scores.
  - If you find an error, please email your professor by 5 pm on Friday, December 9.
- Solutions to yesterday's worksheet are posted.
- **Planetary orbits** - how polar curves describe elliptical, parabolic and hyperbolic orbits
- **Carols**

Monday Dec 5

- **Webassign homework 21** (due 11am Wednesday 7 Dec).
- **Final Exam Information** is available. Use it to make your STUDY PLAN.
- **Tutoring room** 252 Mechanical Eng Building Monday-Wednesday 3-6pm this week, and then Extra Tutoring sessions (held in **345 Altgeld Hall**) on Thursday 12/8, Friday 12/9, Monday 12/12, Tuesday 12/13 (for times see the **Final Exam Information**)
- **Review/Q&A session**: Saturday 10 Dec, 10:30am-12:00pm in 314 Altgeld Hall.
- **Online polar coordinate plotter.** This is a helpful tool for visualization--drag the slider at the bottom to see the curve being drawn.

Friday Dec 2

- **Webassign homework 20** (due 11am Monday 5 Dec).
- **Final Exam Information** is now available.
- **Online polar coordinate plotter.** This is a helpful tool for visualization--drag the slider at the bottom to see the curve being drawn.

Wednesday Nov 30

- **Homework HW17** (due in discussion tomorrow).
- **Cycloid video** related to worksheet 4.
- **Worksheet 4.**
- **Short videos** demonstrating that the cycloid is the solution to the brachistochrone and tautochrone problems.

Monday Nov 28

- **Homework HW16** (due in discussion tomorrow).
- **Homework HW17** (due in discussion Thursday 1 Dec).
- Professor Tyson will substitute for Professor Laugesen, on Wednesday.
- **Cycloid video** related to worksheet 4.
- **Worksheet 4.**

Friday Nov 18

- **Webassign homework 19** (due 6pm Monday 21 Nov).
- **Homework HW16** (due in discussion Tuesday 29 Nov).
- **Final exam conflicts?** The final exam will be 8-11 am, Wednesday 14 Dec. If you have a conflict, please click on the link and follow the procedure there.
- Professor Laugesen's office hours today are shortened to 3:00-3:50pm.
- **Binomial series notes** for today's lecture.
- **Have a good Thanksgiving break!**

Wednesday Nov 16

- **Webassign homework 19** (due 6pm Monday 21 Nov).
- **Homework HW15** (due in discussion tomorrow).
- **Final exam conflicts?** The final exam will be 8-11 am, Wednesday 14 Dec. If you have a conflict, please click on the link and follow the procedure there.
- Professor Tyson’s office hour today runs from 3:00-4:30pm.
- **Binomial series notes** for today's lecture.

Monday Nov 14
Homework HW14 (due in discussion tomorrow).
Homework HW15 (due in discussion Thursday 17 Nov).
Midterm regrading requests must go to your professor (Tyson or Laugesen). Deadline: 4pm today.
Final exam conflicts? The final exam will be 8-11 am, Wednesday 14 Dec. If you have a conflict, please click on the link and follow the procedure there.

Friday Nov 11

Homework HW14 (due in discussion Tuesday 15 Nov).
Midterm regrading requests must go to your professor (Tyson or Laugesen). Please follow the procedure explained here. Deadline: 4pm Monday 14 Nov.
Final exam conflicts? The final exam will be 8-11 am, Wednesday 14 Dec. If you have a conflict, please click on the link and follow the procedure there.
Strategies for testing convergence and divergence of infinite series

Wednesday Nov 9

Midterm 3 scores and solutions are posted at the Exams page. You will get your exam back tomorrow in Discussion.
Midterm regrading requests must go to your professor (Tyson or Laugesen). Please follow the procedure explained here.
Learn from the midterm solutions - work through each solution to see what you can learn.
Professor Tyson's office hour today finishes at 2:50pm.
Here is a nautical telescope. It collapses in on itself, just like a "telescoping series".

Monday Nov 7

Midterm 3 Information - tonight 7:15pm. Do you know which room your exam is in...?
Tutoring room today 3-6pm in 252 Mechanical Engineering Building (MEB).
Discussion section and Tutoring room are canceled tomorrow.

Friday Nov 4

Midterm 3 Information - Monday 7 November, 7:15pm, worth 20%. Make study notes and do lots of problems.
The midterm material includes work (Section 6.4).
Practice problems on hydrostatic force and centroids are available in Webassign (no credit).
Midterm conflicts? Follow the conflict instructions.
Extra tutoring/office hours 447 Altgeld Hall, 2-4pm today

Wednesday Nov 2

Webassign homework 17 (due 11am tomorrow).
Midterm 3 Information - Monday 7 November, 7:15pm, worth 20%. Make study notes and do lots of problems.
The midterm material includes work (Section 6.4).
Practice problems on hydrostatic force and centroids are available in Webassign (no credit).
Midterm conflicts? Follow the conflict instructions.
Improper integral facts and graphs (to be used in today's lecture on the Integral Test).

Monday Oct 31

Homework HW13 (due in discussion tomorrow).
Webassign homework 17 (due 11am Thursday 3 Nov).
Limit laws for sequences.
Midterm 3 Information - Monday 7 November. Prepare your study notes this week.

Friday Oct 28

Webassign homework 16 (due 11am Monday 31 Oct).
Homework HW13 (due in discussion on Tuesday 1 Nov).
Panoramic view of Lake Mead and the Hoover Dam
Limit laws for sequences

Wednesday Oct 26

Homework HW12 (due in discussion on Thursday 27 Oct).
Webassign homework 15 (due 11am Friday 28 Oct).
Professor Tyson's office hours are Wednesdays 2-4 pm from now on.
Professor Laugesen will be away on Friday; the lecture will be taught by Professor Tyson.
The great molasses flood
Monday Oct 24

- Homework HW11 (due in discussion on Tuesday 25 Oct).
- Homework HW12 (due in discussion on Thursday 27 Oct).
- Starting this week, Professor Tyson's office hours are **Wednesdays 2-4 pm**.

Friday Oct 21

- Professor Tyson's office hours today: **3-4 pm**.
- Webassign homework 14 (due 11am Monday 24 Oct).
- Homework HW11 (due in discussion on Tuesday 25 Oct).

Wednesday Oct 19

- Homework HW10 (due in discussion tomorrow). Get help at the Tutoring Room.
- Professor Tyson's office hours this week: **Wednesdays 2-3 pm and Friday 3-4 pm**.
- For enjoyment, read this account of Dyson spheres on Wikipedia - see the paragraph on "Dyson shells" (relevant to yesterday's worksheet).
- Improper integral facts and graphs to memorize (for today's lecture, Sec. 7.8).

Monday Oct 17

- Homework HW9 (due in discussion on Tuesday 18 Oct).
- Webassign homework 13 (due 11am Wednesday 19 Oct). Always read the instructions before starting WebAssign homework.
- Homework HW10 (due in discussion on Thursday 20 Oct).
- Professor Tyson's office hours this week: **Wednesdays 2-3 pm and Friday 3-4 pm**.
- Starting next week, Professor Tyson's office hours will be **Wednesdays 2-4 pm**.
- Summary of partial fractions technique for integration.

Friday Oct 14

- Picture of a diffraction pattern as calculated in yesterday's worksheet.
- Webassign homework 12 (due 11am Monday 17 Oct).
- Homework HW9 (due in discussion on Tuesday 18 Oct).

Wednesday Oct 12

- Homework HW8 (due in discussion tomorrow).
- Midterm regrading requests must go to your professor (Tyson or Laugesen). Please follow the procedure explained here.
- Learn from the midterm solutions - work through each solution to see what you can learn.
- If you scored <= 50 on Midterm 2 then you should drop the course immediately. See information here.

Monday Oct 10

- Midterm 2 scores and solutions are posted at the Exams page.
- Professor Tyson is attending a conference this week (ciaol). Professor Dankowicz will teach the BL1 lectures while he is away.
- Webassign homework 11 (due 11am Wednesday 12 Oct).
- Homework HW8 (due in discussion on Thursday 13 Oct).

Friday Oct 7

- No class today - class cancelled because of yesterday's evening exam.

Wednesday Oct 5

- Midterm 2 guidance - Thursday 7:15-8:15pm, worth 20%. Prepare study notes, and do lots of problems.
- Solutions have been posted to many practice problems, including yesterday's worksheet.
- Material: up through Sec. 6.2 (volumes by washers). Volume by shells is not covered on this exam.
- Professor Tyson's office hours today: Wednesday 1:30-3:30pm in 329 Altgeld Hall.
- Professor Laugesen's office hours today: Wednesday 2:30-4:30pm in 376 Altgeld Hall.
- Tutoring room: regular hours 3-6pm today in 252 Mech Eng Bldg, special hours 3-6pm Thursday in 218 Mech Eng Bldg.

Monday Oct 3

- Webassign homework 10 (due tomorrow 11am).
Friday Sep 30

- **Webassign homework 10** (due Tuesday 4 Oct, 11am).
- **Midterm 2 guidance** - check your room, and study over the weekend.
- **Thursday, October 6, 7:15-8:15pm**, worth 20%. Prepare study notes, and do lots of problems.
- **Material**: up through Sec. 6.2 (volumes by washers).
- **Problem 5.3.72 solution**.

Wednesday Sep 28

- **Webassign homework 9** (due Friday 30 Sep, 11am).
- **Midterm 2 guidance** - prepare study notes and do lots of problems.
- **Thursday, October 6, 7:15-8:15pm**, worth 20%. Midterm conflicts? Follow the conflict instructions.
- **Material**: up through today's lecture, Sec. 6.2.
- **Webassign practice problems** on integration by substitution (not due, no credit).
- **Interactive examples from the TEC area of the publisher's website**
  - Volume of revolution
  - Volumes using disks, washers, shells

Monday Sep 26

- **Homework HW6** (due in discussion on Tuesday 27 Sep).
- **Homework HW7** (due in discussion on Thursday 29 Sep).
- **Tutoring Room** - 252 Mechanical Engineering Building, 3-6pm on Mon, Tue, Wed every week.

Friday Sep 23

- **Webassign homework 8** (due Monday 26 Sep, 11am).
- **Homework HW6** (due in discussion on Tuesday 27 Sep) - lots of max/min problems, so start early.
- Yesterday’s Worksheet 9: for a nice picture of Snell’s Law (refraction) see laser beam reflecting off and refracting into a semicircle of plexiglass.
- **Summation formulas, and integral properties**. For help on “sigma” notation, see Appendix E.
- **Wolfram Alpha** - great tool for calculations and plotting.

Wednesday Sep 21

- **Webassign homework 7** (due Friday 23 Sep, 11am).
- **Homework HW5** (due in discussion tomorrow).
- **Tutoring Room** - **new location** and longer hours: 252 Mechanical Engineering Building, 3-6pm on Mon, Tue, Wed every week.
- **Graphs of the Maxwell–Boltzmann distribution** from Worksheet 8.
- **Interactive examples from the TEC area of the publisher’s website**
  - Estimating the area under \( y=x^2 \)
  - Estimating the area under various curves
  - Approximating an Integral with Riemann Sums

Monday Sep 19

- **Midterm 1 make-up quiz**: the discussion section tomorrow (Tuesday 20 Sep) will begin with a 5 minute quiz covering limits at infinity (the problems will be similar to Midterm 1 problem 3; make sure you know the series for \( \ln(1+x) \)). This quiz is worth 3 points to be added on to your Midterm 1 score.
- **Webassign homework 6** (due Wednesday 21 Sep, 11am).
- **Homework HW5** is due in discussion on Thursday 22 Sep. HW must be stapled.
- **Tutoring Room** - **new location** and longer hours. Now in 252 Mechanical Engineering Building, 3-6pm on Mon, Tue, Wed every week.

Friday Sep 16

- **Midterm 1 feedback and grade ranges** are available. Go there and follow the advice about working through the exam solutions!
  - score < 20: talk to your TA or your professor about how you can do better in this course.
  - score < 15: please go in person to Math Advising in 313 Altgeld Hall between 9-12 or 1-4 weekdays AS SOON AS POSSIBLE to arrange a switch to Math 220/221. The deadline is Tuesday 20 September. Talk to your professor if there are special circumstances.
- **Webassign homework 6** (due Wednesday 21 Sep, 11am).
- **Midterm 1 make-up**: the discussion section on Tuesday 20 Sep will begin with a 5 minute quiz covering limits at infinity (the problems
will be similar to Midterm 1 problem 3). This quiz is worth 3 points to be added on to your Midterm 1 score.

Monday Sep 12

- **Midterm 1 is on Wednesday 14 Sep. Bring your I-card.**
- Do you know where to go for the exam?
- **A handout on differentials may be helpful for some students.**
- **Tutoring room:** 243 Altgeld Hall, 4-6pm Monday and Tuesday this week (canceled on Wednesday). If the room is full, then ask the TA for directions to the overflow room, which has more TAs.

Friday Sep 9

- **Midterm 1 is on Wednesday 14 Sep.**
- Find your **room and time information**, and work on the practice problems.
- **Webassign homework 5** (due Monday 12 Sep, 11am). You can ask questions at the Discussion Forum (under "Communication" in WebAssign).

Wednesday Sep 7

- **Homework HW4** is due in lecture on Friday 9 Sep. HW must be stapled - graders will deduct points if not.
- Getting help: ask homework questions at the Discussion Forum (under "Communication" in WebAssign), and at the **Tutoring Room**, which has an extra session tomorrow (Thursday 8 Sep) 4-6pm.
- Mon-Thu 6-8pm in Altgeld room 343: Math Department tutors (not our TAs) can help with your homework. See the **Tutoring Room** page.
- **Midterm 1 Information and practice problems** - **start studying today!**
- **List of differentiation rules** for lecture today. You are responsible for knowing all of these.

Friday Sep 2

- **Homework HW3** is due in recitation section on Tuesday 6 Sep.
- **Webassign homework 4** (due Wednesday 7 Sep 11am).
- Ask homework questions at the class **Discussion Forum** (under "Communication" in WebAssign). It will be active over the weekend.
- **Cycloid video** related to yesterday's worksheet.
- **Theorems on continuity** for later in this lecture.

Wednesday Aug 31

- **Webassign homework 3** (due Friday 11am).
  Have you been dropped from the course in WebAssign? Then log in to WebAssign and update your account profile to show your official university email address (that is, in the form netid@illinois.edu). You will receive a confirmation email at the new address. You will need to respond as directed in that email. Then send email to Professor Tyson or Professor Laugesen asking to be reinstated to the course.
- **Homework HW2** is due at the beginning of your recitation section tomorrow.
- The **Tutoring Room** is open in room 243 Altgeld Hall from 4-6 pm every Monday, Tuesday and Wednesday.
- **Limit laws from Section 2.3**.
- **Examples for today's class.**

Monday Aug 29

- **Homework HW1** is due at the beginning of your recitation section tomorrow.
- **Homework HW2** has been assigned. See the **Assignments** page. It is due at the beginning of your recitation section on Thursday, September 1.
- The **Tutoring Room** is open from today. Room 243 Altgeld Hall from 4-6 pm every Monday, Tuesday and Wednesday.
- Professor Tyson's office hour from 4-6 pm on Friday, September 2 has been **rescheduled** to 3-4 pm Tuesday, August 30 and 3-4 pm Thursday, September 1.

Friday Aug 26

- Do **Webassign homework 2** (due Monday 11am).
- **Homework 1** has been assigned. See the **Assignments** page. It is due at the beginning of your recitation section on Tuesday, August 30.
- There is a handout reviewing the first half of today's lecture.
- The **Tutoring Room** will be open starting Monday, August 29. Rooms to be announced.

Wednesday Aug 24

- Material in tomorrow's worksheet is related to today's lecture. You should review the lecture notes before coming to section.
- There is a handout reviewing today's lecture.
- An interesting demonstration of superposition of waves (topic of yesterday's worksheet).

Monday Aug 22
Before tomorrow, please:

- bookmark this course website,
- write the exam dates in your schedule,
- purchase the textbook,
- sign up to Webassign,
- do Webassign homework 1 (due Wednesday 11am).

Then go to your small section meeting ("discussion section") tomorrow. It will meet every Tuesday and Thursday.