



LESSON 1

MA 16200 · SPRING 2023

DR. HOOD



WARM UP

Introduce yourself to your neighbors and answer the following:

- Your Name
- Year at Purdue
- Major
- Favorite Differentiation Rule from Calc 1

Do you want to share contact information?

APPLY CALCULUS TO DATA SCIENCE

- Would you like to earn honors credits for MA16200? Are you interested in learning how to apply calculus to data science problems? If so, consider taking the companion (one-credit) course **MA16290: "Data Science Lab: Calculus."** In this course, you will
 - explore applications of calculus to data science
 - learn to program in Python
 - learn to use Arduino sensors and microprocessors to acquire data
- More information here: https://engineering.purdue.edu/~mboutin/Data_Science_labs.html



SYLLABUS



SUPPLEMENTAL INSTRUCTION

- These study groups are open to anyone enrolled in this course who would like to stay current with the course material and understand the material better.
- Attendance at these sessions is voluntary, but extremely beneficial for those who attend regularly.
- Times and locations for the help sessions can be found here: www.purdue.edu/si

SUPPLEMENTAL INSTRUCTION

SI Leader	Session 1	Session 2	Session 3	Office hour
Alex Hunton	Mon @ 7:30 PM UNIV 001	Tue @ 7:30 PM UNIV 003	Thu @ 4:30 PM UNIV 117	Thu @ 2:00 PM WILY C215
Phoebe Bailey	Sun @ 6:30 PM WILY C215	Mon @ 6:30 PM WTHR 420	Wed @ 6:30 PM WTHR 420	Wed @ 10:30 AM WILY C215

OFFICE HOURS

- **Dr. Hood's Office Hours:**

- Mon, Wed, Fri at 12:30 – 1:30pm in MATH 844
- (may change slightly after first week)

- **TA's have office hours in the Math Resource Room (MRR)**

- WTHR 313

- Schedule posted online on Wed Jan 11:

- <https://www.math.purdue.edu/academic/courses/helproom>

COURSE CALENDAR

- Posted in Brightspace under the description for each week
- Preview of first couple weeks:

Course Calendar · MA 16200 · Spring 2023

Week	Day	Date	Class Activities	Outside of Class Activities
1	MON	1/9	Lesson 1 Vectors in the Plane & 3D	Reading 13.1 Vectors in the Plane 13.2 Vectors in the 3-dimensional space
	TUE	1/10	Recitation No Quiz (Getting to Know You)	Homework None
	WED	1/11	Lesson 2 Vectors in 3D	Reading 13.2 Vectors in the 3-dimensional space
	THU	1/12	Recitation Quiz 0 (Syllabus quiz online in Brightspace)	Homework HW1 (Lesson 1) HW2 (Lesson 2)
	FRI	1/13	Lesson 3 Dot Products	Reading 13.3 Dot Products
2	MON	1/16	MLK Day No Lecture	Reading None
	TUE	1/17	Recitation Quiz 1 (Lessons 1 & 2)	Homework HW 3 (Lesson 3)
	WED	1/18	Lesson 4 Cross Products	Reading 13.4 Cross Products
	THU	1/19	Recitation Quiz 2 (Lesson 3)	Homework HW 4 (Lesson 4)
	FRI	1/20	Lesson 5 Regions Between Curves	Reading 6.2 Regions Between Curves
3	MON	1/23	Lesson 6 Volumes by Slicing	Reading 6.3 Volumes by Slicing
	TUE	1/24	Recitation Quiz 3 (Lesson 4)	Homework HW 5 (Lesson 5) HW 6 (Lesson 6)
	WED	1/25	Lesson 7 Volumes by Shells	Reading 6.4 Volumes by Shells

IMPORTANT DATES

Event	Date	Time	Location
Exam 1	Tue Feb 7	8 - 9pm	ELLT
Exam 2	Tue Mar 7	8 - 9pm	ELLT
Exam 3	Tue Apr 11	8 - 9pm	ELLT
Final Exam	To be announced by Registrar's Office		

*Last day to drop a course without it on your record: Mon, Jan 23

*Last day to drop a course and receive a W: Fri, Mar 10

GRADES

Graded Item	Percentage
HotSeat Polls	(Up to 1% extra credit)
Homework	15%
Quizzes	15%
Three midterms @ 14% each	42%
Comprehensive Final Exam	28%

QUIZZES

- Quizzes will be in-person in recitation on most Tuesdays and Thursdays
- **New this semester:**
 - Quizzes will be all multiple choice
 - 2 questions similar to HW
 - 1 question from the Past Exam Archives
 - <https://www.math.purdue.edu/academic/courses/oldexams.php?course=MA16200>

HOTSEAT

- <https://www.openhotseat.org/>
- In-class polls
- iOS – download app
- Use the website
- SMS texting

hotseat



Or



Don't have any of these accounts? [Create a Hotseat account.](#)

[View getting started guide](#)



HOTSEAT

- Extra Credit opportunities
 - Offered in lecture on Fridays
 - Worth 0.125% of Total Calculated Score
 - Up to 12 opportunities
 - Can earn up to 1% total extra credit

POLL 1

What is your favorite differentiation rule from Calculus 1?

- a) Power rule
- b) Product rule
- c) Quotient Rule
- d) Chain Rule



MYLAB

MATH



MYLAB MATH

- Complete the “**Academic Integrity at Purdue Acknowledgement**” in order to access MyLab Math link

The screenshot shows the MyLab Math course interface. At the top, there is a navigation bar with the Purdue University logo and the course title "Spring 2023 MA 162 - LEC 011 - Me...". Below this is a dark navigation menu with options: "Course Home", "Content" (underlined), "Classlist", "Grades", "Class Progress", "Course Tools", and "Help".

On the left side, there is a sidebar with a search box labeled "Search Topics" and a list of course items:

- Syllabus
- Bookmarks
- Course Schedule (1)
- Table of Contents (70)
- Start Here (53)
- Take the Academic Integrity at Purdue Acknowledgement (1)

The "Take the Academic Integrity at Purdue Acknowledgement" item is circled in red. An arrow points from this item to the main content area.

The main content area has a heading "Take the Academic Integrity at Purdue Acknowledgement" with a dropdown arrow. Below the heading is a progress bar showing "0% 0 of 1 topics complete". Underneath the progress bar, the item "Academic Integrity at Purdue Acknowledgement" is listed with a "Quiz" icon and a dropdown arrow. This item is also circled in red.

MYLAB MATH

- Need access code for the Pearson MyLab Math platform to complete your homework online in MyLab Math.
- Access Pearson MyLab Math through the course page in Brightspace <http://purdue.brightspace.com> (after completing the **“Academic Integrity at Purdue Acknowledgement”**)
- You do not need a physical textbook. (eText included in access code)

MYLAB MATH

- **New Spring 2023:**

- Limited tries on HW assignments
- You have 5 **attempts** on each problem
 - Each attempt has (up to) 3 **tries**
 - After 3 tries, the correct answer is shown, and a new attempt starts with a slightly different problem
- You have (up to) 15 opportunities to submit the correct answer



Using a Pearson product?

Join your local Pearson campus team to get LIVE help with online registration.

Get 10% off your Pearson+ subscription this semester!

Copy and paste this code 'PCAM0008'
at checkout
when you purchase single or multi-tier
access to Pearson+.

Join us live!

DATE: Thursday, January 12th

TIME: 12:30-4pm

**LOCATION: Krannert Drawing Room. This
is in the lobby area near the Hub corner**



Pearson+

Scan this QR code to
purchase Pearson eTexts
for your courses!

Looking for college tips & tricks (and other contests)?

Follow PearsonStudents on YouTube and Pearson_Plus on Instagram for college and career readiness tips and tricks, contests, promos and more.

Pearson+ | @pearson_plus | #pearson+

Copyright © 2021 Pearson Education, Inc. or its affiliate(s). All rights reserved. 10681-SK-0620



BRIGHT SPACE

BRIGHTSPACE

- Check the course Brightspace page (<https://purdue.brightspace.com/>) often for important information and announcements.
- All due dates for the semester are posted in Brightspace under the description for each week.
- The link to the online Homework and eText in MyLab Math will be posted in Brightspace.
- Your grades will be posted in the Brightspace Gradebook.



**WHY STUDY
CALCULUS 2?**



WHY STUDY CALC 2?

- You will learn:
 - More integration techniques
 - Applications of integrals
 - Vectors in 3D and polar functions
 - Infinite series
 - Very powerful tool in science and engineering
 - Conceptually different from what you have learned so far, so be prepared to stretch your math muscles

POLL 2

Have you used vectors before?

a) Yes

b) No