

Math 2153 Sections 15 and 20 - Calculus III

Autumn 2015

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Office Hours: Wednesdays 1:50pm-3:55pm in MW650

Websites: Important class information will be available on the class website and Carmen:
<https://people.math.osu.edu/broaddus.9/2153/>
<https://carmen.osu.edu>

Text: *Calculus for scientists and engineers, early transcendentals*, 2nd custom OSU edition
The full text is also available through Pearson's MyMathLabs.
See the *textbook buying guide* link on the course webpage for more detailed information.

Lectures:	Section	Time	Location
	15	MWF 10:20AM-11:15AM	Journalism Building (JR) 300
	20	MWF 12:40PM-1:35PM	Journalism Building (JR) 251

Grading: Your final raw score for this course will be computed using the following weights:

Final Exam Tues. Dec. 15 (Sect. 15) or Thurs. Dec. 17 (Sect. 20)	40%
Midterm 1 (Friday Oct. 2, in class)	20%
Midterm 2 (Friday Nov. 6, in class)	20%
Quizzes 1-4	8%
Homework	12%

Your course letter grade will then be determined based on

1. Your **course percentile** (your relative rank among your peers).
2. My determination of the overall class performance level.

For example, if your final raw score is 70/100 and exactly half of the class has a lower raw score, then your course percentile will be 50%. It is impossible to give the final percentile-to-letter-grade correspondence *a priori*. For example, if one student misses a single point and everyone else in the course gets a perfect score then that student's percentile would be 0. In that extreme case everyone would still get an A. A reasonable percentile-to-letter-grade **estimate** for this course is the following:

Letter grade	A	A-	B+	B	B-	C+	C	C-	D	E
Percentile range	100-90	90-85	85-80	80-70	70-65	65-60	60-40	40-35	35-20	20-0

If your degree program requires a certain letter grade in this course, it is a good idea to think about the likelihood of your ending up in each of the suggested percentile ranges above early in this semester.

Homework: A MyMathLabs subscription is required for this course. There will be approximately ten MyMathLabs homework assignments (see link in *Carmen*). You should do the relevant homework problems after each lecture so that you can bring questions and comments to class and recitation.
Your lowest homework grade will be dropped.

Missed Coursework: No late exams, quizzes or homework will be accepted without prior written permission from the instructor. All requests for rescheduling of exams, quizzes or homework must be made in writing at least 48 hours before the regularly scheduled time. Within 48 hours of an exam, quiz or homework due date only documented legitimate family or medical emergencies will be considered as excuses.

Showing Your Work: Mathematics is not just about deriving the correct numerical solution to a problem. It is also about convincing others that your method of calculation is appropriate. Solutions to problems should be written in a concise, logical manner. This may require you to rewrite solutions clearly and neatly once you have figured out how to do a problem. **Insufficiently supported answers may receive partial or no credit on quizzes and exams.**

Calculators etc.: Calculators, cell phones and other electronic devices **will not be permitted** during exams and quizzes.

Tutor Room: Free tutoring is available in the *MSLC Tutor Room* (Cockins Hall 137, M-Th 10:20am-4pm and 18th Ave. Library, Rm 040 M-Th 4pm-7pm) if you need help with any of the course material. More information is available at <http://mslc.osu.edu/courses/math/2153>.

Course Topics: We will cover Chapters 12-15 of the textbook (see above). This will include:

Ch. 12 Vectors and vector-valued functions	13.9 Lagrange multipliers
12.1 Vectors in the plane	Ch. 14 Multiple integration
12.2 Vectors in three dimensions	14.1 Double integrals over rectangular regions
12.3 Dot products	14.2 Double integrals over general regions
12.4 Cross products	14.3 Double integrals in polar coordinates
12.5 Lines and curves in space	14.4 Triple integrals
12.6 Calculus of vector-valued functions	14.5 Triple integrals in cylindrical and spherical coordinates
12.7 Motion in space	14.6 Integrals for mass calculations
12.8 Length of curves	14.7 Change of variables in multiple integrals
12.9 Curvature and normal vectors	
Ch. 13 Functions of several variables	Ch. 15 Vector calculus
13.1 Planes and surfaces	15.1 Vector fields
13.2 Graphs and level curves	15.2 Line integrals
13.3 Limits and continuity	15.3 Conservative vector fields
13.4 Partial derivatives	15.4 Green's Theorem
13.5 The chain rule	15.5 Divergence and curl
13.6 Directional derivatives and the gradient	15.6 Surface integrals
13.7 Tangent planes and linear approximation	15.7 Stokes' Theorem
13.8 Maximum/minimum problems	15.8 Divergence Theorem

Disability Statement: If you have a documented disability, please register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations, so they may be implemented in a timely fashion. If you have any questions about this process, please contact Disability Services at 614-292-3307 or slds@osu.edu. <http://www.ods.osu.edu/>