

CHAMINADE UNIVERSITY MATH-311-01-1: CALCULUS III COURSE SYLLABUS – FALL 2014
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**Instructor:** Matthew Cochran  
**Email Address:** matthew.cochran@chaminade.edu  
**Office:** Henry Hall 7  
**Office Phone:** 739-8361  
**Course Time:** Monday, Wednesday, and Friday from 10:30 to 11:20  
**Course Room:** Henry L10  
**Prerequisites:** MATH-211: Calculus II  
**Required Text:** Larson and Edwards, *Calculus Multivariable*, 9<sup>th</sup> ed., Brooks/Cole, Belmont CA, 2009. ISBN-10: 0547209975  
**Other Materials:** Scientific calculator

**COURSE DESCRIPTION:**

This course is the third part of the calculus sequence. It covers the differentiation and integration for functions of several variables. Topics include vectors and vector calculus, partial derivatives, total differential, gradients and directional derivatives, extreme values and second partial test, multiple integrals, cylindrical and spherical coordinates, line and surface integrals, Green’s theorem and Stokes’ theorem, and applications of integrals.

**EVALUATIONS AND GRADING SCALE:**

Exam 1 . . . . .	15%
Exam 2 . . . . .	15%
Exam 3 . . . . .	15%
Exam 4 . . . . .	15%
Exam 5 . . . . .	15%
Quizzes and participation. . . . .	25%
90% – 100% . . . . .	A
80% – 90% . . . . .	B
70% – 80% . . . . .	C
60% – 70% . . . . .	D
0% – 60% . . . . .	F

Incomplete grades (I) will be given in accordance with college regulations as outlined in the college catalog. Withdrawals (W) from the class are the responsibility of the student and deadlines are set by the college.

**EXAMS:**

There will be five examinations and as part of the requirements for the course. Material for exams will be drawn primarily from quizzes and homework assignments. Hence, the best way to review for an exam is to review previous quizzes and homework assignments.

Make-up exams will only be given under extenuating circumstances beyond the student's control. Persons missing an exam due to illness or injury must present a doctor's certificate. Make-up exams must be completed within one week of the scheduled exam date or on the day the student returns to school (whichever comes first). Scheduling is the responsibility of the student.

**HOMEWORK:**

To be successful in this course, it is essential that you complete all homework assignments. Be prepared to spend three hours or more on homework every week. If you are having trouble, get help from the instructor or your classmates. Do not fall behind.

**QUIZZES:**

A ten minute quiz will be given during many classes. Material for the quizzes will be drawn from recent homework assignments. Hence, the best way to prepare for quizzes is to do homework. Quizzes may be given at the beginning of class, so show up on time. Make-up quizzes are not given.

**ATTENDANCE:**

Regular attendance is expected of all students. Read material prior to lecture. If a topic is still not clear after it has been discussed in class, ask questions. Time will be spent working through homework problems and reviewing for exams in addition to lecturing. You will work with partners in class. It is important that partners engage in discussion of their work and avoid working as isolated individuals.

**COURSE OBJECTIVES:**

Students who Successfully complete the course will be better prepared for a large variety of upper level courses in natural science, engineering, and advanced mathematics.

**MUSIC DEVICES AND CELLPHONES:**

Unless specifically permitted by your instructor, use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade, as it is discourteous and may lead to suspicion of academic misconduct. Students unable to comply will be asked to leave class.

**ADA ACCOMODATIONS:**

Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from CUH Counseling Center (Dr. June Yasuhara, 735-4845) by the end of the third week of classes. Failure to provide written documentation will prevent your instructor from making necessary accommodations. Please refer any questions to the Dean of Students and review procedures at:

[www.chaminade.edu/student\\_life/sss/counseling\\_services.php](http://www.chaminade.edu/student_life/sss/counseling_services.php)

**TENTATIVE WEEKLY SCHEDULE:**

Week	Date	L#	Topic	Reading
<b>1</b>	Aug 26	1	Intro; Vectors	11.1
	Aug 28	2	Vectors in space	11.2
	Aug 30	3	Dot product	11.3
<b>2</b>	Sep 02	<b>H1</b>	<b>Labor day – no class</b>	
	Sep 04	4	Cross product	11.4
	Sep 06	5	Lines and planes	11.5
<b>3</b>	Sep 09	6	Surfaces in space	11.6
	Sep 11	7	Cylindrical and spherical coordinates	11.7
	Sep 13	<b>E1</b>	<b>EXAM 1 – Chapter 11</b>	
<b>4</b>	Sep 16	8	Vector valued functions	12.1
	Sep 18	9	Differentiation and integration	12.2
	Sep 20	10	Velocity and acceleration	12.3
<b>5</b>	Sep 23	11	Tangent and normal vectors	12.4
	Sep 25	12	Arc length and curvature	12.5
	Sep 27	<b>E2</b>	<b>EXAM 2 – Chapter 12</b>	
<b>6</b>	Sep 30	13	Several variables	13.1
	Oct 02	14	Limits	13.2
	Oct 04	15	Partial derivatives	13.3
<b>7</b>	Oct 07	16	Differentials	13.4
	Oct 09	17	Chain rule	13.5
	Oct 11	18	Gradients	13.6
<b>8</b>	Oct 14	<b>H2</b>	<b>Discoverers' day – no class</b>	
	Oct 16	19	Tangent planes and normal lines	13.7
	Oct 18	20	Extrema	13.8
<b>9</b>	Oct 21	21	Applications	13.9
	Oct 23	22	Lagrange multipliers	13.10
	Oct 25	<b>E3</b>	<b>EXAM 3 – Chapter 13</b>	
<b>10</b>	Oct 28	23	Iterated integrals	14.1
	Oct 30	24	Double integrals	14.2
	Nov 01	25	Polar coordinates	14.3
<b>11</b>	Nov 04	26	Center of mass	14.4
	Nov 06	27	Surface area	14.5
	Nov 08	28	Triple integrals	14.6
<b>12</b>	Nov 11	26	Triple integrals	
	Nov 13	29	Triple integrals in other coordinates	14.7
	Nov 15	30	Change of variables	14.8
<b>13</b>	Nov 18	<b>E4</b>	<b>EXAM 4 – Chapter 14</b>	
	Nov 20	31	Vector fields	15.1
	Nov 22	32	Line integrals	15.2
<b>14</b>	Nov 25	33	Conservative fields	15.3
	Nov 27	34	Green's theorem	15.4
	Nov 29	<b>H3</b>	<b>Thanksgiving – no Class</b>	
<b>15</b>	Dec 02	35	Parametric surfaces	15.5
	Dec 04	36	Surface integrals	15.6
	Dec 06	37	Divergence theorem	15.7
finals	Dec 11	<b>FE</b>	<b>FINAL – 11:00 to 1:00 – Chapter 15</b>	