

ADVANCED CALCULUS II – MATH 411 – TERM 172

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Office Hours Sunday , Tuesday and Thursday: 11:00-11:50AM
and by appointment

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Text:

Functions of Several Real Variables" by M. Moskowitz and F. Paliogiannis, World Scientific, Singapore, 2011

Description:

- Real functions of several real variables: limit, continuity, differentiability
- Taylor's theorem. Maxima and minima, Lagrange multipliers rule.
- Elementary notion of integration on \mathbb{R}^n
- Change of variables in multiple integrals, Fubini's theorem.
- Implicit and inverse function theorems.
- Convergence and divergence of improper integrals.
- Differentiation under the integral sign.

Student Learning Outcomes:

After completion of the course, the students should be able to:

- Gain familiarity with functions of several variables.
- Be able to understand and write proofs of theorems.
- Apply the results to solve exercises, mostly theoretical in nature.
- Prepare the students for higher level analysis courses.

Grading Policy:

- 20%: Homework
- 45%: Two Major Exams: first 20%, second 25%
- 35%: Final comprehensive exam

Resources:

🔗 Blackboard (Course Material)

🔗 My website for following on grades and attendance.

Evaluation:

Final grade is according to the scale

GRADE	RANGE
A+	[90%, 100%]
A	[80%, 90%)
B+	[75%, 80%)
B	[70%, 75%)
C+	[65%, 70%)
C	[55%, 65%)
D+	[50%, 55%)
D	[45%, 50%)
F	[0%, 45%)

Course Schedule:

Week	Section	HW
1	1.1, 1.2, & 1.3	Page 23: 1, 4 & Page 37: 14
2 & 3	1.4, 1.5 & 1.6	Page 42: 1,3,7 & Page 60: 1.8.24, 1.8.17
4	2.1, 2.2 & 2.3	2(c, e), 4, 7b 3,8,9, 10, 11, 12
5	2.4 & 2.5	Sec 2.7: 9, 10, 13, 15 EXAM I – Week 5 or 6
6	3.1	6, 7, 10, 13, 20
7	3.4	1, 3b
8	3.6 & 3.7	4, 20
9	3.8	1, 2, 15
10	3.9	2, 7 EXAM I – Week 10 or 11
11	4.1	5, 6
12	4.2 & 4.3	2, 4
13	5.1	9, 11
14	5.2 & 5.3	
15	Review	

FINAL EXAM - Sunday May 6th, 2018 - 7:00 pm - 10:00 pm