MTH 232 S2020
JeVu

THE COLLEGE OF STATEN ISLAND, CUNY
DEPARTMENT OF MATHEMATICS

MATH 232 – CALCULUS II
COURSE OUTLINE

Text: Rogawski, Adams & Franzosa, Calculus – Early Transcendentals, 4th Edition. W. H. Freeman & Co. (2019). ISBN# 978-1-319-05074-0

Note: Below, each lesson corresponds to a one-hour class. Homework problems in **bold** correspond to similar WeBWorK problems, which must be submitted online. Students are also required to complete five MATLAB projects listed below, which can be obtained in PDF at www.lulu.com with search term "csi math".

Lesson	Section	Topic	Homework Problems
1	5.2 5.3	Review: Definite integral Review: Indefinite integral	**8**,9,**13**,**18**,**22,**25,**31**,43,**47**,**58** **3**,**5**,**7**,**14**,**16**,**17**,**19,**22,**24**,**27**,32,**38**,**47**,**51,66**
2	5.4 5.5	Review: Fundamental Thm Calc I Review: Fundamental Thm Calc II	**10,11**,**13**,25,**33,**35,37,40,**45,47**,**53**,55,62 **14**,**15**,**19**,**21**,**22**,**25**,**27**,**28**,**33**,**34**,**37**,39,41,43,47
3	5.7	Review: Integration by substitution	**29, 30, 35, 38, 48, 53, 63, 67, 73, 87, 97**
4	5.7 5.8	Review: Further integral formulas	**3, 9,** 17, 20**, 47, 48, 50,** 57 MATLAB 1: Intro to Symbolic Math
5	6.1	Area between two curves	1, **3,** 4, 7, 8, **9**, 11, 17, **20, 29, 36**
6	6.1	Area between two curves	
7	6.2	Volume, Average value	**1**, **5**, **8**, **9**, **11**, **13**, 14, **26**, 37, 39, **45**, 60
8	6.2	Volume, Average value	
9	6.3	Volume of revolution	1, 3, **5**, **7**, **9**, **11**, **25**
10	6.3	Volume of revolution	MATLAB 2: Applications of Integration
11	6.4	Cylindrical shells	1, 5, **11**, **17**, **19**, **22**, **26**, **28**
12	6.4	Cylindrical shells	
13	7.1	Integration by parts	**3,** 4, **5,** 7, **11, 13, 16,** 18, 25, **49, 52**
14	7.1	Integration by parts	
15	7.2	Trigonometric integrals	1, 3, 5, 9, **14, 18,** 19, **26**
16	7.3	Trigonometric substitution	1, 3, **5**, 13, **15**, **17, 19**, **24**
17	7.3	Trigonometric substitution	
18	7.5	Partial fractions	**1**, **9**, **10,** 12, **14**, 17, **22**, 31, **40**, 52
19	7.5	Partial fractions	MATLAB 3: Integration
20	7.6	Strategies for integration	**24, 33, 40, 44, 47, 59**
21		Review	
22		**Exam 1**	
23		**Exam 1**	
24	7.7	Improper integrals	**12**, **15**, **21**, **27**, **30**, **48,** 53, 54, 65, 66, **76**
25	7.7	Improper integrals	
26	10.1	Sequences	**15**, **21**, **23**, **30**, **51**, 61, **62**, 65, 66, 67
27	10.1	Sequences	
28	10.2	Series	9, **11**, 24, **27**, **28**, **30**, **32**, 48, **52,** 55
29	10.2	Series	
30	10.3	Convergence of series with positive terms	**3**, **5**, **7**, **10**, **12**, 18, **19**, **23**, **38**, 45, **49**, 55

31	10.3	Convergence of series with positive terms	
32	10.4	Absolute and conditional convergence	**3**, **8**, **10**, **13, 15**, **19**, **24**
33	10.4	Absolute and conditional convergence	
34	10.5	Ratio and root tests	**5**, **7**, **11**, **15**, 23, **37**, **39**, **40**, **41**, 47, 49, **51**
35	10.5	Ratio and root tests	
36	10.6	Power series	**1**, 7, 11, **13**, **20**, **23**, 24, 27, **31, 40**
37	10.6	Power series	
38	10.7	Taylor polynomials	**1, 3, 9, 11, 16,** 19, **31**
39	10.7	Taylor polynomials	MATLAB 4: Taylor Polynomials
40	10.8	Taylor series	**4**, **5**, **9**, **12**, **34**, **39**
41	10.8	Taylor series	
42		Review	
43		**Exam 2**	
44		**Exam 2**	
45	8.2	Arc length and surface area	**7**, **9, 11, 13, 19**, 22, **38**, **43**
46	8.2	Arc length and surface area	
47	11.1	Parametric equations	**10, 11**, **13**, 15, 17, 19, **21**, **27**, 31, **41, 47**
48	11.1	Parametric equations	
49	11.2	Arc length and speed	**5**, **7**, **17**, **18,** 31, 33, **36**
50	11.2	Arc length and speed	
51	11.3	Polar coordinates	**3**, **5, 16, 17**, **21**, 27, 31, 33, **47**
52	11.3	Polar coordinates	MATLAB 5: Polar Graphs
53	11.4	Area in polar coordinates	**7**, **9**, **10, 12, 13**, 14, 16
54	11.4	Area in polar coordinates	
55		Final review	
56		Final review	