

Information

Math 232

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| Professor | Marcello Lucia Office 1S-226, marcello.lucia@csi.cuny.edu http://www.math.csi.cuny.edu/~mlucia/ | |
| Time and Place | Monday: 12:20–2:10pm, 1S-115 Wednesday: 12:20–2:10pm, 1S-115 Office hours: Monday: 2:30–3:20 pm and 8:10–9:00pm Wednesday: 5:30–6:20 pm. | |
| Textbook | CALCULUS-EARLY TRANSCENDENTALS, by <i>Rogawski</i> W.H. Freeman & Co. (2008) ISBN-13: 978-1-4292-1073-7 ISBN-10: 1 -4292-1073-7 | |
| Course Outline | This course aims to develop technics to integrate function, with applications to compute area, volume and center of mass. Furthermore we will learn several technics to approximate functions like Taylor polynomials. Introduction to calculus in three dimensional will be the last part of this course. | |
| Course Grade | The final course grade is determined as follows: | |
| | MatLab Project & Homework | 10% |
| | First test | 10% |
| | Midterms | 20% + 20% |
| | Exams | Final 40% |
| | <i>First test:</i> February 15th <i>Second Test:</i> March 14th <i>Third Test:</i> April 25th <i>Homework:</i> must be submitted using “Webwork” that can be found on the mathematics Website of CSI. Go to http://www.math.csi.cuny.edu/ and follow the links. | |
| MATLAB | MatLab Projects can be downloaded from: www.lulu.com/csimath Deadline: MATLAB Project 1 and 2: March 14th MATLAB Project 3 and 4: April 25th | |
| Integrity policy | Please refer to http://www.cuny.edu/about/info/policies/academic-integrity.pdf | |
| Cell phone | Let us stay focused on the class ! Thus, cell phone should be switched off. | |
| Lesson Plans | Below, each lesson corresponds to a one-hour class | |

| Lesson | Sections | Topics | Homework |
|--------|----------|---|--------------|
| 1 | 5.3 | Fundamental Theorem of calculus | Webwork 5.3 |
| 2 | 5.4 | Fundamental Theorem of calculus | Webwork 5.4 |
| 3 | 5.6 | Integration by substitution | Webwork 5.6 |
| 4 | 5.7 | Integration of transcendental functions | Webwork 5.7 |
| 5 | 6.1 | Area between two curves | Webwork 6.1 |
| 6 | 6.2 | Volume, Average value | Webwork 6.2 |
| 7 | 6.3 | Volume of revolution | Webwork 6.3 |
| 8 | 6.4 | Cylindrical Shell | Webwork 6.4 |
| 9, 10 | | Exam 1 (February 15th) | |
| 11 | 7.1 | Numerical Integration | Webwork 7.1 |
| 12 | 7.2 | Integration by parts | Webwork 7.2 |
| | | Soap Bubbles (February 22nd, 2:30PM) | |
| 13 | 7.3 | Trigonometric integrals | Webwork 7.3 |
| 14 | 7.4 | Trigonometric substitution | Webwork 7.4 |
| 15,16 | 7.6 | Partial fractions | Webwork 7.6 |
| 17, 18 | 7.7 | Improper integrals | Webwork 7.7 |
| 19, 20 | 8.3 | Center of mass | Webwork 8.3 |
| 21, 22 | 8.4 | Taylor polynomials | Webwork 8.4 |
| 23, 24 | | Exam 2 (March 14th) | |
| 25, 26 | 10.1 | Sequences | Webwork 10.1 |
| 27, 28 | 10.2 | Series | Webwork 10.2 |
| 29, 30 | 10.3 | Convergence of positive series | Webwork 10.3 |
| 31, 32 | 10.4 | Absolute convergence | Webwork 10.4 |
| 33, 34 | 10.5 | Ratio & Root tests | Webwork 10.5 |
| 35, 36 | 10.6 | Power series | Webwork 10.6 |
| 37, 38 | 10.7 | Taylor series | Webwork 10.7 |
| 39, 40 | 8.1 | Arc length & surface area | Webwork 8.1 |
| 41 | 11.1 | Parametric equations | Webwork 11.1 |
| 42 | 11.2 | Arc length & speed | Webwork 11.2 |
| 43, 44 | | Exam 3 (April 25th) | |
| 45 | 11.3 | Polar coordinates | Webwork 11.3 |
| 46 | 11.4 | Area & arc length in polar coordinates | Webwork 11.4 |
| 47 | 12.1 | Vectors in the plane | Webwork 12.1 |
| 48 | 12.2 | Vectors in three dimension | Webwork 12.2 |
| 49, 50 | 12.3 | Dot product | Webwork 12.3 |
| 51, 52 | 12.4 | Cross product | Webwork 12.4 |
| 53, 54 | 12.5 | Plane in three dimensions | Webwork 12.5 |
| 55, 56 | | Review | |