

Math 234 Syllabus

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Math 234 is vector and multi-variable calculus. It is the third Calculus course in the 221-222-234 sequence.

The following syllabus is adapted from Joel Robbin's (Fall 2001). This syllabus assumes 15 weeks of instruction. Much of chapter 12 should have been covered in Math 222 already. The textbook is Thomas and Finney, 5th edition.

Week 1

11 *Review of vectors*

12-1,2,3 *Velocity and Acceleration*

Week 2

12-4 *Curvature and Normal*

12-5 *Binormal*

Week 3

12-6 *Planetary Motion*

12 *Review*

Week 4

13-1,2 *Partial Derivatives*

13-3 *Surfaces: tangents and normals*

Week 5

13-4,5 *Linear approximation*

13-6,7,8 *Gradient and total differential*

Week 6

13-9 *Max Min*

13-11 *Lagrange multipliers*

Week 7

3-5,6 *Higher Derivatives*

3-7,8 *Exact differentials*

Week 8

14-1,2 *Double integrals and area*

14-3 *Applications*

Week 9

14-4 *Polar coordinates*

14-5 *Triple integrals and volume*

Week 10

14-6,8 *Cylindrical and spherical coordinates*

14-7 *Applications*

Week 11

14-9 *Surface Area*

15-1 *Vector fields*

Week 12

15-2 *Surface integrals*

Week 13

15-3 *Line integrals*

15-4 *Flux*

Week 14

15-5 *Green's Theorem*

15-6 *Divergence Theorem*

Week 15

15-7 *Stokes's Theorem*

15 *Review*