

# Schedule

A week-by-week breakdown of the material.

## Week 1 (01/11-1/15)

**Day 1** Introduction

**Day 2** Sequences (11.1). Limit of sequence. Limit Laws<sup>1</sup>

**Day 3** Sequences (11.1). Limit of sequence. Limit Laws (cont)<sup>2</sup>

**Day 4** Sequences (cont, 11.1). Bounded Sequences<sup>3</sup>

## Week 2 (01/18-01/22)

**Day 1** Infinite Series (11.2). Introduction<sup>4</sup>

**Day 2** Infinite Series (11.2). Geometric Series. Divergence Test<sup>5</sup>

**Day 3** Positive Terms series (11.3)<sup>6</sup>

**Day 4** Positive Terms series (11.3), comparison and limit comparison tests<sup>7</sup>

## Week 3 (01/25-01/29)

**Day 1** Absolute vs Conditional Convergence (11.4)<sup>8</sup>

**Day 2** Absolute vs Conditional Convergence (11.4)<sup>9</sup>

**Day 3** Ratio and Root tests (11.5)<sup>10</sup>

**Day 4** Series tests review.

## Week 4 (02/01-02/05)

**Day 1** Power Series (11.6)<sup>11</sup>

**Day 2** Power Series (11.6), cont<sup>12</sup>

**Day 3** Power Series (11.6), cont<sup>13</sup>

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<sup>1</sup>[notes/sequences.html](#)

<sup>2</sup>[notes/sequences.html](#)

<sup>3</sup>[notes/sequences\\_bounded.html](#)

<sup>4</sup>[notes/series\\_intro.html](#)

<sup>5</sup>[notes/series\\_intro.html](#)

<sup>6</sup>[notes/series\\_positive.html](#)

<sup>7</sup>[notes/series\\_positive.html](#)

<sup>8</sup>[notes/series\\_conditional.html](#)

<sup>9</sup>[notes/series\\_conditional.html](#)

<sup>10</sup>[notes/series\\_root.html](#)

<sup>11</sup>[notes/series\\_power.html](#)

<sup>12</sup>[notes/series\\_power.html](#)

<sup>13</sup>[notes/series\\_power.html](#)

**Day 4** Taylor Series (11.7)<sup>14</sup>

## **Week 5 (02/08-02/12)**

**Day 1** Vectors in the Plane (13.1)<sup>15</sup>

**Day 2** Vectors in the Plane (13.1, cont).

**Day 3** Vectors in the Space (13.2). Equations for lines in space.

**Day 4 Midterm 1** (study guide<sup>16</sup>)

## **Week 6 (02/15-02/19)**

**Day 1** Dot product and angles (13.3).

**Day 2** Dot product and angles (cont, 13.3). Projections.

**Day 3** Cross product (13.4).

**Day 4** Equations for planes (13.5).

## **Week 7 (02/22-02/26)**

**Day 1** Equations for planes (cont, 13.5).

**Day 2** Polar, Cylindrical and Spherical Coordinates (12.3, 13.7).

**Day 3** Vector-valued functions (14.1).

**Day 4** Limits, derivatives, integrals for vector-valued functions (14.2). Derivative as tangent vector.

## **Week 8 (03/07-03/11)**

**Day 1** Arc Length (14.3).

**Day 2** Curvature (14.4). Normal vectors.

**Day 3** Functions of several variables (15.1). Level curves.

**Day 4** Limits and Continuity in several variables (15.2).

## **Week 9 (03/14-03/18)**

**Day 1** Partial Derivatives (15.3).

**Day 2** Differentiability (15.4). Linear Approximation.

**Day 3** Gradient, Directional derivatives (15.5).

**Day 4 Midterm 2**

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<sup>14</sup>[notes/series\\_taylor.html](#)

<sup>15</sup>[notes/vectors.html](#)

<sup>16</sup>[notes/midterm1\\_study\\_guide.html](#)

## **Week 10 (03/21-03/25)**

**Day 1** Gradient, Directional derivatives (15.5, cont).

**Day 2** Chain rule (15.6).

**Day 3** Optimization (15.7).

**Day 4** Optimization (cont, 15.7).

## **Week 11 (03/28-04/01)**

**Day 1** Lagrange Multipliers (15.8).

**Day 2** Integration in two variables (16.1).

**Day 3** Integration over more general regions (16.2).

**Day 4** Integrals in 3 dimensions (16.3).

## **Week 12 (04/04-04/08)**

**Day 1** Integrals in Polar, Cylindrical, Spherical coordinates (16.4).

**Day 2** Change of variables (16.6).

**Day 3** Change of variables (cont, 16.6).

**Day 4** Catchup

## **Week 13 (04/11-04/15)**

**Day 1** Catchup

**Day 2** Catchup

**Day 3** Catchup

**Day 4** Catchup