# Basics

*For issues about mathematics and homework*, use the Piazza forum (the link is on the sidebar) or attend office hours. Visit Section Page below for office hours of each instructor. Email the professor only *for personal or administrative issues*.

**List of Math 111/221 Sections:**

| Section | Instructor | Location | Time | Section Page |
|---|---|---|---|---|
| 201 | Adam Martens | ESB 1013 | 08:00-09:15am, Tu Th | **Section 201** **(https://canvas.ubc.ca/ courses/174853/pages/section-201)** |
| 202 | Tai-Peng Tsai | ESB 1013 | 12:30-13:45pm, Tu Th | **Section 202** **(https://canvas.ubc.ca/ courses/174853/pages/section-202)** |

# Calendar and resources

Calendar     Textbook     Piazza     Math Learning Centre

The content covered week by week can be found below:

| Week | Dates | Topics | **Textbook (https:// personal.math.ubc.ca/ ~tbjw/ila/index.html) sections** | Comments |
|---|---|---|---|---|
| 1 | Jan 6, 8 | vectors, vector equations and spans | 1.1-1.2 | |
| 2 | Jan 13, 15 | systems of linear equations, row reduction, parametric form | 2.1-2.3 | |
| 3 | Jan 20, 22 | matrix equations, solution sets, linear independence | 2.4, 3.1-3.2 | |

| 4 | Jan 27, 29 | subspaces, basis and dimension, bases as coordinate systems | 3.3-3.5 | |
| 5 | Feb 3, 5 | The Rank Theorem, matrix transformations, one-to-one transformations | 3.6, 4.1-4.2 | |
| 6 | Feb 10, 12 | onto transformations, Linear transformations | 4.2-4.3 | **Test 1** on Feb 10 |
| | Feb 16-20 | Midterm Break | | |
| 7 | Feb 24, 26 | matrix multiplication, inverses, the Invertible Matrix Theorem | 4.4-4.6 | |
| 8 | Mar 3, 5 | determinants, cofactor expansions, determinants and volumes | 5.1-5.3 | |
| 9 | Mar 10, 12 | Eigenvalues and eigenvectors, the characteristic polynomial | 6.1-6.3 | |
| 10 | Mar 17, 19 | Similarity, diagonalization, complex eigenvalues | 6.4-6.5 | |
| 11 | Mar 24, 26 | dot products, orthogonality, orthogonal complements | 7.1, 7.2 | **Test 2** on Mar 24 |
| 12 | Mar 31, Apr 2 | Orthogonal projection, Gram-Schmidt Process | 7.3-7.4 | |
| 13 | April 7, 9 | The method of least squares, review | 7.5 | |

# Grades and assessments

Summary   WeBWorK   Engagement and Practice Problems   Tests   Final exam

Regrading

Your final grade will be calculated using the chart below.

| Assessment | Percent |
| --- | --- |
| WeBWorK assignments | 5% |
| Engagement and Practice Problems | 5% |
| Tests | 30% |
| Final exam | 60% |

# Frequently Asked Questions

This section will be updated throughout the term with common questions and problems.

▶ Will lectures be recorded?

No, lectures will not be recorded.

▶ On written assignments and exams, is it necessary to simplify answers?

Yes. You must simplify your answers.

▶ Will final grades be scaled?

Final grades are subject to minor adjustments at the discretion of the teaching team. Individual members of the teaching team are not responsible for adjustments.

▶ Are calculators allowed?

Unless specifically stated otherwise, notes, calculators, cell phones and other electronic devices are strictly prohibited from use during tests and the final exam. Use of electronic devices is discouraged during lectures and small classes.

▶ What happens to class in the event of bad weather?

If class cancellations are announced by the university at **ubc.ca (https://www.ubc.ca/)**, class for that day will not take place. If a test is scheduled for that day, the test will be cancelled, and the weight of the test will be shifted to the final exam.