Course and Instructor Information

Instructor: J. Paul Vicknair
Office location: JB-315
Telephone: (909) 537-5378
Email: jvicknai@csusb.edu
Office hours: 2-4 pm MW; and by appointment
Class Days/Time: 6-7:50 pm MW
Classroom: JB-383
Prerequisite: Math 251 or consent of the instructor

Faculty Web Page

A copy of the course syllabus may also be found on my faculty web page.

Course Description

The course starts with a review of linear systems, then an introduction to matrices and matrix arithmetic including inverses and determinants. This is covered in Chapters 1-3. Chapter 4 contains the definition of vector space, subspaces, dimension and bases. One could say this chapter is the core of linear algebra. Eigenvalues and eigenvectors of a matrix are covered in Chapter 5 while orthogonal matrices are found in Chapter 6. Though I doubt we will get that far, Chapter 7 is about symmetric matrices and their diagonalization.

Though not as theoretical as Math 345 or Math 355, there is more theory in this course than found in the typical single variable calculus courses. In reading and understanding proofs, it is important to understand the terms used in the proofs and the underlying logic. The most difficult material in the text is probably from Chapter 4.

Required Text

Textbook
Assignments

Homework problems will be assigned at the end of almost every class, but they will not be collected. A list of these assignments is found at the end of this syllabus.

Grading Policy

This course is graded A, B, C, D and F.

6 20 point quizzes
2 100 point exams
1 200 point final exam

Only the 5 highest of the 20 point quizzes will be counted. One half of the final may replace one exam score, if helpful. The 1st exam will be given during either the 4th or 5th week of the term while the 2nd exam will be given during the 8th or 9th week of the term. The final exam, which is cumulative, is scheduled for Wednesday, December 9, 6-7:50 pm.

A total of 500 points are possible with the grading scale being:
93-100% A, 90-92% A-, 87-89% B+, 83-86% B, 80-82% B-, 77-79% C+, 73-76% C, 70-72% C-, 67-69% D+, 63-66 D, 60-62% D-, below 60% F.

Goals and Student Learning Outcomes


For Math 331, the focus SLO’s for this course are 3.2, 3.3, and 5.1:

**Goal 3:** Students will demonstrate adaptive reasoning and problem solving skills in mathematics

Student Learning Outcomes
3.2 Students will use and produce valid arguments
3.3 Students will explain and justify solutions using a variety of representations

**Goal 5:** Students will understand and produce correct mathematical proofs

**Student Learning Outcomes**
5.1 Students will understand correct mathematical proofs
University Policies

Students are responsible for understanding the policies and procedures found under the section “Academic Regulations” on pages 46-57 in the *CSUSB Bulletin of Courses, 2012-2014*. Pay close attention to the policy regarding add/drops, academic renewal, cheating and plagiarism. Cheating on quizzes or exams could result in an F for a course grade and also sanctions by the University. Academic dishonesty will not be tolerated.

Classroom Protocol

All electronic devices should be turned off during class sessions, quizzes and exams.

If you need to leave a class session early please let me know. Also, in such situations, please sit near the exit door as not to disturb your classmates.

Support for Students with Disabilities

If you are in need of an accommodation for a disability in order to participate in this class, please notify me and also contact Services to Students with Disabilities (UH-183) at (909) 537-5238.

Important Dates

Wednesday, October 14 is the last day to drop classes without record.
Wednesday, November 11 campus is closed in recognition of Veterans’ Day.
Monday, December 7 is the last day of classes for the Fall Quarter.

Other

Do not fall behind in this course. If you find yourself falling behind or having difficulties with the material, please come see me during office hours. Also, free tutoring for the course is available at The Learning Center (3rd floor, University Hall) and in Jack Brown Hall (JB-391). The schedule for the latter will be announced shortly after the start of classes.
<table>
<thead>
<tr>
<th>Chapter 1</th>
<th>Chapter 3</th>
<th>Chapter 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 1.1</strong> (Page 10)</td>
<td><strong>Section 3.1</strong> (Page 167)</td>
<td><strong>Section 5.1</strong> (Page 271)</td>
</tr>
<tr>
<td>1-23 odd, 24, 25, 28, 29, 31</td>
<td>1-23 odd, 25-37</td>
<td>1-8; 9-25 odd, 31</td>
</tr>
<tr>
<td><strong>Section 1.2</strong> (Page 21)</td>
<td><strong>Section 3.2</strong> (Page 175)</td>
<td><strong>Section 5.2</strong> (Page 279)</td>
</tr>
<tr>
<td>1-3; 7-13 odd, 15-21 odd</td>
<td>1-4; 5-13 odd, 15-20, 21-39 odd</td>
<td>1-17 odd; 21</td>
</tr>
<tr>
<td><strong>Section 1.3</strong> (Page 32)</td>
<td><strong>Section 3.3</strong> (Page 184)</td>
<td><strong>Section 5.3</strong> (Page 286)</td>
</tr>
<tr>
<td>1-10; 11-21 odd</td>
<td>1-23 odd; 27-29</td>
<td>1-3; 5-25 odd, 31, 32</td>
</tr>
<tr>
<td><strong>Chapter 2</strong></td>
<td><strong>Chapter 4</strong></td>
<td><strong>Chapter 6</strong></td>
</tr>
<tr>
<td><strong>Section 2.1</strong> (Page 100)</td>
<td><strong>Section 4.1</strong> (Page 195)</td>
<td><strong>Section 6.1</strong> (Page 336)</td>
</tr>
<tr>
<td>1-12, 15, 17, 21</td>
<td>1-18; 21-27 odd</td>
<td>1-19, 24</td>
</tr>
<tr>
<td><strong>Section 2.2</strong> (Page 109)</td>
<td><strong>Section 4.2</strong> (Page 205)</td>
<td><strong>Section 6.2</strong> (Page 344)</td>
</tr>
<tr>
<td>1-11 odd; 21, 22, 29-32, 35</td>
<td>1-3; 5-27 odd</td>
<td>1-10; 11-21 odd, 26</td>
</tr>
<tr>
<td><strong>Section 2.3</strong> (Page 115)</td>
<td><strong>Section 4.3</strong> (Page 213)</td>
<td><strong>Section 6.3</strong> (Page 352)</td>
</tr>
<tr>
<td>1-9, 11, 13-21, 24, 33, 34</td>
<td>1-15 odd, 19-25 odd</td>
<td>1-17 odd</td>
</tr>
<tr>
<td><strong>Section 2.4</strong> (Page 116)</td>
<td><strong>Section 4.4</strong> (Page 222)</td>
<td><strong>Section 6.4</strong></td>
</tr>
</tbody>
</table>