Please use this form to make minor changes to a program. Examples of such changes include the following:

- Changing the total number of credits for a degree
- Changing course pre-requisites, unit values, etc.
- Changes in the University General Education or designation of specific courses to satisfy General Education requirements
- Changing policies and procedures regarding Undergraduate Admissions criteria
- Policies on probation and disqualification with the various undergraduate programs
- Changes in programs, majors, concentrations, minors, and tracks, unless these are “major” changes (see below), in which case you should use a “Changes to Existing Programs” form

Note: a major revision is one involving the smaller of: a) more than 1/3 of the courses required for the program or b) 4 or more total courses, or re-conceptualizing the purpose of the course.

Before you proceed, please review the approval process in advance and leave time for each involved person or committee to review the proposal.

**DATE:** November 16, 2006  
**DEPARTMENT/SCHOOL:** Mathematics/COP  
**CONTACT PERSON:** Sarah Merz  
**PHONE:** 6-3040  
**BLDG & ROOM NO:** Classroom Bldg 103D

1. **School:** College of the Pacific  
   **Program:** Mathematics  
   **Degree:** BS/BA

2. **What is being changed and what is the rationale for the change?**

   We are changing catalog copy to prevent students from getting credit for both MATH 141 and MATH 145. The courses are very similar; we never intended to give credit for both courses.

3. **Existing policy (if applicable):**
   no changes needed

4. **New policy (if applicable):**
   no changes needed

5. **Catalog copy (if applicable):**

   (for MATH 141)
   This is a first course in linear algebra emphasizing theory and proof. Topics covered include systems of linear equations, vector spaces, subspaces, linear independence, bases, dimension, linear transformations, matrices, determinants, eigenvalues, and eigenvectors. Computational
techniques will be included. Students will not receive credit for both MATH 141 and MATH 145. Prerequisite: MATH 49.

(for MATH 145)
Please remember to make the corresponding changes to your program's catalog copy when you receive page proofs for next year's catalog.

**MISCELLANEOUS CHANGE PROPOSAL**

**APPROVAL SHEET**

<table>
<thead>
<tr>
<th>DATE:</th>
<th>DEPARTMENT/SCHOOL:</th>
<th>CONTACT PERSON:</th>
<th>PHONE:</th>
<th>BLDG &amp; ROOM NO:</th>
</tr>
</thead>
</table>

Please obtain signatures in the order they appear below, as applicable.

1. □ DEPARTMENT CHAIR:  
   Signature: [Signature]  
   Date: 11/16/06

2. □ CHAIRS OF OTHER INVOLVED DEPARTMENTS (if applicable):  
   (Signatures needed for new courses and deletions)  
   Signature: [Signature]  
   Date: __________

3. □ CHAIR, SCHOOL/COLLEGE CURRICULUM COMMITTEE:  
   Signature: [Signature]  
   Date: 12-28-06

4. □ DEAN OF SCHOOL/COLLEGE:  
   Signature: [Signature]  
   Date: 12-20-06

5. □ GENERAL EDUCATION COMMITTEE (if applicable):  
   (Signature needed for new courses and deletions)  
   Signature: [Signature]  
   Date: __________

6. □ GRADUATE STUDIES COMMITTEE (if applicable):  
   Signature: [Signature]  
   Date: __________

7. □ REGISTRAR:  
   Signature: [Signature]  
   Date: 01-17-07

□ ACADEMIC AFFAIRS COMMITTEE:  
   Signature: __________  
   Date: __________

Miscellaneous Change form, Page 2 of 2  
Rev. 10/06
Prerequisites: A grade of C- or better in Math 49 or permission of instructor.


Learning Objectives & Philosophy: Linear Algebra is fundamental to advanced mathematics: in calculus, differentiation and integration are linear operators; in statistics, linear projection operators determine "best" answers; in differential equations, matrices are used to find solutions; in abstract algebra, vector spaces are the building blocks for more intricate structures; etc. In this course, you will work with systems of linear equations, vectors, matrices, and related mathematical notions.

- By studying vectors and matrices both algebraically and geometrically, you will begin to understand the vast importance of linear algebra to other branches of mathematics and to real-world applications, not only in two and three dimensions, but in four or more dimensions as well.
- By doing homework, you will learn problem-solving techniques that will help you comprehend the material.
- By familiarizing yourself with technology, you will learn new investigative techniques.
- By taking tests, you will demonstrate your facility in applying relevant knowledge to specific problems.
- By completing a project, you will delve into a particular topic of your own choosing, experience mathematical research firsthand, and learn how to communicate your results verbally and in writing.

Copies of student work may be retained by the instructor in order to assess how the learning objectives of the course are being met.

Final Exam: The final exam is Friday, May 12, from 8am to 11am. Make arrangements now to be present at the final exam. Do NOT schedule a flight home before your final exam.

Midterm Exams: There will be two midterm exams. Tentative test dates are Wednesday, February 15, and Wednesday, April 12. Actual exam dates will be announced at least one week in advance.

Missed Exams: In general, make-up exams are not given. However, if you have a verifiable reason for missing the exam (such as a medical emergency), if you contact the instructor before the next class meeting, and if you bring verification (such as a doctor's note) stating why you missed the exam, then a make-up exam can be arranged. Being unprepared is not a valid reason for missing an exam.

Project: A research project on a topic of your own choosing will be an essential component of the course. The project will entail both a written and an oral component. Details will follow at a later date.
Homework: Homework will be assigned regularly. Some homework assignments may require the use of mathematical software, such as Maple or Geometer's Sketchpad, available in the Mathematics Department Computer Lab, room 102. The assignments from one week (MWF) are due the following Wednesday at 5:00pm, even if there is a test scheduled for that day. Homework must have your name, the course, and a staple at the top. All assignments are to consist of your own work and must be written legibly in your own hand. Illegible papers will not be graded. Late homework will not be accepted without prior approval by the instructor. Several predetermined problems from each assignment will be graded. At least one homework score will be dropped.

Attendance: Your presence is expected at every scheduled class. It is your responsibility to keep informed of any announcements, syllabus adjustments, or policy changes made during scheduled classes.

Grades: Each of the following will count as 20% of your grade: each midterm exam, the homework average, the project, and the final exam. Overall grades will be no lower than those set forth in the following table:

<table>
<thead>
<tr>
<th>Avg. (%)</th>
<th>93-100</th>
<th>90-92</th>
<th>87-89</th>
<th>83-86</th>
<th>80-82</th>
<th>77-79</th>
<th>73-76</th>
<th>70-72</th>
<th>67-69</th>
<th>60-66</th>
<th>0-59</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>A</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C</td>
<td>C-</td>
<td>D+</td>
<td>D</td>
<td>67-69</td>
<td>60-66</td>
</tr>
</tbody>
</table>

The last day to drop is March 10. Students dropping the class on or before this date simply pick up a drop form at the Registrar's Office and obtain their advisor's signature. Students wanting to drop after this date must file a petition with the College of the Pacific and pay the filing fee. Such petitions are not generally approved.

An I (incomplete) will be awarded only if all of the following conditions are met:

1. The student has completed all but a small portion of the required work.
2. The student has scored at least 60% on the work completed.
3. The student has a valid reason for not completing the course on time.
4. The student agrees to make up the material in a short period of time.
5. The student asks for an I before grades are due.

Honor Code: All members of the University community are entrusted with the responsibility of observing high ethical conduct. Essential to the fundamental purpose of the University is the commitment to the principles of truth and honesty.¹

The Pacific Honor Code/Code of Conduct is an essential element in academic integrity. In addition to the violations listed on pages 39 and 40 of Tiger Lore, it is a violation of the Honor Code

• to give or receive information from another source (student, cell phone, pager, etc.) during an examination;
• to use unauthorized sources during an examination;
• to submit all or part of someone else's work or ideas as your own;
• to look at another student's exam before your work is submitted to the instructor;
• to type examples, formulas, or any other type of notes into your calculator;
• to keep a note card on the inner surface of the cover to your calculator;
• to copy someone else's homework; or
• to detract from the opportunity of another student to learn.

If a student violates the Honor Code, the faculty member may refer the matter to the Office of Student Life. If the student is found guilty, she or he may fail the assignment or the course. The student may also be reprimanded or suspended from the University. A complete statement of the Honor Code may be found in Tiger Lore.

Special Needs: Students with a documented learning disability or physical handicap requiring accommodation should identify themselves to the instructor as soon as possible so that suitable arrangements can be made. Students with learning disabilities are advised to register with the Learning Disabilities Coordinator in Bannister Hall as soon as possible. It is the responsibility of the student to contact the instructor in order to set up any required accommodations.

Math Study Area: Classroom Building, Room 103. Located immediately outside most of the math faculty offices, this lounge is an ideal place to study and work on homework, especially during office hours.

Ways to get connected to the larger mathematical community here at Pacific and at other institutions:

Mathletics: This semester, Pi Day (March 14) falls during Spring Break. If you would like to revive the Mathletics or offer an alternative to Pi Day, please let me know.

Pacific Problem Solving Group: Last semester, this group wrote up solutions to several problems appearing in Math Horizons magazine, published by the Mathematical Association of America (MAA). I will keep you informed of upcoming meetings.

Conferences: There are several upcoming conferences this semester.
- Proof and Prejudice: Women in Mathematics, a panel discussion, will take place at Stanford University on Tuesday, February 7, at 2:30pm, followed by a screening of Proof at 7:00pm.
- The Northern California, Nevada, and Hawaii Section of the MAA will meet Saturday, February 25, at Stanford University.
- The Pacific Coast Undergraduate Math Conference will be held at Occidental College in Los Angeles on Saturday, March 25.
- The Northern California Undergraduate Math Conference will be held at Sonoma State University in Rohnert Park on Saturday, April 8.
Each conference will feature talks accessible to or given by undergraduates. If you would like to participate or just attend, please see me for details.

Pacific Undergraduate Research and Creativity Conference: Last year, Pacific held its own university-wide undergraduate research and creativity conference. Details on this year's conference will follow when they are available.

Mathematical Contest in Modeling: Each year, COMAP (the Consortium for Mathematics and Its Applications) holds a contest for teams of students. This year's contest takes place from Thursday, February 2, at 5pm, through Monday, February 6, at 5pm. Each team will choose one of two open-ended problems and then use mathematical modeling to investigate and solve the problem. Before Monday, the team will write a detailed report of their findings. If you would like to participate, please contact me as soon as possible.
Spring 2003 Math 145, Applied Linear Algebra

Instructor: Sarah Merz, Ph.D.
Office: South Classroom Building, 103D
Phone: 946-3040
Email: smerz@uop.edu
Office Hours: MWF 1-1:50 TTH 10:30-11:30
Web: www1.uop.edu/cop/math/sm.html

Course Prerequisite: Math 55


Calculator Policy: You must have a graphing calculator such as a TI-83, -85, or -86. You may use another brand, however in doing so you assume the responsibility of learning how to use the calculator on your own. Your calculator must have built in matrix operations.

Office Hours: If you have questions on the lectures, homework, or other assignments please come to my office hours for extra help. I will also set aside time in class for answering questions the homework assigned in the previous class.

Important Dates:
- Friday, February 18: First Exam
- Friday, March 7: Drop Day
- Friday, April 25: Second Exam
- Wednesday May 7 noon-3:00: Final Exam

Methods of Evaluation: Your grade is based on midterm exams, quizzes, in-class work and homework, and the final exam.

Breakdown of Grade:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid term Exams</td>
<td>400</td>
</tr>
<tr>
<td>Final Exam</td>
<td>250</td>
</tr>
<tr>
<td>Quizzes</td>
<td>175</td>
</tr>
<tr>
<td>Other work</td>
<td>175</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
</tr>
</tbody>
</table>

Total points
Daily Homework: Each day I will assign practice problems. These problems should be completed before the next class period. Quizzes will be based on the homework. Please come to my office hours if you need extra help with the homework.

Quizzes: There will occasionally be quizzes in class. You may or may not be able to ask questions on the homework before the in-class quiz.

Make-up Quizzes: You cannot make up missed quizzes. Please let me know ahead of time if you are going to miss class.

Other Work: I will collect some of the homework and computer assignments. I may give you a few problems to complete at the end of class.

Midterm Exams: There will be two midterm exams. The dates are Friday, February 28 and Friday, April 25. These exams are closed book and closed note. You may or may not be allowed to use a calculator on the exam.

Final Exam: The final exam is on Wednesday, May 7 at noon. You may have two final exams on the same day. Plan ahead. I am not allowed to reschedule a final exam. Arrangements to take the final exam early must be cleared through the Dean of the College.

Make-up Exams: If you miss an exam without making arrangements with me ahead of time, you cannot make it up. The last minute decision to miss an exam will seriously affect your grade.

Grading scale:

A: 93-100%
A-: 90-92%
B+: 87-89%
B: 83-86%
B-: 80-82%
C+: 77-79%
C: 73-76%
C-: 70-72%
D: 60-69%
F: 0-59%

About the Last Day to Drop: If you decide to drop this class on or before the official last day to drop, the procedure is very easy: pick up a drop form in the Registrar’s Office and get a signature from your adviser. Dropping a course after the drop date is more difficult and may not be possible. To drop after the drop date, you must file a petition with the College of the Pacific an’s Office and pay a fee. The petition involves writing a letter justifying your decision to drop, as well as providing letters from both your advisor and the instructor. A committee of faculty and students reviews your petition and decides whether or not you will be allowed to drop the course.
Only in extreme cases are such petitions approved, so it is important that you make realistic
decisions about your ability to pass this course before the official last day to drop.

**Students with Learning Disabilities:** If you are registered with the Educational Resource Center
for having a learning disability, you may
decide to take advantage of accommodations the University can provide. To preserve student
confidentiality, please discuss such
accommodations with me in my office. I will only provide accommodations if given at least 5
weekdays notice. Even if I am notified of a
student's learning disability, I will not approach the student. It is the student's responsibility to
approach me regarding their situation.

**Granting of an Incomplete:** I will not grant incomplete grade to a student who is earning a D or
an F. I will only grant incomplete grades
to students who are earning a 70% or better, but due to extreme circumstances beyond their
control were prevented from participation in
the course within two weeks of the final exam. Such a student must have been actively and
responsibly participating in class until the
time at which they were no longer able to attend. Illness is not necessarily grounds for an
incomplete grade.

**Honor Code:** All students on the Stockton campus will be expected, on applying for enrollment, to
sign an honor pledge appropriate to
the objectives and relationships of the University. Reconstituted by the Pacific Student Association
in 1959, the Honor System calls each
student "to exhibit in his or her university life a high degree of maturity and personal integrity." While the Honor System recognizes that
its vitality "rests with each individual student as he or she chooses to be true to the honor spirit," a
structure of controls and judiciary
procedures to make the Honor Code effective is outlined in the Pacific Guide. The following text
was taken from University Policy.

The University Honor Code is an essential element in academic integrity. It is a violation of the
Honor Code to give or receive information
from another student during an examination; to use unauthorized sources during an examination;
or to submit all or part of someone
else's work or ideas as one's own. If a student violates the Honor Code, the faculty member may
refer the matter to the Office of Student
Life. If found guilty, the student may be penalized with failure of the assignment or failure of the
course. The student may also be
reprimanded or suspended from the University. A complete statement of the Honor Code may be
found in the Student Handbook
(available in the bookstore).

All violations of the Honor Code will be reported to the Dean of Students, the Athletic Director and
coches (when applicable). Some
examples of violations of the Honor Code are: looking at another students exam before your work
submitted to the instructor, typing
examples, formulas or any other type of notes into your calculator, and keeping a note card on the
inner surface of the cover to your
calculator. Not all institutions of higher learning have an Honor System or Code. These are aspects of the University which contributes to the value of a degree earned here.