

COURSE APPROVAL ROUTING CHECK LIST

091018

1. Course Number: ACM PSM 611 1st Bulletin 11-5-09
2nd Bulletin 11-19-09
2. Course Title: Discrete Foundations of Applied Mathematics From a Problem Solving Perspective
 (no more than 70 characters)

Title Abbreviation: Disc Found App Math
 For use in Master Schedule (no more than 19 characters)

3. Action: New Course Revision IF Designation WAC

Requested Designation(s): _____

Course Proposal/Revision Check List

This checklist will help departments avoid some of the most common mistakes made on course proposals. Your use of the checklist will allow the College Senate Curriculum Committee to focus its review on more substantive issues and expedite the approval process.

- Proposal format conforms to the Directory of Policy Statements, Section IV:02.00 (2002).
- Proposal has been proofread for spelling, punctuation, grammar, style and gender-neutral language.
- If the course is a new course, reasons for the additions are included; if the course is a revision of an existing course, reasons for revision and a copy of the old course are included as well as the IF Narrative when appropriate.
- Catalog description follows the guidelines in the Curriculum Handbook, Appendix C.
- Student learning outcomes are coherent with course content and assessment.
- Outcomes are referenced with course content.
- All resource entries are alphabetized and conform to a specific style manual.
- Cross listed courses have been checked with all chairs and deans included in development of the course.

DEPARTMENT ACTION

[Signature] _____ 10/16/09
 Chair, Department Curriculum Committee Date

4. **Approved** with confirmation that all necessary laboratories, studios, resources, facilities and personnel for support of this course are available.

[Signature] _____ MATH 10/16/09
 Signature of Department Chairperson Department Date

(OVER)

Faculty (Check one) SNSS School of Natural and Social Sciences
 SOE School of Education
 SAH School of Arts and Humanities
 SOP School of Professions

DEAN'S ACTION

Approved with confirmation that all necessary laboratories, studios, resources, facilities and qualified faculty for support of this course are available.

10/26/09 _____
Date Signature of Dean (both Dean's if cross-listing)

COURSE PACKET INCLUDES:

- Electronic proposal form
- Attached electronic document with explanations of contingencies as stipulated at Dean's level
- One hard copy of proposal with attached contingencies and routing sheet with all appropriate signatures (copy of routing sheet in packet sent to Academic Affairs)
- For all revisions, one hard copy of current course should be submitted (e-copy is preferable when available)

COLLEGE SENATE ACTION

1. Received, logged and electronic packet and hard copies forwarded to the College Senate Office. Program title to be published in the *College Bulletin*.

10/27/09 _____ 091018
Date Signature of College Senate Office Log Number

2. Action for Intellectual Foundations' Designation

_____ Recommend approval _____
Signature of Assistant Dean, Intellectual Foundations

_____ Recommend disapproval _____
Signature of Assistant Dean, Intellectual Foundations

3. Action of the College Senate Curriculum Committee

X _____ Recommend approval and forward to College Senate
11/17/2009 _____
Date Signature of Chair, College Senate Curriculum Committee

_____ Recommend disapproval and return to Department _____
Date Signature of Chair, College Senate Curriculum Committee

ACTION OF THE OFFICE OF ACADEMIC AFFAIRS

Approved and forwarded to President _____ 11/19/09
Signature Date

Disapproved and returned to Department _____
Signature Date

Prefix, Number and Name of Course: PSM 611 Discrete Foundations of Applied Mathematics From a Problem Solving Perspective

Credit Hours: 1

In Class Instructional Hours: 1 **Labs:** 0 **Studio:** 0 **Field Work:** 0

Catalog Description:

Prerequisite: Admission to program or instructor permission

Problem solving and applications of discrete mathematics, including combinatorics, graph theory, logic, linear algebra, number theory and set theory. Emphasis on team building and group management through problem solving activities.

Reasons for Addition:

To create a one-semester-hour core module for the graduate Professional Applied and Computational Mathematics program where students will be actively engaged in problem solving in discrete mathematics.

Student Learning Outcomes: Students will	Course Content References:	Assessment:
1. integrate and synthesize principles from abstract and linear algebra and apply them to solve problems in discrete mathematics in the setting of real life situations.	I, II, III, IV	Group work in class, individual homework assignments, examinations, and projects.
2. integrate and synthesize principles from graph theory, combinatorics, and number theory and apply them to solve problems in discrete mathematics in the setting of real life situations.	I, II, III, IV	Group work in class, individual homework assignments, examinations, and projects.
3. integrate and synthesize principles from logic and set theory and apply them to solve problems in discrete mathematics in the setting of real life situations.	I, II, III, IV	Group work in class, individual homework assignments, examinations, and projects.
4. communicate, both verbally and in writing, solutions to complex problems from discrete mathematics.	I, II, III, IV	Group work in class, individual homework assignments, examinations, and projects.

Periodicals:

College Mathematics Journal

Discrete Mathematics

Journal of Graph Theory

Mathematics Magazine

Notices of the American Mathematical Society

Siam Journal on Discrete Mathematics

The American Mathematical Monthly

Electronic and/or Audiovisual Resources:

Consortium for Mathematics and Its Applications, Inc. (COMAP), "COMAP, Learn with Us," www.comap.com.

COMAP, "MATHmodels, A New Resource to Make Math Modeling a Year Round Activity," <http://www.mathmodels.org/>.

COMAP, "Project Intermath," <http://www.comap.com/undergraduate/projects/intermath/>.

COMAP, "UMAP Tools for Teaching", collection of CD-ROMS available at <http://www.comap.com/product/cdrom/>.

Numerical Recipes Software, "Numerical Recipes: The Art of Scientific Computing, (Third Edition)," www.nr.com.

Sullivan, S.J., "Scientific Computing and Numerical Analysis FAQ," <http://mathcom.com/corpdir/techinfo.mdir/index.html>.

Smith, S.W., "The Scientist and Engineer's Guide to Digital Signal Processing," <http://www.dspguide.com/pdfbook.html>.