Syllabus for Math 116:  
Combinatorics  
Spring 2005

**Instructor:** Jon McCammond  
**Office hours:** T 1:00-1:50, Th 12:00-1:50 or by appointment in South Hall 6711  
**Phone number:** 893-2060 (no answering machine)  
**E-mail:** jon.mccammond@math.ucsb.edu  
**My Home Page:** http://www.math.ucsb.edu/~jon.mccammond/  
**Course Home Page:**  
http://www.math.ucsb.edu/~jon.mccammond/courses/spring05/116/

**Text:** Concrete Mathematics: a foundation for computer science (2nd edition), by R. Graham, D. Knuth, and O. Patashnik, published by Addison-Wesley.

**Course description:** Elementary counting principles, binomial coefficients, generating functions, recurrence relations, the principle of inclusion and exclusion, distributions and partitions, systems of distinct representatives, applications to computation.

**Grading:** The plan is to cover selected topics throughout the book at a depth which will vary according to the interests and ability of the class as a whole. Extensive homework assignments will be given and these will be the basis for essentially one-third of your final grade. Because the audience for this particular course is extremely varied with everyone from sophomore to graduate students currently enrolled, I plan on assigning homework exercises at various levels of difficulty so that the more advanced students will have challenging problems to work on. The other two-thirds of the course grade will be determined by a midterm and a final exam. The weights of each of these are as follows.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>30%</td>
</tr>
<tr>
<td>Midterm</td>
<td>30%</td>
</tr>
<tr>
<td>Final</td>
<td>30%</td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
</tr>
</tbody>
</table>

The midterm will test the material covered during the first half of the course; the final exam will test the second half.

**Make-ups:** Make-ups for exams and quizzes will only be given with documented University-approved excuses (see University Regulations).

**ADA:** Students with disabilities can get assistance from the Office of Services for Students with Disabilities (845-1637). I'm happy to work with them and you.

**Copyright Information:** Please note that all written and web materials for this course have an implied copyright. In particular, you can xerox (or download) for your own use, but you may not reproduce them for others.