

## **MA2214 Combinatorial Analysis 2010/2011 Semester 2**

### **Lecture Hours and Lecturers:**

- Tue/Fri, 4 to 6pm, LT22
- Lecturer: Toh Pee Choon
- mattpc@nus.edu.sg

### **Assessment:**

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|-------------------------|--|
| • Final examination     | 60% - 28 <sup>th</sup> April, Evening            |
| • Test 1                | 15% - 15 <sup>th</sup> Feb, 4pm (Lecture hour)   |
| • Test 2                | 15% - 22 <sup>nd</sup> March, 4pm (Lecture hour) |
| • Continuous Assessment | 10%  |

### **Aims and Syllabus:**

The main objective of this module is to teach students some interesting and useful principles and techniques of counting, so that they can be more creative and innovative in solving real life problems, especially in computer science and operations research. This module covers the topics on permutations and combinations, binomial coefficients and multinomial coefficients, the pigeonhole principle, the principle of inclusion and exclusion, ordinary and exponential generating functions, recurrence relations.

### **Lectures:**

- Lecture slides will be made available in IVLE workbin
- There will be no webcast

### **Tutorials:**

- Attendance will count towards continuous assessment
- Students are to attempt problems before coming to class
- Students will be selected at random to present problems
- Solutions to problems will not be distributed
- Please participate in the IVLE survey to indicate which slots are available to you

### **Text Book:**

Introduction to Enumerative Combinatorics by Miklos Bona

### **Tests (30%):**

- Tests will be held during lecture hours at LT22
- Absentees without official excuse will be given 0 marks
- Bring matriculation card for identification
- You may use pencil to answer the questions
- No helpsheet allowed
- No restriction on calculators
- Handheld computers laptops, mobile phones are not allowed
- Coverage for Test 1: Sections 1 to 4. Tutorials 1 to 3 excluding the last challenging problem involving linear algebra.

**Continuous Assessment (10%):**

Consists of three components

- 1) Attendance and attitude in class
- 2) Tutorial presentation
- 3) Homework

**Final (60%):**

- Bring matriculation card for identification
- No helpsheet allowed
- No restriction on calculators
- Handheld computers laptops, mobile phones are not allowed

**Consultation:**

- Students are welcome to make appointments with me
- Mathematical discussion through email is discouraged because it is not as effective as face to face discussion
- Students can choose to participate in the discussion forum