MATH 26
(Analytic Geometry and Calculus I)

First Semester 2007-2008
Institute of Mathematical Sciences and Physics
University of the Philippines Los Baños

Analytic Geometry

- Prior to 1700, algebra and geometry were studied as separate, unconnected fields.
- **Rene Descartes** and **Pierre de Fermat** developed the use of algebraic operations and equations to solve geometric problems.
- Thus is born the field of ANALYTIC GEOMETRY.

Calculus

- Calculus is the study of change and motion.
- Sir Isaac Newton and Gottfried Wilhelm von Leibniz were credited with the development of calculus.
- The two basic processes of calculus are differentiation and integration.
- Differentiation gives the instantaneous rate of change of a varying quantity, while integration measures the total effect of continuous change.

Course Description and Prerequisite

- Description:
  - Equations of lines, second-degree equations; limits and continuity; derivatives of algebraic functions and its applications; integrals and its applications.
- Prerequisite:
  - MATH 17 (Algebra and Trigonometry) or MATH 14 (Plane Trigonometry)

Course Goals

- Upon completion of the course, you should be able to understand the basic concepts of:
  - analytic geometry,
  - differentiation and integration of algebraic functions and
  - their applications.

Course Outline

- Analytic Geometry and the Conic Sections
- Limits and Continuity
- The Derivative and Differentiation
- Application of the Derivatives
- Antidifferentiation and the Definite Integral

Grading Scheme

- Midterm Exam 30%
  (13 August 2007)
- Pre-Final Exam 30%
  (3 October 2007)
- Exercises/Quizzes/Assignments 30%
- Attendance 10%
  (10 pts – 1 pt for every absence
  – ½ pt for every tardiness)

Policy on Missed Exam

- No makeup shall be given for missed Midterm or Pre-Final Exam.
- If absence is excused, the Final Exam shall replace the missed exam.
- If absence is unexcused, student gets a score of zero (0) for the missed exam.

Grading Policy

- Exemption:
  - Pre-Final Standing of at least 70.
- Final Grade Computation:
  - Pre-Final Standing 70%
  - Final Exam Score 30%
- Standard Commutation Table for Math
  - Passing 60
  - Conditional 55 – 59
  - Failed 0 – 54

Course Materials

- Required Text:
  - Cuaresma, GA, et. al. (2004).

    Math 26 Worktext.

    (P245 at the MB photocopy center or at any branch of the National Book Store)

Other References

- Leithold, L. The Calculus with Analytic Geometry.
- Leithold, L. TC7
- Thomas Jr., G and Finney, R. Calculus and Analytic Geometry
- Protter and Murray, Calculus with Analytic Geometry
- Purcell, Calculus with Analytic Geometry
- Peterson, Calculus with Analytic Geometry

House Rules

- You are required to **wear** your ID every time you come to class. Those with no ID would be marked absent. No valid ID, no exam.
- Any form of cheating (during exams and quizzes) will be dealt with accordingly.
- In case of absence, present a valid excuse slip immediately upon your return; otherwise, your absence will be considered unexcused. The University rule on absence shall be strictly followed.

About the Lecturer

- Prof. Genaro A. Cuaresma
  - Room 210, Math Building
  - Email: geneimsp@yahoo.com
- Course Website: *:*
  http://www.geocities.com/geneimsp/
- Math Clinic (MB 210)