Queen Mary
University of London

MTH4100	**Calculus 1**
Course Information	**Fall 2008**

Lecturer (teaching, exercise classes): Dr. Rainer Klages   **E-mail:** r.klages@qmul.ac.uk
Office: Maths B12   **Office Hours:** Tuesday 10.30-11.30, Friday 14.30-15.30

Course Administrator (computational issues): Dr. Kevin Beurle   **E-mail:** K.Beurle@qmul.ac.uk
Office: Maths 407   **Office Hours:** Tuesday 13.30-14.30, Thursday 11.00-12.00

Lectures:	Tuesday	9.00-10.00	Mason Lecture Theatre
	Friday	13.00-14.00	Mason Lecture Theatre
	Friday	16.00-17.00	Mason Lecture Theatre

Exercise Classes:	Wednesday	10.00-11.00	rooms: to be determined
	Wednesday	11.00-12.00	

Each student will be allocated to a specific exercise class. This allocation as well as a list of rooms where the exercise classes take place will soon be available on a separate exercise class sheet, see also the course webpage and noticeboards.

> The first exercise class will take place on Wednesday, October 1st!

For all students it is *compulsory* to attend the exercise classes. Please note that the exam will be closely related not only to lectures and online coursework but also to material covered exclusively in the exercise classes. Attendance registers will be taken on a random basis. We will terminate college registration of students who fail to submit coursework and do not attend exercise classes.

Coursework: In addition to attending the exercise classes, you will have to do coursework online on your MyMathLab account. Exercises and Coursework will be available on your account by Wednesday of week n, $n \in \mathbb{N}$. Please login and register at `http://www.coursecompass.com`. Work can be entered into MyMathLab until Midnight on Thursday of week $n + 1$. Marks will be available on MyMathLab.

> The first coursework is due on Thursday, October 2nd!

Test/Revision week: Week 7 will be used for revision lectures/tutorials and tests. Calculators may NOT be used in the in-course tests or in the final examination.

Assessment and Examination: Total credit for this course will be based on the following components:
80% final examination (May 2009) +10% for coursework + 10% for in-course test.

Further Course Information: Please check out the course webpage on

`www.maths.qmul.ac.uk/~klages/MTH4100`

Lecture Notes: The material that will be discussed during the lectures presents a subset of the material available in your course textbook. Lecture notes will be available on the course webpage after the lectures. Note that these notes are no replacement for attending the lectures!

Literature: MAS115 Calculus I and MAS125 Calculus II follow *Thomas' Calculus, 11th international edition, media upgrade.* They make use of the interactive website CourseCompass powering MyMathLab, which is tied up to the book. Book and access code to the maths website are sold at a discounted rate of 30£ in the Campus Book Shop.

Abbreviated Syllabus

1. Real numbers and the real line. Manipulation of algebraic equations and inequalities involving the square root. Manipulation of trigonometric identities.

2. Functions and their graphs. Composition of functions and functional inverse. Inverse trigonomertic and hyperbolic functions.

3. Limits and continuity.

4. Differentiation: derivatives and basic rules of differentiation, technical dexterity of finding derivatives to be checked using test assessment.

5. Application of derivitatives: graph sketching, extreme values, monotone functions, indeterminate forms and L'Hôpital's Rule.

6. The indefinite integral and basic rules of integration.

7. The definite integral and fundamental theorem of calculus.

8. Polar coordinates.