



جامعة الملك فهد للبترول والمعادن
King Fahd University of Petroleum & Minerals

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

DEPARTMENT OF MATHEMATICS & STATISTICS

DHAHRAN, 31261, Kingdom of Saudi Arabia

AS 201: Financial Mathematics

Term 151 – fall 2015

Instructor: Mr. Moenes Mellouli, MA MS

Office: Building – 5, Room – 320 **Phone:** 7630 **E-mail:** mmellouli@kfupm.edu.sa

Office Hours: Sunday, Tuesday and Thursday: **10:00 – 12:00** or by appointment.

Class meeting Days: UTR 8:00 am – 8:50 am. Building – 59, Room - 2002

For regular announcements, students are advised to check the **Blackboard** regularly.

Course Descriptions:

The course concentrates on the theory of compound interest and the mathematics of investment and credit; however, life contingencies are also introduced toward the end of the semester. Major topics include the measurement of interest, annuities certain (level, non-level, and continuous), amortization schedules, sinking funds, investment yield rates, and valuation of bonds and other securities. A basic knowledge of calculus and probability is assumed. Methods of loan measurement and payments (Islamic and Conventional) are illustrated in amortization and sinking fund schedules. Islamic views on interest and investments will be discussed. This course is intended for Actuarial Science and Financial Mathematics majors' students, who are studying for the professional exam on (FM) given by the Society of Actuaries and the Casualty Actuarial Society.

Credit: (3 – 0 – 3).

Prerequisite: Math 102

Textbook & Package:

- 1- Mathematics of Investment and Credit, 5th edition, by Broverman, S.A., ACTEX Publications Inc. (2010).
 - 2- McDonald, R.L., Derivatives Markets (Third Edition), 2013, Pearson
 - 3- Texas BAII plus calculator or Texas BAII professional or check for other SOA approved calculators
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Learning Objectives:

<https://www.soa.org/education/exam-req/edu-exam-fm-detail.aspx>

Activity Schedule:

Assessment for this course is based on a **set of homework assignments**, **two major exams** and a **comprehensive final exam**, as described in the following table:

Activity
Homework assignments
Major Exam I Date: Monday, October 19, 2015 Time: from 06:00 - 8:00 pm Location: Building 59-2002
Major Exam II Date: Wednesday, November 25, 2015 Time: from 06:00 - 8:00 pm Location: Building 59-2002
Final Exam (Comprehensive) Date: Saturday, December 26, 2015 Time: from 08:00 – 11:00 am Location: TBA

Attendance, cell phone use & other penalties:

- ✓ **Attendance** on time is *very* important. A 1% will be deducted from your final grade if you enter the class when the door is closed. **No excuses will be accepted.**
- ✓ **Notebook & pen/pencil** are mandatory. A 1% will be deducted from your final grade if you enter the class without your Financial Mathematics notebook and something to write with. **No excuses will be accepted**
- ✓ **Full attention in class** - A 1% will be deducted from your final grade if you are seen using your cellphone for texting or surfing the web. **No excuses will be accepted.**
- ✓ In accordance with the University rules, "a grade of **DN** in a course is given if the student's unexcused absences are more than 20% of the lecture and laboratories sessions scheduled for the course". Therefore, students who accumulate **9, or more, unexcused absences** will receive a **DN** grade.

Letter Grades:

Letter grade	A+	A	B+	B	C+	C	D+	D	F	DN
Cut-off	90%	85%	80%	75%	67%	60%	55%	50%	<50%	≥ 9 absences

Exam Questions:

- ❖ The questions of major exams are based on the in class examples, at home practice examples & graded homework problems.

Missing Exam I or Exam II or Exam III:

- No makeup exam will be given under any circumstance. When a student misses Exam I or Exam II or Exam III for a legitimate reason (such as medical emergencies), his grade for this exam will be determined based on the existing formula, which depends on his performance in the non-missed exams and in the final exam. It is to the professor's discretion whether to accept or refuse the student's excuse for missing an exam.

General class information:

- Students are required to carry a pen/pencil, notebook and a SOA approved calculator to EVERY lecture.
- Students are required to carry a pen/pencil, a sharpener, and eraser and a SOA approved calculator to every exam.
- Homework is due as per the HW guidelines. No late homework will be accepted, regardless of the excuse.

General SOA FM exam information:

- To successfully prepare for the SOA FM exam, students MUST solve problems regularly. The selected assigned problems are specifically designed to prepare you for major and final exams and the SOA FM exam. So, it is expected that you complete these problems step-by-step and with comprehension.
- The SOA FM examination is a three-hour multiple-choice examination.

Academic Integrity: All KFUPM policies regarding **ethics** and **academic honesty** apply to this course.