FINANCIAL ENGINEERING

- **Course code**
  8163
- **Type of course (compulsory, optional)**
  Compulsory for the “Operations Research & Management Science” stream
- **Level of course** (e.g. first, second or third cycle; sub-level if applicable)
  N/A
- **Year of study**
  2013-2014
- **Semester**
  7th semester
- **Number of credits allocated**
  6 ECTS Credits
- **Name of lecturer**
  To be announced
- **Learning outcomes**
  Financial Engineering provides the means of implementing financial innovation through the use of financial instruments like forwards, futures, swaps and options. Usual applications include the restructuring of corporate or investor cash flows in order to achieve tactical and strategic targets, with particular emphasis on risk management. Financial Engineering is at the forefront of innovation and development in financial markets, granting private investors, corporations and institutions almost complete flexibility in transforming existing cashflows into new cashflows with different quantitative and qualitative characteristics. This course aims to provide the tools, methodologies and skills necessary in order to understand, implement and innovate in this very active environment. Real case studies will be presented, demonstrating practical applications of the taught material.
- **Mode of delivery (face-to-face, distance learning)**
  Face-to face teaching, case study discussion
- **Prerequisites and co-requisites**
  N.A.
- **Recommended optional programme components**
  N.A.
- **Course contents**

The course material includes the following thematic areas:

- *Financial Engineering Mathematics*
- *Forwards & Futures*
- *Options*
- *Swaps, Caps & Collars*
- *Risk Management*

- **Recommended or required reading**

  📖 Αγγελόπουλος, Παναγιώτης Χρ. (2005), Εισαγωγή στα παράγωγα χρηματοοικονομικά προϊόντα (financial derivatives) (Β' Έκδοση)

  📖 ΝΙΚΟΛΑΟΣ ΜΥΛΩΝΑΣ (2005), ΑΓΟΡΕΣ ΚΑΙ ΠΡΟΪΟΝΤΑ ΠΑΡΑΓΩΓΩΝ

  📖 Hull, John C. (2003) Options, futures, and other derivatives (5th Ed.), Prentice Hall

- **Planned learning activities and teaching methods**

  Teaching will include lectures and tutorial lessons.

- **Assessment methods assessment methods and criteria**

  Final written exam (100%)

  Students must achieve >= 5 grade in written exam

  Class participation is also evaluated.

- **Language of instruction**

  Greek

- **Work placement(s)**

  N.A.