

**Mining, Petroleum and Metallurgical Engineering Department**

**Cairo University  
Faculty of Engineering**

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| **Course Specifications** | | | | | | | | | | | | | | | | |
| **Program(s) on which this course is given:** | | | | | B.Sc. in Metallurgical Engineering | | | | | | | | | | | |
| **Department offering the program:** | | | | | Mining, Petroleum and Metallurgical Engineering Department | | | | | | | | | | | |
| **Department offering the course:** | | | | | Mining, Petroleum and Metallurgical Engineering Department | | | | | | | | | | | |
| **Academic Level:** | | | | | Undergraduate Level, 4th Year Metallurgical Engineering | | | | | | | | | | | |
| **Date** | | | | | December 1st, 2014 | | | | | | | | | | | |
| **Semester (based on final exam timing)** | | | | | 🗹 Fall 🞎 Spring | | | | | | | | | | | |
| **A- Basic Information** | | | | | | | | | | | | | | | | |
| **1. Title:** | Economics and Organization of Metallurgical Industries | | | | | | | | | | | **Code:** | | GEN 401 | | |
| **2. Units/Credit hours per week:** | Lectures | | | | | 3 | | | Tutorial | | 1 | Practical | | 0 | Total | 4 |
| **B- Professional Information** | | | | | | | | | | | | | | | | |
| **1. Course description:** | | | | | | | | | | | | | | | | |
| **2. Intended Learning Outcomes of Course (ILOs):** | | | **Knowledge and Understanding** | | | | | | | | | | | | | |
| 1 | Concepts and theories of mathematics and sciences, appropriate to the discipline. | | | | | | | | | | | | |
| **Intellectual Skills** | | | | | | | | | | | | | |
| 2 | Combine, exchange, and assess different ideas, views, and knowledge from a range of sources in topics related to material processing, manufacturing, development and selection. | | | | | | | | | | | | |
| 3 | Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact. | | | | | | | | | | | | |
| **Professional and Practical Skills** | | | | | | | | | | | | | |
| 4 | Professionally merge the engineering knowledge, understanding, and feedback to improve design, products and/or services. | | | | | | | | | | | | |
| **General and Transferrable Skills** | | | | | | | | | | | | | |
| 5 | Communicate effectively. | | | | | | | | | | | | |
| 6 | Search for information and engage in life-long self learning discipline. | | | | | | | | | | | | |
| **3. Contents** | | | | | | | | | | | | | | | | |
| **Topic** | | | | | | | **Total hours** | | | **Lectures hours** | | | **Tutorial/ Practical hours** | | | |
| Equivalence and Single Payment Formulae | | | | | | | 2 | | | 1.5 | | |  | | | |
| Other Interest Formulae | | | | | | | 2 | | | 1.5 | | | 1 | | | |
| Present Worth Analysis | | | | | | | 4 | | | 3 | | | 1 | | | |
| Annual Cash Flow Analysis | | | | | | | 2 | | | 1.5 | | | 1 | | | |
| Rate of Return Analysis | | | | | | | 4 | | | 3 | | | 1 | | | |
| Incremental Analysis | | | | | | | 2 | | | 1.5 | | | 1 | | | |
| Other Analysis Techniques | | | | | | | 4 | | | 3 | | | 1 | | | |
| Depreciation | | | | | | | 4 | | | 3 | | | 1 | | | |
| Income Tax | | | | | | | 4 | | | 3 | | | 1 | | | |
| **4. Teaching and Learning Methods** | | | | | | | Lectures (✓) | | | Practical Training/ Laboratory ( ) | | | Seminar/Workshop ( ) | | | |
| Class Activity (✓) | | | Case Study (✓) | | | Projects () | | | |
| E-learning () | | | Assignments /Homework (✓) | | | Other: Oral presentation () | | | |
| **5. Student Assessment Methods** | | | | | | | | | | | | | | | | |
| * **Assessment Schedule** | | | | | | | | **Week** | | | | | | | | |
| -Assessments; Sheets 1–5 | | | | | | | | 2,4,6,8,10,12,14 | | | | | | | | |
| -Assignment; Quiz | | | | | | | | 11 | | | | | | | | |
| -Assessment; Midterm Exam | | | | | | | | 7 | | | | | | | | |
| -Assessment; Final Exam | | | | | | | | 15 or 16 | | | | | | | | |
| * **Weighting of Assessments** | | | | | | | | | | | | | | | | |
| -Mid-Term Examination | | | | | | | | 20% | | | | | | | | |
| -Final-term Examination | | | | | | | | 70% | | | | | | | | |
| -Project | | | | | | | | 0% | | | | | | | | |
| -Class Test | | | | | | | | 10% | | | | | | | | |
| -Presentation | | | | | | | | 0% | | | | | | | | |
| -Total | | | | | | | | 100% | | | | | | | | |
| **6. List of References** | | | | | | | | | | | | | | | | |
| [1] D.J. Newnan, T.G. Eschenbach, J.P. Lavelle, Engineering Economic Analysis, 9th Edition, Oxford University Press, ISBN 0-19-516807-0. | | | | | | | | | | | | | | | | |
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| **7. Facilities Required for Teaching and Learning** | | | | | | | | | | | | | | | | |
| * Lecture hall equipped with microphone, computer, beamer and white board. * Means of File sharing and remote communications with the students. | | | | | | | | | | | | | | | | |
| **Course Coordinator:** | | **Dr. Mahmoud Mohamed Talaat** | | | | | | | | | | | | | | |
| **Head of Department:** | | **Prof. Dr. El-Sayed M. El-Banna** | | | | | | | | | | | | | | |