

**Department Mining, Petroleum, and Metallurgical Engineering**

**Cairo University
Faculty of Engineering**

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| **Course Specifications** |
| **Program(s) on which this course is given:** | Metallurgical Engineering |
| **Department offering the program:** | Mining, Petroleum and Metallurgical Engineering |
| **Department offering the course:** | Mining, Petroleum and Metallurgical Engineering |
| **Academic Level:** |  3 rd year |
| **Date**  | 2014 |
| **Semester (based on final exam timing)** |  Fall Spring |
| **A- Basic Information** |
| **1. Title:** | Development of Industry | **Code:** | GEN 301  |
| **2. Units/Credit hours per week:**  | Lectures | 2 | Tutorial | 0 | Practical | 0 | Total | 2 |
| **B- Professional Information** |
| **1. Course description:** | Overall View of human activities in metal industry over the history of man Kind .  |
| **2. Intended Learning Outcomes of Course (ILOs):** | **a) Knowledge and Understanding** |
| 1. Extraction, purification and processing of metals and alloys. |
| 2. Current engineering technologies and contemporary topics related to metallurgical engineering. |
| **b) Intellectual Skills** |
| 3. Think in a creative and innovative way in problem solving and design considering quality assurance systems, codes of practice and standards, health and safety. |
| 4. Combine, exchange, and assess different ideas, views, knowledge from a range of sources in topics related to material processing, manufacturing development selection. |
| 5. Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact. |
| **c) Professional and Practical Skills** |
| 6. Prepare and present technical reports observing ethical aspects and using proper referencing and citation. |
| **d) General and Transferable Skills** |
| 7. Collaborate effectively within multidisciplinary team in stressful environment and within constraints and effectively manage tasks, time, and resources. |
| 8. Search for information and engage in life-long self learning discipline. |
| **3. Contents** |
| **Topic** | **Total hours** | **Lectures hours** | **Tutorial/ Practical hours** |
|  Bronze | 3 |  |  |
|  Iron | 3 |  |  |
| Middle ages | 3 |  |  |
|  Modern | 6 |  |  |
| Steel | 4 |  |  |
| Alloys | 4 |  |  |
| **4. Teaching and Learning Methods** | Lectures (🗸)  | Practical Training/ Laboratory ( )  | Seminar/Workshop ( )  |
| Class Activity ( )  | Case Study ( )  | Projects ( )  |
| E-learning ( )  | Assignments /Homework ( )  | Other: - Report* Internet search
 |
| **5. Student Assessment Methods** |
| * **.Assessment Schedule**
 | **Week** |
| -Assessment 1; Class test  |  |
| -Assessment 2; Project Assignment  |  |
| -Assessment 3; Presentations  |  |
| -Assessment 3; Midterm Exam |  |
| -Assessment 4; Final Exam |  |
| * **Weighting of Assessments**
 |
| -Mid-Term Examination | 20 % |
| -Final-term Examination  | 70 % |
| -Project |  |
| -Class Test |  |
| -Presentation |  |
| -Total | 100 % |
| **6. List of References** |
| 6.1- Course Notes |
| 6.2- Essential Books (Text Books)  |
| A History of Metals |
| 6.3- Recommended Books |
| Islamic Technology  |
| A History of Civilization. |
| 6.4- Periodicals, Web Sites, … etc |
| Materials World |
| Archeometallurgy |
| **7. Facilities Required for Teaching and Learning** |
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| **Course Coordinator:** | Prof. Dr. Saad El- Raghy |
| **Head of Department:**  | Prof. Dr. E.M. Elbanna |

