

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

**Cairo University  
Faculty of Engineering**

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| **Course Specifications** | | | | | | | | | | | | | | | | | |
| **Program(s) on which this course is given:** | | | | | | | Mining & Petroleum & Metallurgical Engineering | | | | | | | | | | |
| **Department offering the program:** | | | | | | | Mining & Petroleum & Metallurgical Engineering | | | | | | | | | | |
| **Department offering the course:** | | | | | | | Mechanical Design & Production | | | | | | | | | | |
| **Academic Level:** | | | | | | | 1st Year Mining & Petroleum & Metallurgical (2nd Year in a five-year program) | | | | | | | | | | |
| **Date** | | | | | | | 2014 | | | | | | | | | | |
| **Semester (based on final exam timing)** | | | | | | | Fall Spring | | | | | | | | | | |
| **A- Basic Information** | | | | | | | | | | | | | | | | | |
| **1. Title:** | Machines Drawing | | | | | | | | | **Code:** | | | MDP120 | | | | |
| **2. Units/Credit hours per week:** | | Lectures | | | 1.5(3hrs) | | | Tutorial | | | 1.5(3hr) | Practical | | **-** | | Total | 3(6hr) |
| **B- Professional Information** | | | | | | | | | | | | | | | | | |
| **1. Course description:** | | | | This course is designed to give the student the ability to understand the mechanical elements, how to draw and how to use the mechanical elements in mechanical design and assembly drawing. | | | | | | | | | | | | | |
| **2. Intended Learning Outcomes of Course (ILOs):** | | | | **a) Knowledge and Understanding** | | | | | | | | | | | | | |
| 1- Basics of information and communication technology (ICT) | | | | | | | | | | | | | |
| 2- Principles of design including elements design, process and/or a system related to specific disciplines. | | | | | | | | | | | | | |
| 3- Current engineering technologies as related to disciplines. | | | | | | | | | | | | | |
| **b) Intellectual Skills** | | | | | | | | | | | | | |
| 4- Think in a creative and innovative way in problem solving and design. | | | | | | | | | | | | | |
| 5- Create systematic and methodic approaches when dealing with new and advancing technology. | | | | | | | | | | | | | |
| **c) Professional and Practical Skills** | | | | | | | | | | | | | |
| 6- Apply knowledge of information technology and design and engineering practice integrally to solve engineering problems. | | | | | | | | | | | | | |
| 7- Merge the engineering knowledge, understanding, and feedback to improve design, products and/or services. | | | | | | | | | | | | | |
| 8- Create and/or re-design a process, component or system, and carry out specialized engineering designs. | | | | | | | | | | | | | |
| 9- Exchange knowledge and skills with engineering community and industry. | | | | | | | | | | | | | |
| **d) General and Transferable Skills** | | | | | | | | | | | | | |
| 10- Collaborate effectively within multidisciplinary team. | | | | | | | | | | | | | |
| **3. Contents** | | | | | | | | | | | | | | | | | |
| **Topic** | | | | | | **Total hours** | | | **Lectures hours** | | | | | | **Tutorial/ Practical hours** | | |
| Screw threads | | | | | | 4 | | | 2 | | | | | | - | | |
| Nuts, bolts, screws and washers | | | | | | 4 | | | 2 | | | | | | - | | |
| Locking Devices | | | | | | 2 | | | 1 | | | | | | - | | |
| Keys and Keyways | | | | | | 2 | | | 1 | | | | | | - | | |
| Gears | | | | | | 4 | | | 2 | | | | | | - | | |
| Limits and Fits | | | | | | 4 | | | 2 | | | | | | - | | |
| Geometrical Tolerance | | | | | | 4 | | | 2 | | | | | | - | | |
| Springs | | | | | | 2 | | | 1 | | | | | | - | | |
| Welding and Welding Symbols | | | | | | 4 | | | 2 | | | | | | - | | |
| **4. Teaching and Learning Methods** | | | | | | Lectures (\*) | | | Practical Training/ Laboratory ( ) | | | | | | Seminar/Workshop ( ) | | |
| Class Activity (\* ) | | | Case Study ( ) | | | | | | Projects ( ) | | |
| E-learning ( ) | | | Assignments /Homework ( ) | | | | | | Other: | | |
| **5. Student Assessment Methods** | | | | | | | | | | | | | | | | | |
| * **Assessment Schedule** | | | | | | | | | **Week** | | | | | | | | |
| -Assessment 1; Class test | | | | | | | | | Every week | | | | | | | | |
| -Assessment 2; Project Assignment | | | | | | | | |  | | | | | | | | |
| -Assessment 3; Presentations | | | | | | | | |  | | | | | | | | |
| -Assessment 3; Midterm Exam | | | | | | | | | 10 | | | | | | | | |
| -Assessment 4; Final Exam | | | | | | | | | End of term | | | | | | | | |
| * **Weighting of Assessments** | | | | | | | | | | | | | | | | | |
| -Mid-Term Examination | | | | | | | | |  | | | | | | | | |
| -Final-term Examination | | | | | | | | | 60% | | | | | | | | |
| -Project | | | | | | | | |  | | | | | | | | |
| -Class Test | | | | | | | | | 40% | | | | | | | | |
| -Presentation | | | | | | | | |  | | | | | | | | |
| -Total | | | | | | | | | 100% | | | | | | | | |
| **6. List of References** | | | | | | | | | | | | | | | | | |
| Course Notes | | | | | | | | | | | | | | | | | |
| Essential Books (Text Books) | | | | | | | | | | | | | | | | | |
| Recommended Books | | | | | | | | | | | | | | | | | |
| Periodicals, Web Sites, … etc | | | | | | | | | | | | | | | | | |
| **7. Facilities Required for Teaching and Learning** | | | | | | | | | | | | | | | | | |
| Data Show, Video films, Smart board connected to internet | | | | | | | | | | | | | | | | | |
| **Course Coordinator:** | | | Prof. Dr. | | | | | | | | | | | | | | |
| **Head of Department:** | | | Prof. Dr. E.M.Elbana | | | | | | | | | | | | | | |

