**TEMPLATE FOR COURSE SPECIFICATION**

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

Course Instructor : Lecturer. Farah Emad Niamat

**COURSE SPECIFICATION**

Learning and practicing the students with the fundamentals and applications of the mechanical engineering drawing.

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| 1. Teaching Institution | University of Baghdad/ College of Engineering |
| 2. University Department/Centre | Environmental Engineering Department |
| 3. Course title/code | Mechanical Engineering Drawing |
| 4. Modes of Attendance offered | 1 day/week:  application in college. |
| 5. Semester/Year | Year |
| 6. Number of hours tuition (total) | 90 hr |
| 7. Date of production/revision of this  Specification | 2021 |
| 8. Aims of the Course | |
| 1. Understanding the importance of engineering drawing. | |
| 1. Understanding the applications of engineering drawing. | |
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9· Learning Outcomes, Teaching ,Learning and Assessment Method

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| A- Cognitive goals .   |  | | --- | | A1. After completion of the course students should be able to identify any view and promptly convert it to an isometric shape. | | A2. Analysis of different shapes to separate views and/or sections. |   A3. Attract and welcome undergraduate students to our Bachelor of Science program in engineering, and to graduate B.S. students who are innovative problem solvers, who become leaders in their organizations, and who possess the knowledge and skills required for a wide range of careers and career changes. |
| B. The skills goals special to the course.   |  | | --- | | B1.Understand the importance of precision and accuracy in drawing as well as in mathematical calculations. | | B2.Have the patience and not work in haste to get the best results  and resource recovery/recycling, transport. |   B3. Practice is the best way for better results. |
| Teaching and Learning Methods |
| Using different references, online learning along with practical work in studio. |
| Assessment methods |
| Homework and classwork along with multiple exams |
| C. Affective and value goals   |  | | --- | | C1. Have a better perspective as an engineer | | C2. Ability to understand application drawing programs  C3.Prepare students for successful careers in environmental engineering |   . |
| Teaching and Learning Methods |
| Hand drawing with basic engineering tools. |
| Assessment methods |
| Weekly drawings |

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

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| D1. Become more effective, independent and confident self-directed learners |
| D2. Improve their general skills for study and career management  D3. Articulate personal goals and evaluate progress towards their achievement  D4.An ability to identify, formulate, and solve engineering problems |

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| 10. Course Structure | | | | | |
| Week | Hour | ILOs | Unit/Module or  Topic Title | Teaching  Method | Assessment  Method |
| 1 | 3 | **Engineering instruments and kinds of lines** | General definition of engineering drawing. | Practical (in college)  &  electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 2 | 3 | **Engineering instruments** | Use of different engineering instruments | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 3 | 3 | **Lettering** | proper writing of letters and numbers | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 4 | 3 | **Engineering operations** | Calculation and Applications of different engineering operations | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 5 | 3 | **Engineering operations** | Calculation and Applications of different engineering operations | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 6 | 3 | **Engineering operations** | Calculation and Applications of different engineering operations | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 7 | 3 | **Ellipse** | Calculation and Applications of ellipse as a whole and within a drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 8 | 3 | **Ellipse** | Calculation and Applications of ellipse as a whole and within a drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 9 | 3 | **Ellipse** | Calculation and Applications of ellipse as a whole and within a drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 10 | 3 | **Ellipse** | Calculation and Applications of ellipse as a whole and within a drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 11 | 3 | **Dimensions** | putting dimensions on different drawings | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 12 | 3 | **Dimensions** | putting dimensions on different drawings | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 13 | 3 | **Projections** | Project different views from a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 14 | 3 | **Projections** | Project different views from a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 15 | 3 | **Projections** | Project different views from a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam. |
| 16 | 3 | **Projections** | Project different views from a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 17 | 3 | **Projections** | Project different views from a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 18 | 3 | **Projections** | Project different views from a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 19 | 3 | **Sections** | Project a section from a view or a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 20 | 3 | **Sections** | Project a section from a view or a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 21 | 3 | **Sections** | Project a section from a view or a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 22 | 3 | **Sections** | Project a section from a view or a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 23 | 3 | **Sections** | Project a section from a view or a 3-dimensional drawing | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 24 | 3 | **Isometric projection** | Draw a 3-dimensional shape from 2 separate views | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 25 | 3 | **Isometric projection** | Draw a 3-dimensional shape from 2 separate views | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 26 | 3 | **Isometric projection** | Draw a 3-dimensional shape from 2 separate views | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 27 | 3 | **Isometric projection** | Draw a 3-dimensional shape from 2 separate views | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 28 | 3 | **Isometric projection** | Draw a 3-dimensional shape from 2 separate views | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 29 | 3 | **Isometric projection** | Draw a 3-dimensional shape from 2 separate views | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |
| 30 | 3 | **Missing views** | Draw the missing view of a 2- view object | Practical (in college) & electronic. | Questions during the lectures, weekly homework and classwork submission ,quiz, exam |

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| 11. Infrastructure | |
| 1. Books Required reading: | ”Engineering Drawing for the 1st year By R.B.Gupta” |
| 2. Main references (sources) | French,”Engineering Drawing” |
| A- Recommended books and references (scientific journals, reports…). | Textbook of Engineering Drawing by K. Venkata Reddy |
| B-Electronic references, Internet  sites… | <http://www.jaist.ac.jp/nmcenter/mshop/mshp/pdf/MDWfull_E.pdf>  <https://doc.lagout.org/science/0_Computer%20Science/9_Others/Textbook%20of%20Engineering%20Drawing.pdf>  <https://bharatskills.gov.in/pdf/E_books/Engineering_Drawing_1st_Sem_Final.pdf> |

12. The development of the curriculum plan

The development could concentrate on more applications by using professional computer programs.