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| Sub. | Course Description – توصيف مقرر دراسي | الموضوع |  <b>كليات المعرفة</b><br>ALMAAREFA COLLEGES |
| Date |                                       | التاريخ |  |

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|------------------|-------------------------|--|----------------------|
| Course Code & No | IE412                   |  | رقم المقرر ورمزه     |
| Course Name      | Maintenance Engineering |  | اسم المقرر           |
| Credit Hours     | 3 (3+1+1)               |  | عدد الساعات المعتمدة |
| Pre-requisite    | IE-312                  |  | المتطلب السابق       |

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| <b>General Description</b>  | توصيف عام |
| Maintenance workload analysis and calculations; Capacity planning of maintenance resources; Maintenance works scheduling; Maintenance audit and the measurement of maintenance works performance; Computerized maintenance management systems (CMMS). |           |

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| <b>Course Objectives</b>   | أهداف المقرر |
| <p>The course aims to provide the knowledge and skills to design and evaluate maintenance of systems, and explore the interaction of the maintenance function with plant operations such as planning, estimating, scheduling, and supervising and report aspects.</p> <p><b>By the end of the course, each student should be able to</b></p> <ul style="list-style-type: none"> <li>• Design and evaluate maintenance of systems,</li> <li>• Design systems for better maintainability,</li> <li>• Plan maintenance schedule activities, workloads and resourcing,</li> <li>• Perform maintenance performance measures,</li> <li>• Understand computerized maintenance systems.</li> </ul> |              |

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| Course Outlines   | مفردات المقرر |
|---|---------------|
| <ul style="list-style-type: none"> <li>• Maintenance function and objectives</li> <li>• Types of maintenance</li> <li>• Systems Maintainability</li> <li>• Maintenance workload analysis</li> <li>• Maintenance resources planning</li> <li>• Maintenance works scheduling</li> <li>• Maintenance performance measures</li> <li>• Computerized maintenance management systems (CMMS) (MAXIMO Software)</li> </ul> |               |

| References  | المراجع |
|---|---------|
| <p><b>Required Textbooks</b></p> <ul style="list-style-type: none"> <li>• Duffuaa, S.O., Raouf A., and Campbell, J.D., “Planning and Control of Maintenance Systems: Modeling and Analysis”, John Wiley and Sons, New York, latest edition</li> </ul> <p><b>Essential References Materials</b></p> <ul style="list-style-type: none"> <li>• Maintenance Engineering Hand Book: LIHiggins, L C. Morrow, McGrawHill. latest edition</li> <li>• Management of Industrial Maintenance: A. Kelly and M. J. Harris, Newness-Butterworths, London. latest edition</li> <li>• Reliability, Availability and Maintainability: J. W. Foster, D. T. Phillips and IR. Rogers., M/A Press. latest edition</li> <li>• The Complete handbook of Maintenance Management: J. E. Heitzelman, Prentice Hall of India. latest edition</li> <li>• Maintainability and Maintenance, Management Instrument Society of America: J. D. Patton (Jr.). latest edition</li> </ul> |         |