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| **College** | College of Engineering and Technology | | |
| **Department** | Electrical Engineering Department | | |
| **Program** |  | | |
| **Course Title** | Digital logic and digital electronics laboratory | **Course Number:** | 12120202 |
| **Year** | 2023/2024 | **Semester:** | 2nd |
| **Prerequisite(s)** | Digital logic and digital electronics course | | |
| **Instructor** | **Eng. Eman Abu Hany** | | |
| **Instructor's e-mail** | e.abuhany@ptuk.edu.ps | | |
| **Office Hours** |  | | |
| **Class Time** |  | **Class Room:** | B102 |
| **Course objective** | The student should acquire a knowledge and understanding of:   * Digital logic design lab components such as breadboard, Ic’s, 7-segment and Led. * Operation of digital gates including AND, OR, NAND, NOR and XOR gate. * Learn how to simplify functions and implement those using basic gates. * Using Karnaugh map in function simplification. * Implementing different functions using NAND and NOR gates only. * Operation of flip-flop circuits. * Displaying numbers and counters on 7-segment. * Using multiplexers and decoders in digital circuits. | | |
| **Textbook(s)** | Manual of Digital Electronic Lab | | |
| **Other required material (References):** | Digital - Fundamentals, Thomas L. flyod. | | |
| **Other Resources used (e.g. e-learning, field visits, periodicals, software, etc. )** | MULTISIM or Proteus Simulation Programs | | |

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| **Assessment Type** | **Weight** | **Date(s)** |
| **Mid Exam** | 30% |  |
| **Semester work / Activities** | 30% |  |
| **Final Exam** | 40% |  |
| **Total** | 100% |  |

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| **Course Weekly Breakdown** | | |
| **Weeks** | **Date** | **Topics Covered** |
| 3 |  | **Basic logic circuits** |
| 3 |  | **Code converters, coders** |
| 4 |  | **Arithmetic circuits** |
| 1 |  | **Bistable multivibrators** |
| 2 |  | **Counting circuits** |
| 1 |  | **Multiplex mode** |