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| |  |  |  | | --- | --- | --- | | **LE302** | **ELECTRICAL ENGINEERING DESIGN** | **2(1-3-2)** | | **วฟ.302** | **การออกแบบงานทางวิศวกรรมไฟฟ้า** |  | |

**Course Description**

Design Projects on Topics in Electrical Engineering

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| **Week** | **Topic / Content** | **Week** | **Topic / Content** |
| 9 | Overview   * Microcontroller ESP32s (8266) * IDE / Simulator:   Set board, Set speed, Debug   * Basic Program => Hello world | 12 | Input & Output   * Analog Out: PWM * Analog In: Interrupt driven |
| 10 | Output   * LED, motor * State transition diagram map to code | 13 | Display & Sensor   * Display: 7 segments, LCD 4 lines, Matrix switch * Sensor: DHT |
| 11 | 1. Input  * Switch * State transition diagram map to code | 14 | IoT Application: show results to users   * Blynk * Web Server * Netpie * Line chatbot |

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| **Assessment methods** | **Assessment week** | **Assessment score** |
| Homework | 9-13 | 15% |
| Quiz | 12 | 5% |
| Final Exam | 16 | 20% |

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| **1.** | **Main Text** |
|  | * Rui Santos and Sara Santos, “Learn ESP32 with Arduino IDE”, eBook Version 1.4. |
| **2.** | **Course Materials** |
|  | * <https://github.com/sommedosa/Microcontroller-Course> |