**UNLV ME 729 – Advanced Robotics – Fall 2016 (last updated 08/27/16)**

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| Week | Topic |
| Week 108/29/16 |

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| Lecture | Course Intro – Issue Purchase List |
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| Week 209/05/16 | **UNLV Holiday – Labor Day** |
| Week 309/12/16 |

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| Lecture | **Robot Sensing**: ADC: binary, voltage dividers |
| Lab | LEGO touch sensor; ohmmeter; potentiometer, voltmeter |

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| Week 409/19/16 |

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| Lecture | **Robot Actuation**: ADC: operational amplifiers |
| Lab | LEGO temperature sensing; DAC power supply; aliasing |

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| Week 509/26/16 |

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| Lecture  | **Robot Communications**: I2C |
| Lab | LEGO PCF8574 LEDs, DIPs |
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| Week 610/03/16 |

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|  | Project #1 (Issued) |
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| Week 710/10/16 |

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|  | Project #1 In-class time (P.Oh on-travel for IROS) |

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| Week 810/17/16 | Project #1 Due (Presentation and Hard-copy) – and Mid-term |
| Week 910/24/16 |

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| Lecture | **Robot Control**: Lagrange and State Space |
| Lab | LEGO Ball-and-Beam (BNB) – Construction |

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| Week 1010/31/16 |

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| Lecture | Robot Control: PID and LQR |
| Lab | LEGO Ball-and-Beam (BNB) – Simulation and Real-World |

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| Week 1111/07/16 |

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|  | Project #2 (Issued) |
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| Week 1211/14/16 |

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|  | Project #2 In-class time (P.Oh on-travel for Humanoids) |
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| Week 1311/21/16 | **Project #2 Due (Presentation and Hard-copy) – Thanksgiving 11/24/16**

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| Lecture | **Robot Computer Vision** |
| Lab | AR Toolkit |

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| Week 1411/28/16 |

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| Lecture | **Robot Path Planning:** Potential Fields |
|  | Project #3 (Issued) |

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| Week 1512/05/16 | **Study Week Begins**

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|  | Project #3 In-class time |
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| Week 1612/12/16 | **Project #3 Due (Presentation and Hard-copy) – Finals Week** |