| Week | Date | Lecture Topic | Lab | Due |
|------|------|---------------|-----|-----|
| 1 | | | None | |
| | 8/23/2018 | Introduction and Course Overview | | |
| 2 | 8/28/2018 | Review of radiation interactions and basic detection concepts | Orientation and Safety | |
| | 8/30/2018 | Basic signal generation and shaping | | Reading Assignment 1 |
| 3 | 9/4/2018 | Introduction to digital signal processing | Lab 0: Refamiliarization with HPGe | |
| | 9/6/2018 | Analog-to-digital conversion & basic digital signals operations | | |
| 4 | 9/11/2018 | Signal deconvolution and FIR filters | Lab I: Digital signal processing | |
| | 9/13/2018 | **Guest Lecture: Marco Salathe (LBNL) - Semiconductor electrode segmentation and signal generation** | | |
| 5 | 9/18/2018 | Energy resolution, electronic noise, fano factor | Lab I: Digital signal processing | |
| | 9/20/2018 | Signal generation in semiconductors - Shockley Ramo | | |
| 6 | 9/25/2018 | Charge carrier transport - mobility and lifetime | Lab I: Digital signal processing | |
| | 9/27/2018 | Experimental determination of charge transport characteristics | | |
| 7 | 10/2/2018 | Signal generation in scintillation detectors | Lab II: Multichannel Detectors | |
| | 10/4/2018 | Non-proportionality in scintillators | | |
| 8 | 10/9/2018 | Neutron detection and pulse-shape discrimination | Lab II: Multichannel Detectors | |
| | 10/11/2018 | Neutron scatter kinematics and imaging | | |
| 9 | 10/16/2018 | Introduction to gamma-ray imaging | Lab III (variable) | |
| | 10/18/2018 | Collimated gamma-ray imaging modalities | | |
| 10 | 10/23/2018 | Non-collimated gamma-ray imaging modalities | Lab III (variable) | |
| | 10/25/2018 | Advanced imaging techniques | | |
| 11 | 10/30/2018 | Principles of mobile detector operation - SLAM | Lab III (variable) | |
| | 11/1/2018 | Advanced concepts in data fusion | | |
| 12 | 11/6/2018 | TBD | Open session (final project) | |
| | 11/8/2018 | TBD | | |
| 13 | 11/13/2018 | TBD | Open session (final project) | |
| | 11/15/2018 | Student Presentations | | |
| 14 | 11/20/2018 | Student Presentations | Open session (final project) | |
| | 11/22/2018 | NO Lecture (Thanksgiving) | | |
| 15 | 11/27/2018 | Student Presentations | Open session (final project) | |
| | 11/29/2018 | Student Presentations | | |