| Day | Sec1 | Topic | HW | Textbook Sections |
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| M | 17-Apr | Introduction, Course Objectives, Flight Simulators, and Downloads | Downloading NED: the MATLAB flight / Glider simulator / Install Visual Studio | 1.1-1.4, 1.6-1.9 |
| W | 19-Apr | The flight-monitoring system and EasyEDA PCB design | Circuit Board Design in EasyEDA | 2.4, 4.1-4.4 |
| F | 21-Apr | Review Flight Simulator Equations / Finalize PCB design | Circuit Board Design in EasyEDA | 4.5-4.7, 5.1-5.2 |
| M | 24-Apr | Background for orientation and nonlinear state estimation (needs C++ flight data) | Orientation Estimation in the MATLAB Flight Simulator | Chapters 6-7.1 |
| W | 26-Apr | Complementary filter and Kok Schon algorithms In Flight Simulators | Orientation Estimation in the MATLAB Flight Simulator | Chapters 6-7.1 |
| F | 28-Apr | Kok Schon Algorithm with Data From Phone | Orientation Estimation with a Phone | Chapters 6-7.1 |
| M | 1-May | GPS/altimeter data and the Holoptic Sensor Fusion Algorithm (Actual flight data) | MATLAB GPS Sensor Fusion with Actual Flight Data | Chapter 8 |
| W | 3-May | Bode-plots and frequency domain analysis | Frequency Domain Analysis of Roll / Pitch Dynamics | 9.1, 10.1-2, 10.4 |
| F | 5-May | Root locus autonomous control design (kp for Roll Control in Class) | Selecting kp For Roll Control Using the Root Locus Method / Selecting PD Gains For Roll Control | 9.2 |
| M | 8-May | Successive loop closure control design | Successive Loop Closure for Yaw Control | 9.2-9.3 |
| W | 10-May | Waypoint following and path-planning | Waypoint Following and Path Planning | 9.2-9.3 |
| F | 12-May | Exam 1: Feedback Control of Matlab Flight Simulator | **Exam 1** | Chapters 8-9 |
| M | 15-May | Exam 1: Feedback Control of Matlab Flight Simulator | **Exam 1** | Chapters 8-9 |
| W | 17-May | C++ Crash Course Part 1: Basics | C++ Crash Course 1 | Chapter 11 |
| F | 19-May | C++ Crash Course Part 2: Matrices and dx=Ax+Bu | C++ Crash Course 2 | Chapter 12 |
| M | 22-May | C++ Crash Course Part 3: Classes | C++ Crash Course 3 | Chapter 13 |
| W | 24-May | C++ and MATLAB mex functions | C++ and Matlab Mex Functions | Chapter 14 |
| F | 26-May | MATLAB mex functions and creating/testing Arduino libraries | MATLAB mex functions and creating/testing Arduino libraries | Chapter 14-15 |
| M | 29-May | Memorial Day No Class! | | |
| W | 31-May | Estimating orientation and position using GPS and IMU data from a phone | C++ GPS Sensor Fusion with Actual Flight Data | Chapter 8 |
| F | 2-Jun | Estimating orientation and position using GPS and IMU data from a phone | C++ GPS Sensor Fusion with Actual Flight Data | Chapter 8 |
| M | 5-Jun | Exam 2: C++ Feedback Control of Matlab Flight Simulator | **Exam 2** | Chapters 8-9 |
| W | 7-Jun | Exam 2: C++ Feedback Control of Matlab Flight Simulator | **Exam 2** | Chapters 8-9 |
| F | 9-Jun | Exam 2: C++ Feedback Control of Matlab Flight Simulator | **Exam 2** | Chapters 8-9 |
| M | 12-Jun | Building the Airplane | | 2.3-4 |
| W | 14-Jun | Programming the Raspberry Pi Pico and Writing to the SD Card | Programming the Raspberry Pi Pico and Writing to the SD Card | 15.1-2 |
| F | 16-Jun | Writing Accelerometer and Gyro Data to the SD Card | Writing Accelerometer and Gyro Data to the SD Card | 3.1 |
| M | 19-Jun | Juneteenth Holiday No Class! | | |
| W | 21-Jun | Writing Pressure and Magnetometer Data to the SD Card | Writing Pressure and Magnetometer Data to the SD Card | 3.1 |
| F | 23-Jun | Writing Roll, Pitch, and Yaw Data to the SD Card | Writing Roll, Pitch, and Yaw Data to the SD Card | 3.1 and 9.1 |
| M | 26-Jun | Writing Roll, Pitch, and Yaw Data to the SD Card | | 3.1 and 9.1 |
| W | 28-Jun | Writing GPS Data to the SD Card | Writing GPS Data to the SD Card | 3.2-3 |
| F | 30-Jun | Writing GPS Data to the SD Card | | 3.2-3 |
| M | 3-Jul | Program the flight control strategy | Write Servo Commands to the SD Card | 9.2-3 |
| W | 5-Jul | Write Servo Commands to the SD Card | | 9.2-3 |
| F | 7-Jul | Servo calibration and control on the plane | Final Project Part 1: Pre-flight Test (75% of project grade) | 9.2-3 |
| M | 10-Jul | Nonflying Demo of Roll Control | | 9.2-3 |
| W | 12-Jul | Nonflying Demo of Pitch Control | | 9.2-3 |
| F | 14-Jul | AUTONOMOUS FLIGHT TEST! | Final Project Part 2: Controlled Flight Test (25%, all or nothing part of project grade) | Chapters 8-9 |
| M | 17-Jul | AUTONOMOUS FLIGHT TEST! | | Chapters 8-9 |

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| Tu | 18-Jul | Final Exam: AUTONOMOUS FLIGHT TEST! | Final Project Part 2: Controlled Flight Test (25%, all or nothing part of project grade) | Chapters 8-9 |
| W | 19-Jul | Final Exam: AUTONOMOUS FLIGHT TEST! | | Chapters 8-9 |