

Introduction and Overview

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Overview

- Projects Overview
- Programming Guidelines
- Course Goals
 - Use high-level programming language to solve engineering problems that will be encountered in engineering courses
 - Course will focus on computer programming for astrodynamics
 - Emphasis on well documented, structured programming, debugging and unit testing to verify that code is correct

My Background

- 2009 US Air Force Academy, 2013 Purdue, 2018-ish GWU
- Astronautical Engineer USAF
 - ORS-1 - Managed spacecraft development
 - ANGELS - Autonomous rendezvous and orbit determination
- Research in dynamics and controls



Course Outcomes

- By the end of the course
 - Write programs to solve basic engineering problems in aerospace
 - Develop structured code in a high-level programming language
 - Document programs so they are easier to maintain and modify
 - Debug and test in a systematic fashion to ensure code is correct
 - Create library of code to perform common astrodynamical functions

Getting Help

- For most (if not all) students, this course will be extremely challenging:
 - New content - astrodynamics and Python
 - Structured programming - systematic, documentation, unit testing
 - Technical writing
- Answers to your problems will rarely if ever be given to you. You'll need to discover and learn these skills through focused effort. You have several sources of help:
 - Instructor
 - Classmates - may ask each other for help.
 - ALL WORK MUST BE YOUR OWN.
 - Copying
 - “Working together”
 - Plagiarizing
 - Textbooks/Internet - reference not copying