AE 470 – Project Assignment – Spring 2025

Overview

This document outlines the expectations for the Orbital Mechanics course Project assignment. The primary goal of the Project assignment is to apply and extend the orbital mechanics concepts learned in class to practical engineering software used in industry and research. The Project will focus on digital orbital analysis and space mission engineering in Ansys Systems Tool Kit (STK).

Requirements

Students can use Ansys STK on any computer in a campus computer lab, or through Clarkson's AppsAnywhere program.

Part 1 - STK Level 1 Certification

Description: Level 1 (L1) STK Certification covers the fundamental skills required to demonstrate proficiency in STK, including: building basic scenarios, generating reports, and recording videos for space missions.

Preparation: Level 1 Beginner Tutorials – Online, On-Demand [self-paced training manuals and videos]

Estimated Duration to Complete Certification: 4 hours

Test Registration: Students must register for the Level 1 STK Certification test. After registration, students will have up to 14 days to complete the test.

Grading

Students will receive credit for attempting the certification test and for successfully passing the test. Students may retake the test multiple times, as time in the course permits, until a passing grade is achieved. Please note, Ansys requires approximately 5 business days to review and grade a certification test. To obtain credit for an attempt, students must submit screenshots of their email of the email from AGI indicating their Level 1 STK Certification Test attempt for <u>partial credit</u> and the email with their personalized Level 1 STK Certification for <u>full credit</u>.

Recommended Timeline and Hard Deadline

Students may complete this Lab Project at their own pace, a recommended timeline is provided below:

Deliverable	Recommended Timeline for Completion
L1 STK Certification Attempt	February 3, 2025
Passed L1 STK Certification	Feb 10 2025 (*approximate grade return from AGI*)