

Walter Thompson

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Education

Bachelor of Science, Aeronautical Engineering May 1983

Wichita State University, Wichita, KS

Honors Thesis: Analytical Design of an Ultralight with Corresponding Wind Tunnel Study

Master of Science, Aerospace Engineering Dec 1990

San Diego State University, San Diego, CA

Thesis: Operations and Design of an Attitude Control Enhancement Module for the NASA Orbital Maneuvering Vehicle

Academic Instructor Experience

Master Instructor

Colorado State University, Fort Collins, CO August 2021 to Present

Developed three graduate level classes to support the Aerospace emphasis within the Mechanical Engineering department.

- MECH 580B3, Orbital Mechanics, is now a permanent class MECH 518.
- MECH 580B4, Aerospace Vehicles Trajectory and Performance, is now a permanent class MECH 519.
- MECH 580B6, Aerospace Guidance, Navigation, and Control.
 - FAA Part 107 Commercial UAS Pilots License

San Jose State University, San Jose, CA Fall 2025

AE 242 Orbital Mechanics and Mission Design online class for Lockheed Martin MSME students - Cohort 3

Academic Instructor Engagement and Service

Advising a Senior Design Project Team (MECH 486) on creating test equipment to research Electromagnetic enhancement of Solid Rocket Motor combustion

Created a "Space Escape Room" for early engineering students where they work as a team using aerospace equations and knowledge to open lockboxes, uncover hidden clues, and eventually escape with their spaceship ahead of an impending meteor shower.

Industry Instructor Experience

Selected to prepare and present eight sessions of a class on decision making to all Managers at ULA.

Prepared and presented ULA company-wide training on Fundamentals of Orbital Mechanics, Mission Design, Launch Windows, Orbit Types, and Mission Integration every 24 months. Goal of these presentations was to provide insight to other engineering and business functions. Largest attended cross-functional set of presentations in the program.

Trained and mentored Aerospace Engineers at every career phase on orbital mechanics, trajectory design, mission integration, and application of engineering principles to make sound engineering predictions

Industry Career Experience

Aerospace Consultant (Past and Current)

Special Aerospace Services (SAS), now Aurex Defense

Blue Origin: New Glenn

ARCTOS: Aerospace Safety and Risk Assessment

**Career: 37.5 years of continuous service, through multiple company mergers/transitions.
Retired Dec 2020:**

United Launch Alliance (Dec 1, 2006 to Dec 10, 2020) – Joint venture of Lockheed Martin & Boeing

Sr Manager Mission Design & Recurring Integration for Atlas V and Delta IV

Technical, programmatic, and cost responsibility leading the Managers and functional groups of Trajectory, Guidance, Controls, Mass Properties, System Safety, Contamination, Aerophysics, and System Engineering.

Responsible for the end-to-end mission integration analyses and processes from signing of payload through launch, including the interplay of analyses and communication for 150 people assigned to recurring integration.

Responsible for day of launch mission visualization broadcast, communication with Range, final shaped flight parameters, communication with spacecraft on final orbit injection, and the team for mission integration launch console support.

Extensive Mission Design, Trajectory, Guidance, and Mission Integration participation in Government and Delivery-In-Orbit Proposals

Lockheed Martin Space Systems Division (Mar, 1995 to Dec, 2006)

Manager for Trajectory & Performance and Guidance for Atlas V NASA missions

Created the Trajectory and Mission Designs for a variety of earth and interplanetary missions including the Cassini Mission to Saturn (Titan IV) and the New Horizons Mission to Pluto (Atlas V)

Martin Marietta (Dec, 1993 to Mar, 1995)

Titan II and IV Trajectory and Guidance analyses for a variety of classified and unclassified missions.

General Dynamics Space Systems Division (June, 1983 to Dec, 1993)

Performed Lunar and Mars Architecture Studies for NASA. Prepared and presented multiple papers on vehicle and architecture considerations.

Vehicle Design and Trajectory Analysis for interplanetary Nuclear Thermal, Electric Propulsion, and Chemical vehicle systems

Flight Operations for Space Shuttle/Centaur vehicle and technical system interface with mission astronauts

Classified analyst for National Aerospace Plane project