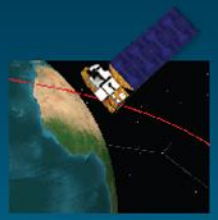
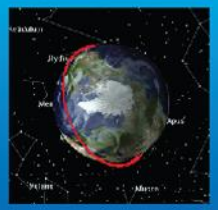
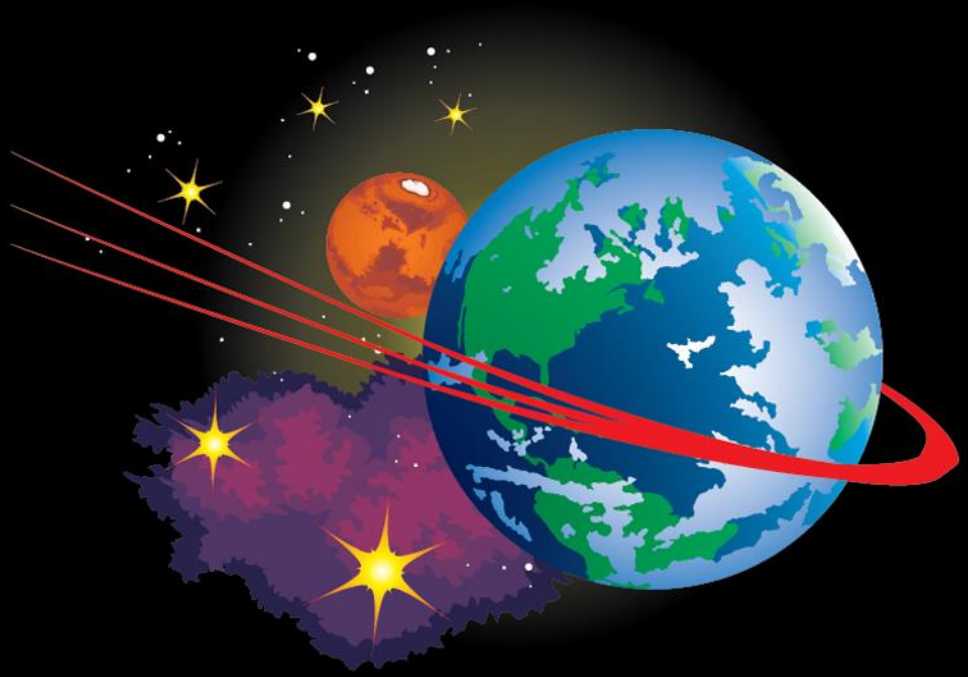
National Aeronautics and Space Administration





www.nasa.gov



Training Overview

GMAT Fundamentals
Joel Parker
June 30, 2014

NASA Goddard Space Flight Center

general mission analysis tool

Course Objectives

- Learn about:
  - The GMAT project
  - Software capabilities
  - How to use the graphical interface
  - How to use the script language
  - Example missions
- Use GMAT to:
  - Propagate an orbit
  - Design a Hohmann transfer
  - Target the B-plane
  - Design a finite maneuver
  - Optimize a multi-phase trajectory

Agenda (AM)

Topic	Time
Training Overview	8:45–9:00
Introduction to the GMAT Project	9:00–9:15
Hello World: Simulating an Orbit	9:15–9:45
Break	9:45–10:00
Introduction to the GMAT Software	10:00–11:00
Tutorial: Simple Orbit Transfer	11:00–11:45
Extra Exercises & Discussion	11:45–12:00

Agenda (PM)

Topic	Time
Lunch	12:00–1:00
Tutorial: Mars B-Plane Targeting	1:00–1:45
Tutorial: Finite Burn Targeting	1:45–2:45
Break	2:45–3:00
Tutorial: Optimal Lunar Flyby	3:00–4:15
Wrap-up	4:15–4:30

Logistics

- Building 1 Training Facility
  - Restrooms out the door, up the stairs
  - Basement: Training rooms, Learning Center
  - Ground floor: food, ATM, etc.
- On your terminal:
  - GMAT R2014a
  - Tutorial scripts
  - Electronic copies of presentation materials

Running GMAT

1. Log into terminal
   (see credentials on whiteboard)
2. Double-click “GMAT” shortcut:

GMAT Training Series

- **GMAT Fundamentals:** introductory information, general usage tutorials
- Annual series in June
- Open to public
- All classes are recorded!
- Materials posted to:
  - Slides, files: http://gmatcentral.org
  - Videos: https://youtube.com/user/GMATCentral