

NET Design Exercise

Remote Sensing and Recon-Earth



Design Application Description (DAD)—Learn by Doing!

Participants will be given a bonafide, customer objective and divided into competing groups to conceptually design a mission and systems to meet the objectives at an acceptable lifecycle cost and risk. Each group will use a structured space system engineering approach to develop a mission concept, supporting space mission architecture and systems to meet the stated mission objectives.

Each group is expected to develop a credible design, perform a lifecycle cost estimate and identify critical requirements and system drivers for their concept. The product of the design exercise is a 1-hr technical proposal presentation and the participants are expected to defend their design decisions.

Each team will receive personalized feedback on their team's structure and effort as well as the technical solution.

Who Should Attend:

System and subsystem engineers, managers of all types, scientists (principal investigators), spacecraft engineers, designers, analysts, operators, and users of space systems. System engineers functional and project managers who must create overall mission architectures and are responsible for the detailed design and operation of space systems will find it particularly applicable to their day-to-day activities. Past participants from Human Exploration and Development of Space, Space Science and Earth Science are ideal!

Design Exercise Topics:

- Mission Design Experience Process and Scientific Objectives
- Individual Behavior, Interpersonal Skills, Process and
- Teambuilding Activities
- Mission Concepts and Space Mission Architectures
- Requirements and Conceptual Design
- Orbit Analysis, Design and Selection
- Space Environment and Its Impact on Mission and Spacecraft Design
- Space Payload Definition
- Spacecraft Bus Design and Sizing
- Mission Operations & Ground Infrastructure
- Launch Vehicle Selection
- Life-Cycle Cost Modeling
- Complete End-to-End Design Exercise
- One-Hour Final Participant Presentation Includes...
- Design Experience Debriefing

Class Name:

NDE 25

Remote Sensing of Earth

Location:

Johnson Space Center (JSC)
Program is **Non-Residential**
(HQ will cover tuition only)

Date:

October 18 - 22, 2004

How to Apply:

Visit:

<http://nasapeople.nasa.gov/training/nomform/> for the Nomination Form and Contact your Center Training Point Of Contact for your Center's registration procedures.

Workshop Presenters and Facilitators: Dr. Jeff Austin and Dr. Wiley Larson

This is a *hands-on workshop* that focuses on helping you apply the information and processes presented once you return to your job.

Workshop Materials

Each participant will receive a copy of the following:
Space Mission Analysis and Design, integrated handout AND a complete, integrated software package—The SMAD Calculator