



COURSE ON HUMAN SPACE SYSTEMS
DEPARTMENT OF SPACE STUDIES
UNIVERSITY OF NORTH DAKOTA
July 20-24, 2009

MONDAY, JULY 20

DAY ONE MORNING

- 8:00-9:00 a.m. Welcome and Orientation
Registration, distribute badges and handouts, short tour, medical and training participation questionnaire, and overview of the course. Participants will be divided into 3 groups.
- 9:00-10:00 a.m. History of Human Space Flight (David Whalen, Pablo de León)
- 10:00-10:30 a.m. BREAK
- 10:30-11:30 a.m. Introduction to Space Engineering: Orbital Mechanics, Suborbital Trajectories (Ron Fevig)
- 11:30-12:30 p.m. Safety Issues and Risk Assessment (James Casler)
- 12:30-2:00 p.m. LUNCH

DAY ONE AFTERNOON

- 2:00-5:00 p.m. Physiological Training: Fundamentals of high altitude (Warren Jensen)

TUESDAY, JULY 21

DAY TWO MORNING

- 8:00-9:00 a.m. History of Human Spaceflight (David Whalen, Pablo de León)
- 9:00-10:00 a.m. Space Physiology (Gary Harris)
- 10:00-10:30 a.m. BREAK
- 10:30-11:30 a.m. Legal Implications of Private Spaceflight (Joseph Vacek)
- 11:30-12:30 p.m. Space Engineering: Rendezvous and docking systems and techniques (Ron Fevig)
- 12:30-2:00 p.m. LUNCH

DAY TWO AFTERNOON

- 2:00-4:00 p.m. High Altitude Chamber Flight (all groups)*
- 4:00-5:00 p.m. Group 1 - Disorientation Simulator*
Group 2 - Space Suit Training*
Group 3 - Airplane Simulators*

WEDNESDAY, JULY 22

DAY THREE MORNING

- 8:00-9:00 a.m. Space Physiology (Gary Harris)
- 9:00-10:00 a.m. Introduction to Space Engineering: Propulsion systems & Subsystems (Ron Fevig)
- 10:00-10:30 a.m. BREAK
- 10:30-11:30 a.m. Space Psychology (Vadim Rygalov)
- 11:30-12:30 p.m. Launch Operations (Jim Casler, Pablo De León, Gary Harris)
- 12:30-2:00 p.m. LUNCH

DAY THREE AFTERNOON

- 2:00-3:00 p.m. Group 1 - Space Suit Training*
Group 2 - Disorientation Simulator*
Group 3 - Spacecraft Simulators*
- 3:00-4:00 p.m. Group 1 - Airplane Simulators*
Group 2 - Spacecraft Simulators*
Group 3 - Space Suit Training*
- 4:00-4:00 p.m. Group 1 - Spacecraft Simulators*
Group 2 - Airplane Simulators*
Group 3 - Disorientation Training*

THURSDAY, JULY 23

DAY FOUR MORNING

- 8:00-9:00 a.m. Space Suit Systems (Gary Harris)
- 9:00-10:00 a.m. Emergency Situations: Historical Background (Pablo De León, Jim Casler)
- 10:00-10:30 a.m. BREAK
- 10:30-11:30 a.m. Procedures and Operations: Orbital Flight (Ron Fevig, Jim Casler)

11:30-12:30 p.m. Procedures and Operations: Suborbital Flight (Ron Fevig, Jim Casler)
12:30-2:00 p.m. LUNCH

DAY FOUR AFTERNOON

2:00-3:00 p.m. Trip to Airport Facilities - Preparation for Flight*
3:00-4:00 p.m. Hour Flight Time - UND Airplanes*
4:00-5:00 p.m. Return and Briefing

FRIDAY, JULY 24

DAY FIVE MORNING

8:00-9:00 a.m. Emergency Situations: Management (Jim Casler)
9:00-10:00 a.m. EVA Operations (Gary Harris)
10:00-10:30 a.m. BREAK
10:30-11:30 a.m. Safety Issues and Risk Assessment (Jim Casler)
11:30-12:30 p.m. Safety Assessment in Human Space Systems (Jim Casler)
12:30-2:00 p.m. LUNCH

DAY FIVE AFTERNOON

2:00-3:00 p.m. Refresher
3:00-4:00 p.m. Exam
4:00-4:30 p.m. Conclusions, Review Poll
4:30-5:00 p.m. Distribution of Grades
5:00-6:00 p.m. Awarding of certificates of completion (Bruce Smith, Dean and David Whalen, Chair)
6:00 p.m. DINNER

* Hands-On activity.