Space Life Support and Human Factors

- Course Overview
  - Objectives
  - Instructors
  - Syllabus
  - Logistics

- History of Human Flight
  - Environmental Effects
  - Habitability
  - Productivity and Performance
ENAE 697 Objectives

- Provide a basic understanding of the effects of space flight on humans
- Supply design tools for estimating the programmatic impacts of providing for humans on space missions
- Categorize and quantify human capabilities for achieving complex and critical mission objectives
Instructors

- Dr. David Akin
- Dr. Mary Bowden
- Dr. Cori Latham
- Dr. Claudia Ranniger
- Dr. Katherine Lemos
ENAE 697 Syllabus

• Space Physiology
  - Cardiopulmonary
  - Neurovestibular
  - Musculoskeletal

• Space Life Support
  - Air revitalization
  - Water and nutrition
  - Thermal control

• Space Human Factors
  - Habitability
  - Psychosocial
  - Manual control

• Extravehicular Activity
  - Pressure suit design
  - Portable life support systems
  - Future operations/support systems
Course Logistics

- Lectures (1-1.5 hours)
- Student-led paper reviews
- Literature searches
- Midterm exam
- Final exam
Paper Review Timelines

- **Week N**
  - (Tuesday) Lecture on topic Alpha
  - Students then find journal papers on Alpha

- **Week N+1**
  - (Tuesday) Students turn in papers (electronic or paper) with two paragraphs: Strengths and Weaknesses
  - (Thursday) Faculty selects two Alpha papers for discussion; posts on web site for all to read

- **Week N+2**
  - Student-led discussions of Alpha papers in class
First Paper Assignments

• 2/1 - Lecture on history of human flight
• 2/2-7 - Find papers relevant to lecture
• 2/8 - Submit most interesting paper with two-paragraph synopsis (pros and cons)
• 2/10 - Two most relevant papers selected by faculty for discussion groups
• 2/10-14 - Everyone reads papers
• 2/15 - Student-led discussions on papers