

SPST306

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Course Summary

Course : SPST306 **Title :** Human Space Flight

Length of Course : 8

Prerequisites : SPST200, SPST300 **Credit Hours :** 3

Description

Course Description: This course evaluates the physical and psychological effects of spaceflight on humans, countermeasures for both short- and long-duration spaceflight, and discussions of human factors in spacecraft engineering. (Prerequisite: SPST200 or SPST300).

Course Scope:

At the end of this course, you will have a firm understanding of the physical and psychological challenges facing humans in the pursuit of space exploration, be it at home in Earth orbit or beyond the reaches of our own Solar System.

Objectives

After successfully completing this course, you will be able to:

- CO-1** Discuss the general types of human factors associated with spaceflight.
- CO-2** Detail the various hazards of spaceflight and commensurate countermeasures for the same.
- CO-3** Discuss past, current and possible future types of life support and spacecraft habitats.
- CO-4** Discuss the importance of selection and training of astronauts.
- CO-5** Discuss the various sources of stress on space missions and possible countermeasures for the same.
- CO-6** Describe the types of group dynamics that impact spaceflight.
- CO-7** Compare and contrast human factors associated with on duty (at work) and off duty activities during spaceflight.
- CO-8** Discuss the impacts of mishaps on individuals and crew/group dynamics.

CO-9 Discuss how space tourism is impacting space travel and how it might impact the future of space exploration.

CO-10 Recall the challenges of interstellar space travel and the formation of space settlements.

Outline

Week 1: Why Space? Spaceflight Human Factors

Learning Objective(s)

LO-1: Discuss the motivations for exploring space.

LO-2: Understand how human factors impact performance during spaceflight.

Reading(s)

Harrison: Chapters 1 & 2

Week 1 Lesson Module

Assignment(s)

Week 1 (Virtual Introductions) Forum

Week 2: Hazards and Countermeasures, Life Support

Learning Objective(s)

LO-3: Understand the hazards created by the space environment and countermeasures used for spaceflight.

LO-4: Examine types of life support systems and necessary design factors.

Reading(s)

Harrison: Chapters 3 & 4

Week 2 Lesson Module

Assignment(s)

Exam #1

Week 2 Forum

Week 3: Habitability, Selection and Training

Learning Objective(s)

LO-5: Examine the factors that affect spacecraft habitability.

LO-6: Understand the qualifications and criteria for astronaut selection and methods for mission training.

Reading(s)

Harrison: Chapters 5 & 6

Week 3 Lesson Module

Assignment(s)

Week 3 Forum

Week 4: Stress and Coping, Group Dynamics

Learning Objective(s)

LO-7: Examine sources and consequences of stress and methods for coping.

LO-8: Examine crew composition and group structure elements and their influence on group dynamics.

Reading(s)

Harrison: Chapters 7 & 8

Week 4 Lesson Module

Assignment(s)

Exam #2

Week 4 Forum

Week 5: At Work, Mishaps

Learning Objective(s)

LO-9: Determine the spaceflight environment conditions that impact work and human performance.

LO-10: Review the major human spaceflight mishaps and the factors that contributed to their occurrence.

Reading(s)

Harrison: Chapters 9 & 10

Week 5 Lesson Module

Assignment(s)

Week 5 Forum

Week 6: Off Duty, Space Tourism

Learning Objective(s)

LO-11: Examine the self-maintenance and leisure activities associated with human spaceflight.

LO-12: Understand the requirements for space tourism and the prospects for its future.

Reading(s)

Harrison: Chapters 11 & 12

Week 6 Lesson Module

Assignment(s)

Exam #3

Week 6 Forum

Week 7: Space Settlements, Interstellar Migration

Learning Objective(s)

LO-13: Examine the challenges of interstellar space travel and the establishment of space settlements.

Reading(s)

Harrison: Chapters 13-15

Week 7 Lesson Module

Assignment(s)

Research Paper Due

Post Overview in Week 7 Forum

Week 8: Current Topic in Space Travel

Learning Objectives

LO-14: Discuss current events that may influence the future of human spaceflight.

Reading(s)

Readings will be posted in the Forums section of the Week 8 Lesson Module

Week 8 Lesson Module

Assignment(s)

Final Exam

Week 7 Forum – Responses and Answers Due

Week 8 Forum

Evaluation

Forum Assignments

There will be a new forum every one to two weeks throughout the course. Your knowledge of the assigned readings will be reflected in your ability to actively participate and discuss key course concepts. ***Your initial posting should be between 200-400 words in length*** (not including citations), well written in your own words (unless otherwise noted) and grammatically correct. ***Your responses to your fellow students should be at least 50 words in length and include direct questions.*** Additionally, your responses need to have substance; simply saying “good point” and/or “I agree” isn’t adequate.

In the forums, you will be required to post your response to the topic being discussed. *And you will also be*

required to reply to at least two of your fellow students and ask that student a question about what he/she has written. If you are asked questions about your posting, I expect you to answer at least one of the questions. **Note that you will not receive full credit for the forum assignments unless you fully follow these instructions.** In other words, you will not receive full credit unless you complete your initial posting, ask questions to at least two students and answer at least one question that you are asked. **Additionally, if you make your initial post late on Sunday (thereby not giving your fellow students an opportunity to ask you a question), you can expect that I will ask you a question, which you must answer to receive credit for this part of the forum.**

Your forum postings will be graded both for content (75%) and writing standards (correct grammar, spelling, punctuation, etc.) (25%). With the exception of the Week 1 (Introductions) forum, I will use a 100-point scale for grading and the breakdown of possible points is listed below:

- Initial posting: worth a maximum of 40 points
- Responses/replies to your fellow students: worth a maximum of 20 points each (40 points maximum)
- Answer to a fellow student: worth a maximum of 20 points

All of your postings must be completed by the due date for the forum, unless you make a previous arrangement with me for an extension and a new due date. **Specifically, for the Week 2-6 and Week 8 forums, your initial posting is due no later than Thursday (11:55 pm, Eastern time zone) of the week in which the forum is due. For the Week 7 forum, your initial post will be due by 11:55 pm (Eastern time zone) on Sunday of that week.** You can then use the remaining days to post your replies to your fellow students and answer their questions.

The purpose of the forums is for you to engage your fellow students and learn from them. For this to occur, *your interactions in the forums need to be timely. Therefore, I will deduct a maximum of 10 points for late posts from your overall score for a forum.* **Additionally, postings more than one week after the due date for a forum will NOT be accepted (with the exception of approved course extensions).**

Exams

Exams 1 through 3 are not comprehensive and only cover the assigned reading/objectives/weekly lessons between the previous exam and that exam. **The final exam covers the entire course.** *With the exception of my notes, there will be questions on the exams covering the information in the weekly lessons.* The format for each exam is a combination of multiple-choice, true/false, matching, and fill-in-the-blank questions. In addition, each exam will ask one short answer/essay question and your answer should be at least 200 words in length. For each short answer/essay question, 75% of your grade will be based on your answer's content and 25% on writing standards (correct grammar, spelling, punctuation, etc.). **You will have 75 minutes to complete exams 1 through 3 and two hours to complete the final exam.** Once completed, *no interaction* between students regarding exam topics is allowed!

Research Paper

For your research paper, you must choose a topic related to human spaceflight. Your paper could be on any one of the human spaceflight programs (Mercury, Gemini, Skylab, Shuttle, Shuttle-Mir, etc.), the development and evolution of space suits, the evolution of space food, an overview of astronaut training or an overview of science conducted on the International Space Station. These are just a few ideas. **You may choose your topic. However you must present the topic to me for approval, and you should decide on your topic by the end of week 4.**

The minimum length for your paper is six pages. For some topics, this is not a lot of information and your paper most likely will be an overview. For example, if you choose the Gemini program, you could discuss the main objectives and accomplishments of the program, the new hardware used in the program and how the program prepared NASA for the next human spaceflight program. Also, you could provide a brief summary of each mission flown in the Gemini program. Again, this is just an example of how you could approach your research paper.

The intent of the paper is to broaden your knowledge of the human spaceflight program beyond the information presented in the textbook. Therefore, you will “present” your paper to your fellow students by posting a 3-4 paragraph summary of your paper in the Week 7 forum. Since you will be “presenting” your paper to your fellow students, you may include pictures and tables of information in your paper to help you present your topic, but the inclusion of pictures and tables does not count toward the minimum required 6-page length. Additionally, you will answer at least one question that your fellow students may have about your topic. Each of you is required to ask at least two fellow students a question about their paper.

Because you are presenting your papers to each other, you may not report on the same topic as a fellow student. I strongly recommend that you decide on your topic early in the course and not wait until Week 7; otherwise, you may not get your first choice of topics.

Requirements for your paper are listed below:

- **Length:** 6-8 pages (for the body of the paper), not including title page, and pages for citations (endnote format) and your list of references used.
- **Number of References:** at least five (peer-reviewed journals, books, articles, websites, etc.).
- **Citation Style:** Turabian – you may use footnotes, endnotes or parenthetical (in-text) citations. The choice is yours.

Both your paper and the "presentation" of your paper in the Week 7 forum are due by the end of Week 7 (by 11:55 pm (Eastern time zone) on Sunday).

Due Dates

All assignments in this course are given to you prior to the due date. The “due date” for all assignments is the week in which the assignment is due. For the purposes of this course, a “**week**” is defined as the time period between Monday – Sunday. The **first week** begins on the first day of the session and ends on 11:55 pm (Eastern time zone) the following **Sunday**. As a general rule, I will grade an assignment once everyone has submitted it. *If you need additional time to complete an assignment, please contact me before the due date so we can discuss the situation and determine an acceptable resolution.* **If you submit an assignment after the due date without making prior arrangements with me, you will lose points from your final grade for the assignment.**

Grading:

Name	Grade %
------	---------

Materials

Book Title: Spacefaring: The Human Dimension- e-book available in the APUS Online Library

Author: Harrison, Albert A.

Publication Info: University of California Press

ISBN: 9780520236776

Book Title: To find the library e-book(s) req'd for your course, please visit <http://apus.libguides.com/er.php> to locate the eReserve by course #. You must be logged in to eCampus first to access the links.

Author: N/A

Publication Info: N/A

ISBN: N/A

This book is no longer provided in hard copy through APU/AMU. You can find an electronic copy of this textbook in two locations:

1. In the classroom – weekly, links are provided to each of the assigned chapters in the Reading and Resources section of the Lesson Module
 1. The Ebrary Library on the APUS Online Library Web site
-

Course Guidelines

Citation and Reference Style

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

- [Tutor.com](https://www.tutor.com) offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

Late Assignments

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 15% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

Turn It In

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the Assignments area of the course.

Academic Dishonesty

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not

copy/paste, and always cite.

Submission Guidelines

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

Disclaimer Statement

- Course content may vary from the outline to meet the needs of this particular group.

Communicating on the Forum

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-going discussion about the assigned content.
- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting view points, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

Identity Verification & Live Proctoring

- Faculty may require students to provide proof of identity when submitting assignments or completing assessments in this course. Verification may be in the form of a photograph and/or video of the student’s face together with a valid photo ID, depending on the assignment format.
- Faculty may require live proctoring when completing assessments in this course. Proctoring may include identity verification and continuous monitoring of the student by webcam and microphone during testing.

University Policies

[Student Handbook](#)

- [Drop/Withdrawal policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)

The mission of American Public University System is to provide high quality higher education with emphasis on educating the nation’s military and public service communities by offering respected, relevant, accessible, affordable, and student-focused online programs that prepare students for service and leadership in a diverse, global society.

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.