



College of Information Studies

University of Maryland Hornbake Library Building College Park, MD 20742-4345

HONR 269I

To The Moon and Back: The Apollo Program

Spring 2019

Course Description

Catalog Description

In May 1961, President Kennedy reached into the 21st century and pulled a decade back into the 1960s. Just over eight years later, Neil Armstrong became the first of twelve people to walk on the Moon. This was one of the greatest engineering accomplishments of all time, and a transcendent human experience. This course will draw on both primary and secondary sources to explore the social, political, financial, scientific, engineering, operational and human aspects of the Apollo program that came together to make the Moon landings possible and it will invite students to reflect on the limitations of the Apollo approach that leave us still grasping for solutions to many other complex societal problems.

Goals

- Understand the interplay between political, economic, social, scientific, technical, and practical factors that made the Apollo program both possible and challenging.
- Develop an appreciation for the degree of complexity involved in an undertaking of this scale, the processes that were used to manage that complexity, and how well those processes worked.
- Apply what you have learned to help you think about what's similar and what's different in the approaches that could be taken to address other exceptionally challenging problems.

Approach

The class will meet on Tuesdays and Thursdays from 5:00 to 6:15 PM in ESJ 1309. Each session will begin with a presentation by the instructor (or, perhaps occasionally, a guest speaker), followed by discussion in small groups. In the final few minutes of class we will typically discuss the current student activity (see below).

At the start of the semester, students will be assigned to groups of 6 that will meet for a half hour during each class session to discuss that session's topic. Each student in the group will be assigned one document to read (or one media file to view or listen to) as background for that session. Two the students in each group will read the main assigned reading for that session; the other three will each be assigned a different enriching reading, video, or audio recording (shown above as "Alternate" 1, 2 or 3. Some readings are longer than others, but you are encouraged to read selectively and limit your preparation time to one hour per session so as to have adequate time for the other activities described below. The goal of these diverse assignments is to bring multiple perspectives into the class discussion during each session. Each student in a group will serve on a rotating basis as a discussion leader or as a scribe. The scribe will be post a one-page set of bullet points summarizing the group's discussion to the course ELMS site by 10 AM the next morning, where students from other groups may review them.

The scale of the Apollo program is daunting, so we will use five activities outside of class over the course of the semester to bring students in contact with different aspects of the Apollo Program possible. For the two team experiences, team membership will be rotated so that each student works with closely several other students over the course of the semester.

Students are also encouraged to follow the Twitter hashtag [#ApolloAt50](#), where tweets about events in the Apollo Program will be posted during the course, 50 years to the day after they actually happened.

Students are expected to devote a minimum of 8 hours per week to this course, including 3 hours in class, 2 hours preparing for class, and 3 hours devoted to the current individual or team experience.

Individual Experience: Museum Field Trip

(Weeks 1-2) Maryland students are uniquely fortunate to be a metro ride away from one of the finest sets of museum exhibits on the Apollo Program anywhere in the world at the National Air and Space Museum on the National Mall. We'll therefore start the course with a tour of that museum. Students may join a one-hour guided tour with the instructor during the first or second weekend of the course, or they can conduct a self-paced tour on their own. Students will be asked to submit a selfie photo with some Apollo artifact to verify completion of this assignment.

Individual Experience: Case Study (Weeks 3-5)

Each student will nominate some [historical figures](#) who they would be interested in studying in greater depth, and a single person will then be assigned to each student, with each student studying a different person. The student will be expected to bring their assigned historical figure's perspective to class discussions, when appropriate, and they will write a short paper on a critical incident of their choice in that person's life. In every case an initial source is provided, and students will be expected to augment that source with additional primary and secondary sources, and to list those additional sources on their submitted paper.

Team Experience: Exploring the Archives (Weeks 6-8)

Maryland students are also uniquely fortunate to share a campus with the principal repository of the National Archives and Records Administration (Archives 2). The National Archives catalog lists fifteen sets of Apollo Records that still have not been processed, but that have no known access restrictions. I have confirmed that a random sample of four of these are indeed available to researchers. A very extensive collection of processed records is also available to researchers at Archives 2 from the Review Board formed after the Apollo 1 launchpad fire. Together, these records offer an unparalleled opportunity for students to study the actual operation of a complex enterprise. Students will work in teams of two, with each team assigned part or all of a collection to examine. Each student will be expected to spend 12 hours at the National Archives over a period of four weeks. Each team will be asked to write a report that provides an overview of the content and organization of the collection that was examined and to tell two stories (one per student) about specific activities by specific people (of their own choosing) using materials from their collection.

Team Experience: Managing the Apollo 11 Mission (Weeks 9-11)

The year 2019 includes the 50th anniversary of the first moon landing on the Apollo 11 mission. In a recent project we worked with colleagues to digitize dozens of channels of voice interaction in the NASA Mission Control Center during the entire 8-day Apollo 11 mission, a total of more than 8,000 hours of audio. Speech recognition has been run on the entire collection to support rapid searching. Students will work in groups of two, with each group being assigned a different mission phase to study. Each team will selectively listen to the recordings from their chosen mission phase and together the teams will create a public Web exhibit in which will present what they have learned both about mission operations and about the human experience of serving in

Mission Control during the Apollo Program. This Web exhibit will be made public at the end of the semester, two months prior to the 50th anniversary of the Apollo 11 mission.

Term Paper: Doing Big Things (Weeks 12-14)

Early in the semester, students will be invited to select some other audacious goal that either was, was not, or has yet to be achieved. Over the course of the semester, students will then be invited to draw parallels between their chosen goal and the Apollo Program. At the end of the semester, students will then be asked to write a 15-page (single-spaced, standard margins) term paper in which they draw on what they have learned in this class to focus on the factors that did, didn't, will or won't make it possible to achieve their chosen goal.

Contact Information

Instructor TA

Name [Doug Oard](#) Elaina Snyder

Email oard@umd.edu esnyde10@umd.edu

Office PXT 1109C HBK 0302C

Phone (301)405-7590

Professor Oard's office hours are from 4:00-4:40 PM on Tuesdays and Thursdays in PXT 1109C. No prior arrangement is needed to come by at those times to discuss material from the class sessions, readings, individual or team experiences, etc. I am also happy to talk by phone, Skype, or in person then or at other mutually convenient time; email is the best way to reach me to set up an appointment, and it is also a good way to get a quick answer to a simple question. Just dropping by my office at other times without an appointment is a low-payoff strategy for reaching me because I have offices in different buildings, and I spend more time in my lab (AVW 3126) than in either office. But if you do find me and I'm not already in a meeting, I would be happy to chat any time.

Elaina's office hours are in HBK 0302C from 1:30 to 2:30 PM on Wednesdays, starting on February 6.

A [schedule](#) that summarizes what we will cover in each session can be found on the [course Web site](#).

Course Materials

The course Web site at <http://www.umiacs.umd.edu/~oard/teaching/154/spring19/> contains the most recent version of all material produced for this course. Among other things, this course description, links to the materials for each session, and (when ready) the final exam can be found there. We will use ELMS only for things that can not be done on the open Web. Examples include submitting homework assignments and summaries of assigned readings and reading materials prepared by other students. Details of how we will use ELMS can be found on ELMS.

Reading assignments for each week can be found on the [schedule](#). The principal texts for this course are:

- Andrew Chaikin, *A Man on the Moon: The Voyages of the Apollo Astronauts*, Penguin Books, 2007. (\$21 in paperback from Amazon). This is the classic text on the human adventure of Apollo.
- Catherine Bly Cox and Charles Murray, *Apollo, 1989*. (\$8 on Kindle from Amazon). This is the classic text on the engineers of Apollo.

The course has a mailing list that will be used by the instructor to make announcements. Students will be initially added to the mailing list based on email addresses on file with the university. If you have not received a welcome message from the mailing list by January 25, please contact the instructor to make sure that your correct address is included.

Grading

Student grades will be computed from:

30% Discussion group preparation and participation
15% Individual experience case study
15% Archives team experience
15% Apollo 11 team experience
25% Final exam

Participation in discussion groups is an important part of the learning experience, so class attendance is required. The discussion group grade will be computed separately for each student. It will be informed by peer evaluations, but all grades will be assigned by the instructor and teaching assistant(s), working together. Discussion group grades will be reduced for all absences after the first, except as required by university policy or law (e.g., for religious observances affecting more than one class period, extended illness affecting more than one class period, or military service affecting more than one class period). For the two team experiences, all team members will receive the same grade. The final exam will be an in class closed book examination to assess individual knowledge.

Students are encouraged to work together on anything except actually taking the final exam (which is an individual activity!). However, all of the material that is turned in for grading must be produced by the individual or team that is submitting the material.

The final exam will be comprehensive and taken in person at the time and place scheduled by the university (see Testudo for the schedule, which is usually posted after Spring Break). The exam is "open book" in that students may use any materials that existed prior to the start of the exam, including both online and paper materials, but they may not communicate with, or receive assistance in any other way from, any other person during the two hours allowed for the final exam. To repeat this for emphasis, you may not communicate in any with anyone -- whether or not they are in the class -- during the two hours allowed for the final exam, even if you finish your exam early.

Accommodations

Some of the assigned reading and media materials may not be available in formats that are accessible to students with vision or hearing impairments. Students for whom such materials would pose problems will be asked to inform the instructor during the first week of classes so that alternative sources that with suitable provisions for accessibility can be assigned. Lectures, but not class discussions, will be recorded using Panopto and made available to all students through ELMS; experience has shown that such recordings can be particularly helpful for students with limited proficiency in spoken English. Students requesting other types of accommodations should contact the Accessibility and Disability Service for evaluation during the first two weeks of classes, and (except in cases of emergent difficulties during the semester) must discuss their request with the instructor prior to the end of the third week of the semester.

[Doug Oard](#)

Last modified: Mon Jan 28 10:46:31 2019