SPST341

Course Summary

Course : SPST341 **Title :** Tools of the Planetarium **Length of Course :** 8 **Faculty :**
Prerequisites : N/A **Credit Hours :** 3

Description

Course Description:

This course is designed to familiarize students with the equipment and operation of the modern planetarium. Students learn about the use of the planetarium as an effective astronomical educational tool, and explore exciting career opportunities in the planetarium field. Students have the opportunity to utilize planetarium software and visit a local planetarium in their region of the country.

Course Scope:

This class is designed as an excellent preparation for any students who may one day be interested in working in a planetarium, although the topics will be of general interest to any student in the space studies discipline. The course will cover the evolution of planetariums throughout history, including both the role of planetariums in society and the development of the projection instruments used in planetariums. Students will learn about legal issues relating to planetarium programs, such as copyright laws and fair use policies. The role of the media (both traditional and social) in the success of a planetarium presentation will also be explored. The course will then explore how science is taught in a planetarium and how planetariums can be used as educational tools for audiences of all ages. Students will learn techniques and policies that will help in maintaining control during planetarium presentations and will have the opportunity to design and present their own original planetarium presentation.

Objectives

After successfully completing this course, students will be able to

- Describe the role planetariums have played in society in the past and the role they should play in the future. (CO-1)
- Compare and contrast different planetarium instrumentation. (CO-2)
- Understand the application of copyright law and fair use protocols in planetarium
- presentations. (CO-3) Create press releases and announcements appropriate for a wide
- range of media outlets, including social media. (CO-4)
  Describe objects of interest in the night sky and their motions, and understand how to
- incorporate these into planetarium programs. (CO-5)
-

Understand how cutting edge science can be included in planetarium programs. (CO-6)
Include interactive learning components in planetarium programs and gauge their effectiveness in increasing audience enjoyment/learning. (CO-7)
Incorporate effective storytelling techniques in planetarium programs. (CO-8)
Develop a plan for maintaining control during planetarium presentations. (CO-9)
Respond to topics that may have cultural and/or religious significance with respect and sensitivity. (CO-10)
Design and present an original planetarium program. (CO-11)
Modify presentations according to the age and interest level of the audience. (CO-12)

Outline

Week 1: History of the Planetarium

Learning Outcomes

CO - 1: Describe the role planetariums have played in society in the past and the role they should play in the future.

Required Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Introduction Discussion Post

Discussion 1

Homework 1

Recommended Optional Reading
Recommended Media

Week 2: Instruments of the Planetarium

Learning Outcomes

CO-2: Compare and contrast different planetarium instrumentation.

Required Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Discussion 2

Homework 2

Recommended Optional Reading
Recommended Media

Week 3: Legal Issues and the Planetarium

Learning Outcomes

CO-3: Understand the application of copyright law and fair use protocols in planetarium presentations.

Required Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Discussion 3

Homework 3

Recommended Optional Reading
Recommended Media

Week 4: Science in the Planetarium

Learning Outcomes

CO-5: Describe objects of interest in the night sky and their motions, and understand how to incorporate these into planetarium programs.

CO-6: Understand how cutting edge science can be included in planetarium programs.

Required Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Discussion 4

Homework 4

Recommended Optional Reading
Recommended Media

Week 5: The Role of the Planetarium in Astronomy Education

Learning Outcomes

CO-7: Include interactive learning components in planetarium programs and gauge their effectiveness in increasing audience enjoyment/learning.

CO-8: Incorporate effective storytelling techniques in planetarium programs.

CO-12: Modify presentations according to the age and interest level of the audience.
Required

Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Discussion 5

Homework 5

Recommended Optional Reading
Recommended Media

Week 6: Media and the Planetarium

Learning Outcomes

CO-4: Create press releases and announcements appropriate for a wide range of media outlets, including social media.

Required Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Discussion 6

Homework 6

Recommended Optional Reading
Recommended Media

Week 7: Planetarium Policies: Keeping Control in the Planetarium

---

Learning Outcomes

CO-9: Develop a plan for maintaining control during planetarium presentations.

CO-10: Respond to topics that may have cultural and/or religious significance with respect and sensitivity.

Required Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Discussion 7

Project Topic Discussion

Homework 7

Recommended Optional Reading
Recommended Media

Week 8: Designing a Planetarium Presentation

Learning Outcomes

CO - 11: Design and present an original planetarium program.

CO-12: Modify presentations according to the age and interest level of the audience.
Required

Readings

The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Assignments

Discussion 8

Final Project

Recommended Optional Reading
Recommended Media

This course requires the use of the Stellarium Astronomy Software, an open source planetarium program.

Evaluation

Reading Assignments: The required articles are listed in each week's lesson on the course homepage. Make sure you complete the readings before accomplishing any other assignment.

Introduction Discussion Assignment: In week 1, you are required to post in the introductions discussion, and the post must be at least 250 words to meet the APUS-wide requirement. Details about this posting are in the description at the top of that discussion. A minimum of two responses to classmates is required, more responses are strongly encouraged.

Discussion Assignments: You have eight discussion assignments in the course (other than the Introduction Discussion). You are required to post your own response to the prompt and to respond to at least two of your classmates. Your main post and your responses must be substantive (not merely saying “Good post”). Main posts are due on Thursday at midnight Eastern time. Responses are due by Sunday at midnight Eastern time. You are also expected to monitor your own feed and respond to replies there (these do not count as part of the two required responses). Scientific discussion is an extremely important part of the

class, and the discussions are how we foster that discussion in an online format. Please participate as much as possible in the discussions each

week.

Exams:

There are no exams or quizzes in this course.

Homework Assignments:

The weekly homework assignments vary depending on the week's topic, but can include short essays, audio recordings, and specialized writing assignments.

Final Project:

The Final Project is the culmination of the course and an opportunity to highlight all you have learned. Details of this assignment can be found in the week 8 lesson. It is due in week 8, but it is highly recommended that you get started in week 7 in order to have time to do your best work. The final project requires the use of Stellarium.

Late Work:

The class policy on late assignments is detailed on a page in the week 1 lesson module. Read it carefully. Assignments will not be accepted more than two weeks late without written permission from me PRIOR to the original due date. Late assignments within that two-week period without my prior permission will be subject to late penalties as described in the class policy document.

The table below shows the points for each assignment.

Grading:

Name	Grade %
Homework Assignments	50.00 %
Homework 1	7.14 %
Homework 2	7.14 %
Homework 3	7.14 %
Homework 4	7.14 %
Homework 5	7.14 %
Homework 6	7.14 %
Homework 7	7.14 %
Discussions	25.00 %
Intro Discussion	2.78 %
Week 1: The Role of the Planetarium	2.78 %
Week 2: Projection Instruments	2.78 %
Week 3: The Fair Use Debate	2.78 %
Week 4: What's Up in Your Night Sky?	2.78 %
Week 5: Engaging Interest and Increasing Learning in the Planetarium	2.78 %

Week 6: Comparing Media Formats	2.78 %
Week 7: Fielding Questions	2.78 %
Week 8: Adapting a Presentation	2.78 %

Final Project	25.00 %
Week 7: Claim Your Topic	2.50 %
Final Project	22.50 %

Materials

Book Title: Various resources from the APUS Library & the Open Web are used. Links provided inside the classroom in the Content section.

Author: No Author Specified

Publication Info:

ISBN: N/A

Required Readings

The required readings consist of journal articles and other relevant papers. The readings for each week are located online in the classroom in each week's lesson. These articles constitute the text for the course.

Additional Required Resources

This course requires the use of the Stellarium Astronomy Software, an open source planetarium program.

Additional Recommended Resources

Recommended resources (not required for the course) include:

- *STar Theatre: The Story of the Planetarium,* by William Firebrace
- *Stars on the Ceiling - The Planetarium Story*, by Dirk Gringhuis
- *Research on Teaching Astronomy in the Planetarium*, by Timothy Slater & Coty Tatge

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 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

- The University encourages all work to be completed according to the course schedule. The University Late Work Policy can be found in the Student Handbook here.

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 Discussion

- Discussions 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 discussion. The purpose of the discussions 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.