

*Series: Discovering your Educational Community Resources*

## **Amazing Space and Science: Astronomy & More: Fresno The Downing Planetarium and Space Museum, and the Sam B. Peña Planetarium**

EDUO 9807 1 Semester Credit/Unit

Instructor – Julie Gray

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### **Syllabus**

Welcome to EDUO 9807, Amazing Space and Science: Astronomy & More!

#### **Course Overview:**

The purpose of this self-paced class is to provide teachers with the opportunity to familiarize themselves with the educational resources available for teachers and their students at the **Downing Planetarium**, located on the California State University campus in **Fresno**, whose mission is public outreach. The Downing Planetarium Museum also features hands-on interactive exhibits allowing visitors to explore the basic principles of physics and astronomy. The Downing Planetarium is located at 5320 N. Maple Ave. at the California State University in Fresno.

The new Planetarium & Science Center in **Visalia** is comprised of two specially designed classrooms: the **Peña Planetarium**, where visitors can study astronomy-related topics and take imaginary trips through our solar system; and the **Science Center**, which is envisioned as a hands-on, interactive learning environment. While the displays and curriculum for the new Science Center are being developed, visitors may enjoy the full catalog of history/social science presentations.

The Planetarium & Science Center is located on the **southwest corner of Mooney Blvd. and Avenue 264** in Visalia (formerly the Liberty School campus).

Tulare County Office of Education

Planetarium & Science Center

11535 Avenue 264

Visalia, CA 93277

Southwest corner of Mooney Blvd. and Avenue 264 in Visalia

#### **Course Objectives:**

1. Teachers will learn what educational programs and other opportunities are available for their students at the Downing planetarium or the Sam B. Peña planetarium.
2. By participating in a star-gazing activity and a tour of the exhibits in the planetariums, teachers will further their knowledge of astronomy, and learn some basic principles of physics that can be taken back to the classroom.

3. Teachers will gain the knowledge to plan and teach meaningful astronomy lessons and activities for their grade level.
4. Teachers will also be able to provide field trip information for parents and staff.

*Grading Policy: The write-ups on the planetarium programs, the star-gazing event or museum tour, the website links and information, a lesson plan and activity, and the Summary and Evaluation page must be completed for a grade of "A".*

**Grading Rubric: Written Response Rubric:**

Exemplary: Met or Exceeds Expectations A+ to A-	Acceptable: Meets Expectations B+ to B-	Unacceptable: Needs Improvement. Must be resubmitted.
Reflective, thoughtful ideas relevant to the assignment are clearly stated.	Presents some relevant ideas and connections to the assignment.	Few relevant ideas connected to the assignment, some ideas unclear.
Very well organized	Is generally well organized	Shows little organization
Reflective piece covers numerous facts and specific details of the learning experience	Some facts and specific details of the learning experience are included.	Few or no facts or specific details of the learning experience are included.
Free of Spelling or grammatical errors	Writing contains a few spelling or grammatical errors.	Numerous spelling or grammatical errors. Writing is difficult to read.

**Instructions for coursework submission:**

**Written Assignments**

Your coursework should be created in a document that can be emailed directly to the instructor. Coursework should be typed, double-spaced with size 12 font. Reflection write-ups should be one or more pages in length and address every question in the coursework. Pictures and documents may be scanned and posted along with your Word or PDF file of written assignments. Label everything carefully with the assignment number and make sure that your name and email address are easy to locate. Visit four sites and submit responses for EACH location.

**IMPORTANT - Camera images can be very large files. Save the images in lower definition resolution in order to keep document file sizes down for emailing.**  
 For assistance email [jherz@dominicancaonline.com](mailto:jherz@dominicancaonline.com)

**EMAIL your completed documents to the instructor's email listed on the syllabus you are working from.**

## Course Requirements:

1. Participants will attend, at their convenience, two planetarium programs, including one pertinent to their grade level.
2. Participants (in Fresno) will also tour the Downing Planetarium Museum. The museum is located directly behind the Downing Museum, and consists of hands-on astronomy and physics exhibits.
3. Participants can also attend a minimum of one Star Gazing event, weather permitting.
4. Participants will go online to the planetarium websites and view important links that students in their classroom could view.
5. Participants will submit a one page or more reflection about their experiences at one of the planetariums. It will include a reflection on the shows that were viewed, and their relevance to the curriculum of the grade taught by the teacher, as well as a description of the Museum and, if possible, the Star Gazing event.
6. Participants will submit an astronomy lesson plan that could be taught in their classroom, using ideas and information gained from visiting the planetarium and its website.
7. Participants will complete the Summary and Evaluation page of the coursework.

### Coursework Written Reflection

Please include the name of your school and district where you teach, and the grade level you are now teaching.

1. After visiting the planetarium and viewing two shows, reflect on your experiences, describing what you observed and learned from each program, and whether a viewing of these shows might be of interest to the grade level you teach.
2. Describe the lobby and what is available to purchase of interest for students in the gift shop.
3. If participating in a night Star Gazing event, describe what celestial sightings you observed through the telescope, and explain what information you learned about the night skies that was given by the docent. If stargazing was not possible due to poor conditions, please visit the planetarium website and use the links to engage in virtual sky gazing to describe what constellations are in the night skies at this time. If you visit the Downing Planetarium Museum, a write-up of the museum attractions can be substituted for the star gazing write-up.
4. After visiting and browsing the Downing Planetarium's website: <http://www.downing-planetarium.org/planetarium.org>, or the Sam B. Peña Planetarium's website: [www.tcoe.org/ImpactCenter/Planetarium.shtm](http://www.tcoe.org/ImpactCenter/Planetarium.shtm), please list two or more links of interest that were visited and what information was given on each link.
5. A lesson plan for an activity on astronomy education for students at your grade level will be submitted. For ideas, supplementary educational materials are available for free in room 402 of the Education building at CSUF. Websites of interest to your class should be mentioned and usage described. Written lesson plans should include:

Into: Instruction

Through: Guided Practice/Activities (Worksheets can be included)

Beyond: Closure activity/Assessment.

Note: Pictures of the class astronomy projects are always appreciated.



**Summary and Evaluation Sheet**

Summarize and evaluate your experience visiting and researching this museum regarding its value to an educator.

**Optional :**

Do you have suggestions that would improve the experience?

Would you recommend this class to other teachers? Why/why not?

Thank you,

Julie Gray