

SYLLABUS

Science, Discovery & the Universe

College Park Scholars

Course: CPSP119D, Section 0101
Semester: Spring 2014
Time: Thursdays, 4:00 – 5:20 PM
Location: CCC Room 1205
E-mail: promani@umd.edu
Website: http://www.astro.umd.edu/~peel/CPSP119D_101
<https://myelms.umd.edu/login>

Instructor: Dr. Paul Romani
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Phone: (301) 314-9476 (when on campus)
(301) 286-1525 (when off campus, which is most of the time)
Office Hours: Th. 1:30-4:00 PM starting 30 January (also by appointment)

Contacting Me:

In Colloquium

Speak up! About the worst thing that can happen with the colloquium is that it turns into a soliloquy. I'll be asking you a lot of questions so it is only fair that you ask me some in return. You should have a goal of asking me at least one question that I don't know the answer to, so I have to go look up the answer.

Outside of Colloquium

Electronically is by far the best way to get in touch with me outside of class. I will be checking my U of Md e-mail and postings on ELMS at least once per day. There is an answering machine on my off campus phone so even if I am not in my office you can leave a message. For office hours, even if you don't live in Cambridge Hall your student ID card should let you into the first floor section where the SDU office is.

Contacting You:

Please check the e-mail you put into the Maryland System a couple of times per week and the course ELMS site. This is to your advantage. For example, in the past as people have asked me questions about problem sets I have realized that I had done a less than a stellar job of explaining some things. I tried to correct the damage I did in an e-mail or ELMS announcement before the problem set was due. Or if people are confused about the schedule I will send out a mass e-mailing about that, etc.

Class Topics:

SDU's "big question" is, "What happens at the intersection of astronomy and culture: what are the roles of science, exploration and communication in the process of discovery?" My take on this is then the theme for the semester, "What do cultures ask from their astronomers?" We will look at different cultures (location and time) and see what astronomy problems they thought were important, why they thought they were important, and how the astronomers solved the problems. Where this is all leading to, is that I will ask from you what question you think our culture should be asking from its astronomers? Or to be practical, why should people like you (a.k.a. the taxpayers) pay people like me a salary? Or to be specific, you will work on group projects along this line and present them in class for our last two meetings. After all the presentations are done we will see if we can come to a class consensus on what is (are) the most important question(s) for NASA to be addressing.

Grading:

The grade breakdown is as follows:

Participation	30%
Extracurricular	20%
Problem Sets / Class work	30%
Project	20%

Participation

You can't participate if you don't show up. So because participation is important, make sure you show up to colloquium and sign in! If you have to miss a colloquium for a good reason, **notify me in advance**. It is so easy to e-mail or phone me that you should be able to let me know ahead of 4 PM that you are sick and will miss colloquium. I do reserve the right to assign make-up work if you have to miss colloquium. There will be a sign up sheet for each meeting, so **MAKE SURE YOU SIGN IN**. When you do show up for colloquium, do your best to stay awake, and be involved in any discussion. I do ask that all phones and other electronic devices (i.e. things that go beep, play music, connect to the net, etc.) be turned off during colloquium or be set to "silent". I will do so for the pager I have to wear for my job. If any cell phone rings during colloquium, I reserve the right to answer it. However, I will ask you to bring laptops, if you have them, to a few colloquiums. I will be asking you questions as I go along and I fully expect you to ask me questions. One of my best professors said that he does not like it when there are no questions in a class, because either one of two bad things has happened. Either he has presented material that is so simple that everyone is bored and fallen asleep, or he has presented material that is so difficult that everyone is snowed and has no clue as to what is going on. I will also be using a technique called "Classroom

Assessment” in many, if not all, colloquiums, which is education speak for short questions with short answers (3 x 5 card) at the beginning\end.

Extracurricular

- 1) Outside Trip/Excursion. (5% of your grade) You will also be required to participate in at least one SDU extracurricular trip/activity during the semester. There will be many options for this and we will most definitely keep you informed.
- 2) Meet the staff. (5% of your grade) We are requiring you to meet with a member of the SDU staff once this semester. Nothing big here, just wanting to make sure if there is anything we can do to help you and you aren't getting lost in the cogs of a big state university.
- 3) Academic showcase. (5% of your grade) Scholars puts on a huge affair near the end of the semester where nearly all the sophomores display posters of what they did for their capstone projects. We require you to visit the showcase so that you can see firsthand that the prospect of a Capstone shouldn't scare you and some examples of what people do for that project. This is a mandatory except for academic reasons (class conflict).
- 4) Reflection Essay. (5% of your grade) You will write a reflection essay due on the last day of class which bears on your experience with Scholars and/or SDU thus far. We take these very seriously as feedback on what is working well with SDU and Scholars and what is not. If you feel strongly critical, please phrase your criticism in a constructive way, i.e., suggest ways we can improve. You will be held accountable for poor grammar and spelling, but an active first person voice is completely acceptable here ("I enjoyed...", etc.).

Problem Sets / Class work.

The madness here is to let you experience solving the astronomical problems of different cultures. The problem sets can be done either individually or in a group (no more than 4 people). But I strongly encourage you to do them in a group. We are all blind to our own mistakes and another set of eyes is invaluable in checking. If you do it as a group turn in just one set of answers and make sure all of the names of the members of the group are on it and what each person did. Late work will be accepted up to the start of the class after the problem set is due. Each day late lowers the points by 10%. They will involve both computation and reasoning, i. e. ***show all work.***

Project

The project will be done in groups of 4 or 5 students. Each group will cover one specific question and make a ≈15 minute presentation to the rest of the class. In

addition to the presentation, each group will submit a written paper on their topic (≈10 pages). The intent of the group project is to get you to explore a topic on your own, give you experience working in groups, and in making oral presentations.

How important are the various factors to getting a good grade? I use a straight translation of points to grade values, where 90 to 100 points will get you an “A” of some sort, 80 to 90 a “B”, 70 to 80 a “C”, and so forth.

Class Text

There is no class text, but there will be some material to read. After each lecture I will make my slides available in .pdf format on the ELMS class website.

Important Red Tape & Helpful Stuff:

Official Maryland leave policy:

<http://www.president.umd.edu/policies/v100g.html>

Academic Integrity:

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the definitions and consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Student Honor Council or the Code of Academic Integrity please visit <http://www.shc.umd.edu/> or <http://www.president.umd.edu/policies/iii100a.html>

Copyright Issues and Your Notes: selling or distributing copies or modified copies of instructors' course materials or assisting another person or entity in selling or distributing those materials should be considered a violation of the University Code of Student Conduct, Part 9(k).

Academic Help:

If you are experiencing difficulties in keeping up with the academic demands of this semester, contact the Learning Assistance Service, 2202 Shoemaker Building, 301-314-7693. Their educational counselors can help with time management, reading, math learning skills, note-taking and exam preparation skills. All their services are free to UM students. You can visit their website at:

<http://www.counseling.umd.edu/LAS>

for more detailed information about the services they provide.

Disability Accommodation:

Students with a documented disability who require academic accommodations should contact me as soon as possible. If you suspect you might require such in this class or any, please feel free to discuss this with us in the SDU office, or head straight to the Disability Service Support office:

<http://www.counseling.umd.edu/DSS/>
for more information.

Course Evaluations:

CourseEvalUM will be open for students to complete their evaluations later in the semester. Students can go directly to the website:

<https://www.courseevalum.umd.edu/>
to complete their evaluations. You will be alerted when the evaluation sites are ready closer to that time via your official University e-mail account. Students who complete evaluations for all of their courses in the previous semester (excluding summer), can access the posted results via Testudo's CourseEvalUM Reporting link for any course on campus that has at least a 70% response rate. The expectation is that all students will complete these. This is YOUR chance to anonymously evaluate this class: please use this opportunity! I have altered courses before based on constructive criticism from students.

Preliminary Schedule:

1 – Thursday 30 January

Introduction, go over syllabus, *In class: expectations, Introductory Astronomy Survey*
**HW For next colloquium: Read; syllabus (and e-mail me),
U.S. Space Policy, and “NASA What Now?”**

2 – Thursday 6 February

Go over projects, assign project groups
**HW Due: Reading assignment Syllabus, U.S. Space Policy and
“NASA What Now?”
For next colloquium: Internet link assignment**

3 – Thursday 13 February

Planetarium
HW Due: Internet link assignment

4 – Thursday 20 February

Ancient Egypt, *In class project: Creation myth*
**HW Due: Group project topics & group rules e-mailed to me
For next colloquium: Read “A Black Widow’s Best Friend?”**

5 – Thursday 27 February

What is a Planet? *In class project: planet definition*

HW Due: Reading assignment “A Black Widow’s Best Friend?”
For next colloquium: Resume and faux cover letter

6 – Thursday 6 March

Career Center

HW Resume and faux cover letter
Group Project outlines and annotated bibliographies, electronic and hard copy
For next colloquium: Piano tuners problem set

7 – Thursday 13 March

Astrobiology a.k.a. “Viking Science”, *In class project: Is it alive?*

HW Due: Piano tuners problem set
For next colloquium: Science of Easter problem set

8 – Thursday 27 March

Astronomy and Religion or the Science of Easter

HW Due: Science of Easter problem set

9 – Thursday 3 April

Astronomy with a stick, *In class project: Flat or round, near or far?*

HW Due: 1st draft, electronic and hard copy of group project paper and presentation

10 – Thursday 10 April

Eratosthenes and Ancient China *In class: Model solar system on the quad*

HW For next colloquium: Ancient China and Internet problem set

11 – Thursday 17 April

The Great Debate, the Universe and everything else

HW Due: Ancient China and Internet problem set

12 – Thursday 24 April

Your topic

13 – Thursday 1 May

Projects I

HW Due: All project material (paper – both electronic and hard copy, presentation – electronic copy) from all groups.

14 – Thursday 8 May

Projects II

HW Due: Reflection Essay