

COURSE SYLLABUS  
PHY1404 Lab – On-line  
Solar System Astronomy Laboratory  
Fall 2017

## 1. LOCATION OF CLASS MEETING

None – on-line class

## 2. CLASS MEETING TIMES

THIS IS AN ON-LINE CLASS THERE IS NOT AN ASSIGNED CLASS TIME.

## 3. INSTRUCTOR

The instructor for this class is Dr. Charles R. Meitzler

## 4. OFFICE LOCATION

313 Farrington Bldg., Physics Dept., Sam Houston State University, Huntsville, TX, 77341.

## 5. INSTRUCTOR CONTACT INFORMATION

The instructor may be contacted in one of several ways:

- 1) Phone 936.294.1606 – Please leave a message and I will call back. Leave a time when I can return your call. Depending on your requested callback time, the phone number will come up as a Skype phone number.
- 2) E-mail: [crmeitzler@shsu.edu](mailto:crmeitzler@shsu.edu) – I check my e-mail at roughly 6:00, 12:00 and 18:00 on weekdays. Weekends have a more restricted schedule but I typically check at least once each day.

The following rules, and suggestion, apply for e-mail correspondence.

**Please state which course you are taking so that I can respond in a timely manner.** E-mail without a course number will be answered with a message asking for which course you are taking.

**You must use your SHSU e-mail account when corresponding with me.** This is so that I can identify you when you forget to include your name.

**If you are asking about a specific question on a quiz, please include the topic and text of the question.** (The quizzes are generated by a random generator and any two quizzes will not have the same questions and numbers!).

**Avoid sending email from your smartphone when you get stuck or have a question.** The advent of smartphones provides a significant advantage in that you have almost instant communication with anyone on Earth. On the other hand, it is too easy to fire off a message without thinking about what you are writing, or using proper English. If you do use your smartphone, take a moment to think about what you want to say, hand write your message first to avoid using texting abbreviations and emoji's, and review your message before hitting SEND to avoid auto-correction errors.

## 6. COMPUTER HELP

If you have computer problems or technical problems with the Blackboard software please contact the Delta Center Help Desk at 936.294.2780. They are available Monday through Saturday during the hours of 7:00 to Midnight. DO NOT CALL THE SAM HOUSTON COMPUTER SERVICES HELP DESK BECAUSE THEY CANNOT HELP YOU WITH YOUR OWN OFF-CAMPUS PERSONAL COMPUTER.

Be aware that the instructor has a very limited ability to solve your computer problems. If you do decide to write to me about a computer problem you are having, you need to include the following information so that I can ask the Delta Center Help desk:

- 1) Computer Manufacturer
- 2) Operating System and version
- 3) Browser and version information
- 4) A detailed description of the problem including screenshots, if possible, and a description of exactly what you were doing at the time.
- 5) Any peripheral hardware you are using.

## 7. OFFICE HOURS

The office hours for this course are quite open because of the fact that communication will be primarily via e-mail over the Internet. E-mail is generally checked at approximately 6:00 in the morning, noon, and 18:00 in the evening.

It is also possible to set up Skype sessions if needed. These have proven to be quite effective.

## 8. COURSE DESCRIPTION

This course is a laboratory supplement that accompanies the PHYS1404 lecture course.

There will be a small amount of mathematical and numerical work associated with this course but nothing exceeding simple arithmetic operations on a calculator.

**You will need to devote roughly 30 to 40 study hours to successfully pass this course.**

This course is intended for non-science majors, and it does differ significantly from the face-to-face labs. Before proceeding you should be aware of the following points:

- **How does this differ from a traditional lab class?** The biggest difference is that you will need to take charge and read the labs well before they are due. Since there is no lab TA present, you will also need to ask questions by e-mail which can take time.
- **What will be expected of me online?** You will be expected to read the lab introductions, complete a number of online labs and submit your answers to a number of post-lab questions as well as write a summary of the lab that you complete each week. While there are deadlines for each of these assignments, you will have the flexibility to work on them whenever you want!
- **How do I know if this online format is right for me?** Success depends on self-discipline and time management skills. Self-discipline is extremely important. Another important skill is that you can follow directions exactly, and work without having constant supervision.
- **How much computer knowledge is needed?** Not too much, however, you should be able to use a standard word processing program such as MS-Word, know how to import images into Word documents, etc. Without these basic skills the course could be a bit hard to manage.

## 9. COURSE OBJECTIVES

The objective of this course is to provide supplementary laboratory exercises for PHYS1404.

## 10. REQUIRED TEXTBOOKS

No textbook or lab manual is required for this course. All materials are provided online.

## 11. REQUIRED SUPPLIES

The following supplies are required for this course:

- 1) Writing instrument such as a pen or pencil
- 2) Scientific calculator with the following functions: sine, cosine, square root, exponentiation, scientific notation.
- 3) Notebook or ring binder with appropriate paper.
- 4) Astronomy textbook for reference
- 5) Access to a computer with internet access and a suitable browser such as Firefox or Internet Explorer installed. (Some of the Blackboard software doesn't work well with the Chrome or Safari browsers so it is important to have one of the two listed browsers.)
- 6) A reliable internet connection, and either Internet Explorer or Firefox web browsers.
- 7) Flatbed scanner or digital camera to image your written assignments for grading.
- 8) A straight-edge or ruler
- 9) A protractor
- 10) Access to open-source planetarium software such as Stellarium available at <http://www.stellarium.org/>.

## 12. OPTIONAL TEXTS, REFERENCES, AND SUPPLIES

**None Required.**

There is some planetarium software available that is also described in the Preface. These are also recommended.

## 13. ATTENDANCE POLICY

**Classroom attendance is not used to calculate the final course grade.**

## 14. ASSIGNMENTS

The following general rules apply to all assignments in this course.

**Be aware: proper English is required for all written submissions.**

**All written reports must be double-spaced.**

**All worksheet questions must be answered in complete sentences. Single word answers are not sufficient and will be considered wrong.**

**Lab reports must be submitted as a single document with the worksheets FIRST.**

**Lab reports must be double spaced.**

**Lab Reports must be submitted as a pdf file. Submitting in any other file format is a mandatory 75 point deduction**

**Do not put your name on your paper or in the filename. Inclusion of your name is a mandatory 25 point deduction.**

**Late submissions will have a mandatory 10 point penalty and an additional point for each day late.**

Example: You submit your paper at 12:09:00 A.M on the morning after the paper is due. The penalty will be:

$$\text{Late Penalty} = 10 \text{ pt} + \left(1 \frac{\text{pt}}{\text{d}}\right) (1 \text{ d}) = 11 \text{ pt.}$$

Your raw grade from the rubric is a 92. Then after the penalty, your grade will be

$$\text{Grade} = \text{Raw Grade} - \text{Penalty} = 92 - 11 = 81$$

**If your files are so large that the Blackboard grading/comment software can't read them, then a 75 point penalty will be assessed. Keep your files to less than 10 MB in size.**

**Any work missing at 23:59:00 Central Time on the semester's official last class day, as defined by the University's Academic Calendar, will be given a grade of zero.**

## 15. Lab Reports

Every week you will perform a series of activities, and you are required to synthesize the information into a coherent lab report. Please refer to the "Lab Report Guide" for instructions regarding your lab reports.

**Late submissions will have a mandatory 10 point penalty and an additional point for each day late.**

**Labs will be graded according to a rubric that is available for you to view for each assignment.**

**All worksheet questions must be answered in complete sentences. Single word answers are not sufficient and will be considered incorrect.**

**The completed worksheets must be handwritten. Typed answers will be considered incorrect.**

**The narrative report must be double-spaced.**

**If your files are so large (>>10 MB) that the Blackboard grading/comment software can't read them, then a 75 point penalty will be assessed.**

## 16. Quizzes and Post-Lab Questions

Several labs have a pre-lab quiz. This quiz is to ensure that you read the lab first. You will have only 10 minutes to do the quiz so it is not feasible to hunt for the answers during the quiz.

## 17. GRADING PLAN

Final letter grades are calculated off-line on a spreadsheet on my computer. The grades in the spreadsheet are the official ones for the course.

The average grades for the pre-lab quizzes and reports will be calculated as an un-weighted average:

$$\text{Avg} = \frac{1}{N} (\text{Total points})$$

where  $N$  is the total number of assignments.

After the average of each section is calculated, the overall lab average will be calculated using the formula

$$\text{Overall Avg} = \frac{1}{4} \text{Quiz Avg} + \frac{3}{4} \text{Report Avg}$$

This overall average will be transferred to the main course and be set to  $\text{Lab}_{\text{avg}}$  in the

calculation described in that syllabus.

## **Extra credit is not available for this course.**

### **18. Lab Report Guide**

The purpose of the lab report is *not* for you to summarize what you did during the lab period. It *is* for you to synthesize the information you obtained from the lab exercise. (Generally, this is when you fully understand what you did, or realize you don't have a clue what you did). For labs that are more informational than experimental, you should do research using your textbook or the internet to expand on the topic.

The lab report must be written in complete, grammatically correct sentences. At the very least, you should use grammar and spell check. If you have problems writing, visit the Writing Center on the first floor of the Farrington Building. ***Your lab report must be typed with a 12-point font, and double-spaced.***

The lab report must follow the following structure. Each section must be labeled in your report.

1. **Lab Worksheets:**

You need to scan your handwritten worksheets into jpg files and insert them into your document. You are required to submit only one file so you will need to learn how to import pictures into MS-Word or combine PDF files. Avoid using excessively large images because the Blackboard grading software cannot read them. A resolution of roughly 100 dots per inch (dpi) is sufficient. Directions on how to include images in Word documents is included in the "How To's" content area.

2. **Introduction:**

Briefly outline the topic and purpose of the lab. It needs to introduce the topic the lab covered. In essence, the introduction tells me what you are going to tell me in the remaining sections. It should be the last section written! For instance, if the lab topic had to do with the phases of the moon, you would need to state and explain (briefly) why we see different moon phases. **This needs to be more than a single sentence long. (1 paragraph)**

3. **Procedure:**

This should be a general overview of what you did during lab and how it relates to the topic you stated in the introduction. It is a story. You should be able to have someone who is not in the class be able to read this portion and understand exactly what you did in lab. You should write one paragraph, no matter how short, for each separate activity.

**It is not a step by step copying of the lab procedure. (1 paragraph for each activity)**

4. **Conclusion:**

Discuss what you learned from the lab; do not just simply repeat the objectives.. Focus on the things you have learned, and give specific cases to illustrate your points. Be concise. What you write should be related to what you did in the lab exercise. (1 paragraph)

Here are things to avoid when writing your conclusion:

- *Do not tell me how much you did, or did not, enjoy doing the lab.*
- *Do not use the word “we” or the phrase “the student” when you refer to yourself unless you normally refer to yourself with either of those words.*
- *Do not simply state that you learned a vague “something” or “new things”. Be specific.*
- *Do not tell me you learned about a general physical principle or law – tell me specifically what you learned. Name dropping is not sufficient to tell me what you learned in the lab.*
- *Do not simply complain about the lab or the textbook.*
- *Do not tell me what you would do to help the students. Send those comments in via email.*
- *Do not tell me about how your abilities are different from those of other students.*
- *Do not tell me what your major is, and how this will enhance your understanding of whatever your major is.*
- *Do not tell me what type of learner you are.*
- *Do not tell me how you would have written the lab.*
- *Do not wander off into wild speculation or unrelated material. Your conclusion must be supported by the data in the lab.*

## 19. University mandated parts of syllabi

**Student Syllabus Guidelines:** You may find on-line a more detailed description of the following policies. These guidelines will also provide you with a link to the specific university policy or procedure:

<http://www.shsu.edu/syllabus/>

**Academic Dishonesty:** Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. *See Student Syllabus Guidelines.*

**Classroom Rules of Conduct:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Students may tape record lectures provided they do not disturb other students in the process.

**Student Absences on Religious Holy Days:** Students are allowed to miss class and other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Students remain responsible for all work. *See Student Syllabus Guidelines.*

**STUDENTS WITH DISABILITIES POLICY:** It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail [disability@shsu.edu](mailto:disability@shsu.edu)). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see:

<http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf>

**Visitors in the Classroom:** Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.