

**SIERRA COLLEGE OBSERVATIONAL ASTRONOMY  
LABORATORY EXERCISE**

**Lab N13: Special report**

**NAME**

**GROUP**

**OBJECTIVE:**

- Research a specialized topic.
- Prepare a 2-3 page paper about the topic.
- Present to the class.

**INTRODUCTION:**

Your instructor will assign to you a topic from the list. You will research this item, write a 2-3 page paper about the topic, and present to the class on the day indicated on the syllabus.

Your paper is worth 12 points. It must comply with the guidelines presented in the Procedure, below. The presentation is worth 8 points, and is also described in the Procedure. The instructor may override various aspects of the point system—changes will be announced in class.

**Presentation topics**

- |                                      |  |
|--------------------------------------|--|
| 01) SETI                             | 14) William and Caroline Herschel                |
| 02) Radio interferometry             | 15) Seyfert galaxies                             |
| 03) Adaptive optics                  | 16) Planetary nebulae                            |
| 04) LIGO                             | 17) Vesta (including how to see it)              |
| 05) Neutrino telescopes              | 18) RR Lyrid stars                               |
| 06) Arecibo                          | 19) Recurrent novae                              |
| 07) Chandra Space Telescope          | 20) Light pollution                              |
| 08) James Webb Telescope             | 21) LMC and SMC                                  |
| 09) TESS (the NASA mission)          | 22) T Tauri stars                                |
| 10) Astronomical spectroscopy        | 23) Polaris                                      |
| 11) M87 (Fall) or Messier 1 (Spring) | 24) White dwarfs                                 |
| 12) Henrietta Leavitt                | 25) Charles Messier                              |
| 13) Williamina Fleming               | 26) OB Associations (Spring) or Dark rift (Fall) |

**PROCEDURE I: Your research paper**

1. You will write a research paper that is between 1.75-2.5 pages; single spaced, 12 point font, normal margins, etc. Attempts at cheating the system via excessive white space, etc., will result in a penalized score, at the instructor's discretion.
2. The paper will treat the assigned topic, and will effectively summarize and synthesize information that is most relevant to a class interested in observational astronomy.

3. The paper will include 5-8 separate references. The instructor will advise whether internet sources such as Wikipedia or nasa.gov etc are considered allowable.
4. The paper will be completely free of spelling errors.
5. The paper must be clear and logical in its presentation, and must keep its focus on topics relevant to this class.
6. The paper must be printed and handed in to class by the beginning of the day in the syllabus, noted as "Project reports." Late papers are worth exactly zero points.

### **PROCEDURE II: Your presentation**

7. On the day noted on the syllabus as "Project reports," you will present your paper to the class. You do not have to present a report to the class, but if you choose not to, you will miss out on the presentation points.
8. You will have five minutes to present your material. A presentation less than four minutes long is considered inadequate, and you will be silenced at 5 minutes and 30 seconds. If your presentation is too long or short, your grade will suffer.
8. Your presentation should have at least 3 quality images that support your presentation. If you opt to give a presentation without a computer display, you should have copies of your illustrations for everyone in the classroom. It is your job to make the copies—the instructor will not.
10. If your presentation includes a powerpoint, you must have it ready on a thumbdrive for the instructor at the beginning of class. The instructor will spend the first few minutes of class transferring files to the class computer. If you miss this window of opportunity, you will not be allowed to use powerpoint. (Even better, arrive early to class so the professor can attend to your file.)

Expecting to email your documents to the instructor, or accessing an cloud-based or other form of internet drive (such as Google) is allowed only by the instructor's prior approval. Bear in mind that if your presentation is inaccessible for any reason, you will lose all the presentation points.

Important note: this will be a busy, packed night. The instructor will have no time to make special considerations for downloading your presentation from an obscure internet location. Simply stated—the most reliable option is to bring a powerpoint, on a thumb drive.

11. Keep any powerpoints simple. Do not expect the computer to be able to use any special plugins, etc. You should also be careful about designing a presentation on a display with a different aspect ratio from the ones in the lab.
12. Your instructor will grade you on your time usage, presentation relevance, knowledge, clarity of presentation, and handling of any questions.