

## Laboratory Notebook and Learning Log

Each student must maintain a notebook or journal for the class as a general log and scratch pad for all information and thoughts regarding his/her work in the course. The notebook must be bound (metal spiral bound is acceptable) and all entries should be dated. The notebook should not be used for class lecture notes, or contain material related to other classes. At a minimum, entries should be made weekly, and consist of two general types of information.

### Substantive Information

Use your journal to tell the instructor what you did, your personal contributions to the team effort each week. Share your ideas, sketches, and observations, and particularly unanswered questions. Note changes in plans and approaches to solving the design problem, and the reasons, such as critical incidents, failures, or surprises. Use your notebook in lab to record and supply reference information, plus To-Do lists, time lines, and critical tasks. Use it outside lab to record notes from team meetings, phone numbers, useful web site URLs, etc., anything you might need later.

### Reflective Observations

**Week 1:** The first week or two you won't have much substantive action to report, so write a paragraph describing your personal goals and expectations for this course, why you are taking it and what you hope to get from it. You might find it easier to compose this on a word processor and then paste it into your notebook.

**Regular Weeks:** Each week take some time to reflect on your experiences in lab and in the course, and answer one or more of the following questions, or invent some similar questions. During the semester you should try to address all of the questions at least once.

- How are you doing in this class and with your team? How would you describe your progress?
- What is the attitude and performance of your team; what is your role and function?
- What type of tasks do you seek out, what type do you avoid?
- What was particularly interesting, fun, or exciting this week?
- What was the most difficult or confusing task or concept?
- What was the most surprising thing you learned recently?
- What do you need to learn, where do you need help?
- Can you identify how you learn best: reading, listening, watching, doing, etc.?

**Last Week:** For the last week or two, review your Week 1 paragraph and assess whether you achieved your goals for the course. Did they change; were there some surprises? What skills did you learn that might be useful in other courses, or in life? Was your group a real team or just three people working together and sharing tasks? Describe the benefits and problems of a course that focuses on a single open-ended complex design problem.

### Grading

Your notebook will be collected and graded at the end of the course and at least once during the course. Since you are supposed to use it during lab (at least), we might ask to see it during any lab, just to see how you are doing and to check that you have it with you. See the grading rubric for a description of what we will be looking for. Your notebook score is part of your Individual Performance score used to determine your course grade. The course web site describes the course grading specifics.

### Laboratory Notebook Grading Rubric

Aspect	++ (4)	+ (3)	– (2)	-- (1)
Diligence	Bound notebook, dated entries. No extraneous material or notes. Substantial entries for each week. Always used in lab. Clearly used as a working notebook & scratch pad, even outside of lab. Interesting & fun to read; tells a story.	Bound notebook; dated entries. Good entries each week. Almost always used in lab. Some indication of use outside of lab for notes. Often interesting, and informative, sometimes fun to read.	Contains unrelated notes. Some entries missing, &/or not dated. A few entries seem composed after the fact. Little evidence of use outside the lab. Rarely interesting to read, sometimes boring.	Unbound notebook. Used for lecture notes or another class. Many entries missing. Rarely brought to lab. Seems composed after the fact, rather than in the lab or in real time. No use outside the lab. Usually boring.
Substantive Content	Describes personal contributions and ideas; lots of sketches. Notes accomplishments, decisions, & unanswered questions. Considers alternative approaches. Lists critical tasks and milestones. Contains considerable reference information & team meeting notes.	Describes activities, personal contributions and decisions. Uses sketches with explanations. Some alternatives considered, along with milestones. Some reference notes.	Many descriptions of activities are brief: few details, few sketches. Little discussion of project progress, alternatives, critical tasks, or deadlines. Very little reference information or notes.	Entries brief statements of what happened in lab. Few details or sketches. No attribution of progress; no deadlines, critical issues described. Lack of reference information.
Reflective Content	Well thought out & expressed course goals and expectations for Week 1. Other weeks, comments on 2 or more of the learning progress questions, or similar reflections. Covers all the questions, some more than once, over the semester. Final concise, complete, & organized assessment of personal progress in the course.	Clear and reasonable goals for the course. Comments on at least one learning progress question each week. Covers almost all of the questions, some more than once. Reasoned assessment of personal progress at end of the course.	Superficial course goals, indicating little thought. Only occasional consideration of the learning progress questions. Many questions never considered. Final reflections poorly organized with few conclusions.	Course goals missing or very trite. Rarely reflects on personal learning, many questions never considered. Final reflections missing, incomplete, or poorly thought through.