



## Module 7.3.a Activity List Examples

### Example #1

#### 10.26 Team #7 – Week 5 Activity List

Project Leader: Sam

#### Key Objectives

1. *Critique and modify individual proposals as well as overall team objectives/project planning*
2. *Finish coating CNT yarn and fibers with dissolved fuels and initiator*
3. *Setup simple experimental apparatus for measuring thermal electric effect for coated CNT yarn and fibers*
4. *Organize Proposal PowerPoint Presentation Rough Draft*

Sunday-

1. Team Meeting (Friday's Meeting)
2. Make changes to agenda (C 15 minutes)

Monday-

1. CI Meeting (Proofreading) [ALL, 1hr]
2. Preparation for meeting
  - J 1 hour slides for presentation
  - B graphs for slides and report 2 hours

Tuesday-

0. Check inventory/deliveries (C 20 minutes)
1. Finish coating CNTs with fuel and begin coating w/ initiator [J, 4 hrs]
2. Start coating samples for objective 2 [B/C, 4 hrs]

3. Organize skeleton PowerPoint [J 2hrs]
4. Discuss/Build Apparatus for objective one [C/D/J, 4hrs]
5. Discuss Energy Balance for objective 1 and 2 [C/D, 30 min]
6. Synthesize more solid fuel [C, 30 min]

Wednesday-

1. Faculty Meeting (see agenda) [All, 1 hr]
2. Quick coating procedure [All, 15 min]

Thursday-

0. Check inventory/deliveries
1. Finish coating CNTs with initiator [Cody/Dan, 4 hrs]
2. Work on coating new CNTs with fuel [Cody/Dan, 4hrs]
3. Apparatus Setup with temperature spike [Cody/Dan, 2hrs]
4. Work on code for Raspberry Pi [J, 2hrs]

Agenda for weekly meetings C 1 hours 20 minutes)

Friday-

1. Team meeting [All, 1hr] (see agenda)
2. Changes to ground rules (C 20 minutes)
3. Write Progress report (B 1 hour)

## Example #2

10.26 Team

Project Leader:

Recorder:

Presenter:

**Activity List: Week 7**

### Ongoing activities:

1. Search and read literature on characterization methods. Upload papers to Mendeley. (Jay -2-3 hours)
  - a. Each team member presents a paper during the team meeting (Austin).
2. Finalize proposal for submission (all-9 hours)
3. Finalize protocol for first impregnation (all-2 hours)

### Monday

1. Find a mesh bag to keep the polymer from dispersing during impregnation (Susan - 30 min)
  - a. If we can't find one by 3 pm, buy cheese cloth and a string to tie
2. Team will meet with A for WRAP meeting at 1 PM in Building 66. (1 hour)
3. All team members (faculty + TA) will meet for faculty meeting at 2 PM in 66-480. (1 hour)
4. **Role Transition:**
  - a. S will prepare for transition meeting. (1 hour)
  - b. Team meeting to discuss transition meeting agenda items (1 hour)
  - c. A will write weekly progress report (2 hours)
  - d. J will prepare outline for next oral presentation and change ground rules to show how presentation was actually done (2 hours)
  - e. Go over ground rules for changes needed (A 1 hour) Present to team at net team meeting (1 hour)

### Tuesday

1. J will come in early to lab to turn on the heat exchanger
2. Lab Tasks:
  - a. **A:** Mass balance: Weigh out the filters, mesh bag, polymers, and CoQ10. (30 min)
  - b. **J:** Set up the impregnation unit (30 min)
  - c. **S:** Calibrate UV VIS(30 min)
  - d. **A, J and S:** run their first impregnation test using oat beta glucan and clean up. (3 hours)
  - e. **A, J and S:** write a neat prelab and observations ( 1 hour each)
  - f. **S:** test tablet formation/make tablets (3 hours)

### Wednesday

1. **J:** go in the lab to check whether the saddles are drying properly – if not, put one of these batches (one batch of ½ inch Intalox ceramics saddles, one batch of small metal saddles) in a beaker in a hood to dry out. (1 hour)
2. **A** send out the lab observations/data/notes/procedures from Tuesday, Prepare a prelab including mass balance table, pressure/temperature table for each phases of impregnation
3. **S:** Revise the SOP to incorporate Clarence's advices from Tuesday Lab session (1 hour)
4. **A, J and S:** look into characterization methods – XPS, Optical and pick an instrument to specialize in
5. **J:** make a reservation for 3 hours of SEM on Friday
6. **Two impregnation planned for Thursday (4 hours)**
7. **A, J and S:** each prepare a prelab for Thursday (1 hour each)
8. **Susan:** Plan for dissolution studies; let J know of the schedule so she can schedule the equipment (1 hour)

### Thursday

1. **Jay** (and anyone else who can): come in early to clean up and label the lab bench area – **THIS MAY BECOME A SAFETY HAZARD!**
2. **Two Impregnations (Austin & Jay): the goal here is reproducibility.** No mesh bags will be used, and saddles will (hopefully) be properly coated and dried with S
3. **Susan:** measure the loading of the S loading concentration – this preparation protocol must be developed, so make clear, detailed notes on the procedure used
4. **Project Leader:**
  - a. Prepare agenda for team meeting for this upcoming team meeting on Sunday. (30 minutes)
  - b. Discuss with the group and the faculty about what to get done during spring break (45 minutes)
5. **Recorder:**
  - a. Prepare weekly progress report. (1 hour)

#### Friday

1. **J SEM Characterization of both impregnation products. (3 hour)**
2. **S: Dissolution study on the Impregnated polymers from Tuesday and hopefully Thursday (8hours)**
3. **Project Leader:**
  - a. Send out agenda for team meeting 3 by 4 PM. (2 minutes)
  - b. Prepare agenda for faculty meeting. (30 minutes)

#### Saturday

1. Team members will convene via Google Hangout for team meeting at 10 AM for team meeting. (2 hours)

#### Sunday

1. **Recorder:** A will send out the weekly progress report prior to 2 PM. (1hour 10 minutes)
2. **Project leader:** J will send out the activity list for the week (20 minutes)

## Example #3

Team:

### Activity List, Week 8 (dates)

#### Faculty Advisor:

\*note that if actual time taken to complete a task does not match up with estimated time, that time will be noted. Otherwise, when they matched up, the estimated time displayed is accurate.

#### 1. Organizational matters

- a. Organize gathering input from team for completion report (*L, Wednesday, 20 min*)

- b. Decide at team meeting if we wish to change our model before submission of the first draft of the final report or afterwards (*Entire team, Wednesday, 5 min*)
- c. Decide at team meeting if we wish to vary aeration or agitation when growing algae (*Entire team, Wednesday, 3 min*)
- d. Arrange for extra lab time (at regular intervals) to check in on growing algae (*L, Thursday, 10 min*)
- e. Ask K for cultures on Thursday via e-mail (*L, Thursday, 30 min*)

## 2. Continued literature search

- a. Find reaction rate coefficients for the conversion of CO<sub>2</sub> to carbonic acid (*G, by next Tuesday, 30 min*)

## 3. Experimentation

- a. Vary agitation rate (50 rpm, 150 rpm) and find  $k_L a$  values (*Entire team, Thursday, 1.5 hr*)
- b. Perform two experiments at the conditions to be used when growing algae at the different agitation rates (*Entire team, Thursday, 1 hr*)
- c. Set up reactor for algal growth (adjust pH as necessary, set up LEDs, find a 12-hour light switch, saving data) (*Entire team, Thursday, 1.5 hr*)
- d. Obtain algae cultures from K (*N, Thursday, 30 min*)
- e. Start growing algae (*Entire team, Thursday, 1 hour*)
- f. Check in on the algae periodically; come up with a schedule to do so (*Entire team, as of Tuesday onwards, 20 min each time the algae is checked on*)
- g. *8 hours in lab this week spent doing these things*

## 4. Data Analysis

- a. Data analyzer for this lab day analyzes data (*Thursday: G, Tuesday: L*)
- b. Modify previous analysis presented in the final report to include the reaction to carbonic acid in the model (*Entire team splits up experiments, by next Wednesday, 2 hrs*)

## 5. Weekly Progress Report

- a. Section 4 should be done collaboratively
- b. Refer to 7.6 in Course Manual and Module 7.4
- c. *Done by N (1 hr)*

## 6. Finishing the draft of the Final Report

- a. Final revision of the first draft (*each team member, Wednesday, 2 hrs*)
- b. Submission of the draft (*L, Thursday, 3 min*)

## Example #4

### 10.26 Team A – Week 10 Activity List

Project Leader: Z

Dates of Week

### Key Objectives

#### *Primary Objectives for Date*

1. Combine stock solutions to prepare culture medium
2. Start growing culture
3. Prepare shakers
4. Test/debug macro with preliminary results

### Activity List Date

1. Set up spectrometer [**M5 min**]
2. Complete set up of bioreactor & prepare for culture [**R, 1 hr**]
3. Combine stock solutions to prepare medium [**V, M, 30 min**]
4. Pick up algae from Kim [**V, 15 min**]
5. Start growing culture [**All- 45 min**]
6. Prepare flasks for shaker [**All- 45 min**]
7. Take spectrometer measurements [**M 45 min**]
8. Take reference system measurements [**R, 45 min**]
9. Test & debug macro [**V 1 hr**]
10. Meeting with Team 18 at 9 pm [**All-1.5 hr**]

Wednesday –

1. Meeting with Faculty Advisor at 5:00pm (– *See Agenda*) [**All; 1 hour**]

Thursday –

1. Team Presentations in 1-190 [**All-3 hr**]
2. Set up spectrometer & take measurements [**M, 45 min**]
3. Reference system measurements [**R 45 min**]
4. Data analysis with macro [**V, 45 min**]

*\* If time available, extra tasks: \* If time available, extra tasks:*

Friday –

1. Team meeting at 2:00pm (– See Agenda) **[All; 1 hour]**

## Example #5

Project Leader:

Faculty Advisor:

Date: Week of 4/19/15

### Key Objectives:

1. Analyze FLIR data and compare with theoretical expectations and literature values.
2. Set up continuous fuel cell to accept pulsed methanol flow in order to stimulate electrical output.
3. Data collection in preparation for the final report draft (Due 4/28/15).
4. Receive feedback from Prof. on the progress of the project and advice on prioritized next steps.

### Tasks for Monday (4/20/15)-

1. No school, no CI meeting [All, all day]

### Tasks for Tuesday (4/21/15) -

1. No school, no lab [All, all day]
2. Keep up to date on all literature added to Mendeley [All, 1hr]
3. Write Weekly Progress Report (D 2 hours)

### Tasks for Wednesday (4/22/15) –

1. Write agendas for team and faculty meetings (J 1 hour)
2. Make changes in agenda for faculty meeting once team has added items (J 15 min)

### Tasks for Thursday (4/23/15)-

1. Faculty Meeting (see agenda) [All, 1hr]
2. Discuss and analyze FLIR data from last Platinum Ruthenium run [All, 1hr]
3. Synthesize samples (#7-#9) for Pt reduction experiments [D, 2hr]
4. Prepare samples for pulsed methanol flow through the quartz tube experiments [J, 3hr]
5. Set up quartz tube apparatus [C, 2hr]
6. Revise agenda for team meeting to include items discussed at faculty meeting (J 15 min)
7. Prepare activity list for next week (1 hr J)

\*If time permits, we will start discussing our plan for the Final Report draft. If not, we will fully discuss the final report in our team meeting

### Tasks for Friday (4/24/15) –

1. Team meeting at 12:00pm in Stata cafeteria (see agenda) (if location changes, all members will be notified) [All, 1hr]