

MnSGC Quadcopter Project – “Year 2 Kickoff” Agenda Century College – Monday, September 21, 2015

7:30 – 8:00

Set up soldering stations and quad demos (E2313), set up Arduino stations (E1375)

8:00 – 8:15 in E2313

Welcome (Grebner), round-robin introductions (advisors and teams and TAs)

8:15 – 8:25 in E2313

Overview of overall project (who is involved, underlying NASA goals and definition of “success,” talk about the quadcopter project: look at some ELEV-8 hardware, look at timeline (Flaten)

8:25 – 8:50 in E2313

General STEM motivational talk and why to pay attention to today’s lessons about CAD and soldering and 3D manufacturing and microcontrollers (Hanson)

8:55 – 9:10 in the Lincoln Mall Atrium

Demonstration flying of (mostly-commercial) quadcopters (Abel, other advisers who want to)

9:20 – 10:10 (SolidWorks in E1731; Autodesk Inventor in E1733)

CAD demo and instruction, SolidWorks and AutoCad Inventor sessions running concurrently (Abel and Grebner) all students hands-on using SolidWorks or AutoCAD Inventor

10:15 – 10:20 (in or near the CAD rooms)

Break up into groups for rotations; do re-introductions in the rotation groups

Breakout session A in E2313

Soldering intro, practice with EC3 connectors, bullet connectors, and shrink wrap (instructed by Seifert, Hanson, Highland)

Breakout session B in E1371 (the “Fab Lab”)

3D printing and laser cutting; show Century equipment, discuss options/capabilities (instructed by Abel, Grebner)

Breakout session C in E1375

Arduino microcontrollers and sensors; wiring, programming, demonstrations (instructed by Flaten, Jones, Peterson)

10:30 – 11:20 Rotation #1 (see room numbers above)

11:30 – 12:20 Rotation #2 (see room numbers above)

12:30 – 12:50 in E2313

Lunch

1:00 – 1:50 Rotation #3 (see room numbers above)

2:00 – 2:50 in E2313 (possibly partly outside)

Quadcopter fundamentals, Phoenix flight simulator, ELEV-8 demos, quadcopter toys, information about using the Pixhawk flight controller and software. Possible demonstrations of First Person View (FPV) camera systems and/or GPS/XBEE-enabled Arduinos. (Hanson, Flaten)

3:00 – 3:15 in E2313

Lessons learned while building ELEV-8 kits (Germulos, advisers)

3:15 – 3:30 in E2313

Announcement of Year 2 challenges, review of tentative timeline (Peterson, Seifert)

3:30 – 4:00 in E2313

Wrap-up and handling questions – select dates and times for all-team and individual-team telecon/videocons (Flaten, advisers)