



## DEPARTMENT OF ATMOSPHERIC SCIENCES

### Capstone Experience: Research Project

#### Background

The American Meteorological Society recommends all students complete a capstone experience that helps to synthesize their undergraduate education in terms of: a capstone course, a career-focused internship, or an undergraduate research project. The Department of Atmospheric Sciences requires our students to complete either a career-focused internship or an undergraduate research project.

#### Implementation

##### **Part 1. Deadlines**

November:	Spring UROP Student Application Due Spring Faculty Mentor References Due
March:	Summer UROP Student Application Due Summer Faculty Mentor References Due
July:	Fall UROP Student Application Due Fall Faculty Mentor References Due

For exact deadlines, see Office of Undergraduate Research website: <http://our.utah.edu/for-students/urop/apply-for-urop/>

**Part 2. Apply for the Undergraduate Research Opportunities Program (UROP):** (For more details, see the UROP website: <http://our.utah.edu/for-students/urop/apply-for-urop/>)

- In collaboration with the faculty mentor, prepare a 4-6 page proposal (the student must write the proposal). List of capstone project options is available on Department of Atmospheric Sciences website: <http://www.atmos.utah.edu/undergraduate/secure/capstone-project.php>
- Complete the online application form (see UROP website for form).
- Once a student's proposal is submitted and the faculty mentor's reference is received, applications for funding will be reviewed by the Office of Undergraduate Research.

##### **Part 3. Submission to Atmospheric Sciences Academic Advisor**

Students must submit a copy of their research proposal and Capstone Experience: Student-Faculty Contract (attached) to the Atmospheric Sciences Academic Advisor. These are due by November 15 for spring semester, March 15 for summer semester, and July 15 for fall semester. Students must register for ATMOS 5900: Capstone Experience to receive credit for the bachelor's degree requirement.

##### **Part 4: Capstone Enrollment Requirements:**

Students will typically enroll in ATMOS 5900 for a minimum of 2 credit hours during the last academic year (e.g., 1 credit during the fall and spring semesters of the senior year). That reflects a typical workload expected of 3 hours per week throughout the final academic year. The student may elect to commit to a higher level of effort in consultation with an advisor and may choose to complete the requirements entirely during a semester prior to the graduating semester. The student may complete the capstone experience during the final graduating semester, but the capstone experience must begin prior to that semester. Students should register for their Faculty Advisor's section of ATMOS 5900: Capstone Experience.

**Part 5. UROP Final Report**

Complete and submit 8-10 page final report to the Office of Undergraduate Research per UROP deadlines.

Submit a copy of final report to the Faculty Advisor and the Atmospheric Sciences Academic Advisor along with at least 2 photos from your research experience.

**Part 6. Present your research**

Present your research at the on-campus Undergraduate Research Symposium, the American Meteorological Society Annual Meeting, or at another approved venue.

**Part 7. Apply for the Undergraduate Research Scholars Designation**

Requirements:

- Two semesters of research
- Presentation of research
- Publication of research

Deadlines and more information: <http://our.utah.edu/for-students/undergraduate-research-scholar-designation-ursd/>



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### ATMOS 5900: Student-Faculty Research Project Contract

(Updated November 2015)

*Return the signed contract and other required information to the Atmospheric Sciences Academic Advisor.*

**Initial Contract.** To be completed prior to the beginning of the first semester of research.

Proposed weekly schedule for the project: *(A 1 credit/semester course normally entails 3 hours per week of effort.)*

Proposed Project Description: Attach UROP proposal.

I agree to undertake this project, invest the agreed-upon effort, and submit the required material (*proposal, progress and final reports, etc.*), providing my Faculty Advisor with several days to review my work before each submission deadline.

Student's name: \_\_\_\_\_

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

I agree to help the above-named student in his or her research project, to review submissions in a timely fashion, and to contribute to a meaningful educational experience.

Faculty Advisor's name: \_\_\_\_\_

Faculty Advisor's Signature \_\_\_\_\_ Date \_\_\_\_\_



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**ATMOS 5900: Student-Faculty Research Project Contract**

*(Updated November 2015)*

*Return the signed contract and other required information to the Atmospheric Sciences Academic Advisor.*

**Progress Report.** To be completed at the beginning of the second semester of research.

Proposed weekly schedule for the remainder of the project: *(A 1 credit/semester course normally entails 3 hours per week of effort.)*

Project Progress Report: Attach a 1-2 page progress report indicating work completed to date and what remains to be completed.

I agree to complete this project, invest the agreed-upon effort, and submit the required material *(proposal, progress and final reports, etc.)*, providing my Faculty Advisor with several days to review my work before the end of finals week.

Student's name: \_\_\_\_\_

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

Sufficient progress is being made by the above-named student to complete the project.

Faculty Advisor's name: \_\_\_\_\_

Faculty Advisor's Signature \_\_\_\_\_ Date \_\_\_\_\_



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### ATMOS 5900: Student-Faculty Research Project Contract

*(Updated November 2015)*

*Return the signed contract and other required information to the Atmospheric Sciences Academic Advisor.*

**Final Report.** To be completed at the end of the research project.

Submit an 8-10 page final report of your research, which follows the AMS style guide. Also include at least 2 photos of you participating in your research project (working with instruments, writing code, doing forecasts, etc.). These photos should be emailed to the Faculty Advisor and the Atmospheric Sciences Academic Advisor along with your final report.

**Present your Research.** To be completed before the end of the last semester of bachelor's degree program.

Submit a copy of required materials for UROP (conference abstract, etc.) to Faculty Advisor and the Atmospheric Sciences Academic Advisor.

**Apply for the Undergraduate Research Scholars Designation.** To be completed during the graduation semester.

Apply for the Undergraduate Research Scholars Designation. Application form and instructions are available on the Office of Undergraduate Research website: <http://our.utah.edu/for-students/undergraduate-research-scholar-designation-ursd/>