

1. Person submitting

Name: Dr. Melissa Nigro

Title: Instructor and Learning Assistant Coordinator

Department: Atmospheric and Oceanic Sciences Department

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Other interested faculty: Derek Brown, Alexandra Jahn, Nicole Lovenduski, and Julie Lundquist

2. Rationale for involvement

The department of Atmospheric and Oceanic Sciences (ATOC) is in the process of introducing an undergraduate major at the University of Colorado at Boulder. The proposed curriculum has been designed to meet the demands of current students for more interactive learning opportunities, as well as the demands of employers for graduates who have been trained to provide quantitative solutions to real-world problems. The proposed courses will be project based classes that will allow students the opportunity to explore real-world data and develop the technical skills necessary to succeed after graduation.

We are submitting a type 1 proposal to develop learning goals for the new undergraduate curriculum, and to begin on assessment strategies for our courses. The learning goals should build on student knowledge from previous courses and incorporate active learning opportunities. We recognize that developing effective learning goals is crucial for the success of our undergraduate major. We see a benefit to completing this work as part of a learning community where the diversity and collaboration of the group will create a better overall outcome. Therefore, we would really appreciate the opportunity to participate in the TRESTLE program to learn more about active learning opportunities and to develop the learning goals for our curriculum, and to develop strategies for curriculum assessment.

3. Topics of interest

- a. Course design using backwards-design
- b. Collaborative learning
- c. In-class or recitation activity design
- d. Flipping the classroom
- e. Using clickers effectively
- f. Innovations in large classrooms
- g. Non-tenure track faculty
- h. Other: Structuring learning goals to effectively implement project based courses, and developing assessment strategies.

4. Scheduling constraints

TBD

5. **Agreement to expectations**

I agree to fulfill the expectations listed in the call for proposals.

6. **Departmental recognition**

The ATOC department has agreed to support and recognize the faculty involved in this proposal. Participation in this proposal will be taken into account during review for tenure, re-appointment, and merit raises, and departmental service commitments will be adjusted accordingly.

7. **Departmental support**

The ATOC department recognizes the importance in developing learning goals that incorporate active learning opportunities. The Department Chair, Dr. Cora Randall, supports this proposal and has agreed to compensate faculty associated with this proposal appropriately. This is likely to be on the order of \$1K supplements to their individual spending accounts.

8. **Budget**

N/A