

*Course Name:* Atmospheric Electricity

*Instructor:* Prof. Steven A. Rutledge, 307 ATS, 970 491 8283; [Rutledge@atmos.colostate.edu](mailto:Rutledge@atmos.colostate.edu)

*Instructor web page:* [radarmet.atmos.colostate.edu/AT740](http://radarmet.atmos.colostate.edu/AT740)

*Office hours:* To be arranged with the instructor

*Classroom and meeting time:* 212 ACRC, Tue/Thur 11:00 – 11:50 AM

*Prerequisites:* AT620, Thermodynamics and Cloud Physics

*Course goals and objectives:* AT740 is intended to provide a foundational understanding of atmospheric electricity. The course will provide an understanding of the global electric circuit and the role of thunderstorms in maintaining this circuit, thunderstorm electrification processes based on non-inductive charging theory, lightning detection based on RF and optical sensing, lightning phenomena including Transient Luminous Events. The course will also present material on relating lightning observations to severe weather. The CAPE vs. aerosol debate will also be evaluated. Lightning in future climate scenarios will also be considered.

*Textbook:* None

*Course readings:* As provided during the semester, also see course web page.

*Course calendar:* Follows CSU spring 2019 semester schedule

*Expectations:* Regular attendance is required. Students will be expected to participate in class discussions. Students will also be assigned papers to present in class.

*Statement on academic dishonesty:* This course will adhere to the CSU Academic Integrity Policy as found in the General Catalog (<http://www.catalog.colostate.edu/FrontPDF/1.6POLICIES1112f.pdf>) and the Student Conduct Code <http://www.conflictresolution.colostate.edu/conduct-code>. At a minimum, violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct Services.

*Exam schedule:* To be announced during the semester

*Grading policy:* Course grade will be based on several in class presentations (75%) plus a final project due at the end of the semester (25%).