Welcome to the Graduate Program in Land and Atmospheric Science at the University of Minnesota. This is a science-based program focused on the fundamentals of Earth system processes related to land and atmosphere and the coupled interactions between the two. Students have the option of developing a program based on one of the traditional areas of atmospheric science or soil science or to design their own course of study on a more interdisciplinary area that draws on the interactions between the two.

We have 34 members of the graduate faculty and a 2:1 faculty to graduate student ratio. Environmental topics constitute a majority of research conducted in the department and when combined with faculty in other departments, the University hosts a cadre of talented faculty working in the emerging area of land-atmosphere interactions.

The Program

The Land and Atmospheric Science Graduate Program allows students to design a course load that addresses areas of interest within the overarching area of the program.

Sample research topics that might be addressed by students in this program could include:

- biogeochemical cycles of carbon and carbon sequestration;
- land use impacts (agriculture, urbanization) on air or water quality;
- impacts of climate change on export of dissolved organic carbon and metals from peatlands;
- transport and fate of nutrients, pesticides, pharmaceuticals, and emerging pollutants from agricultural and urban ecosystems;
- effects of biofuel production on soil dynamics and environmental quality;
- effects of climate and land use change on hydrology and water supply.
- Land-Atmosphere interactions and Atmospheric Chemistry

LAAS is unique in addressing Emerging Environmental topics from the joint perspectives of Land and Atmosphere Science.
M.S. Degree Requirements

The MS requires a minimum of 14 credits in the major field (including the required core courses and 5 required credits in the emphasis area, and 6 credits in the minor field or supporting coursework. The Plan A MS degree (research option) also requires a minimum of 10 thesis credits. The Plan B MS degree (project/coursework option) replaces the thesis credits with 10 additional coursework or special projects credits.

Ph.D. Degree Requirements

In addition to the required core courses and the teaching experience and ethics requirements (total 10 credits), Ph.D. students will also be required to complete a minimum of 6 required credits in the emphasis area, and a minimum of 12 credits in the minor or supporting program area. The student’s graduate committee and graduate advisor will approve the selection of appropriate courses to meet this requirement; depending on the student's emphasis and background, additional coursework may be required. An additional 24 doctoral thesis credits must be completed before receiving the Ph.D. degree; however, doctoral thesis credits may not be taken before completion of all program coursework requirements and advancement to candidacy.

Professional Outlook

Past graduates of the program have had strong career opportunities and occupy important positions in academic research and teaching institutions having programs in soil science, agronomy, earth and environmental sciences, geography, or related areas; agricultural industries; state and federal research and regulatory agencies; international agricultural and environmental agencies / foundations; environmental consulting firms; and others. Nearly all of our graduates have careers closely related to their graduate training.

Positions are available in academia in the areas of Soil Science, Earth and Environmental Sciences, and Atmospheric Sciences, as well as positions in state and federal agencies, environmental consulting firms, and agricultural industries.

Land and Atmospheric Science Graduate Program Contact Information

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