



Twin Cities Campus

Land and Atmospheric Science Minor

Soil, Water, & Climate

College of Food, Agricultural and Natural Resource Sciences

Link to a [list of faculty](#) for this program.

Contact Information:

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- Program Type: Graduate minor related to major
- Requirements for this program are current for Spring 2022
- Length of program in credits (Masters): 9
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

Land and atmospheric science (LAAS) is a science-based interdisciplinary program focused on the fundamentals of Earth system processes related to land and atmosphere and their coupled interactions. Students have the option to develop a program based on one of the more traditional areas in atmospheric science or soil science or to design their own interdisciplinary course of study bridging the two disciplines. The Land and Atmospheric Science graduate program has no formal tracks or emphasis areas, but instead allows students to design a curriculum that addresses their interests within the scope of the program. This multidisciplinary program encompasses aspects of chemistry, physics, biology, atmospheric sciences, and geology.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.20.

B.S. degree in a related science field.

Special Application Requirements:

Students interested in the minor are strongly encouraged to confer with their major field advisor and director of graduate studies, and the Land and Atmospheric Science director of graduate studies regarding feasibility and requirements.

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

Use of 4xxx courses towards program requirements is not permitted.

All minor courses must be taken A-F, unless approved by the Graduate Advisory Committee, or if they are offered on the S-N basis only. Courses for use in the minor must be selected with the consultation of the LAAS graduate faculty member serving as the minor advisor and approved by the LAAS director of graduate studies.

Required Course (3 credits)

Take the following course:

[LAAS 5050](#) - Integrated Topics in Land & Atmospheric Science (3.0 cr)



Electives (6 to 9 credits)

Masters students select 6 credits, and doctoral students select 9 credits to complete minimum credit requirements. Other courses can be applied to this requirement with approval of the LAAS advisor and LAAS director of graduate studies.

[LAAS 5051](#) - Thesis Proposal Writing for Land & Atmospheric Science (2.0 cr)

[LAAS 5311](#) - Soil Chemistry and Mineralogy (3.0 cr)

[LAAS 5416](#) - Precision Agriculture and Nutrient Management (3.0 cr)

[LAAS 5425](#) - Atmospheric Processes I: Thermodynamics and Dynamics of the Atmosphere (3.0 cr)

[LAAS 5426](#) - Atmospheric Processes II: Radiation, Composition, and Climate (3.0 cr)

[LAAS 5515](#) - Soil Formation: Earth Surface Processes and Biogeochemistry (3.0 cr)

[LAAS 5621](#) - Environmental Genomics and Microbiomes (3.0 cr)

[LAAS 8128](#) - Land and Atmospheric Science Seminar (1.5 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans.

Students may not complete the program with more than one sub-plan.

Masters

Doctoral