

ATMOSPHERIC SCIENCES

Chair: Joseph A. Zehnder

Department Office: Hixson-Lied Science Building, Room 504

Professor: J. Zehnder;
Professor Emeritus: A. Douglas;
Associate Professor: J. Schrage;
Assistant Professor: J. Martinelli.

Department Description: The Atmospheric Sciences Major introduces students to a wide range of scientific inquiry relative to the earth's atmosphere. A broad set of courses are offered in weather analysis, forecasting, atmospheric dynamics and numerical weather forecasting. The major is available through two degree options. The first option, the Bachelor of Science in Atmospheric Sciences degree (B.S.Ats.) prepares students for graduate studies and research fields within the Atmospheric Sciences as well as fulfilling requirements of the American Meteorological Society and requirements for employment with the National Weather Service and other branches of the National Oceanic and Atmospheric Administration. The second option, the Bachelor of Science (B.S.) degree, will prepare students with a general background in Atmospheric Sciences.

Web Contact/Information: Additional information about this department may be found at <http://ats.creighton.edu>. However, for definitive details, students are strongly encouraged to check the University's website for Bulletin changes at <http://www.creighton.edu/Registrar>.

PROGRAMS IN ATMOSPHERIC SCIENCES

Specific Requirements for Admission to the Atmospheric Sciences Major: Successful completion of ATS 113, ATS 114, and MTH 245.

B.S. Ats., Major in Atmospheric Sciences: 32 Credits

Course Requirements

(All of the following:)

ATS 113	Introduction to Atmospheric Sciences	3 credits
ATS 114	Introduction to Atmospheric Sciences Laboratory	1 credit
ATS 211	Weather Analysis and Forecasting	3 credits
ATS 315	Computer Applications in Meteorology	3 credits
ATS 510	Introduction to Physical Meteorology	3 credits
ATS 555	Meteorological Remote Sensing	3 credits
ATS 561	Synoptic Meteorology I	3 credits
ATS 562	Synoptic Meteorology II	4 credits
ATS 570	Quantitative Methods in the Atmospheric Sciences	3 credits
ATS 571	Dynamic Meteorology I	3 credits
ATS 572	Dynamic Meteorology II	3 credits
At least 12 elective credits from ATS courses 400-level or above.		12 credits

Requisite Courses: MTH 245 and MTH 246 and MTH 545; PHY 211 and PHY 212.

B. S., Major in Atmospheric Sciences: 26 Credits

Course Requirements

(All of the following:)

ATS 113	Introduction to Atmospheric Sciences	3 credits
ATS 114	Introduction to Atmospheric Sciences Laboratory	1 credit
ATS 542	Radar Remote Sensing	3 credits
ATS 555	Meteorological Remote Sensing	3 credits
ATS 561	Synoptic Meteorology I	3 credits
ATS 562	Synoptic Meteorology II	4 credits
ATS 571	Dynamic Meteorology I	3 credits
ATS 572	Dynamic Meteorology II	3 credits
	One additional course chosen in consultation with the department chair.	3 credits

ATS 497 Directed Independent Research is highly recommended and is normally taken for a total of 3 credits during the student's Senior year, during which the student will develop a written report.

Requisite Courses: MTH 245 and MTH 246, PHY 211 and PHY 212 are required. Additional courses in one or more of the following fields are highly recommended: Computer Science, Chemistry, Mathematics, Statistics or Environmental Sciences.

ATMOSPHERIC SCIENCES MINOR

Program Description: The Atmospheric Sciences minor explores a wide range of investigation within synoptic meteorology, forecasting, global climatology and climate change. The course work in the minor is designed to give the student a grasp of the various subdisciplines associated with the Atmospheric Sciences and allied Physical Sciences. Students may select either a set of courses emphasizing a specific area of interest (e.g. the meteorology of severe weather, global climate change, or analysis and forecasting) or a broad spectrum of courses representing diverse areas of inquiry within the atmospheric and earth sciences.

Contact: Chair, Department of Atmospheric Sciences

(All of the following:)

ATS 113	Introduction to Atmospheric Sciences	3 credits
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(Fifteen credits from the following:)

ATS 114	Introduction to Atmospheric Sciences Laboratory	1 credit
ATS 443	Environmental Geology	4 credits
ATS 533	Physical Climatology and Climate Change	3 credits
ATS 541	Ats. Diffusion, Air Poll. Env. Impact Analysis	3 credits
ATS 542	Radar Remote Sensing	3 credits
ATS 544	Hydrology	3 credits
ATS 545	Mesoscale Analysis	3 credits
ATS 553	Tropical Meteorology	3 credits
ATS 555	Meteorological Remote Sensing	3 credits
ATS 556	Introduction to Physical Oceanography	3 credits
ATS 561	Synoptic Meteorology I	3 credits
ATS 562	Synoptic Meteorology II	4 credits
ATS 571	Dynamic Meteorology I	3 credits
ATS 572	Dynamic Meteorology II	3 credits

Certificate Program in University College

This department offers one certificate program in Atmospheric Sciences to students in University College. See the description for this certificate on page 290 in the University College section of the Bulletin.

For all ATS courses, please refer to page 330.