

## METEOROLOGY PROGRAM

### Department of Earth and Atmospheric Sciences

Meteorology is the science of the atmosphere. Meteorologists are employed in operational meteorology, meteorological research, applied meteorology, and the media. Meteorologists study global weather and climate, and investigate the influence that human beings exert on earth's climate. The Meteorology Computer Laboratory provides access to real-time weather data and analysis software supported by the UNIDATA Program. The Bachelor of Science degree conforms to the American Meteorological Society and National Weather Service recommendations for an undergraduate meteorology degree. A mathematics minor is a requirement of the meteorology major. Students should contact a meteorology faculty member to discuss degree programs, career opportunities, and graduate school options. Contact the Earth and Atmospheric Sciences Department for additional information.

#### Meteorology Major for Bachelor of Science

Required Core – 34 hours			Prerequisites	Semester	Credit Hours
___	MTR 2400	Intro. to Atmospheric Science	(none)	F, S, SS	4
___	MTR 2410	Weather Observing Systems	MTR 2400	S	3
___	MTR 3400	Synoptic Meteorology	MTR 2400	F	4
___	MTR 3410	Weather Analysis Techniques	MTR 3400	S	2
___	MTR 3430	Atmospheric Thermodynamics	MTR 3400, MTH 2410, PHY 2311, 2321	F	3
___	MTR 3440	Physical Meteorology	MTR 3430, CHE 1800	S	3
___	MTR 3450	Dynamic Meteorology	MTR 3430, MTH 2420, PHY 2331, PHY 2341, corequisite: MTH 3420	F	3
___	MTR 4400	Advanced Synoptic Meteorology	MTR 3450, MTH 3420, PHY 2331	S	3
___	MTR 4440	Climatology	MTR 3400	F	3
___	MTR 4500	Mesometeorology	MTR 3400, MTR 3410	S	3
___	MTR 4600	Senior Research Seminar	MTR 3450, MTR 4440	S	3

#### Approved Meteorology Electives - 8 hours

___	MTR 3100	Air Pollution	MTR 2400 or ENV 1200	F	3
___	MTR 3420	Radar and Satellite Meteorology	MTR 2410, MTH 1120 or 1400	F	3
___	MTR 3500	Hazardous Weather	MTR 1400 or MTR 2400 or AES 1400	S	3
___	MTR 3710	Meteorological Co-op. Education I	See MTR Advisor	F, S, SS	3 – 6
___	MTR 4210	Forecasting Laboratory I	MTR 3410	F, S	1
___	MTR 4220	Forecasting Laboratory II	MTR 4210	F, S	1
___	MTR 4230	Forecasting Laboratory III	MTR 4210	F, S	1
___	MTR 4240	Forecasting Laboratory IV	MTR 4210	F, S	1
___	MTR 4410	Numerical Weather Prediction	MTR 3450, MTH 3420, 1510	alternate S	3

#### Required Mathematics Minor – 24 hours (3 hours apply to General Studies, Level I Math)

___	MTH 1410	Calculus I	MTH 1110, and MTH 1120 or 1400	F, S, SS	4
___	MTH 1510	Computer Programming: FORTRAN*	MTH 1120 or 1400 or equivalent	F, S, SS	
		-or-			
___	CSI 1050	Computer Science I (with Java)*	permission of Math Dept.	F, S, SS	4
___	MTH 2410	Calculus II	MTH 1410 or MTH 1450 or HON 2100	F, S, SS	4
___	MTH 2420	Calculus III	MTH 2410	F, S, SS	4
___	MTH 3210	Probability and Statistics	MTH 2410	F, S, SS	4
___	MTH 3420	Differential Equations	MTH 2420	F, S, SS	4

\* computer course should be taken prior to Junior year

#### Physics and Chemistry - 14 hours (9 hours apply to Gen. Studies, Natural Science)

___	PHY 2311	General Physics I	MTH 1410	F, S, SS	4
___	PHY 2321	General Physics Lab I	concurrent with PHY 2311	F, S, SS	1
___	PHY 2331	General Physics II	MTH 2410, PHY 2311, 2321	F, S, SS	4
___	PHY 2341	General Physics Lab II	concurrent with PHY 2331	F, S, SS	1
___	CHE 1800	General Chemistry I	see Catalog	F, S, SS	4

**Additional Course Requirements (General Studies) - 24 hours**

___	Level I Composition: ENG 1010 Freshman Composition: The Essay .....	3
___	Level I Composition: ENG 1020 Freshman Composition: Analysis, Research, and Documentation .....	3
___	Level I Math (satisfied by Math minor)	
___	Level I Communications .....	3
___	Level II Arts and Letters .....	6
___	Level II Historical .....	3
___	Level II Social Science .....	6
___	Level II Natural Science (satisfied by Physics and Chemistry courses)	

## Multicultural Requirement:

___	Multicultural Course (see Catalog) .....	3
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## Senior Experience Graduation Requirement:

___	Satisfied by MTR 4600, Senior Experience	
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**General Electives - 16 hours**

*These are some recommended electives that enhance a Meteorology major, but you may choose courses from any department you wish. (see Catalog for descriptions and prerequisites).*

CSI 2050-4	Computer Science II (w/Java)	MTH 2140-2	Computational Matrix Algebra
CSS 2425-2	Introduction to UNIX	MTH 3440-4	Partial Differential Equations
CSS 2257-4	C++ Programming Language	MTH 4480/90-4	Numerical Analysis I & II
PHY 3110/2 – 3	Methods of Mathematical Physics I & II	GEG 1100-3	Intro to Physical Geography
PHY 3411-3	Thermal Physics	GEG 1220-3	Map Use
ENV 1200-3	Intro to Environmental Science	GIS 2250-3	Intro to Geographic Info. Systems
COM 2610-3	Intro to Technical Writing	GIS 4840-3	Remote Sensing

**Total for Meteorology Major..... 120**