

Bachelor of Science Degree in Hydrology and Atmospheric Sciences (**ATMO Subplan**)
 Departmental Advisor Grid ☒ Catalog **AY2018-2019**

FALL		COMMON FRESHMAN CORE		SPRING		
LANG Req	4	2 nd Semester-level language proficiency requirement		MATH 129	3	Calculus II
MATH122a&MATH122b	5	Functions for Calculus & First Semester Calculus		CHEM152	4	General Chemistry II
CHEM151	4	General Chemistry I		PHYS 141	4	Introductory Mechanics
ENGL 101	3	First-Year Composition I		ENGL 102	3	First-Year Composition II
TOTAL 16				TOTAL 14		

FALL		SOPHOMORE YEAR		SPRING		
MATH 223	4	Vector Calculus		CSC 250 or ISTA 130 or GEOS 280	4 or 3	Essential Computing for the Sciences or Computational Thinking and Doing or Programming and Data Analysis in the Earth Sciences
HWRS 350	3	Principles of Hydrology		MATH 254	3	Intro Ordinary Diff Equations
GEOG 330	3	Intro to Remote Sensing		ATMO 436a	3	Fundamentals of ATMO Sci.
Tier1TRAD³	3	<i>Gen. Ed. Elective</i>		Tier1TRAD³	3	<i>Gen. Ed. Elective</i>
PHYS 142	3	IntroOptics-Thermodynamics		Tier1INDV³	3	<i>Gen. Ed. Elective</i>
TOTAL 16				TOTAL 16		

FALL		JUNIOR YEAR		SPRING		
ATMO 441a	3	Dynamic Meteorology I		Tech Elec¹	3	<i>Elective:</i>
SIE 305	3	Intro Engr Probability & Statistics		ATMO 441b	3	Dynamic Meteorology II
GEOS 230 or ATMO 336 or GEOS 342	3	Our Changing Climate or Weather, Climate, and Society or The History of Earth's Climate		Technical Writing & Communication Theme	3	ENVS 408, ENVS 415, JOUR 455, JOUR 472, ENGL 313, ENGL 308
Tier2INDV³	3	<i>Gen. Ed. Elective</i>		Tier 2 Art³	3	<i>Gen. Ed. Elective</i>
Comp Elec Theme	3	Choose from: ATMO/HWRS 430, GEOS 280, HWRS 428/528, RNR 403, RNR 417, OR CSC 250		HAS Elec²	3	<i>Elective</i>
TOTAL 15				TOTAL 15		

FALL		SENIOR YEAR		SPRING		
ATMO 451a	3	Physical Meteorology I		Tier2 Humanities³	3	<i>Gen. Ed. Elective</i>
ATMO 474a	3	Weather Analysis and Forecasting I		HWRS 495a	1	Current Topics in Hydrology and Atmospheric Sciences
HAS Elec²	3	<i>Elective</i>		ATMO 474b	3	Weather Analysis and Forecasting II *NEW
HWRS 449	3	Statistical Hydrology		Water, Policy, Law, or Economics Theme	3	Choose from: <i>GEOG 468 (sp); AREC 479 (fa); POL 481 (fa)</i>
HWRS 443A	3	Risk Assess for Env. Sys		HAS Elec²	3	<i>Elective</i>
				Tier1INDV³	3	<i>Gen. Ed. Elective</i>
TOTAL 15				TOTAL 16		

100% Engagement course, notation on transcript
 Yellow Highlight indicates courses that can be transferred

¹ TECHNICAL ELECTIVE options. Complete 1 course (minimum 3 units) with advisor approval. Tech elective courses may not be prerequisite to or equivalent to any required course. Students who wish to officially emphasize Surface Water, Groundwater, Water Quality, Water Resources, or Atmospheric Science may apply for an undergraduate certificate, see academic advisor for more information **Tech Electives include:**

- **Surface Water** – CE 427, RNR 417, CE 214, CE 323. (CE 214 and 323 are exceptions to prerequisite/equivalent rule.)
- **Groundwater** – HWRS 482, GEOS 302, GEOS 304, GEOS Elective, or HWRS 505 or 518 for advanced students who meet eligibility requirements.
- **Water Quality** – HWRS 480, CHEM 241a, MIC 205A & L after taking MIC 181R, WSM 468, CHEE/CE476a
- **Water Resources** –POL 481, ENVS 444, ENVS 454, HWRS 520, for advanced students who meet eligibility requirements.
- **Atmospheric Science** – ATMO 4XX* (Radar/Precip); ATMO 469A (Air Pollution I), ATMO 469B (Air Pollution II), ATMO 489 (Atmospheric Electricity), GEOS 412A (Ocean Sciences)), GEOS 478(Global Change), for advanced students who meet the criteria GEOG 547(Global and Regional Climatology)

Additional electives in these categories may be available **with advisor approval.**

² HAS MAJOR ELECTIVES (Advanced Courses in HAS) – Complete 3 courses: (1) HWRS 482; (2) GEOS 450; (3) **HWRS 498**; (4) CE 427; [5] RNR 403, 417, or 420; (6) ATMO 451B (Phys Met2); (7) ATMO 455: Intro to Remote Sensing HYDRO/ATMO, (8) ATMO 421 or GEOG 430. Consult Catalog and Schedule of Classes for semester of offering! The instructor must approve the Senior Capstone topic ≥ semester prior to enrollment; Honors students may complete an approved Senior Honors Thesis in lieu of the Senior Capstone course.

³ INDV/TRAD/ART/HUM courses must meet University general education requirements. ECON 210 is strongly recommended (see Sophomore Year, Spring Semester). One course must be recognized by the university as focusing on non-western culture, race, gender, or ethnicity. TRAD 101 satisfies this requirement.

*ATMO 4XX indicate new courses that have not been created yet.