

Bachelor of Science Degree in Hydrology and Atmospheric Sciences (**HAS major, ATMO Track**)
 Departmental Advisor Grid # Catalog **AY2024-2025**

FALL		COMMON FRESHMAN CORE		SPRING		
LANG Req	4	2 nd Semester language Req.		MATH 129	3	Calculus II
MATH122a& MATH122b	5	Functions for Calculus & First Semester Calculus		CHEM152	4	General Chemistry II
CHEM151³	4	General Chemistry I (<i>GE Core: Exploring Perspectives (EP) – Natural Scientist</i>)		PHYS 141	4	Introductory Mechanics
ENGL 101	3	First-Year Composition I		ENGL 102	3	First-Year Composition II
				GE Core³	1	<i>Entry Course: Intro to General Education (GE) Experience</i>
				HWRS 195a	1	Careers in HAS
TOTAL 16				TOTAL 16		

FALL		SOPHOMORE YEAR		SPRING		
MATH 223	4	Vector Calculus		CSC 110 or ISTA 130	4	Introduction to Computer Programming I or Computational Thinking and Doing
ATMO 436a	3	Weather Fundamentals		MATH 254	3	Intro Ordinary Diff Equations
GEOG 330	3	Intro to Remote Sensing		Technical Writing & Communication Theme	3	ENVS 408, ENVS 415, JOUR 455, JOUR 472, ENGL 313, ENGL 308
GE Core³	3	<i>GE Core: Building Connections</i>		GE Core³	3	<i>GE Core: Building Connections</i>
PHYS 142	3	IntroOptics-Thermodynamics		GE Core³	3	<i>GE Core: EP- Social Scientist</i>
TOTAL 16				TOTAL 15-16		

FALL		JUNIOR YEAR		SPRING		
ATMO 441a	3	Dynamic Meteorology I		Tech Elec	3	<i>Elective:</i>
HWRS 350	4	Principles of Hydrology		ATMO 441b	3	Dynamic Meteorology II
GEOG 230 or GEOS 342	3	Our Changing Climate or The History of Earth's Climate		SIE 305	3	Intro to ENGR Probability & Statistics
GE Core³	3	<i>GE Core: EP - Humanist</i>		GE Core³	3	<i>GE Core: Building Connections</i>
Comp Elec Theme	3	Choose from: HWRS 401, CSC 250, HWRS 428, RNR 403, RNR 417, BE 485		HAS Elec²	3	Elective
TOTAL 16				TOTAL 15		

FALL		SENIOR YEAR		SPRING		
ATMO 451a	3	Physical Meteorology I		HWRS 449	3	Statistical Hydrology
ATMO 474a	3	Weather Analysis and Forecasting I		HWRS 495a	1	Current Topics in Hydrology and Atmospheric Sciences
HAS Elec²	3	Elective		ATMO 474b	3	Weather Analysis and Forecasting II
HWRS 443A	3	Risk Assessment (or equiv.)		Water, Policy, Law, or Economics Theme	3	Choose from: <i>GEOG 468; AREC 479; POL 481; RNR 485; PA 484; LAW 454</i>
GE Core³	3	<i>GE Core: EP - Artist</i>		HAS Elec²	3	Elective
				GE Core³	1	<i>Exit Course: GE Portfolio Course</i>
TOTAL 15				TOTAL 14		

^{100%} Engagement course, notation on transcript

Highlighted Classes avail. at 500 level for students accepted to the Accelerated Master's Program (AMP) in ATMO. A max of 12 units may fulfill both undergraduate & AMP requirements

Highlighted classes indicate courses that are **possible** to transfer from other academic institutions. A maximum of 64 units may be transferred and applied to a UA BS degree. Check with your advisor to ensure classes will transfer and fulfill degree requirements.

Highlighted classes indicate courses that may soon also be fulfilled with another course option(s) of similar nature.

¹ TECHNICAL ELECTIVE options. Complete 3 units of coursework. Tech elective courses may not be prerequisite to or equivalent to any required course. Students who wish to emphasize in Groundwater may apply course to undergraduate certificate. See advisor for approval before enrolling. **Tech Elective options include:**

- **Surface Water** – CE 427, RNR 417, CE 214, CE 323. (**CE 214** and 323 are exceptions to prerequisite/equivalent rule.)
- **Groundwater** – HWRS 482, HWRS 405, GEOS 302, GEOS 304, GEOS Elective, or HWRS 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 469A, ATMO 469B, GEOS 412A, GEOS 479, GEOS 437, GEOS 478, GEOS 483, MATH 313, PHYS 241

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; (7) ATMO 455; (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 General Education Core must meet University requirements. At least 12 units of Exploring Perspectives and 9 units of Building Connections are required. Exploring Perspectives must include 1 Natural Scientist focus, 1 Social Scientist focus, 1 Humanist focus, and 1 Artist focus class. Transfer Students may not need the entry/exit 1-unit courses.