### Bachelor of Science Degree in Hydrology and Atmospheric Sciences (HAS major, ATMO Track)

#### Departmental Advisor Grid & Catalog 2023-2024 & Beyond

- **Fall**
  - **LANG Req**
  - **MATH122a & MATH122b**
  - **CHEM151**
  - **ENGL 101**

**Total 16**

- **Spring**
  - **MATH 129**
  - **CHEM152**
  - **ENGL 102**
  - **HWRS 195a**

**Total 16**

- **Fall**
  - **MATH 223**
  - **HWRS 350**
  - **GEOG 330**
  - **GE Core**
  - **PHYS 142**

**Total 16**

- **Spring**
  - **MATH 254**
  - **ATMO 436a**
  - **GE Core**
  - **GE Core**

**Total 15-16**

- **Fall**
  - **ATMO 441a**
  - **SIE 305**
  - **GEOG 230 or GEOS 342**
  - **GE Core**
  - **Comp Elec Theme**

**Total 15**

- **Spring**
  - **Tech Elec**
  - **ATMO 441b**
  - **Technical Writing & Communication Theme**
  - **HES Elec**

**Total 15**

- **Fall**
  - **ATMO 451a**
  - **ATMO 474a**
  - **HAS Elec**
  - **HWRS 443A**
  - **GE Core**

**Total 15**

- **Spring**
  - **HWRS 449**
  - **HWRS 495a**
  - **ATMO 474b**
  - **Water, Policy, Law, or Economics Theme**
  - **HAS Elec**

**Total 14**

---

100% Engagement course, notation on transcript

Highlighted classes available 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 UB degree. Check with your advisor to ensure classes will transfer and fulfill degree requirements.

- **Technical Electives** 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, 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/CE 476a
    - **Water Resources –** POL 481, ENVS 444, ENVS 454, HWRS 520, for advanced students who meet eligibility requirements.
    - **Atmospheric Science** – HWRS 469A, ATMOS 469B, GEOS 412A, GEOS 479, GEOS 437, GEOS 478, GEOS 853, 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) GEOS 450; (2) GEOS 450; (3) GEOS 498; (4) CE 427; (5) RNR 403, 417, or 420; (6) ATMO 451b; (7) ATMOS 455; (8) ATMO 409 or GEOS 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.