

CENTRAL AMERICA HYDRO-ENGINEERING

INTERNATIONAL CHALLENGES IN WATER RESOURCES STUDY ABROAD WINTER 2025



Students will become partners with fellow BYU undergraduate and graduate students, as well as engineers from our partnering national hydrologic services (equivalent to USGS from the US) from different Central America/Caribbean countries, in applying water resources models methods and application development to critical problems faced by their country. This coming year we plan to help them generally with the integration of the Group on Earth Observations Global Water Sustainability (GEOGLOWS) hydrologic data into their decision making. We will be working in close collaborations with the World Meteorological Organization (WMO) in implementing their Hydrologic Status and Outlook (HydroSOS) and Early Warning for All initiatives as general guidance for GEOGLOWS integration. You will also learn the social impact cycle as taught in BYU's Ballard Center for Social Impact and using those principles help design and implement customized services for the country or countries you are assigned. Courses will focus on distance collaboration with international partners to develop an approach to GEOGLOWS implementation to satisfy specific challenges. The objective of this program is to provide students with opportunities to expand on the technical foundation learned through traditional classroom experiences and curriculum to develop the skills that will be necessary to practice and compete in a global environment.

DATES

Second half of March Winter semester 2025

HOUSING

Students will be housed in a local hotel.

COURSES

Registration Options

All students who are accepted into the program and want to receive capstone credit are expected to register for the professional development class CE 471. Students will register for CE 439 (3.0 credits) during winter semester 2025, this course counts as

either capstone or a technical elective for undergraduates. Graduate students can register for either CE 439 or a section of CE 594R. Students not taking the class for capstone credit will be asked to join teams and begin to learn about possible projects during Fall 2024.

COST

\$2,200–2,500

Includes airfare, some meals, and international health insurance coverage. Does not include personal expenses, tuition, and most meals. A scholarship of \$700 to help offset the costs will be given by the Weidman Center for Global Leadership to participants majoring in Engineering and Technology within the Ira A. Fulton College of Engineering.

TRAVEL

Flights covered by the program cost will be arranged by the program directors through a BYU Travel agent. Students may not purchase their own flights. BYU Travel | 280 HRCB | (801) 422-6293 | travel@byu.edu

PREPARATION

Preferred prerequisites

Minimum: CE 332—Hydraulics and Fluid Flow Theory (3.0 credits)

Suggested: CE 431—Hydrology (3.0 credits, concurrent winter)

Helpful: CE 433—Hydraulic Engineering (3.0 credits)

Plus: CE 531—Principles of Hydrologic Modeling (3.0 credits)

Accepted students are required to participate in an international, cross-cultural preparation course (IAS 201R, 1 credit hour). This class will be held during the second block of the Fall 2024 semester. Part-time BYU students and non-BYU students will need to pay an additional tuition fee. Accompanying spouses need to be credit-bearing participants on the program.

Students must meet all country- and program-specific COVID and health requirements for travel.

FUNDING SOURCES

Regular BYU tuition scholarships, Pell Grants, and Federal Insured Student Loans may be applied to Study Abroad programs. Students who submit the financial aid section of the ISP application, and who have a current FAFSA form on file at the Financial Aid Office, will be considered for a Study Abroad scholarship. Academic departments and colleges may assist with scholarships and grants. Private grants and scholarships outside of BYU may also assist (see <https://kennedy.byu.edu/scholarships>).

APPLICATION PROCESS

Students must be 18 years of age or older. Complete the online application at kennedy.byu.edu/isp-apply. The application requires a \$35 fee. Applicants will be contacted for an interview by the program director(s). Students will be notified via e-mail of their acceptance into the program. The first payment is due upon acceptance.

Deadline: 30 August 2024

If you want to take this class for capstone then you should be registered by mid-August.

FACULTY

Jim Nelson and **Norm Jones** will co-direct the program. Dr.'s Nelson and Jones have taught and conducted research in applied surface and groundwater hydrology and developed the widely used Watershed Modeling System (WMS) and Groundwater Modeling System (GMS). These modeling efforts provide the foundation of the GEOGLOWS water services. They have Spanish language experiences and have led this program on several projects in both Mexico and the Dominican Republic.

430 P EB | (801) 422-7632 | jimn@byu.edu

430 Q EB | (801) 422-7569 | njones@byu.edu

SCHEDULE AND TIME COMMITMENT

The travel portion of the program is about 10 days and takes place in late March of the winter semester.

INTERESTED STUDENTS SHOULD CONTACT

International Study Programs | (801) 422-3686 | isp@byu.edu | kennedy.byu.edu/isp

PROGRAM ADJUSTMENTS

International Study Programs (ISP) reserves the right to cancel this program, revise its offerings, or make any adjustments to the preliminary cost. If it becomes necessary for ISP to cancel a program, all program payments made to BYU ISP will be refunded to the student's BYU financial account. ISP is the only office authorized to cancel any of its programs.