

# GLOBAL HEALTH TECHNOLOGIES

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THE GEORGE R. BROWN SCHOOL OF ENGINEERING,  
THE WEISS SCHOOL OF NATURAL SCIENCES, THE  
SCHOOL OF HUMANITIES, AND THE SCHOOL OF  
SOCIAL SCIENCES

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## DEGREES OFFERED: NONE

Rice 360°: Institute for Global Health Technologies collaborates with a number of departments to offer Rice undergraduate students a minor in global health technologies (GLHT) through the Beyond Traditional Borders (BTB) initiative—a unique, multidisciplinary program to educate and train students to reach beyond traditional disciplinary and geographic boundaries to understand, address, and solve global health disparities. With complementary contributions from the humanities, social science, policy, bioscience, and engineering programs at Rice, the GLHT minor prepares students to integrate diverse perspectives as they develop solutions to the complex problems of global health, using the formal approach of the engineering design process.

Advances in biotechnology and bioengineering are transforming how disease is detected and treated, and have led to significant advances in health over the last 50 years. Developing countries, however, have largely missed out on the gains in health enjoyed by the rest of the world, and the HIV/AIDS pandemic has greatly increased the complexity of health challenges faced by the world's poorest regions. With the GLHT minor, BTB aims to create future leaders who can develop effective solutions to significant world health challenges. Many students pursuing the GLHT minor—having been trained to develop and implement appropriate biotechnology and bioengineering solutions that integrate scientific, engineering, health, policy, and economic data perspectives—enter careers in medicine, public health, public policy, and international development.

Students begin the GLHT minor sequence (five core courses and two elective courses) in a multidisciplinary gateway course. GLHT 201 *Bioengineering and World Health* provides an overview of the scientific, economic, and policy issues associated with biotechnology and bioengineering advances required to address global health needs. Subsequent minor sequence courses foster a command of specialized knowledge relevant to the development of technologies appropriate for resource-constrained settings. Students conclude the GLHT minor with a common capstone course that enables them to benefit from one another's major area proficiencies. GLHT 451/452 *Global Health Design Challenges* requires multidisciplinary teams of students, mentored by interdisciplinary faculty teams, to work together in a two-semester course to develop a solution to an international health challenge.

## REQUIREMENTS FOR MINORING IN GLHT

Students must complete five core courses. In addition to the core course sequence, students must complete a science/engineering elective course and a humanities/social science elective course.

### Core Course Sequence

- GLHT 201 *Bioengineering for Global Health Environments*
- GLHT 360 *Appropriate Design for Global Health*
- GLHT 363 *Metabolic Engineering for Global Health Environments* or PSYC 480 *Medical Human Factors* or SOCI 345 *Medical Sociology*
- GLHT 451/452 *Global Health Design Challenges*

All core courses will be offered each year: GLHT 201, PSYC 480, and GLHT 451 in the fall and GLHT 360, GLHT 363, SOCI 345, and GLHT 452 in the spring. The sequence indicated is the required sequence, as prerequisites do apply. Prior to enrollment in the capstone course GLHT 451/452, students must successfully complete all other GLHT minor core course requirements, although electives may be taken concurrently. There is no requirement to initiate the GLHT minor in the freshman year. It can be initiated as late as the junior year (beginning of the fifth semester). It will be possible for students to receive credit for GLHT minor courses that also fulfill a requirement within their major.

### ELECTIVE COURSES

For a list of approved elective courses, covering a wide range of relevant topics, please visit [www.beyondtraditionalborders.rice.edu](http://www.beyondtraditionalborders.rice.edu) and/or speak with the minor advisors.

### ADMISSION

Most GLHT minor courses are open to all Rice students, including those not pursuing the GLHT minor, with the exception of GLHT 360 and the capstone course GLHT 451/452, which are restricted to students completing the GLHT minor. For information on GLHT minor declaration, visit [http://www.btb.rice.edu/programs.cfm?doc\\_id=9257#Declaration](http://www.btb.rice.edu/programs.cfm?doc_id=9257#Declaration). In addition, for GLHT 360, students are required to submit a 250-word statement explaining their interests in and reasons for taking the course to [beyondtraditionalborders@rice.edu](mailto:beyondtraditionalborders@rice.edu) to gain instructor permission to register for the course.