

# MINOR IN GLOBAL HEALTH TECHNOLOGIES

## Program Learning Outcomes for the Minor in Global Health Technologies

Upon completing the minor in Global Health Technologies, students will be able to:

1. Demonstrate the ability to prototype and build appropriate technologies that respond to global health design challenges or problems, and/or develop a community health plan or strategy to address these challenges. They will conduct independent research and design—from developing a research question and completing a literature review, to analyzing and interpreting data—to demonstrate the effectiveness of their proposed solution.
2. Demonstrate a broad understanding of the issue of human health, disease, and health care planning from Natural Science, Humanities, and Social Sciences perspectives.
3. Understand the basic elements of human health and disease from evolutionary, biological, and epidemiological perspectives.
4. Demonstrate critical thinking and analysis skills within the realm of global health and its related disciplines, including the ability to critically and responsibly synthesize materials and methods from a range of disciplines to address global health problems or questions.
5. Demonstrate a knowledge of how health and disease are, in part, social and cultural constructs; students will be able to explain how different populations of individuals within the same geographic locale or in very different geographic locales may understand health and disease differently. They will also demonstrate the ability to assess and explain how different kinds of health planning, delivery systems, institutions, and health products would be more or less effective for different populations.
6. Communicate effectively at the college level by demonstrating the ability to write research papers, literature reviews, and other scholarly papers and by being able to verbally present this information effectively and correctly.

## Requirements for the Minor in Global Health Technologies

Students pursuing the minor Global Health Technologies must complete:

- A minimum of 7 courses (21 credit hours) to satisfy minor requirements.

The courses listed below satisfy the requirements for this minor. In certain instances, courses not on this official list may be substituted upon approval of the minor's academic advisor, or where applicable, the Program Director. (Course substitutions must be formally applied and entered into Degree Works by the minor's [Official Certifier](https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/) (<https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/>)). Students and their academic advisors should identify and clearly document the courses to be taken.

## Summary

Code	Title	Credit Hours
Total Credit Hours Required for the Minor in Global Health Technologies		21

## Minor Requirements

Code	Title	Credit Hours
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### Core Requirements <sup>1</sup>

GLHT 201	INTRODUCTION TO GLOBAL HEALTH	3
GLHT 360 / BIOE 360	APPROPRIATE DESIGN FOR GLOBAL HEALTH	3

Select 1 course from the following: 3

ANTH 381	MEDICAL ANTHROPOLOGY	
GLHT 314 / BIOE 365 / CEVE 314	SUSTAINABLE WATER PURIFICATION FOR THE DEVELOPING WORLD	

GLHT 392 / BIOE 392	NEEDS FINDING AND DEVELOPMENT IN BIOENGINEERING	
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GLHT 464 / BUSI 464 / SOSC 464	SOCIAL ENTREPRENEURSHIP	
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PSYC 370	INTRODUCTION TO HUMAN FACTORS AND ERGONOMICS	
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SOCI 345	MEDICAL SOCIOLOGY	
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SOCI 381	RESEARCH METHODS	
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### Elective Requirement

Select a minimum of 1 course (minimum of 3 total credit hours) from Natural Science/Engineering Electives (see course list below) 3

Select a minimum of 1 course (minimum of 3 total credit hours) from Humanities/Social Science Electives (see course list below) 3

### Capstone Requirement

GLHT 451	GLOBAL HEALTH DESIGN CHALLENGES I <sup>2</sup>	3
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GLHT 452	GLOBAL HEALTH DESIGN CHALLENGES II <sup>2</sup>	3
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**Total Credit Hours** 21

## Footnotes and Additional Information

- <sup>1</sup> All core courses will be offered each year:
- GLHT 201, PSYC 370, SOCI 381, ANTH 381, GLHT 392 and GLHT 451 in the Fall.
  - GLHT 360, SOCI 345, GLHT 464, GLHT 314 and GLHT 452 in the Spring.

The sequence indicated is the required sequence, as prerequisites do apply.

If not selected as a Core course, some courses are also available as Electives (see below for course lists).

- <sup>2</sup> Prior to enrollment in the capstone courses GLHT 451 and GLHT 452, students must successfully complete all other GLHT minor core course requirements, although electives may be taken concurrently.

## Course Lists to Satisfy Requirements

### Elective Requirements

To fulfill the remaining Global Health Technologies minor requirements, students must complete a minimum of 2 additional elective courses (minimum of 6 total credit hours) as listed below.

**Natural Science/Engineering Electives**

Code	Title	Credit Hours
<i>Select a minimum of 1 course (minimum of 3 credit hours) from the following:</i>		
BIOE 449 / GLHT 449	TROUBLESHOOTING WORKSHOP FOR CLINICALLY-RELEVANT BIOMEDICAL EQUIPMENT	1
BIOS 318	MICROBIOLOGY LABORATORY	2
BIOS 372	IMMUNOLOGY	3
BIOS 424	MICROBIAL PHYSIOLOGY AND GENETICS	3
BIOS 431	EMERGING INFECTIOUS DISEASES	3
BIOS 447	EXPERIMENTAL BIOLOGY AND THE FUTURE OF MEDICINE	3
BIOS 450	VIRUSES AND INFECTIOUS DISEASES	3
BIOS 460	CANCER BIOLOGY	3
CEVE 302 / ENGI 302	SUSTAINABLE DESIGN	3
ELEC 446 / COMP 446	MOBILE DEVICE APPLICATIONS PROJECT	4
GLHT 314 / BIOE 365 / CEVE 314	SUSTAINABLE WATER PURIFICATION FOR THE DEVELOPING WORLD	3
GLHT 400	GLOBAL HEALTH TECHNOLOGIES INDEPENDENT RESEARCH PROJECTS	1-3
GLHT 401	GLHT RESEARCH PAPER WRITING AND SUBMISSION	1
GLHT 448	TECHNOLOGY COMMERCIALIZATION IN DEVELOPING COUNTRIES FOR ENGINEERING	3
GLHT 510 / BIOE 510	SEMINAR IN TROPICAL MEDICINE	1
KINE 319	STATISTICS FOR THE HEALTH PROFESSIONAL	3
STAT 280 or STAT 180	ELEMENTARY APPLIED STATISTICS AP/OTH CREDIT IN STATISTICS	4
STAT 305	INTRODUCTION TO STATISTICS FOR BIOSCIENCES	4

**Humanities/Social Science Electives**

Code	Title	Credit Hours
<i>Select a minimum of 1 course (minimum of 3 credit hours) from the following:</i>		
ANTH 343	NEW RELIGIOUS MOVEMENTS IN AFRICA	3
ANTH 366	SCIENCE, LOCAL AND GLOBAL	3
ANTH 381	MEDICAL ANTHROPOLOGY	3
ANTH 443	ANTHROPOLOGY OF RACE, ETHNICITY AND HEALTH	3
ANTH 446	ADVANCED TOPICS IN BIOMEDICAL ANTHROPOLOGY	3
BUSI 464 / GLHT 464 / SOSC 464	SOCIAL ENTREPRENEURSHIP	3
ECON 450	ECONOMIC DEVELOPMENT	3
ECON 460	ADVANCED TOPICS IN ECONOMIC DEVELOPMENT	3

ECON 481	HEALTH ECONOMICS	3
ECON 484	PUBLIC ECONOMICS: EXPENDITURES	3
ENGL 272	LITERATURE AND MEDICINE	3
ENGL 273 / SWGS 273	MEDICINE AND MEDIA	3
ENGL 386 / FILM 381	MEDICAL MEDIA ARTS LAB	4
ENST 313 / ARCH 313	CASE STUDIES IN SUSTAINABLE DESIGN	3
ENST 315	ENVIRONMENTAL HEALTH	3
HEAL 222	PRINCIPLES OF PUBLIC AND COMMUNITY HEALTH	3
HEAL 313	FOUNDATIONS OF HEALTH PROMOTION AND EDUCATION	3
HEAL 350	UNDERSTANDING CANCER	3
HEAL 375	THE BUILT ENVIRONMENT AND PUBLIC HE/	3
HEAL 380	DISPARITIES IN HEALTH IN AMERICA	3
HEAL 407	EPIDEMIOLOGY	3
HEAL 422	THEORIES AND MODELS OF HEALTH BEHAVIOR	3
HEAL 460	PLANNING AND EVALUATION OF HEALTH PROMOTION AND EDUCATION	3
HIST 222	HISTORY OF EARLY AFRICA	3
HIST 223	HISTORY OF MODERN AFRICA	3
HIST 312	ENVIRONMENT, MEDICINE AND PUBLIC HEALTH IN LATIN AMERICA	3
PHIL 266	MEDICAL ETHICS	3
PHIL 354	THE PHILOSOPHY OF MEDICINE	3
PJHC 371	POVERTY, JUSTICE, AND HUMAN CAPABILITIES	3
POLI 260 / LEAD 260	ADVOCATING FOR IDEAS TO CHANGE THE WORLD	3
POLI 329	HEALTH POLICY	3
PSYC 345	HEALTH PSYCHOLOGY	3
PSYC 370	INTRODUCTION TO HUMAN FACTORS AND ERGONOMICS	3
PSYC 409	METHODS IN HUMAN-COMPUTER INTERACTION	3
PSYC 480	ADVANCED TOPICS	3
RELI 424	RELIGION AND POLITICS IN AFRICA	3
SOCI 313	DEMOGRAPHY	3
SOCI 345	MEDICAL SOCIOLOGY	3
SOCI 377	HEALTH DISPARITIES IN THE UNITED STATES	3
SOCI 381	RESEARCH METHODS	3
SOCI 406	BASIC DEMOGRAPHIC TECHNIQUES	3
SOCI 453	RACE, MIGRATION, AND HEALTH SEMINAR	3
SOCI 465 / SWGS 465	GENDER AND HEALTH	3

## Policies for the Minor in Global Health Technologies

### Admission

Courses with the GLHT subject code 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/GLHT 452. Preferential admission to GLHT 360 will be given to students who formally declared or state their intention to pursue the GLHT minor. For GLHT 360, the minor and course prerequisite (GLHT 201) is waived for students who have declared a major in Bioengineering (BIOE). For program-specific information on the declaration of minor process for the GLHT minor, please visit [this website](http://www.rice360.rice.edu/minor/#Declaration) (<http://www.rice360.rice.edu/minor/#Declaration>).

There is no requirement to initiate or declare the GLHT minor in the freshman year. It can be formally declared 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.

### Program Restrictions and Exclusions

Students pursuing the minor in Global Health Technologies should be aware of the following program restriction:

- As noted in [Majors, Minors, and Certificates](https://ga.rice.edu/undergraduate-students/academic-opportunities/majors-minors-certificates/) (<https://ga.rice.edu/undergraduate-students/academic-opportunities/majors-minors-certificates/>), i.) students may declare their intent to pursue a minor only after they have first declared a major, and ii.) students may not major and minor in the same subject.

### Transfer Credit

For Rice University's policy regarding transfer credit, see [Transfer Credit](https://ga.rice.edu/undergraduate-students/academic-policies-procedures/transfer-credit/) (<https://ga.rice.edu/undergraduate-students/academic-policies-procedures/transfer-credit/>). Some departments and programs have additional restrictions on transfer credit. The Office of Academic Advising maintains the university's official list of [transfer credit advisors](https://oaa.rice.edu/advising-network/transfer-credit-advisors/) (<https://oaa.rice.edu/advising-network/transfer-credit-advisors/>) on their website: <https://oaa.rice.edu>. Students are encouraged to meet with their academic program's transfer credit advisor when considering transfer credit possibilities.

### Program Transfer Credit Guidelines

Students pursuing the minor in Global Health Technologies should be aware of the following program-specific transfer credit guidelines:

- Requests for transfer credit will be considered by the program director (and/or the program's official transfer credit advisor) on an individual case-by-case basis.

### Additional Information

For additional information, please see the Global Health website: <https://www.rice360.rice.edu/glht-minor> (<https://www.rice360.rice.edu/glht-minor/>)

## Opportunities for the Minor in Global Health Technologies

### Academic Honors

The university recognizes academic excellence achieved over an undergraduate's academic history at Rice. For information on university

honors, please see [Latin Honors](https://ga.rice.edu/undergraduate-students/honors-distinctions/university/) (<https://ga.rice.edu/undergraduate-students/honors-distinctions/university/>) (*summa cum laude*, *magna cum laude*, and *cum laude*) and [Distinction in Research and Creative Work](https://ga.rice.edu/undergraduate-students/honors-distinctions/university/) (<https://ga.rice.edu/undergraduate-students/honors-distinctions/university/>). Some departments have department-specific Honors awards or designations.

### Program Internships and Competition

#### Rice 360° Global Health Summer Internship Program

The Rice 360° Global Health Technologies Summer Internship Program gives Rice University undergraduate students - both science and non-science majors - first-hand exposure to health care in resource constrained settings. In partnership with clinics, schools, and organizations working in resource constrained settings, the internships allow students to advance their solutions to a global health design challenge in a real-world setting.

The summer internships are held in a number of national and international locations, exposing students to health care challenges and solutions in low-resource settings. In the past, our students have visited Malawi, Tanzania, Brazil, and the Rio Grande Valley in Texas among other locations. During the internship, students are responsible for the implementation of a GLHT project and a site specific project, both of which are assigned to them. In addition, participants select a project of their choice and work on identifying and documenting five novel ideas or technology ideas at the site.

Summer internships are fully funded experiences, covering the cost of your travel (airfare, visa, and traveler's insurance), immunizations, housing and a stipend for day to day living expenses (eg. food and local transportation).

For more information visit: <https://www.rice360.rice.edu/internships> (<https://www.rice360.rice.edu/internships/>).

#### Global Health Technologies Design Competition

The Rice 360° Annual Undergraduate Global Health Technologies Design Competition is held each Spring at Rice University. It features over 20 student teams from national and international universities who present their low-cost global health technologies. Entries are judged on the quality of the problem definition, the effectiveness and potential impact of the design solution, and the likelihood that the solution can be successful in improving healthcare delivery in low-resource settings by faculty, clinicians, and private and public sector partners from around the country.

Information on the application process and competition guidelines can be found here:

<https://www.rice360.rice.edu/design-competition> (<https://www.rice360.rice.edu/design-competition/>).

### Additional Information

For additional information, please see the Global Health website: <https://www.rice360.rice.edu/glht-minor> (<https://www.rice360.rice.edu/glht-minor/>)