

## New Proposal

Date Submitted: 01/19/22 9:08 am

Viewing: : **Health Technology**

# Interdisciplinary Minor, UG

Last edit: 01/19/22 9:08 am

Changes proposed by: Nicole Holtzclaw-Stone

### In Workflow

1. **U Program Review**
2. **1581 Committee Chair**
3. **1581 Head**
4. **KY Committee Chair**
5. **KY Dean**
6. **University Librarian**
7. **Provost**
8. **Senate EPC**
9. Senate
10. U Senate Conf
11. Board of Trustees
12. IBHE
13. HLC
14. DMI

### Approval Path

1. 01/19/22 4:26 pm  
Deb Forgacs  
(dforgacs):  
Approved for U  
Program Review
2. 01/20/22 9:27 am  
Kristi Carlson  
(carlo1):  
Approved for 1581  
Committee Chair
3. 01/20/22 2:47 pm  
Kim Graber  
(kgraber):  
Approved for 1581  
Head
4. 01/20/22 4:52 pm  
Reggie Alston  
(alston): Approved  
for KY Committee  
Chair
5. 01/20/22 4:52 pm  
Reggie Alston

- (alston): Approved for KY Dean
- 6. 01/20/22 7:40 pm  
John Wilkin (jpwilkin): Approved for University Librarian
- 7. 01/25/22 8:29 am  
Kathy Martensen (kmartens): Approved for Provost

## Proposal Type

Proposal Type:  
Minor (ex. European Union Studies)

## Administration Details

Official Program Name	Health Technology Interdisciplinary Minor, UG	
Sponsor College	Applied Health Sciences	
Sponsor Department	Kinesiology and Community Health	
Sponsor Name	Wendy A. Rogers	
Sponsor Email	wendyr@illinois.edu	
College Contact	Reggie Alston	College Contact Email
	alston@illinois.edu	
College Budget Officer	Suzanne Rinehart	
College Budget Officer Email	srinehar@illinois.edu	

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. *Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.*

Nicole Holtzclaw-Stone (holtzcla@illinois.edu)

Does this program have inter-departmental administration?

No

## Proposal Title

Effective Catalog      Fall 2022

Term

Provide a brief, concise description (not justification) of your proposal.

Proposal to establish the Health Technology Interdisciplinary Minor for undergrads

List here any related proposals/revisions and their keys. *Example: This BS proposal (key 567) is related to the Concentration A proposal (key 145) and the Concentration B proposal (key 203).*

## Program Justification

Provide a **brief** justification of the program, including highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates, when appropriate.

We propose to deliver an undergraduate Health Technology Interdisciplinary Minor aimed towards students both inside and outside the College of Applied Health Sciences. Specifically, this minor is directed towards students interested in professions that intersect technology and healthcare. The proposed minor provides some depth in the area of Health Technology, but not as extensive as a major in Health Technology would. Students will gain foundational knowledge in health technology overall, introductory computer programming, and human factors through the 13-14 hours of required coursework. The additional 6 hours of electives will deepen this knowledge, but are far short of the typical requirements for affiliated majors.

The Minor requirements include:

1. Completion of four required core courses (13-14 hours) to provide students with foundational knowledge about the broad field of health technology and background in human factors and computer programming.
2. A combination of elective hours in two courses (6 hours total) to deepen a student's knowledge in health technology. One elective will be chosen from the list of approved courses in Health and Human Behavior. One elective will be chosen from the list of approved courses in Engineering/Computing/Information Science.
3. A minimum of 19 hours total including 6 hours of 300/400 level hours are required.

The interdisciplinary nature of this minor requires collaboration across Colleges and Schools at University of Illinois Urbana-Champaign. In addition to the Department of Kinesiology and Community Health in the College of Applied Health Sciences (AHS), which will administer the program, the minor includes departments in the Grainger College of Engineering (Grainger), and the School of Information Science (iSchool). The list of departments included in the minor is as follows:

Community Health, AHS  
Computer Science, Grainger  
Electrical and Computer Engineering, Grainger  
Industrial & Enterprise Systems Engineering, Grainger  
Interdisciplinary Health, AHS  
Information Science, iSchool  
Kinesiology, AHS  
Speech and Hearing Science, AHS  
Recreation, Sport, and Tourism; AHS

Students will be required to take four courses:

1. CHLH 203: Introduction to Health Technology (3 hours)
2. IE 340: Human Factors (4 hours)
3. CHLH 441: Health Technology and Health Behavior (3 hours)
4. CS 101: Intro Computing: Engrg & Sci (3 hours)

or

ECE 120: Intro to Computing (4 hours)

Choose two electives:

1. Choose one from Health & Human Behavior (3 hours)
2. Choose one from Engineering/Computing/Information Science (3 hours)

Health & Human Behavior electives:

CHLH 101: Introduction to Public Health  
CHLH 250: Health Care Systems  
CHLH 260: Introduction to Medical Ethics  
CHLH 304: Foundations of Health Behavior  
CHLH 393: Special Projects\*  
CHLH 470: Technology, Health, & Aging  
CHLH 494: Special Topics\*  
IE 445: Human Performance and Cognition in Context  
IHLT 232: Health Disparities in the U.S.  
IHLT 240: Aging and Health Policy  
IS 406: Cognition in the Wild  
KIN 122: Physical Activity and Health  
KIN 340: Soc & Psyc of Phys Activity  
KIN 449: Rehabilitation Biomechanics  
KIN 474: Tech-Driven Health Intervention  
SHS 352: Hearing Health and Society  
SHS 473: Augmentative & Alt Comm  
RST 216: Technology in RST  
RST 260: Disability in Recreation, Sport & Tourism  
RST 316: Human Development and RST

Engineering/Computing/Information Science electives:

CS 446: Machine Learning  
CS 465: User Interface Design  
CS 466: Introduction to Bioinformatics  
CS 467: Social Visualization  
ECE 365: Data Science and Engineering  
ECE 380: Biomedical Engineering  
ECE 416: Biosensors  
ECE 434: Mobile Computing & Application  
ECE 437: Sensors and Instrumentation  
IE 300: Analysis of Data  
IE 397/497: Independent Study\*  
IE 398/498: Special Topics\*  
IE 405: Computing for ISE  
IE 413: Simulation  
IE 431: Design for Six Sigma

\*to be approved by Health Technology advisor

The timing is right to develop a new Health Technology Interdisciplinary Minor. University of Illinois Urbana-Champaign developments (e.g., the Carle-Illinois College of Medicine, Siebel Center for Design) combined with increased demand for professionals within health fields converge to support the development of this program. This proposal is faculty driven and includes agreement by faculty teaching CHLH and IE required courses; in fact, the faculty involved are excited about the prospect of a new minor. The proposed Health Technology Interdisciplinary Minor will educate the next generation of applied health care and engineering professionals in the design, development, testing, and use of new technologies that promote health, rehabilitation, mitigate disability, improve independence, and enhance quality of life. This includes bringing end-users (e.g., individuals with chronic conditions, older adults, persons with disabilities), industry professionals, and allied health professionals together with students and faculty in an interdisciplinary environment to identify existing problems and develop technologies to solve them.

Many societal factors have converged to create a vital need for an academic response to health care needs. Health technology for consumers is increasing rapidly, through forcing functions such as: (a) transitions to home healthcare; (b) an increasing aging population; (c) more people living with chronic conditions and/or disabilities; (d) rapidly emerging technologies in this domain (apps, smart phones, robotics, wearables); and (e) lower cost of technology components leading to broader availability. Consumer health technologies have tremendous potential that is not yet being met. There is often insufficient focus on users and an absence of an interdisciplinary emphasis during the design, development, and diffusion processes. There is a real need for a better-trained workforce in this sector.

Addressing this critical need, the College of Applied Health Sciences, in collaboration with the Grainger College of Engineering, and the School of Information Sciences, has developed a Health Technology Interdisciplinary Minor aimed at training professionals in improving the quality of life, health, and independence for people of all ages and abilities to maintain health and wellness; to manage chronic conditions; and recover from injury or medical treatment. The minor will be housed administratively within the Department of Kinesiology and Community Health and will forge important collaborations with units in the colleges listed above to prepare students for careers in the emerging industry of applied health technology.

In 2017, the College of AHS engaged Gies College of Business students in a study of interest in health fields and health technology in particular. There was overwhelming interest in the study of health technology as a field among students. Students

is evident.

This minor will prepare students for jobs in a variety of fields and we expect students from various majors will be interested (e.g., business, engineering, pre-med, psychology, design). In addition, this minor will expose students to this burgeoning field and prepare them for post-graduate education.

Please include how the proposed minor requires some depth in the subject, but not as extensive as the major.

We propose to deliver an undergraduate Health Technology Interdisciplinary Minor aimed towards students both inside and outside the College of Applied Health Sciences. Specifically, this minor is directed towards students interested in professions that intersect technology and healthcare. The proposed minor provides some depth in the area of Health Technology, but not as extensive as a major in Health Technology would. Students will gain foundational knowledge in health technology overall, introductory computer programming, and human factors through the 13-14 hours of required coursework. The additional 6 hours of electives will deepen this knowledge, but are far short of the typical requirements for affiliated majors.

## Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?

No

Does this new program/proposed change result in the replacement of another program?

No

Does the program include other courses/subjects impacted by the creation/revision of this program?

Yes

Required courses

- CS 101 - Intro Computing: Engrg & Sci
- ECE 120 - Introduction to Computing
- CHLH 203 - Intro to Health Technology
- CHLH 441 - Health Behavior and Technology
- CS 124 - Intro to Computer Science I
- IE 340 - Human Factors

Explain how the inclusion or

removal of the courses/subjects listed above impacts the offering departments.

We anticipate minimal impact on course enrollments in these courses. Departments are not asked to waive any prerequisites for courses, nor are they required to reserve seats for minor students in their courses.

Attach letters of support or acknowledgement from other departments. [Memorandum of Understanding UG Minor in HT-CS-signed.pdf](#)  
[Memorandum of Understanding UG Minor in HT-SHS.pdf](#)  
[Memorandum of Understanding UG Minor in HT-RST.pdf](#)  
[Memorandum of Understanding UG Minor in HT-IS\\_signed.pdf](#)  
[Memorandum of Understanding UG Minor in HT-IE.pdf](#)  
[Memorandum of Understanding UG Minor in HT-ECE\[1\].pdf](#)  
[FW\\_Health Technology Interdisciplinary Minor - response from Grainger.pdf](#)

## Program Regulation and Assessment

Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning. (Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable).

Programs Learning Objectives – students will learn:

1. health technology field overview
2. human factors methods and techniques
3. health behavior theory related to health technology
4. introductory computing skills relevant to health technology
5. deeper knowledge in health & human behavior
6. deeper knowledge in engineering/computing/information science

Passing grades in minor required and elective courses will signify student's achievement of learning objectives. Further, regular use of ICES forms will be used to improve instruction in courses associated with the minor to enhance student learning.

Is the career/profession for graduates of this program regulated by the State of Illinois?

No

## Program of Study

*"Baccalaureate degree requires at least 120 semester credit hours or 180 quarter credit hours and at least 40 semester credit hours (60 quarter credit hours) in upper division courses" (source: <https://www.ibhe.org/assets/files/PrivateAdminRules2017.pdf>). For proposals for new bachelor's degrees, if this minimum is not explicitly met by specifically-required 300- and/or 400-level courses, please provide information on how the upper-division hours requirement will be satisfied.*

An undergraduate minor should consist of at least 16 - and no more than 21 hours - of course work, with at least 6 hours of 300- or 400- level courses. Except clearly remedial offerings, prerequisite courses within the sponsoring unit count towards the total; prerequisite courses outside the sponsoring unit do not count



toward this total. The unit sponsoring the minor and that unit's college may set educationally necessary prerequisites for eligibility for the minor within these constraints. Does this proposal meet these criteria?

Yes

All proposals must attach the new or revised version of the Academic Catalog program of study entry. Contact your college office if you have questions.

For new programs, attach Program of Study [Statement for programs of study catalog.docx](#)

#### Catalog Page Text - Overview Tab

Text for Overview tab on the Catalog Page. This is not official content, it is used to help build the new catalog page for the program. Can be edited in the catalog by the college or department.

The undergraduate Health Technology Interdisciplinary Minor focuses on the intersection of human factors, technology, and health. In this minor students will be introduced to the breadth of the field of health technology while being exposed to introductory computer programming skills and human factors. Through electives, students will further explore technical and health specific applications of health technology.

#### Statement for Programs of Study Catalog

##### Course List

Code	Title	Hours
Required Courses:		10
<a href="#">CHLH 203</a>	Introduction to Health Technology	
<a href="#">CHLH 441</a>	Health Behavior and Technology	
<a href="#">IE 340</a>	Human Factors	
Choose a computing course:		3
<a href="#">CS 101</a>	Intro Computing: Engrg & Sci	
<a href="#">CS 124</a>	Introduction to Computer Science I	
<a href="#">ECE 120</a>	Introduction to Computing	
<a href="#">(CS 125</a> can be substituted for computing course)		
Electives		
Choose One (1) from Health & Human Behavior electives:		3
<a href="#">CHLH 101</a>	Introduction to Public Health	
<a href="#">CHLH 250</a>	Health Care Systems	
<a href="#">CHLH 260</a>	Introduction to Medical Ethics	
<a href="#">CHLH 304</a>	Foundations of Health Behavior	
<a href="#">CHLH 393</a>	Special Projects (approved by Health Technology advisor)	
<a href="#">CHLH 470</a>	Technology, Health, and Aging	
<a href="#">CHLH 494</a>	Special Topics (approved by Health Technology advisor)	
<a href="#">IE 445</a>	Human Performance and Cognition in Context	
<a href="#">IHLT 232</a>	Health Disparities in the U.S.	
<a href="#">IHLT 240</a>	Aging and Health Policy	
<a href="#">IS 406</a>	Cognition in the Wild	

Code	Title	Hours
<a href="#">KIN 122</a>	Physical Activity and Health	
<a href="#">KIN 340</a>	Social & Psychological Aspects of Physical Activity	
<a href="#">KIN 449</a>	Rehabilitation Biomechanics	
<a href="#">KIN 474</a>	Tech-Driven Health Intervention	
<a href="#">SHS 352</a>	Hearing Health and Society	
<a href="#">SHS 473</a>	Augmentative & Alt Comm	
<a href="#">RST 216</a>	Technology in Recreation, Sport and Tourism	
<a href="#">RST 260</a>	Disability in Recreation, Sport and Tourism	
<a href="#">RST 316</a>	Human Development and Recreation, Sport and Tourism	

Choose one(1) from Engineering/Computing/Information Science electives:3

- [CS 440](#) Artificial Intelligence
- [CS 446](#) Machine Learning
- [CS 465](#) User Interface Design
- [CS 466](#) Introduction to Bioinformatics
- [CS 467](#) Social Visualization
- [ECE 365](#) Data Science and Engineering
- [ECE 380](#) Biomedical Imaging
- [ECE 416](#) Biosensors
- [ECE 434](#) Mobile Computing & Application
- [ECE 437](#) Sensors and Instrumentation
- [IE 300](#) Analysis of Data
- [IE 397](#) Independent Study (approved by Health Technology advisor)
- or [IE 497](#) Independent Study
- [IE 398](#) Special Topics (approved by Health Technology advisor)
- or [IE 498](#) Special Topics
- [IE 405](#) Computing for ISE
- [IE 413](#) Simulation
- [IE 431](#) Design for Six Sigma
- [IS 226](#) Introduction to HCI
- [IS 316](#) The Design of Usable Information Interfaces
- [IS 407](#) Introduction to Data Science
- [IS 445](#) Data Visualization
- [IS 459](#) Mobile Applications

Total Hours	19
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## Program Features

Academic Level      Undergraduate

Is this minor?

An interdisciplinary study focusing on a single theme

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

Other than certification via the students' degree audits, is there any additional planned mechanism to award/honor successful completion of the minor?

No

## Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

## Enrollment

Will the department limit enrollment to the minor?

No

Describe how the department will monitor the admission to/enrollment in the minor.

The Health Technology Education Program will provide and coordinate at least two enrollment periods (Fall and Spring terms) for the minor each academic year. Students will complete the campus Intent to Pursue a Minor Form and meet with the Health Technology academic advisor at least once to discuss minor options. The minor will be open to all undergraduates. If the minor develops in popularity beyond the Health Technology Program's ability to administer it effectively, the Department will develop an application system with additional requirements. This is a common method used in AHS to determine interest in the subject/program and ensure that students who apply are in good academic standing. The application may include a statement of interest in the topic of health technology and relevance to the student's career goals.

Are there any prerequisites for the proposed minor?

Yes

List the prerequisites including course titles and number of credit hours for each prerequisite course, and whether or not these prerequisites count in the total hours required for the minor.

A required course (IE 340) has a prerequisite of PSYC 100. Most students take PSYC 100 as a general education course. PSYC 100 hours do not count towards the total hours required for the minor.

Number of Students in Program (estimate)

Year One Estimate

5

5th Year Estimate (or when fully implemented)

30

## Budget

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

No

Additional Budget  
Information

Attach File(s)

## Financial Resources

How does the unit intend to financially support this proposal?

There are no foreseen budgetary implications to the proposed minor. It is expected that 30-50 students will enroll in the minor. The Department of Kinesiology and Community Health recently hired a dedicated teaching assistant professor who is scheduled to teach the Introduction to Health Technology (CHLH 203) regularly. All other courses are regularly taught by participating departments. The Health Technology Education Program (HTEP) Assistant Director will serve as minor academic advisor and has capacity to do so. If the minor grows in popularity (more than 50 students) and requires additional resources beyond the capacity of the HTEP Assistant Director, the department will review and reassess at that time. Current resources including classrooms and staff are adequate to include minor students.

Will the unit need to seek campus or other external resources?

No

Attach letters of  
support

## Resource Implications

### Facilities

Will the program require new or additional facilities or significant improvements to already existing facilities?

No

### Technology

Will the program need additional technology beyond what is currently available for the unit?

No

### Non-Technical Resources

Will the program require additional supplies, services or equipment (non-technical)?

No

## Resources

For each of these items, be sure to include in the response if the proposed new program or change will result in replacement of another program(s). If so, which program(s), what is the anticipated impact on faculty, students, and instructional resources? Please attach any letters of support/acknowledgement from faculty,

students, and/or other impacted units as appropriate.

Attach File(s)

## Library Resources

Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.

There is no impact on Library resources, collections, and services.

## EP Documentation

EP Control Number            EP.22.066

Attach  
Rollback/Approval  
Notices

This proposal            No  
requires HLC  
inquiry

## DMI Documentation

Attach Final  
Approval Notices

Banner/Codebook  
Name

Program Code:

Minor Code	Conc Code	Degree Code	Major Code
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Senate Approval  
Date

Senate  
Conference  
Approval Date

BOT Approval  
Date

IBHE Approval  
Date

HLC Approval  
Date

Effective Date:

Attached  
Document

Justification for  
this request

Program Reviewer  
Comments

**Kristi Carlson (carlso1) (02/22/21 3:06 pm):** Rollback: Rolling back for minor revisions

**Deb Forgacs (dforgacs) (10/14/21 2:58 pm):** Rollback: requested.

**Suiwen Zou (szou) (11/04/21 2:03 pm):** Program justification indicated that a study of student interest was conducted in 2017. It will make the justification stronger if more details/findings of the study are included to demonstrate student interests. In the "Statement for Programs of Study Catalog", CS 125 Introduction to Computer Science (4 hours) is missing in required courses.

**Justin Aronoff (jaronoff) (11/04/21 2:52 pm):** The program justification indicates that this was developed by AHS, the Grainger College of Engineering, and the School of Information Sciences, but it is not clear what role, if any, the Grainger College of Engineering and the School of Information Sciences has in administering and shaping this minor beyond providing classes.

**Jon Welty-Peachey (jwpeach) (11/04/21 7:47 pm):** I agree with the comments of my colleagues and do not have anything further to add.

**Tim Hale (timhale) (11/05/21 7:30 am):** I agree with the earlier comments and don't have anything new to add.

**Mary Flaherty (maryflah) (11/05/21 9:19 am):** The proposal is clear, the justification is very detailed. I do not have any additional comments to add.

**Keiko Ishikawa (ishikak) (11/05/21 11:08 am):** I agree with the comments above. Nothing to add. Thank you.

**Reggie Alston (alston) (11/08/21 4:12 pm):** Rollback: Hi Nicole, Please submit the minor changes suggested by the Ed. Pol Committee. Roll the proposal back to me upon addressing the comments. Thanks.

**Barbara Lehman (bjlehman) (01/11/22 12:05 pm):** Rollback: Rollback: rolling back at the request of Nicole Holtzclaw-Stone.

**Statement for programs of study catalog**

The Health Technology Interdisciplinary Minor focuses on the intersection of human factors, technology, and health. In this minor students will be introduced to the breadth of the field of health technology while being exposed to introductory computer programming skills and human factors. Through electives, students will further explore technical and health specific applications of health technology.

19 Hours in Total

Required courses:

- CHLH 203: Introduction to Health Technology (3 hours)
- IE 340: Human Factors (4 hours)
- CHLH 441: Health Technology and Health Behavior (3 hours)
- Choose a CS course\*:
  - CS 101: Intro Computing: Engrg & Sci (3 hours)
  - or
  - CS 124: Introduction to Computer Science I
  - or
  - ECE 120: Intro to Computing (4 hours)
- \*CS 125 may be substituted for CS course

Choose two electives:

- Choose one from Health & Human Behavior (3 hours)
- Choose one from Engineering/Computing/Information Science (3 hours)

<b>Health &amp; Human Behavior</b>	<b>Engineering/Computing/Information Science</b>
CHLH 101: Introduction to Public Health CHLH 250: Health Care Systems CHLH 260: Introduction to Medical Ethics CHLH 304: Foundations of Health Behavior CHLH 393: Special Projects* CHLH 470: Technology, Health, & Aging CHLH 494: Special Topics* IE 445: Human Performance and Cognition in Context IHLT 232: Health Disparities in the U.S. IHLT 240: Aging and Health Policy IS 406: Cognition in the Wild KIN 122: Physical Activity and Health KIN 340: Soc & Psyc of Phys Activity KIN 449: Rehabilitation Biomechanics KIN 474: Tech-Driven Health Intervention SHS 352: Hearing Health and Society SHS 473: Augmentative & Alt Comm RST 216: Technology in RST	CS 440: Artificial Intelligence CS 446: Machine Learning CS 465: User Interface Design CS 466: Introduction to Bioinformatics CS 467: Social Visualization ECE 365: Data Science and Engineering ECE 380: Biomedical Engineering ECE 416: Biosensors ECE 434: Mobile Computing & Application ECE 437: Sensors and Instrumentation IE 300: Analysis of Data IE 397/497: Independent Study* IE 398/498: Special Topics* IE 405: Computing for ISE IE 413: Simulation IE 431: Design for Six Sigma IS 226: Introduction to HCI IS 316: The Design of Usable Information Interfaces

RST 260: Disability in Recreation, Sport & Tourism RST 316: Human Development and RST *to be approved by Health Technology advisor	IS 407: Introduction to Data Science IS 445: Data Visualization IS 459: Mobile Applications *to be approved by Health Technology advisor
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**From:** [Miller, Nolan H](#)  
**To:** [Alston, Reginald J](#); [Rogers, Wendy](#)  
**Cc:** [Holtzclaw-Stone, Nicole](#)  
**Subject:** FW: Health Technology Interdisciplinary Minor  
**Date:** Thursday, January 6, 2022 2:28:22 PM  
**Attachments:** [image001.png](#)

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Hi Reggie and Wendy,

See below a response from Brooke Newell at Grainger. She said the college has no objection to the proposal. Also included in her note, she says that BIOE has weighed in and they're also fine with it.

Grainger would like CS 125 removed as an option since the course is no longer offered and suggests it be moved to an in-table note. The benefit of this is that it would not require another substantive change in a few years when CS 125 is a distant memory.

The easiest thing to do at this point is to roll the proposal back to you to make these changes.

1. Attach this email chain as documentation of outreach to Grainger and BioE.
2. Move the requirement from CS 125 to a note to the table saying that students who previously took CS 125 can substitute that course to fulfill the computing course requirement.

If that sounds good to you, I'll ask Barb in the Senate office to roll the proposal back. The next EPC meeting is not until January 24, so there is plenty of time to get this clicked back up through the approval process before then.

Thanks,

Nolan



**NOLAN H MILLER**

*Daniel and Cynthia Mah Helle Professor in Finance* | Department of Finance

*Director, Center for Business and Public Policy*

Gies College of Business | University of Illinois at Urbana-Champaign

217.244.2847 | [nmiller@illinois.edu](mailto:nmiller@illinois.edu) | <http://www.business.illinois.edu/nmiller>

*Under the Illinois Freedom of Information Act any written communication to or from university employees regarding university business is a public record and may be subject to public disclosure.*

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**From:** Newell, Brooke <bsnewell@illinois.edu>  
**Sent:** Thursday, January 6, 2022 1:29 PM  
**To:** Miller, Nolan H <nMiller@illinois.edu>  
**Cc:** Amos, Jenny <jamos@illinois.edu>

**Subject:** RE: Health Technology Interdisciplinary Minor

Nolan,

That is fine.

Thank you,

**Brooke Newell, MPH**

Academic Advisor & Undergraduate Curriculum Coordinator  
The Grainger College of Engineering  
The University of Illinois at Urbana-Champaign

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**From:** Miller, Nolan H <[nmiller@illinois.edu](mailto:nmiller@illinois.edu)>

**Sent:** Thursday, January 06, 2022 1:28 PM

**To:** Newell, Brooke <[bsnewell@illinois.edu](mailto:bsnewell@illinois.edu)>

**Cc:** Amos, Jenny <[jamos@illinois.edu](mailto:jamos@illinois.edu)>

**Subject:** Re: Health Technology Interdisciplinary Minor

Thanks, Brooke. Do you mind if I forward your response to the sponsors and add it to the record in CIM-P?

Thanks,

Nolan

Sent from my iPad

On Jan 6, 2022, at 1:25 PM, Newell, Brooke <[bsnewell@illinois.edu](mailto:bsnewell@illinois.edu)> wrote:

Jenny and Nolan,

I spoke with Jonathan Makela and he noted that he spoke with Rashid Bashir and Mark Anastasio (BioE), Jeff Shamma (ISE) and Kesh (ISE faculty who runs the Grainger College's healthcare engineering systems center). While none were aware of the minor before we brought it to their attention, none objected to it. We do feel that CS 125 shouldn't be listed since it isn't offered anymore. The fact that other students might have taken it is a valid point, could they make an in-table note regarding an allowable substitution?

Best,

**Brooke Newell, MPH**

Academic Advisor & Undergraduate Curriculum Coordinator

The Grainger College of Engineering

The University of Illinois at Urbana-Champaign



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Industrial and Enterprise Systems Engineering**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**Purpose:**

The Memorandum of Understanding allows courses listed in the attached appendix to be included in the Interdisciplinary Minor in Health Technology.

Students pursuing an Interdisciplinary Minor in Health Technology must meet all course prerequisites as defined by the Department in the class schedule. Further, students pursuing an Interdisciplinary Minor in Health Technology must register for the course following normal registration procedures and need not receive priority registration status.

**Signatures:**

Digitally signed by Jeff Shamma  
Date: 2021.09.23 02:19:40 -05'00'

7/15/21

By Jeff Shamma,  
Department of Industrial and Enterprise Systems Engineering Head

Date

**Kim Graber**

Digitally signed by Kim Graber  
Date: 2021.07.15 09:02:48 -05'00'

7/15/21

By Kim Graber, Department of Kinesiology and Community Health Head

Date

**Cc:**

Nicole Holtzclaw-Stone, Assistant Director, Health Technology Education Program

Wendy A. Rogers, Director, Health Technology Education Program



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Industrial and Enterprise Systems Engineering**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**HEALTH TECH**

**Interdisciplinary Minor in Health Technology**  
**18 hours minimum**

**Required Courses:**

- 2. IE 340: Human Factors
- 3. CHLH 441: Health Technology and Health Behavior
- 4. CS 101: Intro Computing: Engrg & Sci  
or  
CS 124: Introduction to Computer Science I  
or  
CS 125: Introduction to Computer Science  
or  
ECE 120: Intro to Computing

**Two Electives:**

- 1. Choose one from Health & Human Behavior
- 2. Choose one from Engineering/Computing/Information Science

<b>Health &amp; Human Behavior</b>	<b>Engineering/Computing/Information Science</b>
CHLH 101: Introduction to Public Health CHLH 250: Health Care Systems CHLH 260: Introduction to Medical Ethics CHLH 304: Foundations of Health Behavior CHLH 393: Special Projects* CHLH 470: Technology, Health, & Aging CHLH 494: Special Topics* IE 445: Human Performance and Cognition in Context IHLT 232: Health Disparities in the U.S. IHLT 240: Aging and Health Policy IS 406: Cognition in the Wild KIN 122: Physical Activity and Health KIN 340: Soc & Psyc of Phys Activity KIN 449: Rehabilitation Biomechanics KIN 474: Tech-Driven Health Intervention SHS 352: Hearing Health and Society SHS 473: Augmentative & Alt Comm RST 260: Disability in Recreation, Sport & Tourism *to be approved by Health Technology advisor	CS 440: Artificial Intelligence CS 446: Machine Learning CS 465: User Interface Design CS 466: Introduction to Bioinformatics CS 467: Social Visualization ECE 365: Data Science and Engineering ECE 380: Biomedical Engineering ECE 416: Biosensors ECE 434: Mobile Computing & Application ECE 437: Sensors and Instrumentation IE 300: Analysis of Data IE 397/497: Independent Study* IE 398/498: Special Topics* IE 405: Computing for ISE IE 413: Simulation IE 431: Design for Six Sigma IS 226: Introduction to HCI IS 316: The Design of Usable Information Interfaces IS 407: Introduction to Data Science IS 445: Data Visualization IS 459: Mobile Applications *to be approved by Health Technology advisor



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Computer Science**


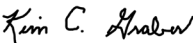
An agreement to participate in an Interdisciplinary Minor in Health Technology.

**Purpose:**

The Memorandum of Understanding allows courses listed in the attached appendix to be included in the Interdisciplinary Minor in Health Technology.

Students pursuing an Interdisciplinary Minor in Health Technology must meet all course prerequisites as defined by the Department in the class schedule. Further, students pursuing an Interdisciplinary Minor in Health Technology must register for the course following normal registration procedures and need not receive priority registration status.

**Signatures:**

	Sept 19, 2021
By Nancy M. Amato, Department of Computer Science Head	Date
	
By Kim Graber, Department of Kinesiology and Community Health Head	Date

**Cc:**

Nicole Holtzclaw-Stone, Assistant Director, Health Technology Education Program

Wendy A. Rogers, Director, Health Technology Education Program



# Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Computer Science**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

## HEALTH TECH

### Required Courses:

1. CHLH 203: Introduction to Health Technology
2. IE 340: Human Factors
3. CHLH 441: Health Technology and Health Behavior
4. CS 101: Intro Computing: Engrg & Sci
  - or
  - CS 124: Introduction to Computer Science I
  - or
  - CS 125: Introduction to Computer Science
  - or
  - ECE 120: Intro to Computing

### Two Electives:

1. Choose one from Health & Human Behavior
2. Choose one from Engineering/Computing/Information Science

Health & Human Behavior	Engineering/Computing/Information Science
CHLH 101: Introduction to Public Health CHLH 250: Health Care Systems CHLH 260: Introduction to Medical Ethics CHLH 304: Foundations of Health Behavior CHLH 393: Special Projects* CHLH 470: Technology, Health, & Aging CHLH 494: Special Topics* IE 445: Human Performance and Cognition in Context IHLT 232: Health Disparities in the U.S. IHLT 240: Aging and Health Policy IS 406: Cognition in the Wild KIN 122: Physical Activity and Health KIN 340: Soc & Psyc of Phys Activity KIN 449: Rehabilitation Biomechanics KIN 474: Tech-Driven Health Intervention SHS 352: Hearing Health and Society SHS 473: Augmentative & Alt Comm RST 260: Disability in Recreation, Sport & Tourism *to be approved by Health Technology advisor	CS 440: Artificial Intelligence CS 446: Machine Learning CS 465: User Interface Design CS 466: Introduction to Bioinformatics CS 467: Social Visualization ECE 365: Data Science and Engineering ECE 380: Biomedical Engineering ECE 416: Biosensors ECE 434: Mobile Computing & Application ECE 437: Sensors and Instrumentation IE 300: Analysis of Data IE 397/497: Independent Study* IE 398/498: Special Topics* IE 405: Computing for ISE IE 413: Simulation IE 431: Design for Six Sigma IS 226: Introduction to HCI IS 316: The Design of Usable Information Interfaces IS 407: Introduction to Data Science IS 445: Data Visualization IS 459: Mobile Applications *to be approved by Health Technology advisor



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Speech and Hearing Science**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**Purpose:**

The Memorandum of Understanding allows courses listed in the attached appendix to be included in the Interdisciplinary Minor in Health Technology.

Students pursuing an Interdisciplinary Minor in Health Technology must meet all course prerequisites as defined by the Department in the class schedule. Further, students pursuing an Interdisciplinary Minor in Health Technology must register for the course following normal registration procedures and need not receive priority registration status.

**Signatures:**

**Pamela A Hadley**

Digitally signed by Pamela A Hadley  
Date: 2021.09.24 16:47:30 -05'00'

9/24/21

By Pamela Hadley, Department of Speech and Hearing Science Interim Head

Date

**Kim Graber**

Digitally signed by Kim Graber  
Date: 2021.07.15 09:00:34 -05'00'

9/24/21

By Kim Graber, Department of Kinesiology and Community Health Head

Date

**Cc:**

Nicole Holtzclaw-Stone, Assistant Director, Health Technology Education Program

Wendy A. Rogers, Director, Health Technology Education Program





Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Speech and Hearing Science**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**HEALTH TECH**

**Interdisciplinary Minor in Health Technology**  
**18 hours minimum**

**Required Courses:**

- 2. IE 340: Human Factors
- 3. CHLH 441: Health Technology and Health Behavior
- 4. CS 101: Intro Computing: Engrg & Sci
  - or
  - CS 124: Introduction to Computer Science I
  - or
  - CS 125: Introduction to Computer Science
  - or
  - ECE 120: Intro to Computing

**Two Electives:**

- 1. Choose one from Health & Human Behavior
- 2. Choose one from Engineering/Computing/Information Science

<b>Health &amp; Human Behavior</b>	<b>Engineering/Computing/Information Science</b>
CHLH 101: Introduction to Public Health	CS 440: Artificial Intelligence
CHLH 250: Health Care Systems	CS 446: Machine Learning
CHLH 260: Introduction to Medical Ethics	CS 465: User Interface Design
CHLH 304: Foundations of Health Behavior	CS 466: Introduction to Bioinformatics
CHLH 393: Special Projects*	CS 467: Social Visualization
CHLH 470: Technology, Health, & Aging	ECE 365: Data Science and Engineering
CHLH 494: Special Topics*	ECE 380: Biomedical Engineering
IE 445: Human Performance and Cognition in Context	ECE 416: Biosensors
IHLT 232: Health Disparities in the U.S.	ECE 434: Mobile Computing & Application
IHLT 240: Aging and Health Policy	ECE 437: Sensors and Instrumentation
IS 406: Cognition in the Wild	IE 300: Analysis of Data
KIN 122: Physical Activity and Health	IE 397/497: Independent Study*
KIN 340: Soc & Psyc of Phys Activity	IE 398/498: Special Topics*
KIN 449: Rehabilitation Biomechanics	IE 405: Computing for ISE
KIN 474: Tech-Driven Health Intervention	IE 413: Simulation
SHS 352: Hearing Health and Society	IE 431: Design for Six Sigma
SHS 473: Augmentative & Alt Comm	IS 226: Introduction to HCI
RST 260: Disability in Recreation, Sport & Tourism	IS 316: The Design of Usable Information Interfaces
*to be approved by Health Technology advisor	IS 407: Introduction to Data Science
	IS 445: Data Visualization
	IS 459: Mobile Applications
	*to be approved by Health Technology advisor



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Recreation, Sport and Tourism**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**Purpose:**

The Memorandum of Understanding allows courses listed in the attached appendix to be included in the Interdisciplinary Minor in Health Technology.

Students pursuing an Interdisciplinary Minor in Health Technology must meet all course prerequisites as defined by the Department in the class schedule. Further, students pursuing an Interdisciplinary Minor in Health Technology must register for the course following normal registration procedures and need not receive priority registration status.

**Signatures:**

\_\_\_\_\_  
By Carla Santos, Department of Recreation, Sport and Tourism Head

**Kim Graber**

Digitally signed by Kim Graber  
Date: 2021.09.28 11:06:56 -05'00'

\_\_\_\_\_  
Date

\_\_\_\_\_  
By Kim Graber, Department of Kinesiology and Community Health Head

\_\_\_\_\_  
Date

**Cc:**

Nicole Holtzclaw-Stone, Assistant Director, Health Technology Education Program

Wendy A. Rogers, Director, Health Technology Education Program



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Recreation, Sport and Tourism**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**HEALTH TECH**

**Interdisciplinary Minor in Health Technology**  
**18 hours minimum**

**Required Courses:**

1. CHLH 203: Introduction to Health Technology
2. IE 340: Human Factors
3. CHLH 441: Health Technology and Health Behavior
4. CS 101: Intro Computing: Engrg & Sci  
or  
CS 124: Introduction to Computer Science I  
or  
CS 125: Introduction to Computer Science  
or  
ECE 120: Intro to Computing

**Two Electives:**

1. Choose one from Health & Human Behavior
2. Choose one from Engineering/Computing/Information Science

<b>Health &amp; Human Behavior</b>	<b>Engineering/Computing/Information Science</b>
CHLH 101: Introduction to Public Health CHLH 250: Health Care Systems CHLH 260: Introduction to Medical Ethics CHLH 304: Foundations of Health Behavior CHLH 393: Special Projects* CHLH 470: Technology, Health, & Aging CHLH 494: Special Topics* IE 445: Human Performance and Cognition in Context IHLT 232: Health Disparities in the U.S. IHLT 240: Aging and Health Policy IS 406: Cognition in the Wild KIN 122: Physical Activity and Health KIN 340: Soc & Psyc of Phys Activity KIN 449: Rehabilitation Biomechanics KIN 474: Tech-Driven Health Intervention SHS 352: Hearing Health and Society SHS 473: Augmentative & Alt Comm RST 216: Technology in RST RST 260: Disability in Recreation, Sport & Tourism RST 316: Human Development and RST *to be approved by Health Technology advisor	CS 440: Artificial Intelligence CS 446: Machine Learning CS 465: User Interface Design CS 466: Introduction to Bioinformatics CS 467: Social Visualization ECE 365: Data Science and Engineering ECE 380: Biomedical Engineering ECE 416: Biosensors ECE 434: Mobile Computing & Application ECE 437: Sensors and Instrumentation IE 300: Analysis of Data IE 397/497: Independent Study* IE 398/498: Special Topics* IE 405: Computing for ISE IE 413: Simulation IE 431: Design for Six Sigma IS 226: Introduction to HCI IS 316: The Design of Usable Information Interfaces IS 407: Introduction to Data Science IS 445: Data Visualization IS 459: Mobile Applications *to be approved by Health Technology advisor



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Electrical and Computer Engineering**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**Purpose:**

The Memorandum of Understanding allows courses listed in the attached appendix to be included in the Interdisciplinary Minor in Health Technology.

Students pursuing an Interdisciplinary Minor in Health Technology must meet all course prerequisites as defined by the Department in the class schedule. Further, students pursuing an Interdisciplinary Minor in Health Technology must register for the course following normal registration procedures and need not receive priority registration status.

**Signatures:**

**Bruce Hajek**

Digitally signed by Bruce Hajek  
Date: 2021.09.15 10:53:32 -05'00'

7/15/21

By Bruce Hajek, Department of Electrical and Computer Engineering Head

Date

**Kim Graber**

Digitally signed by Kim Graber  
Date: 2021.07.15 09:03:36 -05'00'

7/15/21

By Kim Graber, Department of Kinesiology and Community Health Head

Date

**Cc:**

Nicole Holtzclaw-Stone, Assistant Director, Health Technology Education Program

Wendy A. Rogers, Director, Health Technology Education Program



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **Department of Electrical and Computer Engineering**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**HEALTH TECH**

**Interdisciplinary Minor in Health Technology**  
**18 hours minimum**

**Required Courses:**

- 2. IE 340: Human Factors
- 3. CHLH 441: Health Technology and Health Behavior
- 4. CS 101: Intro Computing: Engrg & Sci
  - or
  - CS 124: Introduction to Computer Science I
  - or
  - CS 125: Introduction to Computer Science
  - or
  - ECE 120: Intro to Computing

**Two Electives:**

- 1. Choose one from Health & Human Behavior
- 2. Choose one from Engineering/Computing/Information Science

<b>Health &amp; Human Behavior</b>	<b>Engineering/Computing/Information Science</b>
CHLH 101: Introduction to Public Health CHLH 250: Health Care Systems CHLH 260: Introduction to Medical Ethics CHLH 304: Foundations of Health Behavior CHLH 393: Special Projects* CHLH 470: Technology, Health, & Aging CHLH 494: Special Topics* IE 445: Human Performance and Cognition in Context IHLT 232: Health Disparities in the U.S. IHLT 240: Aging and Health Policy IS 406: Cognition in the Wild KIN 122: Physical Activity and Health KIN 340: Soc & Psyc of Phys Activity KIN 449: Rehabilitation Biomechanics KIN 474: Tech-Driven Health Intervention SHS 352: Hearing Health and Society SHS 473: Augmentative & Alt Comm RST 260: Disability in Recreation, Sport & Tourism *to be approved by Health Technology advisor	CS 440: Artificial Intelligence CS 446: Machine Learning CS 465: User Interface Design CS 466: Introduction to Bioinformatics CS 467: Social Visualization ECE 365: Data Science and Engineering ECE 380: Biomedical Engineering ECE 416: Biosensors ECE 434: Mobile Computing & Application ECE 437: Sensors and Instrumentation IE 300: Analysis of Data IE 397/497: Independent Study* IE 398/498: Special Topics* IE 405: Computing for ISE IE 413: Simulation IE 431: Design for Six Sigma IS 226: Introduction to HCI IS 316: The Design of Usable Information Interfaces IS 407: Introduction to Data Science IS 445: Data Visualization IS 459: Mobile Applications *to be approved by Health Technology advisor



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **School of Information Sciences**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**Purpose:**

The Memorandum of Understanding allows courses listed in the attached appendix to be included in the Interdisciplinary Minor in Health Technology.

Students pursuing an Interdisciplinary Minor in Health Technology must meet all course prerequisites as defined by the Department in the class schedule. Further, students pursuing an Interdisciplinary Minor in Health Technology must register for the course following normal registration procedures and need not receive priority registration status.

**Signatures:**

**Eunice Santos**

Digitally signed by Eunice Santos  
DN: cn=Eunice Santos, o=University of Illinois at Urbana-Champaign, ou=School of Information Sciences, email=easantos@illinois.edu, c=US  
Date: 2021.09.27 12:34:43 -0500'

7/15/21

By Eunice E. Santos, School of Information Sciences Dean

Date

**Kim Graber**

Digitally signed by Kim Graber  
Date: 2021.07.15 09:00:01 -05'00'

7/15/21

By Kim Graber, Department of Kinesiology and Community Health Head

Date

**Cc:**

Nicole Holtzclaw-Stone, Assistant Director, Health Technology Education Program

Wendy A. Rogers, Director, Health Technology Education Program



Memorandum of Understanding Between the **Department of Kinesiology and Community Health** and **School of Information Sciences**

An agreement to participate in an Interdisciplinary Minor in Health Technology.

**HEALTH TECH**

**Interdisciplinary Minor in Health Technology**  
**18 hours minimum**

**Required Courses:**

- 2. IE 340: Human Factors
- 3. CHLH 441: Health Technology and Health Behavior
- 4. CS 101: Intro Computing: Engrg & Sci
  - or
  - CS 124: Introduction to Computer Science I
  - or
  - CS 125: Introduction to Computer Science
  - or
  - ECE 120: Intro to Computing

**Two Electives:**

- 1. Choose one from Health & Human Behavior
- 2. Choose one from Engineering/Computing/Information Science

<b>Health &amp; Human Behavior</b>	<b>Engineering/Computing/Information Science</b>
CHLH 101: Introduction to Public Health CHLH 250: Health Care Systems CHLH 260: Introduction to Medical Ethics CHLH 304: Foundations of Health Behavior CHLH 393: Special Projects* CHLH 470: Technology, Health, & Aging CHLH 494: Special Topics* IE 445: Human Performance and Cognition in Context IHLT 232: Health Disparities in the U.S. IHLT 240: Aging and Health Policy IS 406: Cognition in the Wild KIN 122: Physical Activity and Health KIN 340: Soc & Psyc of Phys Activity KIN 449: Rehabilitation Biomechanics KIN 474: Tech-Driven Health Intervention SHS 352: Hearing Health and Society SHS 473: Augmentative & Alt Comm RST 260: Disability in Recreation, Sport & Tourism *to be approved by Health Technology advisor	CS 440: Artificial Intelligence CS 446: Machine Learning CS 465: User Interface Design CS 466: Introduction to Bioinformatics CS 467: Social Visualization ECE 365: Data Science and Engineering ECE 380: Biomedical Engineering ECE 416: Biosensors ECE 434: Mobile Computing & Application ECE 437: Sensors and Instrumentation IE 300: Analysis of Data IE 397/497: Independent Study* IE 398/498: Special Topics* IE 405: Computing for ISE IE 413: Simulation IE 431: Design for Six Sigma IS 226: Introduction to HCI IS 316: The Design of Usable Information Interfaces IS 407: Introduction to Data Science IS 445: Data Visualization IS 459: Mobile Applications *to be approved by Health Technology advisor

