

# Community and Public Health

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## Public Health

The goal of public health is to improve the health of populations through planning, implementing, and evaluating programs that promote health and prevent disease and injury. Public health professionals utilize a combination of social, environmental, legislative, and economic support to improve health programs designed to create a healthier population. ISU offers a Graduate Certificate in Public Health, Graduate Certificate of Rural Health, and a Master of Public Health (MPH). Classes are offered both face-to-face and online. Students may attend classes on the Meridian or Pocatello campuses or through synchronous or asynchronous online formats.

## Graduate Certificate in Public Health

The Graduate Certificate in Public Health is an 18-credit program that is designed for graduate students currently enrolled in other academic programs and working professionals who would like to expand their knowledge of public health. The Graduate Certificate in Public Health Curriculum includes courses that address the public health core knowledge areas of biostatistics, epidemiology, social and behavioral sciences, health services administration, and environmental health sciences.

## Graduate Certificate in Rural Health

The Graduate Certificate in Rural Health is a 15-credit program that is designed for graduate students and health professionals who currently practice, or intend to practice, in rural settings. The certificate's curriculum includes courses that: 1) address the public health issues in rural communities, 2) introduce students to rural health systems, and 3) give students a hands-on opportunity to partner with rural health organizations. It also offers a wide variety of electives to help students tailor their experiences to individual needs and interests.

## Master of Public Health (MPH)

The MPH Program at ISU is accredited by the Council for Education in Public Health (CEPH). The 42-credit curriculum has been developed to meet the Public Health Foundational Competencies required for all CEPH-accredited programs. In addition to the traditional public health core knowledge areas of biostatistics, epidemiology, social and behavioral sciences, health services administration, and environmental health sciences, the curriculum also addresses cross-cutting and emerging public health areas. Upon completion of the MPH program, graduates will demonstrate the following competencies:

## Evidence-based Approaches to Public Health

1. Apply epidemiological methods to the breadth of settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, and computer-based programming and software, as appropriate
4. Interpret results of data analysis for public health research, policy, or practice

## Public Health & Health Care Systems

5. Compare the organization, structure, and function of health care, public health, and regulatory systems across national and international settings
6. Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels

## Planning & Management to Promote Health

7. Assess population needs, assets, and capacities that affect communities' health
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
9. Design a population-based policy, program, project, or intervention
10. Explain basic principles and tools of budget and resource management
11. Select methods to evaluate public health programs

## Policy in Public Health

12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
14. Advocate for political, social, or economic policies and programs that will improve health in diverse populations
15. Evaluate policies for their impact on public health and health equity

## Leadership

16. Apply principles of leadership, governance, and management, which include creating a vision, empowering others, fostering collaboration, and guiding decision making
17. Apply negotiation and mediation skills to address organizational or community challenges

## Communication

18. Select communication strategies for different audiences and sectors

- 19. Communicate audience-appropriate public health content, both in writing and through oral presentation
- 20. Describe the importance of cultural competence in communicating public health content

### Interprofessional Practice

- 21. Perform effectively on interprofessional teams

### Systems Thinking

- 22. Apply systems thinking tools to a public health issue

## Master of Health Education (MHE)

The master's degree in Health Education is a 30-credit degree designed to educate students in strategies in health promotion/disease prevention. Coursework emphasizes the acquisition of skills to assess, plan, implement, and evaluate health education programs in the school, community, or worksite setting. This master's degree can be completed in as little as a year and helps prepare and advance health professionals. Both thesis and non-thesis options are available.

## Master of Science in Health Informatics (MSHI)

The MSHI degree is an innovative program in Health Informatics, an emergent field at the intersection of information, people, process, and technology within healthcare organizations. The 39-credit curriculum is developed in accordance with the Health Informatics Competencies established by the American Medical Informatics Association (AMIA) and the Commission on Accreditation for Health Informatics and Information Management (CAHIIM). Courses for the MSHI program are offered online, providing the convenience of completing the degree remotely. Upon completion of the MSHI program, graduates will demonstrate competency in the following areas:

- Health
- Information Science and Technology
- Social and Behavioral Science
- Health Information Science and Technology
- Human Factors and Socio-Technical Systems
- Social and Behavioral Aspects of Health
- Social, Behavioral, and Information Science and Technology Applied to Health
- Interprofessional Collaborative Practice
- Professionalism
- Leadership

### MSHI Mission

The mission of the MSHI program is to provide potential and current healthcare professionals from diverse backgrounds with knowledge and skill in three broad domains - Health, Information Science & Technology, and Social & Behavioral Science – enabling them to contribute to the practice of transforming data into information and knowledge to facilitate informed decision-making to enhance outcomes, advance medical research, empower patients, and enrich society.

### Program Outcomes

- Implement and manage health informatics solutions in ways that respect the prevailing culture, organizational context, and policies relating to health
- Assess the information technology needs and resources of patients, organizations, and communities

- Design health informatics solutions that are appropriate to their context and have a high probability of being successfully deployed
- Work collaboratively across disciplines to analyze and solve key issues in Health Informatics
- Communicate complex ideas effectively both orally and in writing to different audiences and stakeholder groups

## Graduate Certificate in Public Health

### Admission Requirements

For Admission into the Public Health (PH) Certificate Program, applicants must satisfy the following criteria:

1. The student must apply to and meet all criteria for admission to the Graduate School.
2. Have a cumulative undergraduate grade point of at least 3.0 in upper-division (3000-4000 level) courses. All applicants must submit official college transcripts to the ISU Graduate School.
3. Completion of college algebra, statistics, or an upper-division math course is highly recommended.
4. Submit one letter of recommendation from a non-relative individual familiar with applicant's academic or professional abilities (no personal references).
5. Submit a typed essay (one to two pages, single-spaced) describing applicant's interest in pursuing the Graduate Certificate in Public Health and vision of how it will facilitate the applicant's career goals.
6. International students who have not graduated from an accredited college or university in the United States, and whose native language is not English, must achieve satisfactory scores on the Test of English as a Foreign Language (TOEFL). Satisfactory TOEFL requirements for classified admission are described in the Idaho State University Graduate Catalog under "Admission of International Students." In addition, international student applicants who have not graduated from an accredited college or university in the United States must take the GRE and are required to score in the 40th percentile on at least one area of the GRE, but no lower than the 20th percentile on the other sections.

### General Requirements

Students pursuing the Graduate Certificate in Public Health must complete a minimum of 18 credits of coursework with a GPA of 3.0 or better.

Students who complete and are awarded the Graduate Certificate in Public Health may transfer up to 12 credits from the certificate program into the MPH program. Admission and completion of the certificate do not guarantee admission into the MPH program. Courses completed in the certificate program must have a grade of B or above to transfer into the MPH program.

Code	Title	Credits
MPH 6601	Applications in Epidemiology	3
MPH 6602	Biostatistics	3
MPH 6605	Leadership Policy and Administration	3
MPH 6606	Environmental and Occupational Health	3
MPH 6620	Health Program Planning and Evaluation	3
MPH 6660	Behavior Change Theory and Applications	3

## Graduate Certificate in Rural Health

### Admission Requirements

For Admission into the Rural Health (RH) Certificate Program, applicants must satisfy the following criteria:

1. The student must apply to and meet all criteria for admission to the Graduate School.
2. Have a cumulative undergraduate grade point of at least 3.0 in upper-division (3000-4000 level) courses. All applicants must submit official college transcripts to the ISU Graduate School.
3. Submit one letter of recommendation from a non-relative individual familiar with applicant's academic or professional abilities (no personal references).
4. Submit a typed essay (one to two pages, single-spaced) describing applicant's interest in pursuing the Graduate Certificate in Rural Health and vision of how it will facilitate the applicant's career goals.
5. International students who have not graduated from an accredited college or university in the United States, and whose native language is not English, must achieve satisfactory scores on the Test of English as a Foreign Language (TOEFL). Satisfactory TOEFL requirements for classified admission are described in the Idaho State University Graduate Catalog under "Admission of International Students."

### General Requirements

Students pursuing the Graduate Certificate in Rural Health must complete a minimum of 15 credits of coursework with a GPA of 3.0 or better.

Students who complete and are awarded the Graduate Certificate in Rural Health may transfer up to 9 credits from the certificate program in the MPH program. Admission and completion of the certificate do not guarantee admission into the MPH program. Courses completed in the certificate program must have a grade of B or above to transfer into the MPH program.

Code	Title	Credits
MPH 5503	Health Topics: The Rural West	3
MPH 5507	Rural Health Systems	3
MPH 5511	Partnering for Rural Health	3
<b>Electives</b>		
NURS 6612	Health Care of Rural Communities	2
NURS 8809	Research and Practice in Rural and Global Communities	2
HCA 6636	Rural Healthcare Management	3
HIST 5523	Idaho History	3
HIST 6623	Global Idaho	3
ANTH 5506	American Indian Health Issues	3
ANTH 5554	Survey of American Indian Languages	3
ANTH 5572	Native American Arts	3
ANTH 5574	Topics in Indian Education	3
ANTH 5578	Federal Indian Law	3
ANTH 5579	Tribal Governments	3
SPAN 5510	Spanish for the Health Professions	1-2
SPAN 5593	Spanish Internship	1-3
POLS 5553	Public Policy Analysis	3
POLS 5509	Community and Regional Planning	3
POLS 5571	Historical Geography of Idaho	3
or GEOL 5571	Historical Geography of Idaho	

or HIST 5571 Historical Geography of Idaho

### Other Electives as Approved by the Department

Master of Public Health (MPH)

The MPH Program at ISU is accredited by the Council for Education in Public Health (CEPH). The 42-credit curriculum has been developed to meet the Public Health Foundational Competencies required for all CEPH-accredited programs. In addition to the traditional public health core knowledge areas of biostatistics, epidemiology, social and behavioral sciences, health services administration, and environmental health sciences, the curriculum also addresses cross-cutting and emerging public health areas.

### General Requirements

Applicants' transcripts will be evaluated by the Departmental Graduate Admissions Committee at the time of application to determine if deficiencies exist in the undergraduate coursework. Any deficiency that is identified must be made up prior to beginning the MPH program. Committee members will specify to the student courses that must be taken to rectify any deficiency.

Students pursuing the MPH degree must complete a minimum of 42 credits of coursework, including a 6-credit thesis or capstone/project and 6 credits of elective course work. Examinations for students choosing the capstone/project track are conducted internally through the department, while students choosing to do a thesis will require a Graduate Faculty Representative and will follow ISU Graduate School policies for theses.

All students must maintain a satisfactory record of scholarship. A 3.0 grade point average (GPA) or better is required for any graduate degree or certification at Idaho State University. A grade below B is essentially failing at the graduate level. Students who earn a grade below a B in a core course will be required to retake that course. Students who earn grades below a B in two courses will be dismissed from the program.

Code	Title	Credits
<b>Course Requirements</b>		
MPH 5507	Rural Health Systems	3
MPH 6601	Applications in Epidemiology	3
MPH 6602	Biostatistics	3
MPH 6604	Social and Cultural Perspectives in Public Health	3
MPH 6605	Leadership Policy and Administration	3
or HE 6605	Leadership Policy and Administration	
MPH 6606	Environmental and Occupational Health	3
MPH 6609	Seminar in Public and Community Health	3
MPH 6620	Health Program Planning and Evaluation	3
or HE 6620	Health Program Planning and Evaluation	
MPH 6640	Research and Writing in Health	3
or HE 6640	Research and Writing in Health	
MPH 6650	Thesis	6
or MPH 6651	Public Health Project	
MPH 6660	Behavior Change Theory and Applications	3
Approved Electives		6
Total Credits		42

## Master of Health Education (MHE)

### Admission Requirements

To be accepted as an applicant for the Master of Health Education degree, the student must apply to and meet all criteria for admission to the Graduate School. In addition, the Health Education Program may require the applicant have the necessary background in:

1. the related natural sciences, and
2. basic statistical procedures.

### Entrance Procedure

The Admissions Committee will review MHE applications and admit prospective students who satisfy the MHE Program and Graduate School admission requirements. Applicants who do not completely satisfy requirements are referred to the Admissions Committee to determine recommended admission or denial.

For classified admission into the program, applicants must satisfy the following criteria:

1. The student must apply to and meet all criteria for admission to the Graduate School.
2. Submit all previous college transcripts and have a cumulative undergraduate grade point average of at least 3.0 in upper-division courses. An applicant who currently holds a graduate degree must submit transcripts, but the undergraduate GPA requirement will not be part of departmental consideration.
3. Submit two letters of recommendation from individuals (non-relatives) who are familiar with their abilities.
4. Applicants must submit an essay (one to two pages, single-spaced) describing their interest in pursuing the MHE degree and their vision of how it will facilitate their career goals.
5. Applicants currently holding degrees at the doctoral level from an accredited institution will not be required to submit GRE general test scores, except for applicants who have a professional doctoral degree (e.g., PharmD and Juris Doctorate). Those holding degrees at the baccalaureate and master's level must submit GRE general test results to the Graduate School.

Code	Title	Credits
HE 6605 or MPH 6605	Leadership Policy and Administration	3
HE 6620 or MPH 6620	Health Program Planning and Evaluation	3
HE 6623 or MPH 6604	Curriculum and Supervision	3
HE 6639	Teaching Strategies in Health	3
HE 6640 or MPH 6640	Research and Writing in Health	3
HE 6660 or MPH 6660	Behavior Change Theory and Applications	3
<b>Select either the Thesis or Non-Thesis option:</b>		
HE 6650	Thesis	1-6
Approved Electives		6
OR		
HE 6651	Masters Project in Health Education	1-6

Approved Electives 6

**Total Hours**

6

**30**

## Master of Science in Health Informatics

The Master of Science in Health Informatics degree is an innovative program in health informatics, an emergent field at the intersection of information, people, process, and technology within healthcare organizations. Health Informatics is the interdisciplinary field that studies and pursues effective uses of biomedical data, knowledge, information science, and technology, motivated by efforts to improve human health. Health Informatics is changing the practice and delivery of healthcare by providing technology-enriched solutions to enhance medical decision-making within the healthcare industry. Our mission is to provide potential and current healthcare professionals from diverse backgrounds with the knowledge and skill in health, information science & technology, and social & behavioral science, necessary to transform data into knowledge to empower healthcare providers to make informed medical decisions, enhance patient outcomes, advance medical research, empower patients, and enrich society. MSHI courses are offered online, providing the convenience of completing the degree remotely.

### Admission Requirements

The Program Director will review MSHI Program applications. Admission standards and application procedures are presented in the graduate bulletin. The MSHI Program Director and the Department of Community and Public Health Chair will admit prospective students who satisfy the MSHI Program and Graduate School admission requirements. Applicants who do not completely satisfy requirements are referred to the MSHI Admissions Committee, consisting of the MSHI director and the MSHI graduate faculty, to determine admission or denial.

Admission to the MSHI program is granted only to students showing high promise of success. **For classified admission into the MSHI program, applicants must satisfy the following criteria:**

1. Meet all requirements of and submit an application to the ISU Graduate School.
2. Applicants must have a minimum of a 3.0 GPA based on the last 60 hours of undergraduate work. Eligible credits are determined by the Graduate School.
3. Score an average of at least 40th percentile when considering both quantitative and verbal sections of the GRE General Test, but not lower than the 20th percentile in a section.
4. An applicant who currently holds a graduate degree must submit their transcripts, but the undergraduate GPA requirement will not apply. College transcripts must be submitted directly from the awarding institution to the ISU Graduate School.
5. No other instruments such as the MCAT, LSAT, or GMAT may be substituted. Applicants currently holding degrees at the doctoral level from an accredited institution will not be required to submit GRE General Test scores (this includes professional doctoral degrees such as PharmD, Juris Doctorate, Medical Doctor, Doctor of Osteopathy, Doctor of Veterinary Medicine). **All others holding degrees at the baccalaureate and master's level must submit GRE General Test scores.** Students who are admitted as Classified with Performance Requirements status without GRE scores must take the General Test within their first semester of enrollment. Continuation in the program is contingent on the student meeting the above GRE score requirements. GRE scores must be submitted to the ISU Graduate School.

6. Submit a current copy of your CV along with two letters of recommendation from non-relative individuals familiar with your academic or professional abilities (no personal references).
7. Two years of experience working in the health field is preferred for admission. A B.S. or B.A. degree in health or a health-related discipline may substitute for working experience. Applicants will be evaluated on an individual basis.
8. Submit a statement of purpose (one to two page single-spaced typed essay) describing your interest in pursuing the MSHI degree and your vision of how it will facilitate your career goals.
9. **Restrictions may apply to international students due to courses being offered online.** International students should check with the ISU International Program Office (IPO) to determine eligibility. If eligible, international students who have not graduated from an accredited college or university in the U.S., and whose native language is not English, must achieve satisfactory scores on the Test of English as a Foreign Language (TOEFL). Satisfactory TOEFL requirements for classified admission are described in the ISU Graduate Catalog under “Admission of International Students.” **In addition, international student applicants who have not graduated from an accredited college or university in the U.S. must take the GRE and are required to score in the 40th percentile on at least one area of the GRE.**

Applicants will not be considered until all above documentation has been submitted. Applications are due in accordance with ISU Graduate School application deadlines. International students shall abide by additional guidelines for applications as set forth in the ISU Graduate Catalog (<http://coursecat.isu.edu/graduate/graduateadmissions/>).

## Degree Requirements

Students pursuing the MSHI degree are required to complete 30 credits of core courses associated with three foundational domains – health, information science & technology, and social & behavioral science - and 9 credits of courses in an area of specialization (track). Although not required, students can also earn credit for an applied internship within a healthcare facility and/or complete a thesis or large informatics project. All students will be required to develop a Professional Portfolio that must be approved by a committee of faculty before the MSHI degree is conferred.

**Health Informatics Core Courses (30 credits)** – Students will take core courses in the following foundational domains based on the CAHIIM accreditation requirements:

- **Health** (18 credits)
- **Information Science & Technology** (9 credits)
- **Social & Behavioral Science** (3 credits)

**Specialization/Track Courses (9 credits)** – Students will obtain specialized knowledge in an area of healthcare by taking courses in a track of their choice, selecting from the available tracks listed below.

- **General Informatics Track** – Upon approval by the Program Director of Health Informatics, students will select three courses (9 credits) from any of the other tracks. Upon completion of this track, students will have broad knowledge of several areas within the Health Informatics discipline.
- **Rural Health Informatics Track** – This track will focus on utilization of informatics theories, concepts, and methodologies to address challenges of providing healthcare in rural areas and providing rural healthcare providers with access to tools needed to better serve rural patient populations. Students completing this track will be skilled and prepared to serve as technical specialists and community support consultants in enhancing care in rural communities.

- **Clinical Informatics Track** – The focus of this track is application of informatics and information technology in the delivery of healthcare services. Emphasis will be placed on utilizing healthcare information to enhance quality of care, increase patient safety and enhancing patient outcomes. Upon completion of this track, students will have the knowledge and skills to work within the clinical environment as a Health Informaticist.
- **Data Science & Analytics Track** - Data science and analytics is an interdisciplinary field devoted to understanding scientific methods, processes, and systems to extract (mine) data in order to develop insights and inferences from healthcare data to enhance healthcare and patient outcomes. Upon completion of this track, students will have acquired data mining and analytical skills necessary to serve as quality data analysts, data scientists, improvement analysts, and/or evaluation specialists.
- **Consumer (Personal) Health Informatics Track (Anticipated Fall 2021 Rollout)** – The consumer health informatics track focuses on use of health informatics by consumers/patients. Emphasis will be placed on techniques and tools to enable patients and consumers to engage with clinicians, preventative medicine, and monitoring and controlling disease. Upon completion of this track, students will be equipped to serve as an Informaticist in the development, implementation, and/or support of tools utilized by patients and family members to manage their healthcare.
- **Population Health Informatics Track (Anticipated Fall 2022 Rollout)** – The focal point of the population health informatics track is application of informatics in areas of public health, including surveillance, prevention, preparedness, and health promotion. This track will prepare students to develop applications and/or analyze healthcare data looking for patterns associated with patient populations.
- **Clinical Research Informatics Track (Anticipated Fall 2022 Rollout)** – The Clinical Research Informatics track focuses on the use of informatics in the discovery and management of new knowledge relating to health and disease. This track will focus on enhancing care and outcomes through evidence-based research. Upon completion of this track, students will be prepared for entry into a PhD program and/or to pursue a career in health or biomedical informatics research.

**Professional Portfolio Development (required)** – Throughout the MSHI degree, students will be required to develop a professional portfolio demonstrating achievement of core competencies, knowledge, and skill in the three foundational domains essential to Health Informatics. In selected MSHI courses, students will complete assignments that provide the opportunity to acquire such knowledge, skill, and competencies. Deliverables of these key assignments will be added to the professional portfolio. The student will develop the portfolio under the guidance and direction of the Health Informatics Program Director. In the final semester, students will present their portfolio to a committee of faculty to demonstrate their level of knowledge and competency. The faculty committee, comprised of the Health Informatics Program Director and an additional two graduate faculty, will assess the oral defense and the portfolio document and cast a vote regarding their approval of the portfolio, i.e., their view as to whether the student has reached an acceptable level of competency. The student must receive approval from the committee (pass the defense) before the degree is conferred. If the student does not pass the oral defense, under the direction of the Health Informatics Program Director, they will have the opportunity to complete additional assignments and/or courses to increase their level of competency. Students will have two chances at the oral defense of the portfolio.

**Thesis or Project (3 optional credits)** – Although not required to obtain a MSHI degree, students may complete a Master’s Thesis or a large Health Informatics Project under the direction of the Program Director.

**Applied Healthcare Internship (3 optional credits)** – To gain real-world experience, students may complete an internship within a healthcare organization.

Students selecting this option are required to complete a minimum of a 180-hour internship within a healthcare organization. During the internship, the student will complete a large healthcare informatics project under the direction of the preceptor and the Health Informatics Program Director.

### Degree Options

Code	Title	Credits
Health Informatics Core Course Work (required)		30
Track / Specialization (required)		9
<b>Required Course Work (Includes Professional Portfolio)</b>		<b>39</b>
Course Work plus Internship (optional)		42
Course Work plus Thesis or Project (optional)		
Course Work plus Thesis/Project + Internship (optional)		45

### Online MSHI Degree Requirements - Coursework

Code	Title	Credits
<b>Health Core Courses (18 credits)</b>		
HI 5500	U.S. Health System	3
HI 5520	Health Informatics	3
HCA 5560	Healthcare Quality and Performance Improvement	3
HCA 5575	Health Law and Bioethics	3
HI 5522	Health Information Governance	3
HI 6670	Managing Health Informatics Projects	3
<b>Information Science &amp; Technology Core Courses (9 credits)</b>		
HI 5530	Health Informatics Application Development	3
HI 6631	Healthcare Database Design	3
HI 6635	Health Information Systems & Interoperability	3
<b>Social and Behavioral Core Courses (3 credits)</b>		
HI 6625	Social and Behavior Aspects of Healthcare	3
Total Credits		30

### Online MSHI Degree Requirements - Academic Tracks

Code	Title	Credits
<b>Tracks / Specializations</b>		
<b>General Health Informatics Track – Customized Track</b>		
Upon approval of HI Program Director, students will select three courses (9 credits) from other tracks		
General Track Course 1 – Course selected from one of the tracks below		3
General Track Course 2 – Course selected from one of the tracks below		3
General Track Course 3 – Course selected from one of the tracks below		3
<b>Rural Health Informatics Track</b>		
HI 5540	Fundamentals of Rural Healthcare	3
HI 5542	Rural Health Research and Community Enrichment	3
HI 6641	Rural Health Informatics	3

### Clinical Informatics Track

HI 5524	Healthcare Workflow Process	3
HI 6528	Electronic Health Records & Decision Support Systems	3
HI 6620	Evaluation & Implementation Methods in Healthcare	3

### Data Science & Analytics Track

HI 5526	Health Data Analytics	3
HI 5534	Data Visualization	3
HI 6636	Natural Language Processing	3

### Consumer (Personal) Health Informatics Track (Anticipated Fall 2022 Rollout)

HI 5528	Consumer Behavior Theory & Technology	3
HI 5529	Enhancing the Patient Experience & Satisfaction	3
HI 6627	Consumer Health Informatics	3

### Population Health Informatics Track (Anticipated Fall 2022 Rollout)

MPH 6601	Applications in Epidemiology	3
HI 6637	Fundamentals of Population Health	3
HI 6638	Population Health Informatics	3

### Clinical Research Informatics Track (Anticipated Fall 2022 Rollout)

MPH 6602	Biostatistics	3
HI 6610	Qualitative Research Methods in Healthcare	3
HI 6612	Scientific Writing and Publication	3

### Total Required Credits

39

### Health Informatics Thesis or Project (optional)

HI 6650	Health Informatics Thesis	1-6
HI 6660	Health Informatics Project	3

### Health Informatics Internship (optional)

HI 6540	Health Informatics Internship	3
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### Total Required Credits plus Optional Credits

39-45

### Health Educ Courses

#### HE 5501 Issues in Health and Wellness: 1-3 semester hours.

Contemporary health and wellness issues emphasizing education interventions and application. Topics may include: death and dying, computer technology in health, healthy aging, motivation, emergency preparedness, alternative and complementary medicine, international health. May be repeated to 6 credits with different content.

#### HE 5525 Patient Education Skills: 2 semester hours.

Explores the foundations and application of organizational and communication skills which promote a positive atmosphere for patient education in clinical and worksite settings.

#### HE 5542 Environmental Health and Health Education: 3 semester hours.

Study of a variety of issues related to protecting and preserving the environment with an emphasis on school and community educational programs. PREREQ: Admission to Health and Nutrition Sciences Program or permission of instructor.

**HE 5543 Substance Abuse in Community and Public Health: 3 semester hours.**

Study of the physical, psychological, sociological, and environmental factors related to drug use with emphasis on school and community prevention programs. PREREQ: Admission to Health and Nutrition Program or permission of instructor.

**HE 5545 Human Sexuality in Community and Public Health: 3 semester hours.**

Study of the multifaceted nature of human sexuality with an emphasis on school and community-level educational programs. PREREQ: Admission to Health and Nutrition Sciences Program or permission of instructor.

**HE 5585 Independent Problems in Health Education: 1-3 semester hours.**

Individual work under staff guidance. Field and/or library research on specific health education problems of interest to majors and minors. 1-3 credits. May be repeated up to 6 credits. PREREQ: Permission of instructor.

**HE 5591 Health Education Workshop: 1-3 semester hours.**

A critical analysis of one or more areas of health education. Limited enrollment. 1-3 credits. May be repeated up to 6 credits.

**HE 5598P Prof Development Workshop: 3 semester hours.**

New methods and opportunities to enhance and supplement skills. Subject to the approval of the Dean of the student's college, a maximum of eight credits earned in workshops may be applied toward a degree; students taking the courses only for personal development may choose the 0-credit option; those seeking professional development must choose a for-credit option.

**HE 5599 Experimental Course: 1-6 semester hours.**

This course is not described in the catalog. The course title and number of credits are announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**HE 6605 Leadership Policy and Administration: 3 semester hours.**

Development of leadership and administrative skills which contribute to implementation of effective public health policies and programs. Students will learn strategic planning, facilitation techniques, communication strategies, budget development, and management. Equivalent to MPH 6605.

**HE 6620 Health Program Planning and Evaluation: 3 semester hours.**

Theory and processes of assessment, planning, implementing, and evaluating health education, promotion, and disease prevention programs. Principles taught in this course will be applied to community situations. Equivalent to MPH 6620.

**HE 6623 Curriculum and Supervision: 3 semester hours.**

Consideration of the health education curriculum in public schools and in colleges and universities. Recent developments and current trends that influence the curriculum and supervision policies. Observation techniques, standards in judging instruction, the supervisory conference, cooperative supervision, basic foundation of curriculum construction, and lesson planning.

**HE 6639 Teaching Strategies in Health: 3 semester hours.**

An advanced study of strategies and innovative methods of teaching health education. Emphasis on application to a variety of educational levels.

**HE 6640 Research and Writing in Health: 3 semester hours.**

Application of principles of research design in the health sciences. Requires preparation of a thesis/project proposal. Equivalent to MPH 6640.

**HE 6648 Problems in Health Education: 1-3 semester hours.**

Individual and group study of problems in the area of health. 1-3 credits. May be repeated to 6 credit hours. Graded S/U. PREREQ: Approval of advisor and/or chairperson.

**HE 6650 Thesis: 1-6 semester hours.**

Thesis. May be repeated. Graded S/U.

**HE 6651 Masters Project in Health Education: 1-6 semester hours.**

Master's Project in Health Education. May be repeated. Graded S/U.

**HE 6655 Internship: 1-3 semester hours.**

Administration, supervision and operation of a community health program. Students work under the direction of a graduate faculty member and practicing administrator. May be repeated up to 3 credits. PREREQ: Approval of advisor and/or chairperson.

**HE 6660 Behavior Change Theory and Applications: 3 semester hours.**

Provides a basic understanding of the social, emotional, and lifestyle factors related to health behavior. Strategies designed to identify barriers to behavior and to enhance the health of selected populations are examined. Equivalent to MPH 6660.

**HE 6699 Experimental Course: 1-6 semester hours.**

This course is not described in the catalog. The course title and number of credits are announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times. May be repeated.

**Health Informatics Courses****HI 5500 U.S. Health System: 3 semester hours.**

A comprehensive overview of the U.S. Healthcare System including an introduction of health and disease, health professions, types of healthcare organizations and settings, health populations, regulation, medical terminologies, knowledge and classification systems, as well as an introduction to revenue cycle, billing, coding and reimbursement. F, S.

**HI 5520 Health Informatics: 3 semester hours.**

Presents an overview of the evolution of health care informatics. Students will learn health care informatics history, concepts, theories, legal and ethical implications, and applications within the health care industry. This course will introduce the student to human factors issues in health care informatics; critical issues affecting the development and implementation of information technologies (clinical, administrative, and learning), knowledge management principles, professional practice trends, and explore some of the emerging information technology in health care.

**HI 5522 Health Information Governance: 3 semester hours.**

This course will introduce students to the importance of information governance and security requirements in healthcare and the regulatory environment in which healthcare organizations operate. Issues relating to privacy and security, information governance, data quality management and business intelligence will also be covered. Students will also be exposed to interventions that can help mitigate the risks. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: HI 5520

**HI 5524 Healthcare Workflow Process: 3 semester hours.**

The aim of this course is to provide a broad-based understanding of workflow processes in the healthcare industry. In particular, the course will develop skills necessary to critically analyze and redesign the patient flow processes and utilize health IT systems both in the administrative and clinical landscape to achieve greater operational efficiency and provide higher quality of care to patients. Quality improvement methods and tools as well as process change implementation, improvement, and management will also be discussed in this course. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PRE-or-COREQ: HI 5520.

**HI 5526 Health Data Analytics: 3 semester hours.**

This course will provide an overview of the entire data analysis process from needs analysis to presentation of findings. Students will be introduced to data analytics concepts, frameworks and methodologies used to identify trends, correlations to outcome prediction used to provide meaningful recommendations. Specific, evaluated graduate-level activities and/or performances are identified in the course syllabus. PREREQ: HI 5520, S

**HI 5528 Consumer Behavior Theory & Technology: 3 semester hours.**

This course will introduce students to theories associated with consumer health behavior and the importance of these theories in developing interventions and health informatics systems to promote healthy behaviors. Determinants and factors leading to non-compliance and lack of engaging in preventative medicine and behavior change strategies will be examined.

**HI 5529 Enhancing the Patient Experience & Satisfaction: 3 semester hours.**

Patient experience and satisfaction has become a growing priority in healthcare, driven by factors such as policy healthcare regulation and reimbursement. A positive patient and family experience is key to the successful delivery of healthcare services. This course will introduce concepts of patient experience and satisfaction and the impact of patient experience on satisfaction and enhanced patient outcomes.

**HI 5530 Health Informatics Application Development: 3 semester hours.**

This course will prepare students to design, develop, test and implement Health Informatics applications and support existing applications. Concepts of computer science, information science, information systems, systems analysis and design, application development and computer programming will be covered. Students will study Human Factors, Human-Computer Interaction (HCI), User Interface Design (UCI), QA Testing & Debugging, and Dissemination and Implementation Science theory necessary for the development of effective Health Information applications.

**HI 5534 Data Visualization: 3 semester hours.**

This course will introduce data visualization and display techniques designed to enhance decision-making. Students will be introduced to software supporting visualization of data for analysis.

**HI 5540 Fundamentals of Rural Healthcare: 3 semester hours.**

A study of the fundamentals, issues and trends of rural healthcare and delivery of healthcare to underserved populations. The course will provide a conceptual foundation of rural health practices. Students will be introduced to fundamental social, economic and political determinants of health in rural settings and barriers to rural healthcare. S

**HI 5542 Rural Health Research and Community Enrichment: 3 semester hours.**

This course provides students with the knowledge and skill to conduct and assess rural healthcare research designed to enrich rural communities. Assessing the needs of rural communities, conducting robust empirical research studies, developing instruments and analysis of research data will be covered. PREREQ: HI 5540. S

**HI 6528 Electronic Health Records & Decision Support Systems: 3 semester hours.**

Introduces students to Electronic Health Records (EHRs) and Decision Support Systems (DSSs) used in healthcare. Students will learn the technical infrastructure of EHRs and DSSs, including distributed architecture, network and security design and configuration approaches to support these designs. The course will also discuss best practices for selecting, deploying and transitioning to EHRs. Students will have hands-on experience with EHR/DSS systems commensurate with different user roles across a variety of healthcare settings. S

**HI 6540 Health Informatics Internship: 3 semester hours.**

Provides the students with the opportunity to observe and perform various supervised health informatics-related activities in one or more clinical departments. 180 hours per semester required. NOTE: Some healthcare organizations may require a background check, immunizations and/or drug and alcohol testing. These items will be at the student's expense. S

**HI 6610 Qualitative Research Methods in Healthcare: 3 semester hours.**

The purpose of this course is to provide students with a working knowledge of empirical qualitative research concepts, methods and qualitative data analysis skills necessary to carry out rigorous qualitative research projects. The course will review approaches to establishing research objectives, data collection and qualitative data analysis techniques. S

**HI 6612 Scientific Writing and Publication: 3 semester hours.**

This course provides an overview of the process of publishing healthcare research findings. The course will introduce key aspects of scientific writing and preparing a research manuscript. The course will consist of didactic lectures regarding approaches and potential problems when writing specific sections of a scientific manuscript. Students will be required to prepare a manuscript and peer review other students' manuscripts. S

**HI 6620 Evaluation & Implementation Methods in Healthcare: 3 semester hours.**

This course will examine health informatics as an empirical science, focusing on the evaluation of formal studies of applications of applying information technology to healthcare. After completing this course, students will be able to define and use appropriate research evaluation methods and design and conduct informatics research studies appropriate to informatics needs within various healthcare settings. PREREQ: HI 5520. S

**HI 6625 Social and Behavior Aspects of Healthcare: 3 semester hours.**

Introduction to the effects of social, behavioral, legal, psychological and cognitive theories, methods and models applicable to health informatics from multiple levels including individuals, social groups and society. Student will be introduced to use of social determinants of health and patient-generated data necessary to analyze problems arising from health or disease. Upon completion of the course, students will be able to recognize the implications of these problems on daily activities, recognize and/or develop practical solutions to manage these problems, and apply diverse foundational concepts to develop integrative approaches to the design, implementation and evaluation of health informatics solutions. PREREQ: HI 5500; PRE- or COREQ HI 5520. S

**HI 6627 Consumer Health Informatics: 3 semester hours.**

Consumer Health Informatics provides consumers with information and tools to empower patients and facilitate patient engagement. This course will provide students with knowledge and skills necessary to assess consumer health needs and resources, evaluate consumer-based informatics tools and select appropriate design, implementation and evaluation approaches for Consumer Health Informatics systems. PREREQ: HI 5520, S

**HI 6631 Healthcare Database Design: 3 semester hours.**

This course introduces the student to multiple healthcare databases. The student will study the design and development of multi-user relational databases, relational database management systems, stored procedures, SQL and transaction processing. The course emphasizes data security, secure design elements and architectures to ensure privacy and security of healthcare data required by the HIPAA regulation. PREREQ: HI 5530, F, S

**HI 6635 Health Information Systems & Interoperability: 3 semester hours.**

This course will provide an overview of concepts and frameworks associated with health information system interoperability. Students will be introduced to elements of information technology systems needed to facilitate interoperability and data exchange that enable systems within and across organizational boundaries in order to advance effective delivery of healthcare for individuals and communities. Levels of interoperability, data exchange schema, standards and frameworks such as HL7 and FHIR will be covered. PREREQ: HI 5520. F, S



**HI 6636 Natural Language Processing: 3 semester hours.**

This course will examine Natural Language Processing (NLP) concepts and the application of NLP methods and applications used to explore meaning of health information. This hands-on course will prepare students to develop NLP systems using linguistic knowledge, information retrieval and extraction, text corpuses and entity recognition techniques to solve health informatics problems. PREREQ: HI 5520 and HI 5530. S

**HI 6637 Fundamentals of Population Health: 3 semester hours.**

This course explores the broad field of population health including public health, prevention, social medicine, evidence-based medicine, health care systems, healthcare finance, global health, and social determinants of health, with an emphasis on helping students understand how systems and the environment influence health and health care delivery. S

**HI 6638 Population Health Informatics: 3 semester hours.**

This course will introduce students to the emerging science of Population Health Informatics and facilitate the development of skills necessary to analyze and evaluate evidence-based informatics solutions specific to population health management. Students will be exposed to terminology, key concepts and informatics systems designed to enhance health of the general population, including registries, personal health records, mobile health interventions, and telehealth applications. PREREQ: HI 5520 and HI 6637. S

**HI 6641 Rural Health Informatics: 3 semester hours.**

The study of using healthcare data and implementing health information systems to advance healthcare in rural settings. This course will cover technologies that promote providing and receiving quality healthcare services that serve rural patient populations. Technologies such as telehealth, telemedicine, mHealth, patient education and engagement tools, quality measure reporting and data sharing tools are covered. PREREQ: HI 5540. S

**HI 6650 Health Informatics Thesis: 1-6 semester hours.**

A Masters Thesis project where the student demonstrates skill and competency in Health Informatics concepts at a graduate level. This course is for students pursuing the thesis option of the MSHI degree. Deliverables of this course include a thesis written report that complies with the ISU Graduate School Thesis and Dissertation Manual as well as passing an oral examination assessed by the thesis committee comprised of qualified healthcare faculty. PREREQ: All HI core and track courses. S

**HI 6660 Health Informatics Project: 3 semester hours.**

A significant health informatics project where the student demonstrates skill and competency in health informatics concepts at a graduate level. This course is for students pursuing the non-thesis option of the MSHI degree. Deliverables of this course include a formal/professional written report and passing an oral examination, assessed by a committee of qualified healthcare faculty. PREREQ: All HI core and track courses. S

**HI 6670 Managing Health Informatics Projects: 3 semester hours.**

This course will introduce students to effective project and people management, information technology management and change management, emphasizing application of these concepts to projects within healthcare settings. Students will be introduced to tools required to complete each phase of the project management process throughout the project life cycle. Using experimental activities and case studies, students will acquire skills on the management of diverse teams consisting of individuals (clinicians and IT personnel) who bring different, but necessary skills, when implementing an improvement project. F/S

**Master of Public Health Courses****MPH 5503 Health Topics: The Rural West: 3 semester hours.**

Survey a variety of health topics specific to rural communities in the West. Critically examine social, cultural, economic and political factors that shape the way health is addressed and explained. Develop a personalized career plan that addresses key take-aways from the course. F, Su

**MPH 5507 Rural Health Systems: 3 semester hours.**

Explore the wide variety of public health and healthcare delivery models currently operating in the rural west. Critically assess the connects and disconnects between Federally Qualified Health Centers, Critical Access Hospitals, Indian Health Services, public health departments, community-based organizations, workforce, telehealth systems and informal networks. F, Su

**MPH 5511 Partnering for Rural Health: 3 semester hours.**

Develop leadership and team-building skills with traditional and non-traditional partners in rural communities. Apply those skills by developing a funding proposal for a community or organization in a rural setting. S

**MPH 5585 Independent Study in Public Health: 1-3 semester hours.**

Individual work under staff guidance. Field and/or library research on specific health education problems of interest to majors and minors. May be repeated up to 6 credits. PREREQ: Permission of instructor.

**MPH 5599 Experimental Course: 1-6 semester hours.**

The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.

**MPH 6601 Applications in Epidemiology: 3 semester hours.**

Facilitates an epidemiological approach to problem solving in the health sciences through practical application of field epidemiology concepts and methods. PREREQ: Permission of instructor if student is not in the MPH program.

**MPH 6602 Biostatistics: 3 semester hours.**

This course will equip students with a conceptual understanding of the calculation and interpretation of inferential statistics in public health research. PREREQ: Permission of instructor if student is not in the MPH program.

**MPH 6604 Social and Cultural Perspectives in Public Health: 3 semester hours.**

Exploration of multicultural health beliefs, health disparities and needs of our society focusing on local cultures to develop culturally competent interventions. Learn about ethical issues, social justice, community systems, coalition building, and development of community partnerships.

**MPH 6605 Leadership Policy and Administration: 3 semester hours.**

Development of leadership and administrative skills which contribute to implementation of effective public health policies and programs. Students will learn strategic planning, facilitation techniques, communication strategies, budget development, and management. Equivalent to HE 6605.

**MPH 6606 Environmental and Occupational Health: 3 semester hours.**

Understanding the interaction of humans with their environment and the implications of human actions. Learn about assessment and control of health risks posed by chemical and biological contaminants and physical exposures (noise, heat, and radiation) in occupational and non-occupational environments.

**MPH 6608 Technological Applications in Public Health: 3 semester hours.**

Introduction and application of software programs utilized in public health practice. Examples include SPSS, MS Excel, GIS, EpiInfo, MS Publisher. PREREQ: MPH 6602.

**MPH 6609 Seminar in Public and Community Health: 3 semester hours.**

Study of topics, trends and challenges within public health.

**MPH 6620 Health Program Planning and Evaluation: 3 semester hours.**

Theory and processes of assessment, planning, implementing, and evaluating health education, promotion, and disease prevention programs. Principles taught in this course will be applied to community situations. Equivalent to HE 6620 and DENT 6630.

***MPH 6632 Community Health: 3 semester hours.***

A study of the role of health education/health promotion in the community setting. Emphasis on methods to build coalitions to address community health concerns and on the role of needs assessment.

***MPH 6640 Research and Writing in Health: 3 semester hours.***

Application of principles of research design in the health sciences. Requires preparation of a thesis/project proposal. Equivalent to HE 6640.

***MPH 6650 Thesis: 1-6 semester hours.***

Completion of a thesis/manuscript. Practical application of knowledge/skills in a public health setting. May be repeated. Graded S/U. PREREQ: MPH 6601, MPH 6602, MPH 6603, MPH 6620, and MPH 6640.

***MPH 6651 Public Health Project: 1-6 semester hours.***

Completion of a public health project. Practical application of knowledge/skills in a public health setting. May be repeated. Graded S/U. PREREQ: MPH 6601, MPH 6602, MPH 6603, MPH 6620, and MPH 6640.

***MPH 6655 Public Health Internship: 3 semester hours.***

Application of skills in a public health agency, organization or other entity to provide the student with practical experience in the field. May be repeated.

***MPH 6660 Behavior Change Theory and Applications: 3 semester hours.***

Provides a basic understanding of the social, emotional, and lifestyle factors related to health behavior. Strategies designed to identify barriers to behavior and to enhance the health of selected populations are examined. Equivalent to HE 6660. PREREQ: Permission of instructor.

***MPH 6699 Experimental Course: 1-6 semester hours.***

The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.