CLINICAL AND HEALTH INFORMATICS, M.S.

The MS-CHI provides students with an interdisciplinary approach with population health, biomedical informatics, industrial systems engineering, nursing, pharmacy, and healthcare operations management expertise. Graduates will possess a strong foundation in healthcare decision-making using informatics methods to create innovative solutions or improve current practices in health policy, clinical practice, security, and biomedical and health information systems.

ADMISSIONS

Please consult the table below for key information about this degree program’s admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program’s website.

Graduate admissions is a two-step process between academic programs and the Graduate School. Applicants must meet the minimum requirements (https://grad.wisc.edu/apply/requirements/) of the Graduate School as well as the program(s). Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/apply/).

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Deadline</td>
<td>July 1</td>
</tr>
<tr>
<td>Spring Deadline</td>
<td>This program does not admit in spring.</td>
</tr>
<tr>
<td>Summer Deadline</td>
<td>This program does not admit in summer.</td>
</tr>
<tr>
<td>GRE (Graduate Record Examinations)</td>
<td>Not required.</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (<a href="https://grad.wisc.edu/apply/requirements/#english-proficiency">https://grad.wisc.edu/apply/requirements/#english-proficiency</a>).</td>
</tr>
<tr>
<td>Other Test(s) (e.g., GMAT, MCAT)</td>
<td>n/a</td>
</tr>
<tr>
<td>Letters of Recommendation Required</td>
<td>3</td>
</tr>
</tbody>
</table>

PROGRAM ADMISSION

The faculty executive committee for the program considers all aspects of each application. The applicant must meet the minimum requirements of the Graduate School plus those of the program, listed here:

- Have a focused area of interest in informatics, data analytics, clinical care or research, health information technology or similar fields.
- Ideally have a health professional degree or bachelors degree in information technology, statistics, computer science or similar field.
- Have completed a college level statistics course or equivalent work experience.

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding/) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM INFORMATION

Students enrolled in these programs are not permitted to accept teaching assistantships, project assistantships, research assistantships or other appointments that would result in a tuition waiver. Students in these programs cannot enroll in other graduate programs nor take courses outside the prescribed curriculum.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Mode of Instruction Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Evening/Weekend:</strong> These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.</td>
</tr>
<tr>
<td><strong>Online:</strong> These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.</td>
</tr>
<tr>
<td><strong>Hybrid:</strong> These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.</td>
</tr>
<tr>
<td><strong>Accelerated:</strong> These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.</td>
</tr>
</tbody>
</table>
CURRICULAR REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Credit Requirement</td>
<td>30 credits</td>
</tr>
<tr>
<td>Minimum Residence Credit Requirement</td>
<td>16 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
<td>Half of degree coursework must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (<a href="https://registrar.wisc.edu/course-guide/">https://registrar.wisc.edu/course-guide/</a>).</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>3.00 GPA required.</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
<td>Students must earn a B or above in all core curriculum coursework.</td>
</tr>
<tr>
<td>Language Requirements</td>
<td>No language requirements.</td>
</tr>
<tr>
<td>Assessments and Examinations</td>
<td>The program assessments are in the form of case study presentations and strategic planning for data analysis and feedback. During the final semester, students complete a final project in the capstone course. The capstone project is assessed for meeting required competencies.</td>
</tr>
</tbody>
</table>

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>POP HLTH 709</td>
<td>Translational and Outcomes Research in Health and Health Care</td>
<td>3</td>
</tr>
<tr>
<td>B M I 573</td>
<td>Principles of Population Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>POP HLTH 795</td>
<td>Principles of Population Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 557</td>
<td>Human Factors Engineering for Healthcare Systems</td>
<td>3</td>
</tr>
<tr>
<td>NURSING 702</td>
<td>Health Promotion and Disease Prevention in Diverse Communities</td>
<td>3</td>
</tr>
<tr>
<td>NURSING 715</td>
<td>Evaluation of Health Informatics Solutions</td>
<td>3</td>
</tr>
<tr>
<td>NURSING 772</td>
<td>Leadership and Organizational Decision-Making in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>PHM PRAC 617</td>
<td>Health System Pharmacy Data Analysis and Informatics</td>
<td>2</td>
</tr>
<tr>
<td>OTM 753</td>
<td>Healthcare Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>B M I 750</td>
<td>Cumulative Capstone in Clinical and Health Informatics</td>
<td>3</td>
</tr>
<tr>
<td>E P D 706</td>
<td>Change Management</td>
<td>1</td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy/) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

MAJOR-SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Work from Other Institutions
If applicable to the program completing, and with program approval, students are allowed to count no more than 9 credits of graduate coursework in educational leadership from other institutions and 6 credits of graduate coursework in areas other than educational leadership from other institutions. Coursework earned five or more years prior to admission to the master's degree is not allowed to satisfy requirements.

UW–Madison Undergraduate
If applicable to the program completing and with program approval, 6 credits of coursework numbered 500 or above taken as a UW–Madison undergraduate degree are allowed to count toward the degree. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

UW–Madison University Special
With program approval, students are allowed to count no more than 6 credits of coursework numbered 300 or above taken as a UW–Madison special student. If necessary to meet the Graduate School minimum graduate credit requirements for the degree, special student coursework may need to be converted to graduate credits. Once converted, students are assessed the difference in tuition between special and graduate tuition. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

PROBATION

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

ADVISOR / COMMITTEE

An advisor is assigned to incoming students and will work with students individually to ensure they are making satisfactory progress toward a degree.

CREDITS PER TERM ALLOWED

12 credits

TIME CONSTRAINTS

Master's degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (https://doso.students.wisc.edu/bias-or-hate-reporting/)
- Graduate Assistantship Policies and Procedures (https://hr.wisc.edu/policies/gapp/#grievance-procedure)
• Hostile and Intimidating Behavior Policies and Procedures (https://hr.wisc.edu/hib/)
  • Office of the Provost for Faculty and Staff Affairs (https://facstaff.provost.wisc.edu/)
• Dean of Students Office (https://doso.students.wisc.edu/) (for all students to seek grievance assistance and support)
• Employee Assistance (http://www.oao.wisc.edu/) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
• Employee Disability Resource Office (https://employeedisabilities.wisc.edu/) (for qualified employees or applicants with disabilities to have equal employment opportunities)
• Graduate School (https://grad.wisc.edu/) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
• Office of Compliance (https://compliance.wisc.edu/) (for class harassment and discrimination, including sexual harassment and sexual violence)
• Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) (for conflicts involving students)
• Ombuds Office for Faculty and Staff (http://www.ombuds.wisc.edu/) (for employed graduate students and post-docs, as well as faculty and staff)
• Title IX (https://compliance.wisc.edu/titleix/) (for concerns about discrimination)

Students should contact the program director with questions about grievances.

OTHER
Funding is not offered along with offers for admission.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES
Take advantage of the Graduate School's professional development resources (https://grad.wisc.edu/pd/) to build skills, thrive academically, and launch your career.

LEARNING OUTCOMES

1. Health: Describe and explain background knowledge of the history, goals, methods and challenges of the major health sciences, including human biology, genomics, clinical and translational science, healthcare delivery, personal health and population health.
2. Information Science and Technology: Demonstrate background knowledge of concepts, terminology, methods and tools of information science and technology for managing and analyzing data, information and knowledge.
3. Social and Behavioral Science: Evaluate the effects of social, behavioral, legal, psychological, management, cognitive, and economic theories, methods, and models applicable to health informatics from multiple levels including individual, social group, and society.
4. Health Information Science and Technology: Determine concepts and recognize tools for managing and analyzing biomedical and health data, information, and knowledge. Key foci include systems design and development, standards, integration, interoperability, and protection of biomedical and health information.
5. Human Factors and Socio-technical Systems: Apply social behavioral theories and human factors engineering to better understand the interaction between users and information technologies within the organizational, social, and physical contexts of their lives, and apply this understanding in information system design.
6. Social and Behavioral Aspects of Health: Evaluate and apply social determinants of health and patient-generated data to analyze problems arising from health or disease, to recognize the implications of these problems on daily activities, and to recognize and/or develop practical solutions to managing these problems.
7. Social, Behavioral, and Information Science and Technology Applied to Health: Appraise the diverse foundation concepts and facets in order to develop integrative approaches to the design, implementation, and evaluation of health informatics solutions.
8. Professionalism: Demonstrate conduct that reflects the aims or qualities that characterize a professional person encompassing especially a defined body of knowledge and skills and their lifelong maintenance as well as adherence to an ethical code.
9. Interprofessional Collaborative Practice: Exhibit behavior that reflects the foundations of values/ethics, roles/responsibilities, interprofessional communication practices, and interprofessional teamwork for team-based practice.
10. Leadership: Demonstrate the following characteristics: credibility, honest, competence, ability to inspire, and ability to formulate and communicate a vision.

PEOPLE

FACULTY AND STAFF:
• Pinekenstein, Barbara J School of Nursing (NURSING) DNP , RN-BC, FAAN, Clinical Professor, Richard E. Sinaiko Professor in Health Care Leadership
• Werner, Nicole E Industrial and Systems Engr (IND SY EGR) PhD, Harvey D. Spangler Assistant Professor
• Jack Temple School of Pharmacy (PHARMACY) PharmD, MS, Director, Pharmacy Business Services and Informatics
• Mcgranahan, Pamela A School of Nursing (NURSING) DNP , RN, Clinical Assistant Professor, DNP Program Director
• Steege, Linsey M School of Nursing (NURSING) PhD, Associate Professor and Gulbrandsen Chair in Health Informatics & Systems Innovation
• Smith, Maureen A Population Health Sciences (POP HLTH) MPH, PhD, Professor, Departments of Population Health Sciences and Family Medicine
• Batt, Robert Johnson School of Business (BUSINESS) MBA, PhD, Associate Professor, Operations and Information Management
• Burnside, Elizabeth S Radiology (RADIOLOGY) MD, MPH, MS, Professor, Radiology, Associate Dean of Team Science and Interdisciplinary Research, Deputy Executive Director for the Institute for Clinical and Translational Research
• Craven, Mark W Biostatistics and Medical Info (B M I) Professor, Departments of Biostatistics and Medical Informatics and Computer Science
• Bruce, Richard Radiology (RADIOLOGY) MD, Associate Professor of Radiology, Medical Director of Radiology Informatics
ACADEMIC DIRECTORS TEAM:

- Burnside, Elizabeth S Clinical & Translational Research (ICTR) MD, MPH, MS, Professor, Radiology, Associate Dean of Team Science and Interdisciplinary Research, Deputy Executive Director for the Institute for Clinical and Translational Research
- Steege, Linsey M School of Nursing (NURSING) PhD, Associate Professor and Gulbrandsen Chair in Health Informatics & Systems Innovation
- Pinekenstein, Barbara J School of Nursing (NURSING) DNP, RN-BC, FAAN, Clinical Professor, Richard E. Sinaiko Professor in Health Care Leadership
- Siemsen, Enno School of Business (BUSINESS) Associate Dean MBA and Master's Programs and Professor
- Buxton, Eric C School of Pharmacy (PHARMACY) Division Chair, Clinical Associate Professor
- Smith, Maureen A Population Health Sciences (POP HLTH) MPH, PhD, Professor, Departments of Population Health Sciences and Family Medicine
- Newton, Michael A Biostatistics and Medical Informatics (B MI) PhD, Professor, Interim Chair for the Department of Biostatistics and Medical Informatics
- Sorkness, Chris School of Pharmacy (PHARMACY) RPh, PharmD, Professor (CHS), Distinguished Professor of Pharmacy and Medicine (CHS), Senior Associate Executive Director, Workforce Development
- Bruce, Richard Radiology (RADIOLOGY) MD, Associate Professor of Radiology, Medical Director of Radiology Informatics
- Meyerand, Beth PhD, Professor, Medical Physics and Biomedical Engineering, Associate Chair of Graduate Advising and Professor