KENT STATE UNIVERSITY
CERTIFICATION OF CURRICULUM PROPOSAL

Preparation Date **2-Mar-16**   Curriculum Bulletin _____

Effective Date   **Fall 2017**   Approved by EPC _____

Department	**School of Library and Information Science**
College	**CI - Communication and Information**
Degree	**MS - Master of Science**
Program Name	**Health Informatics** Program Banner Code **HI**
Concentration(s)	Concentration(s) Banner Code(s)
Proposal	**Establish program**

Description of proposal:

This proposal seeks to establish a major in Health Informatics in the Master of Science offered in the School of Library and Information science

Does proposed revision change program's total credit hours?   ☒ Yes   ☐ No

Current total credit hours: **36**   Proposed total credit hours **36-39**

Describe impact on other programs, policies or procedures (e.g., duplication issues; enrollment and staffing considerations; need; audience; prerequisites; teacher education licensure):

There is no impact on other programs. This program currently exists as a concentration under the major in Information Architecture and Knowledge Management.
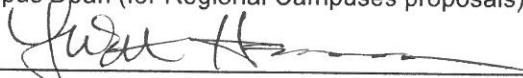
Units consulted (other departments, programs or campuses affected by this proposal):

College of Nursing, School of Communication Studies, School of Digital Sciences.

REQUIRED ENDORSEMENTS

_____   03 / 02 / 2016
Department Chair / School Director

_____   __ / __ / __
Campus Dean (for Regional Campuses proposals)

_____   4 /3 /2016
College Dean (or designee)

_____   __ / __ / __
Dean of Graduate Studies (for graduate proposals)

_____   __ / __ / __
Senior Vice President for Academic Affairs or Provost (or designee)

Full Proposal
To Establish
Master of Science in Health Informatics

Prepared by
The School of Library and Information Science
Kent State University
September, 2016

Contents

Introduction

This proposal seeks to establish a new major, Health Informatics, in the Master of Science degree program (MS in HI). HI is currently a concentration in the MS degree program of Information Architecture and Knowledge Management offered by the School of Library and Information Science (SLIS) at Kent State University.

What Is HI?

Health Informatics is an emerging field in health care that combines Clinical Informatics and Public Health Informatics. This includes applied research and practice. By way of enlarging the definition, Clinical Informatics is the application of biomedical informatics methods and techniques, including information technology, to deliver healthcare services. The American Medical Informatics Association (AMIA) considers all informatics when used for healthcare delivery to fall in this category, regardless of the health professional group involved (dentist, pharmacist, physician, nurse, or other health professional). Clinical informatics includes a wide range of topics ranging from clinical decision support to clinical documentation to provider order entry systems, and from system design to system implementation and adoption issues. Retrieved from: American Medical Informatics Association Website)

Public Health Informatics is the application of informatics in areas of public health, including surveillance, prevention, preparedness, and health promotion. Public health informatics and the related population informatics, work on information and technology issues from the perspective of groups of individuals. Public health is extremely broad and can even touch on the environment, work and living places and more. Generally, AMIA focuses on those aspects of public health that enable the development and use of interoperable information systems for public health functions such as bio surveillance, outbreak management, electronic laboratory reporting and prevention. (Retrieved from: American Medical Informatics Association Website)

Rationale for MS in HI

The designation of the degree as a Master of Science in Health Informatics follows a long standing tradition of awarding this degree in fields such as economics, health, medicine, computer science and statistics. Since Health Informatics can be viewed as a field where computer science, health science and information science intersect, it is important to designate the Health Informatics degree in a similar manner. The need for more scholarship and research in this evolving field, points in the direction of a degree providing professional preparation that can allow students to pursue individualized, independent projects that can further the discipline. Previous traditional "science" degrees and the intense focus on scholarship, research and assessment in the proposed degree, is justification for elevating the HI concentration to its own major and awarding a MS degree.

Background for the Proposal

The existing Master of Science in Information Architecture and Knowledge Management (IAKM), first established in 2001, currently includes three concentrations: Health Informatics, Knowledge Management, and User Experience Design. This proposal seeks approval for the establishment of a new major in the School of Library and Information Science (SLIS) at Kent State University, the Master of Science in Health Informatics (M.S-HI). The curriculum of the Health Informatics concentration previously utilized a common set of core courses with User Experience Design and Knowledge

Management. As a result of the maturation of the field of Health Informatics, (as well as the other two concentrations), coursework in the major will shift the current concentration requirements to major requirements; the common core course will be made an elective; and more elective options will be available. This will result in a degree that more closely reflects requirements for certification as a health informatics professional, requirements for program accreditation as well as the changing role of the health informatics professional.

Health Informatics (HI) has become much more clearly established as a discipline. Ten to fifteen years ago, the field was almost unheard of in all but the most progressive and forward thinking academic medical centers. As health care has become increasingly more reliant on technology to collect, store and utilize patient data, as well as utilize technology in the delivery of patient care (telehealth, surgical robots, as examples), the field has steadily evolved as has the need for Health Informatics graduates. In the past, the discipline was focused on the implementation of computer systems in hospitals. It is now focused on the utilization and analysis of the data coming from those systems to insure quality, safety and economy in patient care.

It is incumbent upon us to elevate Health Informatics from a concentration under the umbrella of IAKM to a freestanding major. HI has an accrediting body separate from those of the other concentrations within IAKM (Knowledge Management and User Experience Design.) The accreditation by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) is highly regarded. As a major, health informatics would have full control to build its curriculum with the guidance of CAHIIM standards as well as respond to changing needs of the profession. The accreditation process is beginning for this program. Making the change to a freestanding major would strengthen the program's chances to obtain CAHIIM accreditation. This requested change is primarily a change of structure, not offering. While the program is sustainable in its present iteration (MS-IAKM), a MS-HI will allow the program to compete more readily with other programs, meet the demand for health informatics professionals, and continue to grow.

The following considerations help to explain the rationale for inactivating the HI concentration and establishing it as its own major within SLIS.

1.	The field of healthcare in general and health informatics in particular is highly volatile and in a constant state of change due to industry, government, regulatory and legislative initiatives. The curriculum, in addition to being bound by accrediting body standards, must be able to respond quickly to the changing needs of the field with new courses, workshops and student experiences.
2.	Students with a major in Health Informatics are likely to be better able to find employment upon graduation when employers see a Master of Science in Health Informatics as opposed to a Master of Science in IAKM. A major in Health Informatics is a highly desired qualification by the healthcare industry. A Master of Science in Health Informatics gives employers a better understanding of the foundational education the student has received.
3.	With the MS in HI, students would be able to apply to and sit for the exams for the following industry certifications: Certified Associate in Health Information and Management Systems (CAHIMS) and Certified Professional in Health Information and Management Systems (CPHIMS). Credentialing at the major level in HI will is required for certification at the CPHIMS level.

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In order to be competitive in the health informatics program market, it is imperative that the program be established as a major in a Master of Science program. Establishing the Health Informatics program as a Master of Science program, will put Kent State University in line with other Health Informatics programs in the United States.

Establishing a new Major in Health Informatics will allow the program to determine its own core courses and electives. Another key goal of this proposal is for the students to receive the appropriate credentials necessary for their careers with a degree that reflects their education and also to provide clarity to potential employers about the skills and competencies of the graduates of these programs.

The proposed M.S.-HI includes minor curricular changes, retaining the minimum requirement for completion to a total of 36 credit hours.

The program is supportive of adult learners and includes pathways to degree completion and course offerings that allow students to focus one course at a time and allow them to complete the program in two years.

The Master of Science in IAKM is currently offered in an online format. Approval for online delivery of the Master in Science was completed for a launch in fall 2007. The Health Informatics concentration was approved by the state in 2010 and launched fall, 2011. The proposed new major will continue to be offered online.

Academic Quality

The Health Informatics program will be administered by the School of Library and Information Science in the College of Communication and Information. The School has a faculty member appointed as the Graduate Coordinator and will continue the assignment of faculty as Program Coordinators. A partial list of the responsibilities of the Program Coordinator is below:

- Teaching and advising
- Vetting and suggesting adjunct faculty who are Subject Matter Experts (SME's); conduct quarterly meetings with adjuncts
- Convening a program advisory committee
- Recruitment for and marketing of program
- Monitoring curriculum for compliance to current standards for certification and planned accreditation
- Suggesting curricular changes
- New course development
- Review selected admission packets

The School engages with students, alumni, employers, and other constituents for each program to assist in maintaining quality programs aligned with the University, College, and School missions to serve all stakeholders.

The program is subject to the Kent State University Graduate Studies policies and procedures in regards to admission requirements, academic standards, and graduate faculty membership.

Curriculum

The Health Informatics curriculum is based in both practice and theory. The program emphasizes knowledge of the theories operative in Health Informatics but also draws from experts are active in the Northeast Ohio healthcare informatics community. These experts are active practitioners in informatics research, consultants, system implementation specialists, clinical and system analysts and user experience designers. The program was developed and adheres to the curriculum standards of CAHIIM in anticipation of seeking accreditation.

The current HI concentration includes the following:

- 6 hours of major core
- 15 hours of health informatics required courses
- 9-12 hours of electives
- 3-6 hours of final requirement

The proposed major curriculum in Health Informatics includes:

- 21 hours of major core
- 12 hours of electives
- 3-6 hours of final requirement

The changes to the HI curriculum are minor and include:

- The addition of HI 60411 Clinical Analytics as a core course (important skill for HI professionals).
- Establishment of HI 66092 Master's Internship in Health Informatics as a final requirement option
- Establishment of HI 66198 Master's Research Paper in Health Informatics as a final requirement option

Four options are available for students to fulfil their final program requirement: Master's Project, Master's Internship, Master's Research Paper, and Thesis.

- The Master's Project in Health Informatics (HI 66098) as a final requirement gives students the opportunity to integrate knowledge from their courses with an information related activity in a health care organization. This allows the student the opportunity to work on a team within the organization and gain knowledge and insight into a specific type of HI product, setting or service. The result is usually a product of some type: a prototype, an executive summary, a computer program, or a course curriculum for an in-service activity. Since many of the students in the HI program are likely to move into higher level jobs in healthcare organizations, the project option allows them to function on a team in a real life situation. The project does entail some research but is not research intensive. In addition to the actual project or product, a brief paper delineating the reason for the project, the steps taken in the project and lessons learned is required.

▸ The Master's Internship in Health Informatics (HI 66092) as a final requirement option gives students the opportunity to integrate their knowledge from all of their courses into an experience in a healthcare organization under the direction of an experienced preceptor. The Master's Internship is a culminating experience, and requires a specific process for learning that facilitates the integration of their studies into a practical experience. Students consult with the advisor to identify an appropriate internship site, and students, supervisor, and advisor agree on the internship objectives. Once the internship is approved by the advisor, each internship student is supervised by an experienced health informatics professional, under the guidance of the faculty internship advisor to ensure internship objectives are achieved. Since the health informatics major is offered online as it has been since its inception, students choosing the internship option outside of the Northeast Ohio area are paired with health care institutions and preceptors in their geographic area.

▸ The Master's Research Paper in Health Informatics (HI 66198) as a final requirement gives students the ability to conduct research on a qualitative or quantitative platform.   As with other final requirement options, the research paper gives students the opportunity to integrate their knowledge from their courses into a research paper. Students must state hypotheses or research questions and set up their paper as they would a quantitative or qualitative thesis. In some cases, human subjects or Protected Health Information may be utilized in the paper. In that case, the student must obtain IRB approval before the paper can be started.

▸ The Thesis option is offered for those students who wish to pursue a doctoral degree for an academic career or a career in Health Informatics research. The thesis or research paper is expected to be a substantial & original contribution to knowledge in Health Informatics. It is expected that rigorous standards of scholarship, methodology, and form of presentation be followed and that all rules pertaining to the thesis from the University, College and School are adhered to.

For students selecting the thesis or research paper option, selections from the following courses are recommended as electives:

- HI 60415 Health Informatics Inquiry and Assessment
- LIS 60050 Research and Assessment in Library and Information Science
- EVAL 65515 Quantitative Research Design and Analysis
- EVAL 65516 Qualitative Research Design
- Basic Statistics Course

Prior to registration for the thesis option, students must complete at least 30 hours of their coursework including coursework relevant to their research.

The following table offers a comparison between the current and proposed Health Informatics curriculum:

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CURRENT		PROPOSED	
Health Informatics Concentration of Master of Science in IAKM		*Health Informatics Major in Master of Science*	
Minimum of 36 credit hours		**Minimum of 36 credit hours**	
Core (6 hours)		**Core (21 hours)**	
Elective	3		
IAKM 60002 – Knowledge Organization Structures, Systems and Services	3	LIS 60636 – Knowledge Organization Structures, Systems and Services	3
Required HI Concentration (15 hours)			
IAKM 60301 – Foundational Principles of Knowledge Management	3	KM 60301 – Foundational Principles of Knowledge Management	3
IAKM 60401 – Health Informatics Management	3	HI 60401 – Health Informatics Management	3
IAKM 60402 – Legal Issues in Health Informatics	3	HI 60402 – Legal Issues in Health Informatics	3
IAKM 60403 – Health Information Systems	3	HI 60403 – Health Information Systems	3
IAKM 60410 – Health Records Management	3	HI 60410 – Health Records Management	3
Electives (12 hours), choose from:			
IAKM 60411 – Clinical Analytics	3	HI 60411 – Clinical Analytics	3
		Electives (12 hours), choose from:	
		HI 60412 – Clinical Decision Support	3
		HI 60413 – Change Management in Health Informatics	3
		HI 60414 – Human Factors & Usability in Health Informatics	3
		HI 60415 – Health Informatics Inquiry and Assessment	3
		UXD 60101 – Information Architecture	3
		UXD 60104 – Usability I	3
		KM 60311 – Business Process Management	3
		KM 60370 - Semantic Analysis Methods and Technologies	3
			3
			3
			3
			3
IAKM 60691 - Seminar in IAKM	1-3	HI 60691 - Seminar in Health Informatics	1-3
IAKM 60692 – Practicum	2-3		
IAKM 60792 - Internship	1-3	HI 60792 – Elective Internship in Health Informatics	1-3

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IAKM 61095 – Special Topics in IAKM	1-3	HI 61095 – Special Topics in Health Informatics	1-3
IAKM 61096 – Individual Investigation	1-3	HI 61096 – Individual Investigation in Health Informatics	1-3
		Up to 6 credit hours of KM, UXD, or LIS or other KSU departments' courses may count as HI electives with approval.	
Final Requirement (3-6 hours), choose one:		**Final Requirement (3-6 hours), choose one:**	
IAKM 61081 - Capstone Experience	3		
IAKM 61096 – Individual Investigation	3		
		HI 66092 – Master's Internship Health Informatics	3
IAKM 61098 - Master's Project	3	HI 66098 - Master's Project in Health Informatics	3
		HI 66198 - Master's Research Paper in Health Informatics	3
IAKM 61199 - Thesis I 6 (total)	6	HI 66199 - Thesis I 6 (total)	6
TOTAL	**36**	**TOTAL**	**36**

A copy of the Course Description Catalog is included in Appendix I.

The health informatics major will be offered online as it has been since its inception. Courses are offered on a regularly scheduled rotation, as 7-week online courses. Students have the opportunity to focus on one course at the time, if they wish to do so, allowing them to complete the program in two years.

Admissions and Graduation Criteria

The admission standards and procedures for the MS program at SLIS are in line with the general university admission policy. Regular admission is granted to applicants who have an undergraduate GPA of 3.0 or higher or another master's degree with a graduate GPA of 3.0 or higher. In addition to the application, prospective students must submit official transcripts, a resume, a statement of purpose, and three letters of reference. For the proposed new major, applicants who do not meet the minimum GPA requirement must take the Graduate Record Exam (GRE) and submit a Statement of Exception to be considered for conditional admission.

Additionally, SLIS admission standards and procedures are periodically reviewed by the Admissions and Awards Committee. Changes in standards must be approved by the Faculty Advisory Committee and the University.

At the end of each semester, a listing of all students with a GPA below 3.0 and students who received a B- or below in any course or U in any is generated. In addition, a list of students with conditional admission status is also generated. The Graduate Coordinator reviews these reports and prepares a Student Achievement Evaluation Report at the end of each semester, which is sent to the student and their academic advisor with recommendations for improvement.

At the completion of the program, for each student a graduation clearance audit is performed to ensure all program requirements are met. Students must achieve a carminative GPA of 3.0 or above, successfully complete all core requirements (with a grade of C or above), successfully complete the required number of electives, selected in consultation with their advisor, and complete one of the four options for the final requirement.

Faculty

The Health Informatics program has chosen a faculty model that is nontraditional.   This streamlined model chosen to launch the concentration in health informatics is a direct result of the continuing evolution of the discipline. This approach allows for dedicated support of a small number of faculty and direct connection to current practice through part-time faculty. The curriculum can thus respond to the current issues in the field while being true to the theory of the discipline. Students are provided with focused support and connections to the field and current practitioners. This guarantees their success in the field and their continuing growth in the discipline.

Currently, support for student success in health informatics includes:

- 2 full-time faculty dedicated to the development of the program in health informatics: one tenure-track and one non-tenure track who is currently also serving as the Concentration Coordinator.
- 4 part-time faculty who are top working professionals teaching courses that will provide the skills for success in employment. These are Subject Matter Experts (SME's).
- Associated faculty in the School of Library and Information Science who teach courses, advise students for their program of study and career paths, and guide students on final projects
- Associate faculty and staff who support students in application and admission processes, program progress, and graduation clearance
- Associated faculty and staff in Northeastern Ohio Health and Health-related institutions who teach, advise and precept students in externships, internships and projects

The following table provides some basic information about the current faculty teaching exclusively in the Health Informatics program. A copy of their Curriculum Vitae is included in Appendix II.

Name	Position And Rank	Highest Degree	Teaching At SLIS Since:	HI Courses Taught
Hudak, Christine	FT NTT, Professor, HI Coordinator	PhD in Urban Education Administration	Fall 2012	• IAKM 60401 Health Informatics Management • IAKM 61095 ST: Public Health Informatics • IAKM 60403 Health Information Systems • IAKM 61095 ST: HI Ethics Policy And Politics
Meehan, Rebecca	FT-TT, Assistant Professor	PhD in Sociology	Fall 2012	• IAKM 60403 Health Information Systems • IAKM 60415 Inquiry and Assessment in Health Informatics • IAKM 60414 Human Factors and Usability in Health Informatics
Lawton, Chelsea	PT instructor	MS in Health Informatics	Fall 2014	• IAKM 60410 Health Records Management
Lockshaw, James	PT instructor	MBA	Spring 2014	• IAKM 60412 Clinical Decision Support
Sharp, John	PT Instructor	MSSA	Spring 2010	• IAKM 60411 Clinical Analytics
Ylvisaker, Paul	PT Instructor	JD	Spring 2016	• IAKM 60402 Legal Issues In Health Informatics

Note: Courses listed reflect current course numbering under the IAKM prefix and number. Faculty will continue teaching the equivalent course under the HI prefix and number.

As mentioned above, other SLIS full-time faculty teach a number of courses that are required, for example, Dr. Marcia Zeng, (Vitae is included in Appendix II) a renowned researcher in the area of knowledge organization, has developed and teaches the required Knowledge Organization Systems and Structures course, and often serves on or chairs Thesis committees of Health Informatics students, supervises HI Master's Research Papers and Projects. Other full-time faculty interact with HI students in their elective courses or for research projects.

The HI full-time faculty are very active in local and national professional associations that provide opportunities to collaborate outside of the university. The coordinator of the Kent State health informatics program is the former president and current education chair of the Northern Ohio Health Information Management Systems Society (NOHIMSS), where she leads the chapter in collaboration with other regional chapters (central Ohio, southern Ohio, western Pennsylvania, and northern West Virginia). HIMSS is currently establishing the HIMSS Innovation Center in the Global Center for Health Innovation in Cleveland, where many opportunities to facilitate projects for our students have already

been discussed. We currently have three students placed at the Center to support projects. The HI program has started a webinar series in conjunction with NOHIMSS to both educate and interest individuals in Health Informatics.

Health Informatics also has 4 part-time faculty members who are top professionals in the health informatics areas in which they teach and precept. The part-time faculty are not limited in location to Northeast Ohio.

The health informatics program offers opportunities for real-world experience whether through guided projects within courses, individual investigations or through capstone experiences. Students may choose an internship option in addition to the thesis or master's project option to ensure that students who do not have prior experience in a healthcare setting can gain it before they enter the work world. A variable credit summer intensive placement is also available for students with limited clinical experience as an elective. Because of the faculty, students are able to connect with professionals and organizations to gain experience while completing their degrees.

As mentioned above, students have four options for their final requirement. Their selection varies the amount of intensive advising that is necessary in this capstone. Full-time faculty have been able to effectively advise students because of this variability. Students who choose the internship option (about 30 percent) are getting intensive guidance from the preceptors on site in the healthcare organizations. Students who choose projects (about 25 percent) also get advising support from professionals in the organizations for which the projects are conducted. Those students choosing research papers (primarily non-thesis) are the focus of intensive guidance of the full-time faculty.

Additional faculty and staff considerations will be based on need related to increases in enrollment beyond projections to maintain a high-level of student support.

It must be noted that the option for theses may increase as the program grows and matures. While original programs in Health Informatics concentrated on the skills needed in and knowledge from practice, it is now crucial to the development of the profession to foster research agendas that support practice. It is important to expand opportunities for original research in Health Informatics. However, the profession recognizes and the KSU program is committed to grow the knowledge in this maturing field. The Health Informatics program will take a leadership role in fostering and disseminating the research. However, we cannot do this without growing our tenure track faculty in areas such as change management, data science, data analytics, health care policy, bioinformatics, and ethical uses of protected health information. By elevating the concentration to major, we hope to attract more faculty who can fill these tenure track positions and foster a research persona in some of our students.

Other Support

The program receives support from the Office of Continuing and Distance Education (OCDE), the College of Communication and Information, and the School in the form of instructional design and building and maintaining courses in Blackboard. Opportunities for full-time and part-time faculty for training on online teaching and Quality Matters are made available by OCDE and highly encouraged by the School.

The School is launching a new, more comprehensive program for adjunct faculty onboarding, teaching support and training, and mentoring.

The health informatics program currently exists as a concentration, so it will not require the regular start-up financial or human resources required of new programs.

This 36-credit-hour program was developed with the curriculum standards of CAHIIM in anticipation of seeking accreditation. An advisory board of health care informatics and related professionals is also used to serve as counsel to the program for curriculum refinement, recruitment, and support. In order to support this standardized curriculum and educate professionals for the health informatics field, the program has 2 full-time faculty working on program development. In addition, there are other full-time faculty within the School who teach required courses and advise students.

Recent developments in the health informatics major take advantage of the wealth of health-related programs and faculty throughout Kent State University in the development of courses that are of interest beyond just the major. Similarly, the program has access to library and research resources through the School, the College, the University Libraries, and Kent State in general.

1. Program Need

Health Informatics is significantly distinct that students and employers are increasingly interested in a unique program focusing in health informatics.

The School has held approximately 15 online open houses at various times with a variety of guest speakers and continues to do so. These open houses allow for student participation during the live event. They are also recorded and posted to the website for informational purposes. Each event usually has about 40 interested students registered to participate in the session. Within 24 hours of the live online event viewings of the webinar often double and continue to increase as the recorded event is shared through listservs and professional associations. This has been an effective way to recruit students and has resulted in many admissions to the program.

Enrollment History

The current Health Informatics concentration has seen some decrease in admissions and enrollment the last year. What is significant is that the User Experience Design concentration that has received independent targeted recruitment efforts has seen a large increase in both admissions and enrollment. Having and being able to recruit for a distinct Master of Science program in Health Informatics, will allow for independent curriculum design, and will be much more attractive to potential students but also to employers. An independent, targeted recruitment effort, similar to that in User Experience Design, will be undertaken in fall 2017. We are confident that with our partner organization in place, we will see a significant increase in program recruitment.

For each semester in the chart below, the total number of Health Informatics student enrollments are indicated. Information is based on the Kent State University Institutional Research 15th Day Student Enrollment Report.

MAJOR	Concentration	Fall 12	Sp 13	Fall 13	Sp 14	Fall 14	Sp 15	Fall 15	Sp 16
IAKM	Not declared	9	7	7	5	3	1	3	3
IAKM	HI	39	47	57	57	61	55	41	35

Health Informatics (HI) has become much more clearly established as a discipline and the time has come to elevate it from a concentration under the umbrella of IAKM to a freestanding major. HI also has an accrediting body separate from those of the other concentrations within IAKM (knowledge management and user experience design.) The accreditation by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) is highly regarded. As a major, health informatics would have full control over its individual curriculum to not only adhere to standards, but work to meet changes in the needs of students as dictated by the profession.

Program need was also addressed in the Introduction to this document. However, we have also attracted students to our program from a number of other colleges and Schools within the University. The program continues slow but steady growth in courses taken by students from the following colleges and schools: College of Nursing, College of Public Health, College of Business Administration, College of Podiatric Medicine, School of Digital Sciences, and the KSU Regional Campuses. Articulation agreements with Cuyahoga Community College, John Carroll University and Ursuline College also had contributed to the growth of the program in the past. Having a Master's of Science in Health Informatics, will provide new opportunities for collaboration and agreements with other educational institutions in the future. In addition, the other programs within the School of Library and Information Science (User Experience Design, Knowledge Management, and Library and Information Science) utilize HI courses as electives.

Job Outlook for Health Informatics

Health informatics refers to the special health care field that involves information science, social science, the behavioral sciences and computer science. It has evolved from a field that dealt mainly with paper records to one that increasingly requires ever-changing technology. The most common job duties of people in health informatics jobs may include:

- Working with health care workers to obtain data
- Creating departmental reports with attention to detail
- Developing health care reports with co-workers
- Communicating medical policies to other workers
- Conducting reviews on data quality
- Managing charts and records
- Completing administrative assistant tasks as needed
- Monitoring health records and updating them as needed
- Maintaining positive, professional relationships with staff members
- Organizing clinical databases as needed
- Tracking patient outcomes
- Providing administrative support to physicians and health care workers
- Managing implementation of health IT

- Acting as a liaison between health IT developers and clinical staff to build requirements, make fixes, and address enhancements
- Developing EHR software, health IT, and related applications

Candidates should hone their analytical skills as well as their interpersonal skills and technical skills. Succeeding in health informatics jobs also requires workers to be detail-oriented with a great deal of integrity. They should also be flexible and able to multitask as needed. (Retrieved from http://www.monster.com/jobs/q-health-informatics-jobs.aspx)

These multiple duties make it difficult to find specific information from the Bureau of Labor Statistics. For example, clinical analysts assist clinical staff with IT systems, interpret data, and manage patient records. That requires some of the skills both of a registered nurse and of an IT technician.

There is no job category in the Bureau of Labor Statistics for Health Informatics Specialist, Health Informatician or Health Informaticist. These are general job titles for what are very specific needs in Health Care Information Technology. A review of currently available jobs in Health Informatics from the Healthcare Information and Management Systems Society JobMine™ shows over 50 different job titles that fall under the heading of Health Informatics Job Functions (Retrieved from http://jobmine.himss.org/jobseeker/search/results/) Additionally, within those job functions, there are variations among the jobs listed. Thus, it is difficult to pinpoint job growth due to the variations in job titles. As an example, under the function Healthcare Informatics, the following job titles are seen:

- Director, Health Care Analytics
- Epic Clinical Applications Analyst
- BC/DR Informatics Program Lead (HER Downtime Recovery)
- Health IT Consultant
- Systems Analyst
- Clinical Informaticist
- PRISM Inpatient Manager
- Senior Business System Analyst

It must be stated that these jobs are very different than Health Information Technicians that is a job category in the Bureau of Labor Statistics. These technicians are usually referred to Medical records technicians and these job functions are very different than those of a Health Informatics Specialist. The American Health Information Management Association provides a concise definition of the differences between Health Information Management (HIM), Health Information Technology (HIT), and Health Informatics (HI). The KSU program is a HIT and HI program.

If one must utilize Bureau of Labor Statistics as a hallmark of job growth, then the closest occupational titles are: Medical & Health Services Managers that shows a 17% job growth until 2024, http://www.bls.gov/ooh/management/medical-and-health-services-managers.htm; and Computer Systems Analysts that shows a 21% job growth, http://www.bls.gov/ooh/computer-and-information-technology/computer-systems-analysts.htm .

As of today, the Bureau of Labor Statistics is considering the addition of a category titled, Health Information Technology, Health Information Management and Informatics Specialists and Analysts. While this preliminary information, it indicates that the BLS sees the Health Informatics Specialist as a separate and equal entity with all other job classifications.
http://www.bls.gov/soc/2018/soc_2018_definitions_changes_tracked.pdf

A search of Indeed.com, using "health informatics" yielded such titles as "Data Scientist", "Clinical Data Analyst", "Clinical Workflow Integration Specialist" as well as "Manager, Health Analytics" and "Clinical Transformation Specialist". The "Job Mine of the Health Information Management Systems Society (HIMSS) routinely has 150-160 jobs posted at any given time. Clinicians entering the program have more job opportunities awaiting them upon graduation. While it is hard to specifically state the number of jobs that are and will be available, there is strong evidence from the above sources that the HI field is a growth field and will continue to be.

Among the institutions that have hired our 42 graduates are:

- Akron Children's Hospital
- Akron General Medical Center
- Allego Health
- AMTrust Financial Services, Inc.
- Cleveland Clinic
- East Virginia Medical School
- Emory University
- Enterprise Group Planning
- HIMSS Innovation Center
- Kent State University College of Nursing
- Mayo Clinic
- Salem Community Hospital
- Select Specialty Hospital
- Summa Health System
- University of Cincinnati
- University Hospitals Case Medical Center
- Wavefront Software

Prospective Growth in Health Informatics

The current goal for enrollment in the health informatics major is 100. With the further development of the discipline and the need for professionals, there appears to be no reason to believe that goal cannot be met and the enrollment maintained. As the program continues to grow, considerations for additional HI faculty members will be made to support advising and instruction.

As mentioned in section "2. Program Need," interest in the Master of Science degree in Health Informatics continues to increase. This is also evident from the interest generated from the well-attended webinars about the program and other topics. The School has held online open houses at various times with guest speakers drawn from the membership of the health informatics advisory board, many of whom are current employers in Northeast Ohio. The program will offer a new series of online open houses that will continue to feature advisory board members. In addition, the program will offer in-person events at a partner school for recruitment directly from its health information management undergraduate program.

2. Access and Retention of Underrepresented Groups

Since the establishment of the Master of Science in IAKM and the subsequent updates and additions of concentrations, the recruitment goals have been relatively broad in order to build a student body rather than targeting specific groups. Despite this generic approach we can still claim that 22 percent of our current students are minorities. In addition, 56 percent of our students are female, which matches the trend in graduate school, but not necessarily in the professional areas.

The School of Library and Information Science is undertaking an effort to recruit from colleges and universities in Ohio with traditionally high levels of minority enrollment such as Wilberforce, Central State, and Cleveland State University to increase awareness and interest in the programs available through the School including the Master of Science.   In health informatics, recruitment mirrors the objectives of the recruitment of the profession by HIMSS to attract more underrepresented groups.

The following table shows a breakdown by ethnicity of New Enrolled HI graduate students:

MAJOR	MAJOR_CONC	ETHNICITY	2012	2013	2014	2015	2016
IAKM	HI	Asian	1		1		
IAKM	HI	African-American			3		1
IAKM	HI	Foreign				1	
IAKM	HI	Hispanic					
IAKM	HI	Multi-Racial			1		
IAKM	HI	Native American					
IAKM	HI	White	4	10	14	3	4
IAKM	HI	Not Reported	12	18	1		

The table below, shows a breakdown of HI graduates by ethnicity:

MAJOR	MAJOR_CONC	ETHNICITY	2012	2013	2014	2015	2016
IAKM	HI	Asian				1	
IAKM	HI	African-American			2	2	6
IAKM	HI	Foreign					1
IAKM	HI	Hispanic				2	1
IAKM	HI	Multi-Racial		1			1
IAKM	HI	Native American					
IAKM	HI	White		1	9	18	10
IAKM	HI	Not Reported			2		2

Note that the numbers are not reported based on cohorts. Therefore, the two tables do not represent the same students. Data extracted from the Kent State University Institutional Research reports.

The College of Communication and Information is adding two new staff members: a Student Recruiting Specialist and an Academic Diversity Outreach Coordinator. Both of these additions will greatly benefit our efforts to recruit and retain underrepresented student groups.

Last, there is a strong advising component to all SLIS programs, including the existing Health Informatics program, and students receive excellent guidance from their faculty advisors in regards to their course of study as well as professional development. Such advising positively impacts retention and graduation.

4.   Statewide Alternatives

Within the last 5 years, multiple state and private institutions have begun to offer online and on ground programs in Health Informatics. Due to the publicity surrounding the number of potential jobs within this area, programs exist in most every state, attempting to capitalize on a growing need in healthcare.

However, many of the programs do not possess the qualities and experiences seen in the Kent State University program. Hence, our program is different from many of those currently in effect.

This section of the proposal will focus only on those programs in the state of Ohio that might be considered competitors, and will draw differentiations between the KSU program and those programs.

Similar Programs in Ohio

Ohio State University offers a Master of Science in Health and Rehabilitation Services with Graduate concentrations in Health and Rehabilitation Education, Health and Rehabilitation Management, Clinical Nutrition and Health Informatics. Students take a common core for all of these programs that concentrates heavily on research and analytics. The Health Informatics Concentration consists only of 12 hours of cognate electives that can be taken from a number of different schools. The program accepts only those students with a baccalaureate in a health care field. The program is not online. We do not consider ourselves to be a competitor to this program.

The University of Cincinnati's Master of Health Informatics is perhaps the closest to the KSU program. Fully online, the program curriculum is similar to that required by the accrediting agency, CAHIIMS (Commission on Accreditation for Health Informatics and Information Management Education), but the program is not CAHIIM accredited. The program has a culminating experience called a practicum which is similar to KSU's. The program has very close ties with the American Health Information Management Association that focuses primarily on Medical Records issues in the hospitals. Unlike the KSU program, there are no close ties to the premier Health Information Systems organizations both at the local and national level.

Ohio University has a Graduate Certificate in Health Informatics that is offered in a blended format. It is interdisciplinary in nature. Courses are offered for graduate credit but since there is not a corresponding master's degree, the certificate is the only option for an advanced credential. Since the program is administered through the Department of Social and Public Health, the emphasis is on the Public Health and Public Administration aspect of informatics.

The University of Findlay is the last program to be considered for comparison. It is a master's degree as well as a certificate program that requires the following prerequisites: Medical Terminology, Anatomy and Physiology, Introduction to Computers (Word, Excel, PowerPoint) and Database Applications (Access or SQL). As the other programs, there is no provision for an immersion into health informatics for non-healthcare applicants. The program is fully online, requires a 3 credit Capstone/Professional Experience and follows a curriculum similar to that outlined by CAHIIMS.

Distinguishing Characteristics of the Kent State Health Informatics Program
Kent State University's Health Informatics program distinguishes itself on multiple levels. First, because the program is firmly rooted within the School of Library and Information Science, as well as being allied with the User Experience design and Knowledge Science concentrations, students can take advantage of many elective offerings in User Research, Information Architecture, Content Strategy, and Knowledge Organization. Additionally, students may take interdisciplinary electives in the School of Digital Sciences, the College of Applied Engineering, Sustainability & Technology, the College of Business Administration, the College of Public Health and the other related Schools of the College of Communication and Information.

Second, the Kent State Health Informatics Program is based in both practice and theory. That is, the program emphasizes knowledge of the theory of surrounding Health Informatics, but courses are also conducted using real world experiences and case studies from the practitioner-faculty teaching them. KSU Regular and adjunct faculty are well known and active in the Northeast Ohio healthcare informatics community, including active practice as researchers, consultants, system implementation specialists and user experience designers.

Third, the Health Informatics program is closely aligned with the Healthcare Information Management and Systems Society at both the local and national level. Students gain experience working with the professional organization as volunteers and participants in educational offerings. Members of the Northern Ohio Chapter of HIMSS are presenters at webinars given through the chapter in collaboration with Kent State. This Webinar series offers students the advantage of seeing real world practice come to life. Students may contact these presenters directly and can take advantage of their networks and their experiences. Members of the regular and adjunct faculty are active at the local and national level in HIMSS: serving as officers and committee members, editing and writing books for the organization, presenting at the national conference and shaping the future of the discipline and profession through Advocacy with state and national legislators. Because of this close alignment, students are able to take advantage of internship opportunities at the Global Center for Health Innovation in Cleveland and the HIMSS Innovation Center and headquarters within the Global center.

Fourth, the KSU program welcomes non-healthcare professionals into the student ranks and provides a field course for students without a health care background, HI 61096. This is conducted as an Independent study for variable credit hours and is individualized to each student. This course is given for credit and counts as an elective in the program. The diversity of the students ranges from non-healthcare students to students who are licensed as physicians, nurses, pharmacists, podiatrists and healthcare executives. This professionally diverse student body enriches the experiences of all by active

sharing and discussion. Additionally, there are no prerequisite courses for program entry. Only, the standard admission criteria apply.

The opportunity for Independent study within Health Informatics is another distinguishing characteristic of the program. Students who wish to delve more deeply into a specific area of Health Informatics may do so through an elective Independent study under the supervision of regular faculty or an outside preceptor identified by the faculty. The Independent study may be a project, experiential, experimental or theoretical. The limits are defined through the interests of the students and their preceptor. They Independent study may be transdisciplinary and involve members outside of the HI program.

The Culminating Experience is another distinguishing characteristic of the program. While most of the other programs have a similar requirement, the KSU program matches students learning needs with the placement within an internship. Internships are procured where the student lives so the online nature of the program is not disturbed. Since many students have had experience in Health Informatics, these students may choose the option of a project, a manuscript suitable for publication, a research paper with or without human subjects, development of curricula for specific Health Informatics topics or a combination of these. Preceptors are assigned to the students and virtual collaboration between the student, the preceptor and the student's advisor is completed on a regular basis.

Due to the regular and adjunct faculty's connections to the health care institutions in Northeast Ohio, student experience for internships and projects take advantage of facilities such as the Cleveland Clinic, MetroHealth Medical Center, University Hospitals of Cleveland, Akron General Hospital, Summa Health Care and Akron Children's Hospital. These world class facilities provide cutting edge experiences in Health Informatics and expose students to current trends in the fields.

Finally, the KSU Health Informatics program has had and continually seeks new articulation agreements with multiple colleges that allow students to transfer credit from undergraduate programs into the Master's program in health Informatics. Additional articulation agreements allow students obtaining a baccalaureate in computer science or health informatics to take advantage of the transfer credit option. It is notable that KSU's Health Informatics program offers both the Master's and a Certificate program. Credits earned in the Certificate Program (up to 12) are directly transferable into the Master's program.

The KSU Health Informatics program is a premier program within the state of Ohio. Citing the above characteristics, we see no competition with other programs currently operating in the state.

5.   External Support

Articulation agreements with Cuyahoga Community College, John Carroll University and Ursuline College show some of the collaboration opportunities between Kent State University and external partners. In these agreements, students were drawn into the Master of Science after having studied health information technology on the undergraduate level.

Graduate students studying health informatics at Kent State have the option to complete their degree with an internship. Currently, there are standing agreements with Akron Children's Hospital, Akron

General Medical Center, and the HIMSS Innovation Center at the Global Center for Health Innovation, University Hospitals Cleveland Medical Center, The Cleveland Clinic, and the Louis Stoke Veterans Administration Medical Center for placement. More informal arrangements with other area health care institutions are in the process of formalization. The faculty's leadership in HIMSS and the Northeastern Ohio Health Care Community facilitates opportunities for projects and internships through the Global Center for Health Innovation.

Memos of support from health organizations and businesses employing health informatics professionals and researchers are included in Appendix III.

School of Library and Information Science

MS in Health Informatics Catalog Copy and Keywords

Catalog Copy

Information Architecture and Knowledge Management - M.S. print

Kent State University 2015 Catalog > College of Communication and Information > Graduate Programs > **Information Architecture and Knowledge Management - M.S.**

College

College of Communication and Information

Resources

- Program Requirements

- Academic Policies

Department

School of Library and Information Science

E-mail: slisinfo@kent.edu
Tel: 330-672-2782
Fax: 330-672-7965
Web: www.kent.edu/slis

Description

The Master of Science in Information Architecture and Knowledge Management consists of three concentrations: Health Informatics, Knowledge Management and User Experience Design.

Health Informatics is the science of evaluating, implementing, and utilizing technology to manage all information related to the patient care delivery process: clinical, financial, technological and enterprise-wide. Three major components comprise the health informatics discipline. The Information Systems component focuses on such issues as information systems analysis, design, implementation, management and leadership. The Informatics component is concerned with the study of structure, function and transfer of information, socio-technical aspects of health computing, and human-computer interaction. Lastly, the Information Technology component focuses on computer networks, database and systems administration, security, and programming. The field also draws contributions from computer science, the clinical sciences, social and organizational influences and business practices.

Health informatics professionals typically work in managerial, analytical, consultative and executive roles.

The skills and tools required to manage a knowledge organization build upon, but are different from, those required to manage an industrial-era organization. These new skills and tools are found in the emerging domain of **Knowledge Management** (KM). KM organizations of all types, in all sectors of the economy, face a growing need for knowledge management professionals. In fact, knowledge organizations are created and sustained by KM professionals working side by side with corporate executives, business and subject matter experts. A knowledge organization works smarter at the organizational, the community and the individual level because KM professionals envision and strategically manage the organization's knowledge, design knowledge architectures and build technologies that enable the organization to work smarter, and facilitate KM on a daily basis. Kent State is taking a leadership role in developing standards and competencies that define the field. Students learn best practices from their fellow students, many of whom are also professionals working in KM, and through courses or internships they get real-world, practical experience.

User Experience Designers engage in a variety of design activities that help produce aesthetic interfaces and also help organizations meet business goals. UXD addresses the structural, informational, psychological and emotional aspects of what makes a successful user interface, whether it's Web, mobile, tablet or any other device. At Kent State University, User Experience Design is thought of as a process where students learn, understand, imagine, evaluate and inform. The design team begins by gathering data/information about users, clients, the organizational culture, common tasks and work environments. After sufficient data/information is gathered, the team seeks to understand the context in which the project will be undertaken. This phase is the bridge between data collection and design. Design in the imagine phase involves brainstorming, iterative prototyping and critiquing. The design team needs to constantly evaluate their designs to see if they work in the real world. This may involve usability testing at Kent State's usability lab, eye tracking studies, paper prototyping or heuristic evaluations. The results of design must be communicated to appropriate audiences. This informing process involves giving presentations to clients and stakeholders, report writing and other forms of communication. Graduates of the program will come away with a solid understanding of usability, content strategy, information architecture and user research.

The Master of Science in Information Architecture and Knowledge Management can be part of a dual degree option with any other master's program, including the Master of Library and Information Science (M.L.I.S.).

Admission Requirements

Official transcript(s), three letters of recommendation, TOEFL or IELTS for international students, goal statement and resume. For more information about graduate admissions, please visit the Graduate Studies website.

Graduation Requirements

A minimum of 36 credit hours is required for the Health Informatics and User Experience Design concentrations. A minimum of 42 credit hours is required for the Knowledge Management concentration. Program plans must be approved by faculty advisors. A three-course, 9-credit core is required of all students. Students in each concentration are encouraged to select elective courses from the other two concentrations.

Thesis/ Dissertation

To complete the Master of Science, students must submit one of these: A Thesis (6 credits), Master's Project (3 credits), Capstone Experience (3 credits) or Individual Investigation (3 credits). To be approved, an Individual Investigation must provide a synthesis of the student's coursework.

Information Architecture and Knowledge Management - M.S. Program Requirements

Kent State University 2015 Catalog > College of Communication and Information > Graduate Programs > Information Architecture and Knowledge Management - M.S. > **Information Architecture and Knowledge Management - M.S. Program Requirements**

CORE PROGRAM REQUIREMENTS (6 credits)			
Course		**Title**	**Credits**
IAKM	60002	Knowledge Organization Structures, Systems and Services	3
Elective			3
CONCENTRATION PROGRAM REQUIREMENTS (27-33 credits) *Choose one of the following concentrations*			
Health Informatics			
IAKM	60301	Foundational Principles of Knowledge Management	3
IAKM	60401	Health Informatics Management	3
IAKM	60402	Legal Issues in Health Informatics	3
IAKM	60403	Health Information Systems	3
IAKM	60410	Health Records Management	3
Electives: choose from the following four elective courses whether in their own area of concentration or from any of the other concentrations			12
IAKM	60411	Clinical Analytics (3)	
IAKM	60691	Seminar in Information Architecture and Knowledge Management (1-3)	
IAKM	61095	Special Topics in Information Architecture and Knowledge Management (1-3)	
Courses from other concentration or approved courses from participating disciplines: BAD, COMM, CS, JMC, VCD.			
Knowledge Management			
ECON	62015	Economics of Information	3
IAKM	60301	Foundational Principles of Knowledge Management	3
IAKM	60302	Foundations of Document Management	3
IAKM	60303	Knowledge Assessment and Evaluation	3
IAKM	60305	Communities of Practice	3

IAKM	60306	Organizational Culture Assessment	3
IAKM	60307	Organizational Learning	3
Electives: *choose four elective courses whether in their own area of concentration or from any of the other concentrations; or approved courses from participating disciplines: BAD, COMM, CS, JMC and/or VCD.*			12
User Experience Design			
IAKM	60101	Information Architecture I	3
IAKM	60102	Information and Visual Design	3
IAKM	60103	Researching the User Experience I	3
IAKM	60104	Usability I	3
IAKM	60105	Information Technologies	3
IAKM	60120	User Experience Design Principles and Concepts	3
IAKM	60121	User Experience Design in Practice	3
Electives: choose from the following: *two elective courses whether in their own area of concentration or from any of the other concentrations*			6
IAKM	60110	Content Management Systems (3)	
IAKM	60111	Online Branding (3)	
IAKM	60112	Information Architecture II (3)	
IAKM	60113	Researching the User Experience II (3)	
IAKM	60114	Usability II (3)	
IAKM	60691	Seminar in Information Architecture and Knowledge Management (1-3)	
IAKM	61095	Special Topics in Information Architecture and Knowledge Management (1-3)	
Courses from other concentration or approved courses from participating disciplines: BAD, COMM, CS, JMC, VCD.			
THESIS, MASTER'S PROJECT OR CAPSTONE EXPERIENCE REQUIREMENTS (3 or 6 credits)			
IAKM	61081	Capstone Experience	3

IAKM	61096	Individual Investigation in IAKM	3
IAKM	61098	Master's Project	3
IAKM	61199	Thesis I	6
		MINIMUM TOTAL	**36-42**

Certificates

Certificate programs are available for post-Bachelor's students who wish to focus in health informatics or knowledge management without pursuing the full Master of Science program. Each certificate program is a minimum of 18 credit hours with specific requirements. Please see the listing of certificates under the College of Communication and Information in this catalog for more information.

Health Informatics - M.S.

Kent State University 2017 Catalog > College of Communication and Information > Graduate Programs > **Health Informatics - M.S.**

College

College of Communication and Information

Resources

- Program Requirements

- Academic Policies

Department

School of Library and Information Science
E-mail: slisinfo@kent.edu
Tel: 330-672-2782
Fax: 330-672-7965
Web: www.kent.edu/slis

Description

The Master of Science in Health Informatics prepares graduates for careers in managerial, analytical, consultative and executive roles working with healthcare systems and clinicians.

Health Informatics is the science of evaluating, implementing, and utilizing technology to manage all information related to the patient care delivery process: clinical, financial, technological and enterprise-wide. Three major components comprise the health informatics discipline. The Information Systems component focuses on such issues as information systems analysis, design, implementation, management and leadership. The Informatics component is concerned with the study of structure, function and transfer of information, socio-technical aspects of health computing, and human-computer interaction. Lastly, the Information Technology component focuses on computer networks, database and systems administration, security, and programming. The field also draws contributions from computer science, the clinical sciences, social and organizational influences and business practices.

The Master of Science in Health Informatics can be part of a dual degree option with any other master's program, including the Master of Library and Information Science (M.L.I.S.).

Admission Requirements

Official transcript(s), three letters of recommendation, GRE if total GPA is below 3.0 in highest completed degree, TOEFL for international students, goal statement, and a resume. In calculating the total GPA, all grades from all courses taken at relevant level (baccalaureate or master's) from all institutions are required. Prospective students should complete the application process no later than September 15 for spring admission, January 15 for summer admission and March 15 for fall admission. For further details on admission procedures and deadlines, prospective students should consult the school's website.

 For more information about graduate admissions, please visit the Graduate Studies website.

Program Learning Outcomes

Upon the successful completion of the program, students will be able to:
- Reconcile the needs of clinical and non-clinical users of health information systems utilizing workflow analysis, systems analysis and project management principles.
- Analyze collected data of health information systems utilizing principles of data mining, statistics and clinical analytics.
- Manage the implementation of health information systems in multiple health care venues using principles of organizational dynamics, and change management.
- Facilitate communication between clinical and non-clinical users of health information systems.
- Successfully obtain the credential of Certified Associate in Health Information Systems.

Graduation Requirements

A minimum of 36 credit hours is required for the Health Informatics program. Program plans must be approved by faculty advisors. A seven-course, 21-credit core is required of all students.

Thesis/ Dissertation

To complete the Master of Science, students must submit one of these: A Thesis (6 credits), Master's Project (3 credits), Master's Research Paper (3 credits), or Master's Internship (3 credits)

Health Informatics - M.S. Program Requirements

Kent State University 2017 Catalog > College of Communication and Information > Graduate Programs > Health Informatics - M.S. > **Health Informatics - M.S. Program Requirements**

CORE PROGRAM REQUIREMENTS (21 credits)			
Course		**Title**	**Credits**
HI	60401	Health Informatics Management	3
HI	60402	Legal Issues in Health Informatics	3
HI	60403	Health Information Systems	3
HI	60410	Health Records Management	3
HI	60411	Clinical Analytics	3
KM	60301	Foundational Principles of Knowledge Management	3
LIS	60636	Knowledge Organization Structures, Systems and Services	3
Electives. Choose from: UXD 60101 Information Architecture (3) UXD 60104 Usability I (3) KM 60311 Business Process Management (3) KM 60370 Semantic Analysis Methods and Technologies (3) HI 60413 Change Management in Health Informatics (3) HI 60414 Human Factors & Usability in Health Informatics (3) HI 60415 Health Informatics Inquiry and Assessment (3) HI 60412 Clinical Decision Support (3) HI 60691 Seminar in Health Informatics (3) HI 60792 Elective Internship in Health Informatics (3) HI 61095 Special Topics in Health Informatics (3) HI 61096 Individual Investigation in Health Informatics (3)			9-12

		All HI graduate courses may apply toward electives. Up to 6 credit hours of KM, UXD, and LIS courses may count as HI electives.	
FINAL PROGRAM REQUIREMENTS (3 or 6 credits)			
HI	66092	Master's Internship in Health Informatics	3
HI	66098	Master's Project in Health Informatics	3
HI	66198	Master's Research Paper in Health Informatics	3
HI	66199	Thesis I	6
		MINIMUM TOTAL	**36**

Certificates

Certificate programs are available for post-Bachelor's students who wish to focus in health informatics pursuing the full Master of Science program. The certificate program is a minimum of 18 credit hours with specific requirements. Please see the listing of certificates under the College of Communication and Information in this catalog for more information.

Program Keywords

1. Health Informatics

- Allied Health
- Analysis
- Analytical Skills
- Analytical Tools
- Applications
- Applied
- Architecture
- Bioinformatics
- Biostatistics
- Biotechnology
- Chief Information Officer
- Clinical Analytics
- Clinical Decision Support
- Clinical Informatics
- Clinical Information Systems
- CIO
- CIS
- CMIO
- CNIO
- Collaborative
- Communication
- Communication Skills
- Communications
- Computer
- Computer Enhanced Imaging
- Computer Ethics
- Computer Information Systems
- Computer Information Systems (CIS)
- Computer Science
- Computer Technology
- Computers
- Consultant
- Consumer Behavior
- Coordinating
- Creation
- Critical Thinking
- Critical-Thinking Skills
- Culture

- Customer
- Data
- Data Mining
- Database
- Decision Making
- Design
- Developer
- Development
- Digital
- Digital Systems
- Displays
- Diversity
- Editing
- Electronic Health Record
- Electronic Medical Record
- Engineer
- Engineering
- Environment
- Ergonomics
- Executive
- Extranet
- Foundation
- Globalization
- Government
- Health
- Health Administration
- Health Care
- Health Informatics
- Health Information
- Health Information Exchange
- Health Information Management
- Health Information Technology
- Health Policy
- Health Sciences
- Health Technology
- Healthcare
- Healthcare Informatics
- Heuristics
- Hospital

- Hospitals
- HR
- Human Computer Interaction
- Human Resource
- Human Resources
- Ideas
- Implementation
- Industry
- Informatics
- Information
- Information Architecture
- Information Design
- Information Literacy
- Information Technology
- Initiative
- Innovation
- Integrated Health Studies
- Integration
- Intelligence
- Interactive Computing
- Interdisciplinary
- Interfaces
- International
- International Organization
- Internet
- Interpersonal Communication
- Inventory
- Inventory Management
- Knowledge Acquisition
- Knowledge Base
- Knowledge Bases
- Knowledge Management
- Knowledgebase
- Legal
- Library
- Library And Information Science
- Management
- Managing
- Medical

- Medical Devices
- Medical Imaging
- Medical Informatics
- Medical Technology
- Mission
- Mobile Devices
- Model
- Model Building
- Modeling
- Models
- Motivate
- Multimedia Development
- Multimedia Systems
- Network
- Objectives
- Operating System
- Opportunities
- Oral Communication Skills
- Organization
- Organizational Communication
- People
- Pharmaceutical
- Pharmacy
- Planning
- Policy
- Politics
- Presentation
- Problem Solving
- Processes
- Productivity
- Professional
- Programming
- Project Management
- Psychology
- Public Communication
- Public Health
- Public Policy
- Regulation
- Regulations
- Resource Planning
- School Of Library And Information Science
- SLIS
- Software
- Software Development
- Software Engineer
- Standards
- Strategy
- Structures
- System Analysis
- System Analyst
- System Consultant
- System Engineer
- System Engineering
- Systems
- Systems Analyst
- Systems Integration
- Teamwork
- Tech
- Technology
- Telecommunications
- Text Analysis
- Transdisciplinary
- Utilization
- Visualization
- Web
- Wireless
- Workforce Education
- Writing
- Written Communication Skills
- XML

MS- Health Informatics proposal

Appendix III: External Letters of Support

From: **White, M.D., Robert** <WHITER10@ccf.org>
Date: Fri, Apr 8, 2016 at 8:35 AM
Subject: support of the Kent State Information Architecture and Knowledge Management program
To: Chris Hudak <chudak3@kent.edu>

To Whom It May Concern,

As the President of the Northern Ohio chapter of the Health Information Management Systems Society (HIMSS) and in my position at Cleveland Clinic, advancing higher education in our health information technology world is critical to the advancement of care delivery processes. Access to and the exchange of information is by far the cornerstone to healthcare systems providing care to patients and improving the health of populations. Institutions of higher learning who develop informatics programs like Kent State should be allowed to accelerate these types of degrees. We support the program and recommend acceleration of the approval as such. If there are questions on my comments, feel free to contact me.
Regards,
Robert S. White, MD, FAAFP

Cleveland Clinic

Robert S. White, MD, FAAFP | Associate Chief Medical Information Officer
Clinical Systems Office of the ITD | Cleveland Clinic
9500 Euclid Ave. | Cleveland, OH 44195 | Mobile (216) 903-9728

From: **James Carroll** <jcarroll@arha.org>
Date: Thu, Apr 7, 2016 at 1:51 PM
Subject: Letter of Support
To: Christine Hudak <chudak3@kent.edu>

April 7, 2016

Dr. Hudak,

I remember when I started working in health IT, our department was referred to as 'data processing' and we had very little to do with the clinical processes within the hospital. Today the new area of Health Informatics has become the foundation for many of the advances in healthcare today. Health Informatics is not limited to the boring bits and bytes of a data center rather we now see the integration of data that has been locked away in disparate systems.
Progressive organizations understand the value and opportunity provided by the integration of information technology, integrated communications and healthcare. The challenge is to find a qualified employee that will leverage these opportunities and continue to drive clinical innovation and improvements. Given that the field of Health Informatics is still in the early stages of growth, there are not a great deal of 'on the job' experienced employees available. There are many who have experience in one or more of the many different health IT areas, but very few understand the 'big picture' of Health Informatics.
Therein lies the opportunity for Kent State University's Master of Science in Health Informatics major to fill this need. Within this program, in a short period of time, students will be exposed to multifaceted applications of Health Informatics that will enable them to move into the field and be productive in a very short time frame.
I certainly hope the Higher Learning Commission in Ohio will support your proposed changes.
Make it a great day!
Jim
Jim Carroll, Director

Northeast Central Ohio
Regional Extension Center
A program of the Akron Regional Hospital Association
Office 330-873-1500
Cell 330-780-6909

From: **Bungard, Barb** <bbungard@chmca.org>
Date: Thu, Apr 7, 2016 at 2:39 PM
Subject: RE: Letter of Support
To: Christine Hudak <chudak3@kent.edu>

Thank you for reaching out to the members of the Health Informatics Advisory Council. I am in support of changing the degree awarded from a Master of Science in Information Architecture and Knowledge Management to a Master of Science in Health Informatics. This degree helps to prepare individuals for the Health IT Community. Akron Childrens Hospital's IT department has grown over the past few years, not only in number of staff but also in the roles and responsibilities of those staff
Barb Bungard, MSN, CPHIMS
Manager of IT Regulatory Operations
330-543-3651

Akron Children's Hospital

From: **Kall, Greg** <kallg@summahealth.org>
Date: Fri, Apr 8, 2016 at 8:20 AM
Subject: RE: Letter of Support
To: Christine Hudak <chudak3@kent.edu>

Good Morning Christine!
I fully support the change the degree awarded from a Master of Science in Information Architecture and Knowledge Management to a Master of Science in Health Informatics.

Please let me know if there is anything else I can do to support this process.
Best Regards, Greg

Greg Kall
Senior Vice President/CIO
Summa Health
1077 Gorge Blvd.
Akron, OH 44310
234.312.6200

From: **Piar, Pamela** <PIARP@ccf.org>
Date: Fri, Apr 8, 2016 at 10:48 AM
Subject: RE: Letter of Support
To: Christine Hudak <chudak3@kent.edu>

I am in support of changing to a Master of Science in Health Informatics due mostly to the revolution in the health care industry. Today's patient care is driven by technology and communication to work on improving patient outcomes via quality and safety. We need educated individuals to help in developing the new model of patient care via technology.

Pamela M. Piar

Senior IT Executive
Cleveland Clinic

From: **Miker, Hollis** <Hollis.Miker@tri-c.edu>
Date: Thu, Apr 7, 2016 at 2:32 PM
Subject: Letter of Support
To: Christine Hudak <chudak3@kent.edu>

Dear Dr. Christine Hudak,

On behalf of Cuyahoga Community College, I am writing to express my support for the proposal to change the degree awarded upon program completion from a Master of Science in Information Architecture and Knowledge Management to a Master of Science in Health Informatics at Kent State University. This programmatic change is necessary for the Health IT community and employers are increasingly seeking candidates with a major and degree in Health Informatics.

Sincerely,

Hollis Miker, MBA, CPC
Director
The Center for Health Industry Solutions
Cuyahoga Community College – UTC 204
Phone: 216-987-2942
Mobile: 440-537-9090
Hollis.Miker@Tri-C.edu
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www.tri-c.edu

From: **Jason Shawbell** <Jason.Shawbell@akrongeneral.org>
Date: Thu, Apr 7, 2016 at 1:44 PM
Subject: Letter of Support
To: "chudak3@kent.edu" <chudak3@kent.edu>

To Whom It May Concern:

As a graduate of the Kent State University Master of Science in Information and Knowledge Management (IAKM) with a concentration in Health Informatics program in the fall of 2013, I understand the importance of having a quality advanced degree program in our region to support the technology and data driven evolution of our healthcare system.

I became a Heath Information Technology (Health IT) professional in 2008, and was drawn from another University's Health Informatics program to IAKM in the fall of 2011, because of the added value the new program provided. This included significant influence from industry leaders in the region.

In recent years with the increase in adoption and utilization of Health IT once ambiguous definitions and interoperability standards have solidified. The same holds true for the advance degree programs our professionals are seeking out to broaden their knowledge and expertise.

That being said, I support the proposal being submitted by Kent State University to change from a Master of Science in Information and Knowledge Management with a concentration in Health Informatics to a Master of Science in Health Informatics.

Best Regards,
Jason Shawbell

Cleveland Clinic
Akron General

Jason Shawbell MS, BSN, RN | Sr. Project Leader | Clinical Analytics
Business Intelligence Cleveland Clinic Akron General | 1 Akron General
Avenue | Akron, OH 44307 P: 330.344.2224 | F: 330.344.4020|
Jason.Shawbell@akrongeneral.org

From: **Simmons, Paul** <Paul.Simmons@uhhospitals.org>
Date: Thu, Apr 7, 2016 at 6:52 AM
Subject: Letter of Support for Master of Science in Health Informatics Degree
To: Christine Hudak <chudak3@kent.edu>

As Past President and Current Board Member of the Northern Ohio Healthcare Information Management Systems Society, I support the degree program: Master of Science in Health Informatics as proposed by Kent State. There is a tremendous need for education for both employee jobs and for employers to have a qualified work force.

Paul Simmons, MS
University Hospitals - Finance
3605 Warrensville Center Road MSC 9195
Shaker Heights, OH 44122

Phone: 216-286-1828
Office Location 1142D
E-Mail   Paul.Simmons@UHhospitals.org

University Hospitals

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From: **Greg Sanker** <gps@sequentiacare.com>
Date: Sun, Apr 10, 2016 at 8:20 PM
Subject: Letter of Support | MSHIT
To: Christine Hudak <chudak3@kent.edu>

Hi Chris, just a quick note to let you know that I am in support of the name and program change to Master of Science in Health Informatics. I see this as an obvious improvement for the following reasons:
-       The change (in name and major) is much more descriptive, current and approachable (understandable) by potential employers
-       Employers will likely respond even more positively to a MSHIT 'major' (your comment below duly noted)
-       Doing so could/would have the same effect on potential students – increasing applications/enrollment

Chris, please let me know if you want or need more detail; I'm happy to help.

Greg

Greg Sanker
Chief Financial Officer
216.650.7778 **|** mobile

Sequentia Corporation
Ariel International Center
1163 E. 40th Street, Suite 206
Cleveland, OH 44107

www.sequentiacare.com

From: **John Dorsky** <jdorsky@mdconsult.us>
Date: Sun, Apr 10, 2016 at 11:04 AM
Subject: Health Informatics Degree
To: Christine Hudak <chudak3@kent.edu>

To whom it may concern:
I am writing in support of changing the degree of the Health Informatics Program to a Master of Science in Health Informatics. The HITECH Act of 2009 has been very successful at converting the majority of healthcare documentation to an electronic form. This has created a rapidly expanding industry that is focused on the technical aspects of electronic medical records and nuances associated with workflow and how we will manage, maintain, exchange and secure these records in the years to come. This is the field called Health Informatics and it is vitally important that the degree reflect training in this discipline. Giving graduates of this program a degree which reflects their preparedness to be involved and shape this evolving space will ensure they can be competitive in the job market.

John Dorsky MD FACS
 CPHIMS CHTS-CP
MDConsult   Ohio
jdorsky@mdconsult.us

MS-Health Informatics
MS-Knowledge Management
MS-User Experience Design

Internal Letters of Support

Most letters address all three proposed programs, unless otherwise indicated

In response to:

> The school of Library and Information Science respectfully requests your support for the proposed inactivation of the Master's of Science in Information Architecture and Knowledge Management (IAKM) and its three concentrations (Health Informatics, Knowledge Management, User Experience Design), and the proposed elevation of the three concentrations to the following three majors:
>
> Master's of Science in Health Informatics (36-39 credits hours)
> Master's of Science in Knowledge Management (36-39 credits hours)
> Master's of Science in User Experience Design (36-39 credits hours)
>
> I have enclosed a copy of the Proposal for your review, including rationale and curricular changes.
>
> Best regards,
> *Athena*
> Athena Salaba, Ph.D.
> Associate Professor
> School of Library & Information Science, Kent State University
> 330-672-0023 | 330-672-2782 (SLIS)

ALL THREE PROPOSED MS MAJORS

From: "CHILD, JEFFREY T." <jchild@kent.edu>
Date: Friday, March 4, 2016 at 3:20 PM
To: Athena Salaba <asalaba@kent.edu>
Subject: Re: IAKM program change - Proposal for MS majors

Hey there Athena -

Please accept this e-mail as support from the School of Communication Studies for the proposed changes in IAKM.

Thanks,
Jeff
--
Jeffrey T. Child, Ph.D.
Associate Professor and Interim Director
Kent State University
School of Communication Studies
PO Box 5190
Kent, OH 44242

Office: (330) 672-1224
Fax: (330) 672-3510

From: "KENNEDY, JAIME D." <jkenned8@kent.edu>
Date: Monday, March 7, 2016 at 1:29 PM
To: Athena Salaba <asalaba@kent.edu>
Cc: Jeff Fruit <jfruit@kent.edu>
Subject: Re: IAKM program change - Proposal for MS majors

Athena,

VCD supports your proposal to move the Health Informatics, Knowledge Management, and User Experience Design concentrations to majors.

Best regards,
Jaime K.

Jaime Kennedy
Interim Director
School of Visual Communication Design
Kent State University
jkenned8@kent.edu
330-672-7856

From: "Coombs, Danielle" <dcoombs@kent.edu>
Date: Tuesday, March 8, 2016 at 9:14 AM
To: Athena Salaba <asalaba@kent.edu>
Cc: "Wasbotten, Thor" <twasbott@kent.edu>, Jeff Fruit <jfruit@kent.edu>
Subject: Re: IAKM program change - Proposal for MS majors

Hi Athena,

Thank you for sending this for our review. The School of Journalism and Mass Communication supports your proposals.

Best,
Danielle

Danielle Sarver Coombs, Ph.D.
Associate Professor/Graduate Coordinator
School of Journalism and Mass Communication
305B Franklin Hall
330-672-8876
dcoombs@kent.edu

From: WALKER, ROBERT
Sent: Friday, March 11, 2016 1:20 PM
To: SALABA, ATHENA
Cc: FRUIT, JEFFREY; WALKER, ROBERT; PETI, SUSAN
Subject: Re: IAKM program change - Proposal for MS majors

Dr. Salaba,

On behalf of the School of Digital Sciences, I would like to express our support for your proposal to inactivate the IAKM major and, in its place, establish majors in Health Informatics, Knowledge Management, and User Experience Design within the Master of Science degree offered by the School of Library and Information Science.

Given the evolution of these three fields over the past decade, separate majors for each seems quite appropriate.

- bob

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======================================================================
Robert A. Walker              Director, School of Digital Sciences
  rawalke1@kent.edu              http://www.kent.edu/dsci
  walker@cs.kent.edu          Professor, Computer Science Department
236 Math & CS Building          http://www.cs.kent.edu/~walker
 330-672-9105                 Kent State University, Kent OH 44242
======================================================================
```

From: Umberger, Wendy
Sent: Monday, March 14, 2016 12:14 PM
To: SALABA, ATHENA
Subject: RE: IAKM program change - Proposal for MS majors

Hi Again Athena,

Our Graduate Curriculum Committee (GCC) met this morning and voted unanimously to support the proposed elevation of the three concentrations (i.e., Health Informatics, Knowledge Management, and User Experience Design) to the following three majors:

- Master's of Science in Health Informatics (36-39 credits hours)
- Master's of Science in Knowledge Management (36-39 credits hours)
- Master's of Science in User Experience Design (36-39 credits hours)

So now you have the support of our College Advisory Committee and GCC. Good luck going forward with this.

Sincerely,

Wendy Umberger

Wendy A. Umberger PhD PMHCNS-BC
Professor and Associate Dean for Graduate Programs
Kent State University
College of Nursing
Henderson Hall, Room 311
Kent, OH 44242
330-672-8813 (O)
440-248-9211 (M)
wlewando@kent.edu

From: "Umberger, Wendy" <wlewando@kent.edu>
Date: Monday, March 7, 2016 at 9:34 AM

To: Athena Salaba <asalaba@kent.edu>
Subject: RE: IAKM program change - Proposal for MS majors

Hi Athena,
I discussed your proposal at our College Advisory Committee this morning and there was unanimous agreement to support it; however, I must also take it to our Graduate Curriculum Committee meeting on March 14, 2016 and get their support. Next Monday after GCC, if it is approved, I will draft an email/letter of support.

Wendy

SUPPORT for MS-KNOWLEDGE MANAGMENT

From: "Spake, Deborah" <dspake@kent.edu>
Date: Sunday, October 30, 2016 at 12:26 PM
To: "Reynolds, Amy" <areyno24@kent.edu>, Athena Salaba <asalaba@kent.edu>
Cc: "ZINGRONE, CATHERINE" <czingron@kent.edu>
Subject: RE: Proposal for MS Knowledge Management major

Amy,

I spoke with the chair of the Department of Economics and have no further questions about your MS in Knowledge Management proposal. The College of Business Administratiob supports your efforts in proposing this degree.

Thanks for allowing us the opportunity to discuss the proposal.

Deborah

Sent via the Samsung Galaxy Mega® 2, an AT&T 4G LTE smartphone

From: "Spake, Deborah" <dspake@kent.edu>
Date: Thursday, October 27, 2016 at 6:45 PM
To: "Reynolds, Amy" <areyno24@kent.edu>
Cc: Athena Salaba <asalaba@kent.edu>, "ZINGRONE, CATHERINE" <czingron@kent.edu>
Subject: RE: Proposal for MS Knowledge Management major

Hi Amy,

The college has no concerns with the existing knowledge management courses in the proposal. It's the move to replace the Economics course with a new course that appears to be economics-like that raised questions in the college. I understand that the department chair was involved in the discussion, but he was with you in China and we haven't been able to discuss it in person since his return.

Can Therese proceed with the proposal with the existing Econ course listed until we resolve this? I'm out of town, but will call him tomorrow to try to gather more information.

Deborah

Sent via the Samsung Galaxy Mega® 2, an AT&T 4G LTE smartphone

From: "WILLIAMS, DONALD" <dwilliam@kent.edu>
Date: Saturday, March 5, 2016 at 2:32 PM
To: Athena Salaba <asalaba@kent.edu>
Subject: RE: Economics of Information course - ECON 62015

Dear Athena,
The economics department faculty has reviewed the draft proposal and supports the creation of this new course.
Best regards,
Don

Donald R. Williams
Professor and Chairperson
Department of Economics | Kent State University
Room 480 | College of Business Administration
475 Terrace Drive | Kent, Ohio 44242
Ph: (1) 330 672 2366 | Email: dwilliam@kent.edu