HUMAN CENTERED COMPUTING (HCC)

Human Centered Computing Graduate Courses

HCC 8000 TECHNOLOGY & INNOVATION STUDIO (3 credits)

HCC 8000 is a studio course that provides a foundation to incoming MSc ITIN/HCC students from all disciplines through self-guided modules covering topics from technology, innovation, design, and computing. Students will use the modules to practice applying and mastering skills in a self-guided collaborative environment. Each module will consist of three levels of difficulty. Student performance will be assessed by students' personal progress and skills improvement as shown by them completing increasingly difficult levels of the modules. Students will be graded on a satisfactory/unsatisfactory basis. The class requires in-person participation and attendance.

Prerequisite(s): Students in the MS in IT Innovation/Human Centered Computing program must register during their first three terms. Not open to non-degree graduate students.

HCC 8006 SPECIAL TOPICS IN IT INNOVATION (3 credits)

This course is designed to acquaint students with issues which are current to the field or emerging trends in the IT Innovation area. Topics will vary across terms. This course may be repeated, but no topic may be taken more than once. (Cross-listed with ACMP 4000).

Prerequisite(s): Permission of instructor. Additional prerequisites may be required for particular topic offerings.

HCC 8100 INTERMEDIA (3 credits)

This is an ongoing course that brings together students of the arts and students of scientific disciplines in order to facilitate and promote the creation of intermedia art, and to further explore shared resources, joint research, and exhibition/performance opportunities.

Prerequisite(s): Graduate Standing

HCC 8210 DESIGN SCIENCE AND THEORY DEVELOPMENT (3 credits)

The purpose of this course is to help students understand theory, theoretical contributions, and design science. Students will approach such questions as: What is a theory? What makes a good theory? Why are theories just theories and not laws? What is not a theory? Following this introduction, we explore design science as a research methodology and Information Technology design theories. Ultimately, students create their own new studies around some design concept.

Prerequisite(s): Graduate standing / permission of the instructor

HCC 8220 DESIGN PROCESS (3 credits)

Inter-disciplinary design teams will work together to design and innovate products of the future. The design projects in the course are developed to directly address a problem brought forward by a technology company in the Omaha area in order to provide students with a design experience that directly impacts real-world product development. Students will focus on the technological (interface), physical (ergonomics) and aesthetic quality of design, and will learn how to conduct rigorous user studies in a laboratory setting. Teams will be cross disciplinary and consider all aspects of the design, creation, testing, and fabrication of the products.

HCC 8256 INNOVATION VENTURES (3 credits)

This team-based course provides students with the opportunity to practice the basic tools of business discovery and validation. Concepts and techniques in innovation, entrepreneurship, and strategy will be used to aid students in the venture creation process. Important considerations impacting the viability of the venture post formation will also be explored. Practical real-world experimentation is the central component of the course and will help students to conceive, develop, and launch their own innovative ventures. (Cross-listed with BSAD 8726, ACMP 4720, ENTR 4720, ENTR 8726, MGMT 4720, MGMT 8726, MKT 4720, MKT 8726).

Prerequisite(s): Admission to a graduate program or instructor permission.

HCC 8266 USER EXPERIENCE DESIGN (3 credits)

User experience (UX) design is concerned with the application of user-centered design principles to the creation of computer interfaces ranging from traditional desktop and web-based applications, mobile and embedded interfaces, and ubiquitous computing. This course provides in-depth, hands-on experience with real world application of the iterative user-centered process including contextual inquiry, task analysis, design ideation, rapid prototyping, interface evaluation, and reporting usability findings. (Cross-listed with CSCI 4260, CSCI 8266, ACMP 4260).

HCC 8300 RESEARCH FOUNDATIONS (3 credits)

This course serves as an introduction to research literature and research methodology in the innovation and creativity research domain. Students are introduced to skills, methodological issues, and bibliographic resources to enhance their ability in critically evaluating and conducting research in the IT Innovation field. Through a series of readings, in-class discussions, and lectures the student will select and define a research question, explore the various types of research designs and complete a literature review. This course is structured to make research meaningful and significant and enable students to write effectively.

Prerequisite(s): CIST 2500 or equivalent

HCC 8366 METAVERSE INNOVATIONS (3 credits)

Recent technological breakthroughs across computing disciplines are laying the foundation for a paradigm shift in how we interact with and relate to digital technology. The metaverse is a term that is helpful in coalescing these divergent concepts into a single word that symbolizes a future where the physical and virtual worlds are blurred beyond distinction. By means of disruption brought about by the advent of the computer, the internet, and personal computing devices, the enormity and impact of the metaverse across every aspect of human civilization will be unprecedented. The future of work, the economy, and the fundamental social fabric that underpins it all will inevitably be transformed. This course provides students the opportunity understand the technological foundations of the metaverse and equip with the tools and knowledge to be innovators in this space across academic disciplines and economic sectors. (Cross-listed with ACMP 4360).

HCC 8900 INDEPENDENT STUDIES (1-3 credits)

A variable credit course for the graduate student who will benefit from independent reading assignments and research type problems. Independent study makes available courses of study not available in scheduled course offerings. The student wishing to take an independent study course should find a faculty member willing to supervise the course and then submit, for approval, a written proposal (including amount of credit) to the IT Innovation Graduate Program Committee Chair at least three weeks prior to registration.

Prerequisite(s): Written permission required

HCC 8910 INTERNSHIP (1-3 credits)

The purpose of this course is to provide the students with an opportunity for practical application and further development of knowledge and skills acquired in the MS in IT Innovation program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by IT professionals in the workplace.

Prerequisite(s): Students must have completed a minimum of 12 credit hours towards the MS in ITIN program. Instructor permission is required to register. Not open to non-degree graduate students.

HCC 8960 THESIS EQUIVALENT PROJECT IN IT INNOVATION (1-6 credits)

This course allows a graduate student to conduct a research project in IT Innovation or a related area. The project is expected to place an emphasis on applied, implementations-based, or experimental research. The process for development and approval of the project must include: 1) apply for eligibility to take ACMP 8960 with a chosen faculty advisor, 2) register for 6 credits of ACMP 8960 to complete the chosen project, 3) participate in a public oral defense of their project work to the Graduate Concentration Committee. The approved written project will be submitted to the Office of Graduate Studies by the advertised deadlines.

Prerequisite(s): Permission of graduate advisor. Not open to non-degree graduate students.

HCC 8990 THESIS (1-6 credits)

This course is required for the Master of Science degree in the MS in IT Innovation Program. The purpose of this course is to conduct original research in IT Innovation, under supervision of a faculty member, culminating in a paper document that represents the student's competency in their chosen field, as well as scholarly contributions. With consultation from their committee, MS in IT Innovation thesis students should be prepared to independently complete the writing of their thesis and successfully defend their thesis.

Prerequisite(s): Graduate major in ITIN and approval of the Thesis Advisory Committee.

HCC 9300 SOCIAL COMPUTING AND ITS APPLICATIONS (3 credits)

It is indisputable that social media and the Internet more broadly reshaped information disbursement and processing. Digital participation and communication has become the 'new normal' and the dividing line between off- and online communities is increasingly blurred. This leads to specific challenges in the extraction and analysis of online social media data, and the management of new communication.

Prerequisite(s): Open to all currently-admitted doctoral students. Students should have a technical aptitude; experience with at least one web scripting language, (e.g. PHP, rails, python etc) is helpful. Experience with JSON is advantageous but not essential.