APPLIED COMPUTING AND INFORMATICS (ACMP)

Applied Computing and Informatics Undergraduate Courses

ACMP 1010 ACTIVATING INNOVATION IN SOCIETY (3 credits)
This course surveys and applies the use of qualitative methods, especially interview-based research, in order to maximize the insight that informs and activates the innovation process, with emphasis on technological innovation.
Prerequisite(s): Not open to non-degree graduate students.
Distribution: Social Science General Education course

ACMP 1110 INTRODUCTION TO IT INNOVATION (3 credits)
In almost every modern human endeavor, creativity and Information Technology are essential. In the Internet age, information has become a commodity that is available to everyone. Similarly, current technology has largely become commoditized. Therefore, creating new value is becoming the basis for successful professionals. This course introduces students to tools, techniques, and methods for generating innovative information technology ideas and solutions. It teaches them to think about future possibilities and equips them with the ability to critically evaluate proposed innovations and ideas. The goal of the course is to increase students' ability to creatively solve challenging problems in new ways using information technology. This class is inherently interdisciplinary as IT now touches every aspect of modern academic pursuits.
Prerequisite(s): Not open to non-degree graduate students.

ACMP 2150 AUDIO FOR MULTIMEDIA (3 credits)
This course provides an overview of audio production techniques as they pertain to multimedia.
Prerequisite(s): Not open to non-degree graduate students.

ACMP 2220 APPLIED IT INNOVATION (3 credits)
The course extends the concepts learned in the Introduction to IT Innovation course and focuses on market dynamics and monetizing innovations. It moves past idea generation and focuses on identifying and gathering resources, innovation implementation, sustainable innovation models and how ideas can be monetized. The goal is for students to take their original ideas from concept to initial implementation with thoughts towards commercialization. Upon completing the course, students will have created at least a rudimentary implementation of an original idea and have a defensible plan for how the idea can be monetized.
Prerequisite(s): ACMP 1110/ITIN 1110 & CIST 1400. Not open to non-degree graduate students.

ACMP 2990 IT INNOVATION SYMPOSIUM (1 credit)
The seminar exposes students to information technology innovators from multiple industries and varied backgrounds. It teaches the practical aspects of IT Innovation from those that have done it and are doing it in both research and practice. The purpose is to cause students to reflect on applying innovation to the real-world, connect them to the innovation community and to equip them with best practices and tools to make their innovations a reality.
Prerequisite(s): Enrollment in the IT Innovation Major or IT Innovation Minor. Not open to non-degree graduate students.

ACMP 3100 MUSIC INFORMATICS (3 credits)
Surveys the use of digital music data in the study, composition, performance, analysis, storage, and dissemination of music. Various computational approaches and technologies in music informatics including music information retrieval will be explored and implemented by students. (Cross-listed with MUS 3100).
Prerequisite(s): Successful completion of one of the following three courses satisfies the prerequisite requirement: CIST 1300 or MUS 3170 or MUS 3180. Not open to non-degree graduate students.

ACMP 3180 ELECTRONIC MUSIC PRODUCTION (3 credits)
An exploration of the potentials of electronic music. Concepts of electronic music are presented through the use of a computer, software, and appropriate hardware. Students create assignments that demonstrate the application of basic techniques. (Cross-listed with MUS 3180).

ACMP 3330 PRODUCT DESIGN AND DEVELOPMENT (3 credits)
This course will cover elements and principles of excellent product design and development. The history of design will be reviewed and overarching tenets of design will be introduced. The course will particularly focus on innovation and students will be expected to develop an original concept and create quality designs and low-fidelity prototype implementations of their unique idea. The proposed solutions must be novel and meet a real-world market need. This course will be hands-on and will examine developmental models for innovation.
Prerequisite(s): ACMP 2220/ITIN 2220. Not open to non-degree graduate students.

ACMP 4000 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 8006).
Prerequisite(s): Permission of instructor. Additional prerequisites may be required for particular topic offerings.

ACMP 4090 MANAGING COLLABORATIVE ENGAGEMENT (3 credits)
This course will provide students with the opportunity to develop knowledge and strategies for leading teams, enhancing collaboration, building consensus, problem solving in teams, facilitating group processes, and designing collaborative workspaces. (Cross-listed with BSAD 8096, MGMT 4090, SCMT 4090).
Prerequisite(s): Junior standing or permission of instructor.

ACMP 4260 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 8266).
Prerequisite(s): Required: C- or better in CIST 2500 and junior standing, or by permission of instructor. Recommended: C- or better in CSCI 4250 or ACMP 3330/ITIN 3330.

ACMP 4440 AGILE DEVELOPMENT METHODS (3 credits)
The course presents an introduction to agile development methods for IT application development. Students will also learn Unified Modeling Techniques as they go through the agile iterations. This course is a foundation course for the IT Innovation capstone course.
Prerequisite(s): CSCI 4850 or ISQA 3310. Not open to non-degree graduate students.

ACMP 4500 INDEPENDENT STUDIES (1-3 credits)
A variable credit course for the junior or senior 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 Undergraduate Program Committee at least three weeks prior to registration.
Prerequisite(s): Written permission required.

ACMP 4510 INFORMATION TECHNOLOGY INNOVATION 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 ITIN undergraduate program. The internship gives students professional work experience and exposure to the challenges and opportunities faced by professionals in the workplace.
Prerequisite(s): Junior/Senior standing and permission of School of interdisciplinary Informatics Director. Not open to non-degree graduate students.

ACMP 4720 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, ENTR 4720, ACMP 8256, MGMT 4720, MKT 4720).
Prerequisite(s): ACMP 1110/ITIN 1110 and junior standing or above or by instructor permission.

ACMP 4880 SYSTEMS SIMULATION AND MODELING (3 credits)
The course provides an introduction to the modeling and simulation with special emphasis on decision-theoretic models and rational decision-making. The ability to make good decisions is key to individuals and organizations and studying, understanding and improving decisions is vital to success. Students are given a background into systematic decision-making processes, and then are introduced to formal methods for decision modeling and analysis. Building on these foundational models, students learn how to perform process modeling and optimization. Finally, the course concludes with a look at psychological biases and traps that may affect decision-makers. (Cross-listed with ISQA 4880).
Prerequisite(s): CIST 1400, CIST 2500, or equivalent.

ACMP 4980 APPLIED COMPUTING AND INFORMATICS CAPSTONE PROJECT I (3 credits)
This course serves as Part 1 of the capstone project for the Applied Computing and Informatics program. As such the student will design a prototype of an IT product or service as well as a business case pertaining to what is required to launch their project commercially. This effort will be under the guidance of an advisory committee.
Prerequisite(s): ACMP 4440/ITIN 4440. ACMP 4980 is for seniors in the BS in Applied Computing & Informatics degree. Before enrolling in ACMP 4980 student must gain approval from the ACMP Program Committee, of their Emphasis Area. Not open to non-degree graduate students.

ACMP 4990 APPLIED COMPUTING AND INFORMATICS CAPSTONE PROJECT PART II (3 credits)
This course serves as Part 2 of the capstone project for the Information Technology Innovation program. Following the designs and business plan developed in Part I ACMP 4980, the student will create a prototype of an IT product or service as well as refine and implement the required business aspects involved in launching their project commercially. This effort will be under the guidance of an advisory committee.
Prerequisite(s): ACMP 4980/ITIN 4980. This course is for seniors who are enrolled in the BS in Applied Computing and Informatics degree. Not open to non-degree graduate students.