**47567 03 Special Studies**
Instructor permission required. NOTE: College guidelines apply as well.

**47567 04 Special Studies**
The purpose of this course is to provide students with experience in various aspects of video game development including level design, implementation, testing and deployment. The development environment will be the Half-Life 2 video game modding engine and its associated software tools. Additional third-party (and often free) utilities may also be necessary. Students will work on their own or in teams on agreed upon areas of interest. NOTE: College guidelines apply as well.

## Technology Related Ethics

To be determined.

## Technology and Society

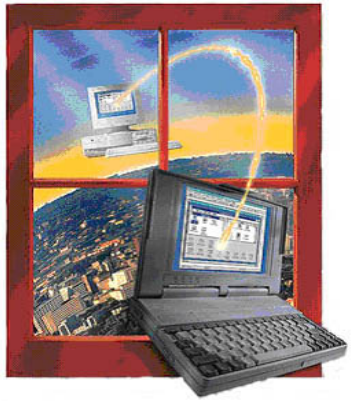
**40260 Information Security**
This course provides students with a working knowledge of information security topics through a focus on best practices, applications and implementation strategies. Students will learn the fundamental principles of information security and explore contemporary topics in the field, including access control methodologies, business continuity/disaster recovery planning, firewalls, network security, operating system security, intrusion detection, cryptography and incident handling.

**FALL 2013**

| | | | |
|---|---|---|---|
| CAPP 30370 | Web Development | Runyon | 2:00-3:15 MW |
| CAPP 30400 | Research Methods in Computers | Villano | 9:30-10:45 TR |
| CAPP 30550 | JavaScript | Casault | 11:00-2:15 TR |
| CAPP 40260 | Information Security | Chapple | 12:30-1:45 MW |
| CAPP 40540 | CAD for the Stage | Cole/Clayton | 3:30-4:45 TR |
| CAPP 40545 | Computers in Psychology Research & Educ. | Crowell | 10:30-12:35 MWF |
| CAPP 40550 | Digital 3D Modeling | Melchiorri | 11:00-12:15 MW |
| CAPP 40557 | Advanced Enterprise Applications | Miller | 2:00-4:45 MW |
| CAPP 40559 | Information Design: Data Driven Design | TBD | 11:00-1:45 MW |
| CAPP 40561 | Web Design 1: Intro.to Web-Based Interactivity | TBD | 12:30-3:15 T |
| CAPP 40610 | Fundamentals of Business Thinking | Sucec | TBA TBA |
| CAPP 45565-01 | Internship | Crowell | TBA TBA |
| CAPP 45565-02 | CAPP/TBS Community Service | Crowell | TBA TBA |
| CAPP 47567-01 | Special Studies 01 | Crowell | TBA TBA |
| CAPP 47567-03 | Special Studies 03 | Sucec | TBA TBA |
| CAPP 47567-04 | Special Studies 04 | Villano | TBA TBA |

# COMPUTER APPLICATIONS & TECHNOLOGY, BUSINESS, & SOCIETY

*Your windows in the College to the worlds of Technology & Business*



## Fall 2013


**Charles R. Crowell**
**Director**
**847 Flanner Hall**
**574.631.0471**

**Psychology Office:**
**125 Haggar Hall**
**574.631.6660**

**PHONE: 574.631.7459**
**FAX: 574.631.5886**
**E-MAIL: capp@nd.edu**
**WEBSITE: http://capp.nd.edu**


**CAPP** IS OPEN TO STUDENTS IN ALL COLLEGES

## CAPP SUPPLEMENARY MAJOR REQUIREMENTS

**CAPP REQUIRED COURSES:***

| | |
|---|---|
| Programming Languages | 6 hrs |
| Technology Applications | 12 hrs |
| Technology Related Ethics | 3 hrs |
| Technology & Society | 3 hrs |
| Total Needed: | 24 hrs |

## TBS COMPLEMENTARY SKILLS PROGRAM REQUIREMENTS

**TBS REQUIRED COURSES:***

| | |
|---|---|
| Programming Languages | 3 hrs |
| Technology Applications | 3 hrs |
| Technology Related Ethics | 3 hrs |
| Business Knowledge | 3 hrs |
| Technology & Society | 3 hrs |
| Total Needed: | 15 hrs |

## Programming Language

**30370 Introduction to Web Development**
The goal of this course is to provide working experience with the full range of front-end technology needed to produce a modern website. The course will cover Planning, Discovery, Information Architecture, Wireframing, Semantic HTML Markup, CSS Layout and JavaScript. Emphasis will be placed on building sites that can be viewed on any device using Progressive Enhancement and Responsive Web Design/Development. Some time will be spent covering CMS options and server-side languages but will not be a focus of the course.

**30550 JavaScript**
JavaScript is a popular scripting language used to add dynamic elements that breathe life into boring static Web pages. JavaScript is designed to work in standard Web browsers and is tightly integrated with HTML. You would be hard pressed to find any popular commercial Web sites that don't use JavaScript to create an interactive user experience. Join this class and learn how to apply JavaScript in to your own Web projects.

**30400 Research methods in Computer Programming**
The purpose of this lab-based course is to provide students with hands-on experience in various areas of computer programming. Essential programming topics will be demonstrated and practiced in class, including basic and advanced data types, control structures (conditionals, iteration, etc.), software timing, randomization, and text file manipulation. Examples will be provided in several computer languages that are commonly found in research settings.

## Technology Applications

**40540 CAD for the Stage (FTT)**
The study of the use of the computer to design scenery and lighting for the stage. The course will begin at a rudimentary level of understanding of computer-aided design and progress to 2-D and then 3-D design techniques. A basic understanding of the Macintosh computer system is necessary, and significant computer work is required outside class.

**40545 Computers in Psychology Research and Education (PSY)** This course and its counterpart in Psychology (PSY 20671) is project-oriented. It is not an introductory course on computer applications. Students need to already have (or learn during the semester) the skills needed to complete whatever project is defined. Generally, projects are applications or systems that fit into the broad spectrum of the instructor's interests, which students can determine by consulting the Instructor's web page (http://www.nd.edu/~ccrowell). New projects are defined each semester. Some recent projects have involved: 1. Developing a multimedia presentation on management and coaching using PowerPoint slides and audio files. 2. Creating a visual basic application to administer surveys on disk. 3. Exploring the capabilities of Sakai as a teaching tool. 4. Developing a web site for student advising in the Psychology Department. 5. Completing a database application in Microsoft Access for tracking and reporting manager coaching sessions. Students are expected to plan and develop a functional application.

**40550 Digital 3-D Modeling (DESN)(FTT)**
This is an introductory course to Rhinoceros. The focus of this class is to learn how to use the software to generate 3D virtual models with an emphasis on industrial design concerns as well as creating manufacturable data for rapid prototyping. The class will be devoted to learning tools, interface, modeling and rendering methods. This will be achieved by completing specific assignments and tutorials. The final assignment will be to virtually model and render a product or scene from a concurrent class or personal interest.

**40557 Advanced Enterprise Applications**
This course will provide experience with a full range of applications which are employed in the 21st century organizations including enterprise business software, smartphone apps, collaborative tools such as Share point, Wiki, Blog sites and tools for integration with Facebook, Twitter and Google tools. The course will also provide understanding of and experience with Cloud Computing and Web Services which are providing a new paradigm for deployment of applications without the traditional data center. The course will focus on how all of these packaged and custom software can be integrated in the modern organization to meet organizational goals.

**40559 Information Design: Data Driven Design (DESN)**
Visualization and sequencing of complex or abstract subject matter for the purpose of informing, educating or training the end-user. Design process includes the acquisition of information and data to become a subject matter expert on a project topic. Development of topics through the parsing of information, focusing of subject, sketching, illustration and graphical data representation. Delivery of information through an interactive, user-driven experience possibly exploring handheld devices.

**40561 Web Design 1: Introduction to Web-Based Interactivity (DESN)**
Exploration of on-line interactive communications for web enabled platforms including desktop and mobile devices. Application of user-centered design principles to hierarchical and I navigational structures, interface, web typography, imagery, sound, and motion through a series of exercises and projects. Survey of technological aspects to web site design, development and production.

**40610 Fundamentals of Business Thinking**
This course is designed to provide an integrated understanding of the foundational business disciplines of accounting, finance, marketing, and management, especially for CAPP majors planning a career in business. Fundamental leadership and consulting skills will also be addressed. Case analysis, coupled with a highly interactive format, will be employed to ensure practical exposure to today's business environment. Primary areas of focus will address the critical elements for success in the corporate environment, the knowledge and preparation necessary to facilitate your interviewing process, and the business fundamentals for those with entrepreneurial aspirations.

**45565 01 Internship**
This encompasses working with various civic, public and or private organizations using acquired computer applications knowledge and skills. Credit is given only if work is done in the Information Systems area of an organization.

**45565 02 CAPP/TBS Community Service Internship**
This internship was created to allow an interested CAPP/TBS student to lend their skills and talents to a worthy cause in our local community.

**47567 01 Special Studies**
This independent study course involves a programming or development project developed by a student in conjunction with a faculty advisor. Special independent study guidelines and permissions apply to this course that is described in a document available on the CAPP website (www.nd.edu/~capp). CAPP/TBS students only. NOTE: College guidelines apply as well.