

# INFORMATION TECHNOLOGY (IT)

## IT-100 Information Technology

**Credits: 3**

Term Offered: All Terms

Course Type(s): TL

Introduction to computer-based information management concepts that provide an integrated approach to personal computer software in a Windows environment. These include, word processing, spreadsheet, database, presentation graphics, and electronic communication applications; information retrieval from the Internet and online library resources; fundamental computer literacy; and the ethical and societal implications of computer technology. Hands-on experience with a microcomputer on a networked system is provided. Not open to students who have completed CS-102 or IT-102 or IT-150.

## IT-102 Information Technology for Scientists

**Credits: 3**

Term Offered: All Terms

Course Type(s): TL

Introduction to computer-based information management that provides an integrated approach to personal computer software in a Windows environment, which includes word processing, spreadsheet, mathematics, database, presentation graphics, Internet and electronic communication applications. Emphasizes scientific applications, technical report preparation and presentation. Hands-on experience with a microcomputer on a networked system is provided.

## IT-103 Applied Information Technology

**Credits: 3**

Term Offered: Fall Term

Course Type(s): TL

Applies the principles and tools of information technology toward a deeper understanding of their impact on scientific, social and ethical issues via a central theme for the semester such as (but not limited to) climate change, big data, health-care cost analysis and others. This course will use software such as spreadsheets, databases, modeling, simulation, data analysis, software, electronic-communication applications; information retrieval from the internet and on-line library resources; social media, intranet and extranet systems to help students emerge with thematic materials in a way that deepens their understanding of associated topics.

## IT-150 Information Technology for Business

**Credits: 3**

Term Offered: All Terms

Course Type(s): TL

Introduction to computer-based information business management that provides an integrated approach to personal computer software in a Windows environment. This includes fundamental technology literacy; operating systems, word processing, spreadsheet, database, presentation graphics, and electronic communication applications; computer and network security; troubleshooting; information retrieval from the Internet and on-line library resources; intranet and extranet systems; and the ethical, societal, legal, and economic implications of computer technology. Hands-on experience with a microcomputer on a networked system is provided.

## IT-200 Advanced Information Technology

**Credits: 3**

Prerequisite(s): IT-100 or IT-102; or CS-104 or IT-150

Term Offered: All Terms

Course Type(s): None

Advanced concepts and techniques in computer-based information management are provided through an integrated approach to personal computer hardware and software in a Windows environment. These include: hardware and software considerations; societal and ethical considerations; the program development life cycle; creating tables; merging documents and desktop publishing in word processing; creating templates, workbooks with multiple worksheets, and creating a data map in electronic spreadsheets; creating custom reports and an application system using macros in database management; and using embedded visuals in presentation graphics applications. Hands-on experience with a microcomputer on a networked system is provided.

## IT-250 Web Application Design

**Credits: 3**

Term Offered: All Terms

Course Type(s): None

Introduction to creating websites and applications for the Web that adapt to smart phones, tablets and desktop computers. Creation of web applications with content, images that can link to other apps. Creation of modern style layouts for various applications. Skills include: HTML, CSS, and embedding JavaScript code. Hands-on experience using the computer labs and web server.

## IT-275 Data Analytics for Web Applications

**Credits: 3**

Term Offered: All Terms

Course Type(s): None

Define Data Analytics and the key steps in the Data Analytics process involving collecting, wrangling, mining, and visualizing data. Concepts include different types of data structures, file formats, sources of data, and Big Data. Collecting data from public websites. Making use of Generative AI. Students will learn about and take on various Roles: Data Engineer, Data Analyst, Data Scientist, Business Analyst, and Business Intelligence Analyst.

## IT-298 Special Topics in Information Technology (200 Level)

**Credits: 3**

Prerequisite(s): IT-100 and as announced in the course schedule

Course Type(s): None

Topics of current interest in Information Technology.

## IT-299 Independent Study in Information Technology

**Credits: 3**

Term Offered: Summer Term

Course Type(s): None

Reading and research on a selected topic under the direction of a faculty member.

## IT-300 Web Programming

**Credits: 3**

Prerequisite(s): IT-250 or permission of the department

Term Offered: All Terms

Course Type(s): None

Introducing dynamic web actions such as: app sign-up and processing data forms, creating blogs, creating animations, advertisements, popup windows, selling products online, email blasts etc. Students will also learn processing the meta data of a website/application (ie number of visits, clicks, duration per visit, returning customers etc.). Simple examples in Gaming, AI and Data Analytics can be used. Skills include: php, JavaScript, MySQL.

## IT-398 Special Topics in Information Technology (300 Level)

**Credits: 3**

Prerequisite(s): IT-100 and as announced in the course schedule

Course Type(s): None

Topics of current interest in Information Technology.

**IT-399 Independent Study in Information Technology                      Credits: 3**

Term Offered: Spring Term

Course Type(s): None

Reading and research on a selected topic under the direction of a faculty member. Prior permission of the directing professor and department chair is required to take this course.

**IT-450 Information Systems Project Management                      Credits: 3**

Prerequisite(s): IT-250 or permission of the department

Co-requisite(s): IT-300

Term Offered: All Terms

Course Type(s): EX5

Students will use their skills to create web applications for local businesses and vendors as their client. Students will create applications and promote them using: social media, creating QR (Quick Response) and using codes, search engine marketing strategies. Students will work on small teams and use tools and skills of a system analyst for project management. Project management software will be used to track progress for reporting to a client.

**IT-498 Special Topics in Information Technology (400 Level)    Credits: 3**

Prerequisite(s): IT-100 and as announced in the course schedule

Course Type(s): None

Topics of current interest in Information Technology.

**IT-499 Independent Study in Information Technology                      Credits: 3**

Course Type(s): None

Reading and research on a selected topic under the direction of a faculty member.