Course Content and Outcomes Guide for CIS 121 Effective Spring 2019

Course Number:
CIS 121

Course Title:
Computer Concepts II

Credit Hours:
4

Lecture Hours:
30

Lecture/Lab Hours:
0

Lab Hours:
30

Special Fee:
$12.00

Course Description

Covers evaluation, selection and application of computer technology to solve practical problems in web page design, database design, networking and programming. Addresses security and ethical issues associated with technology. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores. Recommended: CIS 120. Audit available.

Intended Outcomes for the course

On completion of this course students should be able to:

- Apply logic, business rules, and entity relationship diagrams to design databases.
- Create web sites using current HTML and CSS standards.
- Design a basic home wireless network and business network while utilizing current wireless security.
- Solve simple quantitative and qualitative problems using computer programming.
- Install and manage operating systems and applications.
- Weigh security issues related to technology including viruses and spyware.
- Identify ethical issues relating to the IT professional.

Course Activities and Design

Web (HTML / CSS)

- CSS box model
- Lists and Tables

Ethics for IT Professionals

- Responsibilities to Employers, Clients, Society

Security

- Risks
- Malware (viruses, spyware, hacking)
- Security strategy

Software

- Integrated Development Environments (IDEs)
- Programming Languages
- Simple coding exercises

Database Management Systems

- Data Models including Hierarchical, Network, Relational and Big Data
- Client-server vs. local Database Management Software (DBMS) applications
- Entity Relationship Diagrams
- Database creation

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Networks and Data Communications

- Networking Hardware
- Networking Models
- OSI, TCP/IP
- Virtualization

Outcome Assessment Strategies

In satisfying the assessments, students must demonstrate at least 3 of the following:

- Service Learning
- Contextual written tasks in or outside of class.
- Written case study analysis.
- Individual or team projects.
- Presentations
- Quizzes and/or examinations.
- In-class interactive role-plays
- Participation
- Self-Assessment
- Create installation, how it works or training material for some aspect of computer technology

Related Instruction

Computation

Hours: 16

1. Apply logic, business rules and entity relationship diagrams to design databases.
2. Design a basic home wireless network and business network while utilizing current wireless security.
3. Solve simple quantitative and qualitative problems using computer programming.
4. Install and manage operating systems and applications.
5. Weigh security issues related to technology including viruses, spyware

Direct instruction (+ study time) in discipline-related computations involving:

- Boolean algebra and arithmetic expression construction and evaluation as applied in programming and networking.
- Calculating best design for database based on business rules
- Risk analysis relating to security
- Computing size and impact of operating systems on system performance