Course Syllabus

Department: Computing Sciences

Date: 9/19/2012

I. Course Prefix and Number: CSC 291

   Course Name: Preparing for Network+ Certification

   Credit Hours and Contact Hours: 2 credit hours – 2 contact hours

   Catalog Description including pre- and co-requisites:

   Upon completion of the course the participant will be able to successfully complete the requirements for the Computing Technology Industry Association (CompTIA) Network+ Certification. The Network+ certification is an internationally recognized validation of the technical knowledge required of foundation-level network technicians.

   Prerequisite: CSC260 and CSC261 or equivalent experience.

   Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

   This course is offered as an elective in the AAS Information Technology degree, the networking and security advisement area.

II. Course Student Learning Outcomes:

   Learning Outcomes

   Upon completion of the course the participant should be prepared to take the Computing Technology Industry Association (CompTIA) Network+ Certification exam.

   College Learning Outcomes Addressed by the Course: (check each College Learning Outcome addressed by the Student Learning Outcomes)

   □ writing  □ oral communications  □ reading  □ mathematics
   □ computer literacy  □ ethics/values  □ citizenship  □ global concerns
III. Assessment Measures (Summarize how the college and student learning outcomes will be assessed): For each identified outcome checked, please provide the specific assessment measure.

<table>
<thead>
<tr>
<th>List identified College Learning Outcomes(s)</th>
<th>Specific assessment measure(s)</th>
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<tbody>
<tr>
<td>computer literacy</td>
<td><strong>Practice Problems:</strong> Students will complete practice Network+ exams given in years past, demonstrating a high level of computer technical/networking literacy.</td>
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<td>critical thinking, information resources</td>
<td><strong>In-Class Quizzes:</strong> Students will complete regular in-class quizzes demonstrating well-reasoned arguments and critical thinking skills, and use appropriate information resources as they relate to course content.</td>
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IV. Instructional Materials and Methods

**Types of Course Materials:**
Textbooks: a review, practice and case study book on Network+ Certification

**Methods of Instruction (e.g. Lecture, Lab, Seminar …):**
- Lecture
- Discussions
- Demonstrations

V. General Outline of Topics Covered:
The Network+ certification means that the candidate possesses the knowledge needed to configure and install the TCP/IP client. This exam covers a wide range of vendor and product neutral networking technologies that also serves as a prerequisite for vendor-specific IT certifications.

The following is an examination blueprint outlining the knowledge domains covered by the Network+ Certification. The objectives are in two distinct groups: Knowledge of Networking Technology and Knowledge of Networking Practices.

**Network+ Knowledge Domains**

**Part I Knowledge of Networking Technology**
1. Basic Networking Concepts and Knowledge including topologies, major protocol suites, media and transport systems, network architecture, network hardware and network operating systems
2. The Open Systems Interconnection (OSI) Model
   - Physical Layer associated protocols, hardware and architecture
   - Data Link Layer associated protocols, hardware and architecture
   - Network Layer associated protocols, hardware and architecture
   - Transport Layer associated protocols, hardware and architecture
3. Internet and TCP/IP Fundamentals
4. TCP/IP Suite: Utilities
5. Network Software Systems
   • Major Network Operating Systems
     Microsoft Windows NOS and Unix NOS
   • Network Management System Software
6. Remote Connectivity
7. Security

**Part II Knowledge of Networking Practices**
1. Implementing the Installation of the Network
2. Maintaining and Supporting the Network
3. Troubleshooting the Network