<table>
<thead>
<tr>
<th>Course Title:</th>
<th>Network Essentials II</th>
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</thead>
<tbody>
<tr>
<td>Department:</td>
<td>Business and Technology</td>
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<tr>
<td>Curriculum:</td>
<td>Computer Information Systems</td>
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<tr>
<td>Prerequisites:</td>
<td>C- or better in Network Essentials I (CST*130)</td>
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</tbody>
</table>

**Course Code:** CST*230

**Course Type:**
- A: Clinical
- B: Lab
- D: Distance Learning
- I: Individual/Independent
- L: Lecture
- N: Internship
- M: Seminar
- P: Practicum
- U: Studio
- X: Combined Lecture/Lab
- Y: Combined Lecture/Lab
- Z: Combined Lecture/Studio

**Elective Type:** G

**Credit Hours:** 3

**Corequisites:** None

**Other Requirements:** None

**Catalog Course Description:** This course builds on the knowledge gained in Network Essentials I. Topics covered will include network security, wireless and optical networking, voice over IP, and designing and maintaining campus and industrial networks. Hands-on network simulation software will be used throughout the course.

**Topical Outline:**

1. Configuring and Managing the Campus Network
2. Applying the OSI Model
   a. Executing a troubleshooting methodology
   b. Employing fault isolation at each layer
3. Network Security
4. Building Wireless Networking
   a. Setting up the access point
   b. Configuring the SSID(service set identifier) on a client
   c. Securing the wireless traffic
5. Defining and Implementing VLANs
6. Optical Networking
7. Voice over IP
Network Essentials II  COURSE SYLLABUS — page  2

8. Network Server Management  
9. Linux Networking  
10. Industrial Networks

Upon successful completion of this course, the student will be able to do the following:

COURSE:
1. design and maintain a campus and industrial network  
2. identify and resolve OSI layer issues  
3. implement basic network security structures  
4. manage IP address assignments and subnetting  
5. understand basics of wireless network  
6. configure, setup and maintain a basic Linux server and network  
7. configure a basic wireless or optical network

PROGRAM:  (Numbering reflects Program Outcomes as they appear in the college catalog)
Computer Information Systems Associate Degree  
NETWORKING  
2. Knowledge of industry standard networking and communication technology  
3. Analyze and evaluate a networking scenario and recommend appropriate solutions

GENERAL EDUCATION:  (Numbering reflects General Education Outcomes as they appear in the college catalog)
2. Critical Analysis/ Logical Thinking - Students will be able to organize, interpret, and evaluate evidence and ideas within and across disciplines; draw reasoned inferences and defensible conclusions; and solve problems and make decisions based on analytical processes.

Demonstrates:  Identifies the issue(s); formulates an argument; explains and analyzes relationships clearly; draws reasonable inferences and conclusions that are logical and defensible; provides support by evaluating credible sources of evidence necessary to justify conclusions.

Does Not Demonstrate:  Identifies few or no issues; formulates an argument without significant focus; provides an unclear explanation of analysis and relationships; drawing few reasonable inferences and conclusions that are illogical and indefensible; provides little to no support using credible sources of evidence necessary to justify conclusions.

Evaluation:  
Assessment will be based on the following criteria:
1. Assignments and case studies  
2. Simulation labs  
3. A comprehensive project for inclusion in the student’s ePortfolio

Instructional Resources:
List library (e.g. books, journals, online resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.

Required:  Networking Lab (Room 314)

Desired:

Textbook(s)  
Refer to current academic year printout.