Course Title – Introduction to Networks (CISCO 1)
Course Prefix and Number – ITCC 1475
Department – Computer Science
Division – Technology & Business
Course Type: (check one)
☐ Academic General Education Course (from ACGM – but not in WCJC Core)
☐ Academic WCJC Core Course
☒ WECM course (This course is a Special Topics or Unique Needs Course: Y ☒ or N)

Semester Credit Hours #: Lecture Hours #: Lab/Other Hours #: 4:3:3
Equated Pay hours for course – 4.5

Course Catalog Description - Introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of either course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. This course assumes computer literacy

Typically offered spring and fall semesters

Prerequisites/Co-requisites –

Prepared by: Donna Schilling  Date: 07-19-2015
Reviewed by Department Head: Donna Schilling  Date: 07-19-2015
Accuracy verified by Division Chair: David Kucera  Date: 8/12/15
Approved by Dean or Vice President of Instruction: Leigh Ann Collins  Date: 3-4-16
I. Topical Outline – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

- Exploring the Network
- Configuring a Network Operating System
- Network Protocols and Communications
- Network Access
- Ethernet
- Network Layer
- Transport Layer
- IP Addressing
- Subnetting IP Networks
- Application Layer
- It’s a Network

II. Course Learning Outcomes

This course incorporates the National Workforce Center for Emerging Technologies Programming/Software Engineering skill standards recognized by the Texas Skill Standards Board.

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Methods of Assessment</th>
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<tbody>
<tr>
<td>Upon successful completion of this course, students will:</td>
<td>All outcomes will be assessed by one or more of the following:</td>
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<tr>
<td>1. Understand and describe the devices and services used to support communications in data networks and the Internet.</td>
<td>Individual Projects</td>
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<td>2. Understand and describe the role of protocol layers in data networks.</td>
<td>Tests and Quizzes</td>
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<td>3. Understand and describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments.</td>
<td>Lab Assignments</td>
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<td>4. Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks.</td>
<td>Final Exam</td>
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<tr>
<td>5. Explain fundamental Ethernet concepts such as media, services, and operations.</td>
<td>Skills Exam</td>
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<tr>
<td>6. Build a simple Ethernet network using routers and switches.</td>
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<td>7. Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations.</td>
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<td>8. Utilize common network utilities to verify small network operations and analyze data traffic.</td>
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III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

- USB Flash Drive
- High-speed Internet Connection

IV. Suggested Course Maximum - 18

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.
   Computer for each student, Cisco routers, switches, wireless routers, fiber cable tester, Ethernet cable testers

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course

   Course Requirements
   
<table>
<thead>
<tr>
<th>Requirement</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Comprehensive Skills Exam</td>
<td>20-25%</td>
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<tr>
<td>Comprehensive Final Exam</td>
<td>20-25%</td>
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<tr>
<td>Labs/Homework</td>
<td>25-30%</td>
</tr>
<tr>
<td>Chapter Tests</td>
<td>20-25%</td>
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<tr>
<td>Attendance/Participation</td>
<td>0-15%</td>
</tr>
</tbody>
</table>

   **Grading System**

   - 100 - 90 = A
   - 89 - 80 = B
   - 79 - 70 = C
   - 69 - 60 = D
   - and below = F

VII. Curriculum Checklist

☐ - Academic General Education Course (from ACGM – but not in WCJC Core)
   No additional documentation needed

☐ - Academic WCJC Core Course
   Attach the Core Curriculum Checklist, including the following:
   - Basic Intellectual Competencies
   - Perspectives
   - Exemplary Educational Objectives
- **WECM Courses**
  If needed, revise the Program SCANS Matrix & Competencies Checklist.