Syllabus

No: CIS 165

Title: Network & Systems Administration

Credits: 4

Coordinator: Dr. B. Dike-Anyiam, Computer Science & Networking Lecturer

Instructor: Dr. B. Dike-Anyiam, Computer Science & Networking Lecturer
Office Location: Tech 311 E
Phone: 856-222-9311, ext. 2033
Email: Bdikeanyiam@bcc.edu
Course Meetings: Thurs 5 - 8:30PM
Course Meeting Location: Tech 317

Prerequisite: CIS 150 – Networking Fundamentals

Course Description: This course provides an advanced knowledge of networking as well as related equipment and terminologies. The course will cover Local area network, wide area network, managing enterprise level networks using Active Directory and remote access. Advanced network management and environment customization techniques will be explored, including creating users/groups, managing file permissions, configuring server roles, using group policies to configure and secure the network, routine system maintenance and troubleshooting.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Install, configure and manage enterprise systems/networks, including hardware/software.
2. Implement and administer desktop and server operating systems (client/server), switching and routing devices.
3. Implement and configure active directory
4. Create user/group accounts and configure server roles.
5. Administer permissions for users, files and network resources.
6. Use group policies to configure and secure the network.
7. Manage desktops and server computers using remote access.
8. Install and configure TCP/IP for network and Internet connectivity.

Required Textbooks:


Accreditation of Burlington County College’s
Electronics Engineering Technology Program and
Computer Servicing & Networking Technology Option

**What is accreditation?** Accreditation is used to assure quality of programs in educational institutions. It requires our college and the EET program to meet certain, defined standards or criteria. There are two types of accreditation, institutional and specialized. Institutional accreditors, such as the Middle States Association of Colleges and Schools, are “regional” accreditors and examine the college as a whole. Specialized accreditors evaluate specific programs such as the engineering and technology programs. The Accreditation Board for Engineering and Technology (ABET) is a professional accrediting organization that accredits Electronics Engineering Technology and Engineering programs across the country.

**How does accreditation benefit the student?** Accreditation serves to notify parents and prospective students that a program has met accepted standards. Student work, faculty qualifications, laboratory resources and administrative support are evaluated for strengths and weaknesses and a report is issued on ways to improve the program. Employers know that these graduates are prepared to begin professional practice. Students who graduate from an ABET accredited institution have an easier time transferring to other ABET accredited institutions. Also, state licensing boards and certification programs may require graduation from an ABET-accredited program as the first step in the registration or certification process for professional practice. In some instances, ABET accreditation may permit students to receive federal funds in the form of scholarships, loans and grants.

ABET
415 North Charles Street, · Baltimore, MD 21201
Phone: (410)-347-7700
The Electronics Engineering Technology Program and Computer Servicing & Networking Technology Option

Program Mission Statement

The mission of the Burlington County College Electronics Engineering Technology Program and Computer Servicing & Networking Technology Option is to produce graduates who are able to obtain employment as a technician or transfer to a four-year college. In addition, our graduates will be technically competent, able to communicate effectively, work well with others and demonstrate professionalism.

Program Educational Objectives

The Electronics Engineering Technology Program and Computer Servicing & Networking Technology Option prepare graduates who, during the first few years after graduation, should be able to:

1. Find employment as a technician or transfer to a four-year college;

2. Apply a broad knowledge of electronics and computer engineering technology to support manufacturing, design, testing, troubleshooting, sales, and field service of electronic and computer systems;

3. Apply knowledge of analog and digital electronics, computers, networks, mathematics and science to solve technical problems or projects;

4. Utilize computers and software in a technical environment;

5. Perform written, oral and graphical communication;

6. Work effectively as a member of a team with a commitment to quality and timeliness;

7. Have a commitment to address professional and ethical responsibilities, including societal and global issues and a respect for diversity; and

8. Continue professional development through conferences, seminars, courses and the pursuit of advanced degrees.
Student Outcomes

Graduates of the Electronics Engineering Technology Program and Computer Servicing & Networking Technology Option should be able to:

a. apply the knowledge, techniques, skills, and modern tools of the discipline to engineering technology activities;

b. apply knowledge of analog and digital electronics, computers, networks, mathematics and science to technical problems or projects;

c. conduct standard laboratory tests and measurements, and to analyze and interpret experiments;

d. function effectively as a member of a technical team;

e. identify the characteristics of, analyze and solve technical problems;

f. apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to use appropriate technical literature;

g. express the need for continuing professional development thru conferences, seminars, courses and the pursuit of advanced degrees;

h. express a commitment to address professional and ethical responsibilities, including societal and global issues and a respect for diversity; and

i. recognize a commitment to quality, timeliness and continuous improvement.

* j. the application of circuit analysis and design, computer programming, associated software, analog and digital electronics, and microcomputers, and engineering standards to the building, testing, operation, and maintenance of electrical/electronic(s) systems.

* k. the applications of physics or chemistry to electrical/electronic(s) circuits in a rigorous mathematical environment at or above the level of algebra and trigonometry.

* Outcomes j. and k. are program specific outcomes from the document: CRITERIA FOR ACCREDITING ENGINEERING TECHNOLOGY PROGRAMS: Effective for Reviews During the 2014-2015 Accreditation Cycle and are not part of the general ABET Student Outcomes(a. -i.).
### Course Outcome with Performance Criteria

<table>
<thead>
<tr>
<th>Course Learning Outcomes</th>
<th>Performance Criteria: A minimum of 70% of students will achieve at least 7 out of the 10 points for each project. Also, a minimum of 70% of students will correctly answer at least 4 of 7 embedded multiple-choice test questions</th>
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</thead>
</table>
| 1. Install, configure and manage enterprise systems/networks, including hardware & software | a) Test 1 (Embedded test questions)  
   b) Test 2 (Embedded test questions)  
   c) Project 2 |
| 2. Implement and administer desktop and server operating systems (client/server), switching and routing devices. | a) Test 1 (Embedded test questions)  
   b) Test 2 (Embedded test questions)  
   c) Project 2  
   d) Project 3 |
| 3. Implement and configure active directory | a) Project 2 |
| 4. Create user/group accounts and configure server roles | a) Project 1  
   b) Project 2 |
| 5. Administer permissions for users, files and network resources | a) Project 1  
   b) Project 2 |
| 6. Use group policies to configure and secure the network | a) Project 1  
   b) Project 2 |
| 7. Manage desktops and server computers using remote access | a) Project 1  
   b) Project 2  
   c) Project 3 |
| 8. Install and configure TCP/IP for network and Internet connectivity | a) Test 1 (Embedded test questions)  
   b) Test 2 (Embedded test questions)  
   c) Project 2 |
| 9. Maintain and troubleshoot enterprise networks | Project 3 |

### Relationship of Course Learning Outcomes (#) to Student Outcomes (a, b, c…)

<table>
<thead>
<tr>
<th>Course Outcome #</th>
<th>Student Outcomes - Graduates should be able to:</th>
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<tbody>
<tr>
<td>1, 2, 3, 4, 5, 6, 7, 8</td>
<td>a. Apply the knowledge, techniques, skills, and modern tools of the discipline to engineering technology activities</td>
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<tr>
<td>9</td>
<td>b. Apply knowledge of analog and digital electronics, computers, networks, mathematics and science to technical problems or projects</td>
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<tr>
<td>9</td>
<td>e. Identify the characteristics of, analyze and solve technical problems</td>
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Topical Course Outline
Network Hardware and Software
Network Topologies & Technologies
Network Protocols
Switching & Routing
Networking with Windows
Windows Domains
Server Management & Administration
WAN Essentials
Network Support, Management & Security

GRADING: A student’s final grade in the course will be determined using the following percentage:

Projects  40%
2 Tests   25%
Final Exam 30%
Class Participation 5%
Total 100%

A  = 90-100%
B+  = 85-89.99%
B   = 80-84.99%
C+  = 75-79.99%
C   = 70-74.99%
D   = 60-69.99%
F   < 60%

*** Final exam is comprehensive

Attendance

• Students are expected to attend all classes and on time.
• Coming to class late and/or leaving class early without prior permission from the instructor will be counted as an absence.
• All materials will be collaborated as in class exercises and discussions. Attending all classes is the key to success in this class, since all exams will be based on those materials that are covered in the class.
• Two absences are permitted during the semester.
• **If a student’s absences are excessive, he/she may be assigned a grade of “F”.
• General Attendance Policy from Board Policy #206
• “Students are expected to attend all classes, clinical, laboratory, and studio sessions for the full duration of each instructional session.”
• Students should set up a buddy system. Get phone # of at least one classmate to find out what is missed if absent, and to go over Home Work if any.
Unacceptable/Disruptive behavior
Disruptive behavior can include but is not limited to:

- Excessive talking in class when the instructor or another student is talking. There should be only one person talking at a time in class. The Instructor or a student...not both.
- Excessive trips out of the classroom for cell phone conversations, (If you are expecting an important call, let the instructor know ahead of time and sit by the door)
- Other Inappropriate activities include computer email, using social network (such as facebook, etc.; cell phone activities such as texting, playing games, listening to CD’s, MP3s, or iPod’s during Lecture or Lab).

These items represent Prohibited Conducts as outlined in the BCC Student Code of Conduct. **Under the sanctions, the student could be expelled from the class and receive an F grade.**

Tests/Exam
- “Makeup” tests/exams and assignments will be accepted at the instructor’s discretion, and allowed only in extraordinary situations. I have a problem with my car is not an acceptable excuse.
- Class participation can be a combination of attendance, seeking help from the instructor or tutor, and classroom activities.

Computer Usages
- Students are not allowed to use computers for any other purposes except for lecture notes during lectures and for practical.
- Student will be asked to leave the room if he or she persists in using a computer when not appropriate.
- Printing is not permitted during lectures.

Student Expectations
- Students are expected to spend time beside classroom hours to read lessons and do homework.
- Students are encouraged to seek help early on either with the instructor or with a tutor. Do it now before it’s too late.
- Any projects/class activities which are handed in less than two weeks late, will receive 70% of the grade. No paper will be accepted after two weeks late.

Academic Integrity
- Student must do his or her own work. Students caught sharing their projects with other students will be dealt with BCC Plagiarism Policy.
- Students can assist or receive assistance with each other but not copy the whole assignments.