



Electronics Engineering Technology Program

and

Computer Servicing & Networking Technology Option

Advising Packet

A.A.S. Degree Program & Option at BCC
Electronics Engineering Technology Program

Provides Education for employment in
Electronics and Communications

Transferable to Drexel's B.S. Degree in Applied Engineering
Technology (Electronic Engr. Tech. or Mechanical Engr. Tech.)
or to NJIT or Temple or FDU for a
B.S. in Engineering Technology

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Computer Servicing & Networking Technology

Option

Provides the Education and Skills
to take the following Certification Exams:

A+, Cisco CCNA, and
Cisco Wireless LAN Support Specialist

It is Transferable to Drexel's B.S. degree in Applied
Engineering Technology – (Mechanical concentration)

or

NJIT's B. S. Degree in Electronics Engineering Technology
with the Computer Option

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 and use mathematics, scientific principles, and critical thinking to creatively solve technical problems,
4. Utilize computers and software in a technical environment,
5. Communicate effectively both verbally and in writing,
6. Work effectively as an individual and as a member of a team,
7. Show a recognition of the need for professional, ethical and social responsibilities and
8. Continue professional training through conferences, seminars, courses and the pursuit of advanced degrees.

Program Outcomes

Graduates of the Electronics Engineering Technology program and Computer Servicing & Networking Technology option should demonstrate:

- a. an appropriate mastery of the knowledge, techniques, skills, and modern tools of their disciplines,
- b. an ability to apply current knowledge to new applications,
- c. an ability to conduct, analyze and interpret experimental results and apply results to make improvements where applicable,
- d. an ability to apply creativity in the design of systems, circuits or processes,
- e. an ability to work effectively on teams,
- f. an ability to identify the characteristics of, analyze and solve technical problems,
- g. an ability to communicate effectively through writing and oral presentation,
- h. a recognition of the need for, and an ability to engage in lifelong learning,
- i. an ability to understand professional, ethical, and social responsibilities,
- j. respect for diversity and a knowledge of contemporary professional, societal, and global issues, and
- k. a commitment to quality, timeliness and continuous improvement.

Electronics Engineering Technology

Associate of Applied Science, A.A.S.

This AAS Degree is transferable to all BSAET Programs at Drexel, as well as the BSET Programs at NJIT & Temple University.

The Electronics Engineering Technology program provides a solid theoretical foundation as well as practical “hands-on” laboratory experiences in Electronics. This program includes traditional EET courses offered at EET programs nationwide as well as a course in A+ certification. Graduates will have a well-rounded education that enables them to enter the exciting career as an electronic engineering technician.

Electronics engineering technicians are often involved in the manufacture, design, testing, troubleshooting, sales, and field service of electronic and computer systems. Graduates can also transfer into the Bachelor of Science in Applied Engineering Technology programs at Drexel University @ BCC, New Jersey Institute of Technology, or Temple University or FDU.

Related AAS degree option

Computer Servicing & Networking Technology

Electronics Engineering Technology Option

This option provides the Education & skills to take the A+, Cisco CCNA and Cisco Wireless LAN Support Specialist Certification Exams.

This AAS Degree option is transferable to Drexel’s BSAET in Mechanical Engineering Technology (MET) program and NJIT’s BSET programs with the Computer option.

This innovative option to the EET program is designed to prepare students for the A+ and Cisco CCNA and Cisco Wireless LAN Support Specialist Certification examinations. The courses provide a solid background in electronics, computer equipment servicing and networking covering both hardware and software aspects.

Graduates of this option will qualify for the numerous high paying job opportunities as a Computer Service or Network Technician. Graduates can also transfer into Drexel’s Bachelor of Science in Applied Engineering Technology – (Mechanical concentration) and NJIT’s B.S. in Electronics Technology.

If a student has a previous background in circuits, he/she can get permission to take EET 121 w/o the prerequisite of EET 101.

EET-101 cannot be used as an elective towards graduation if taken after passing EET-121 as per the new ABET criteria.

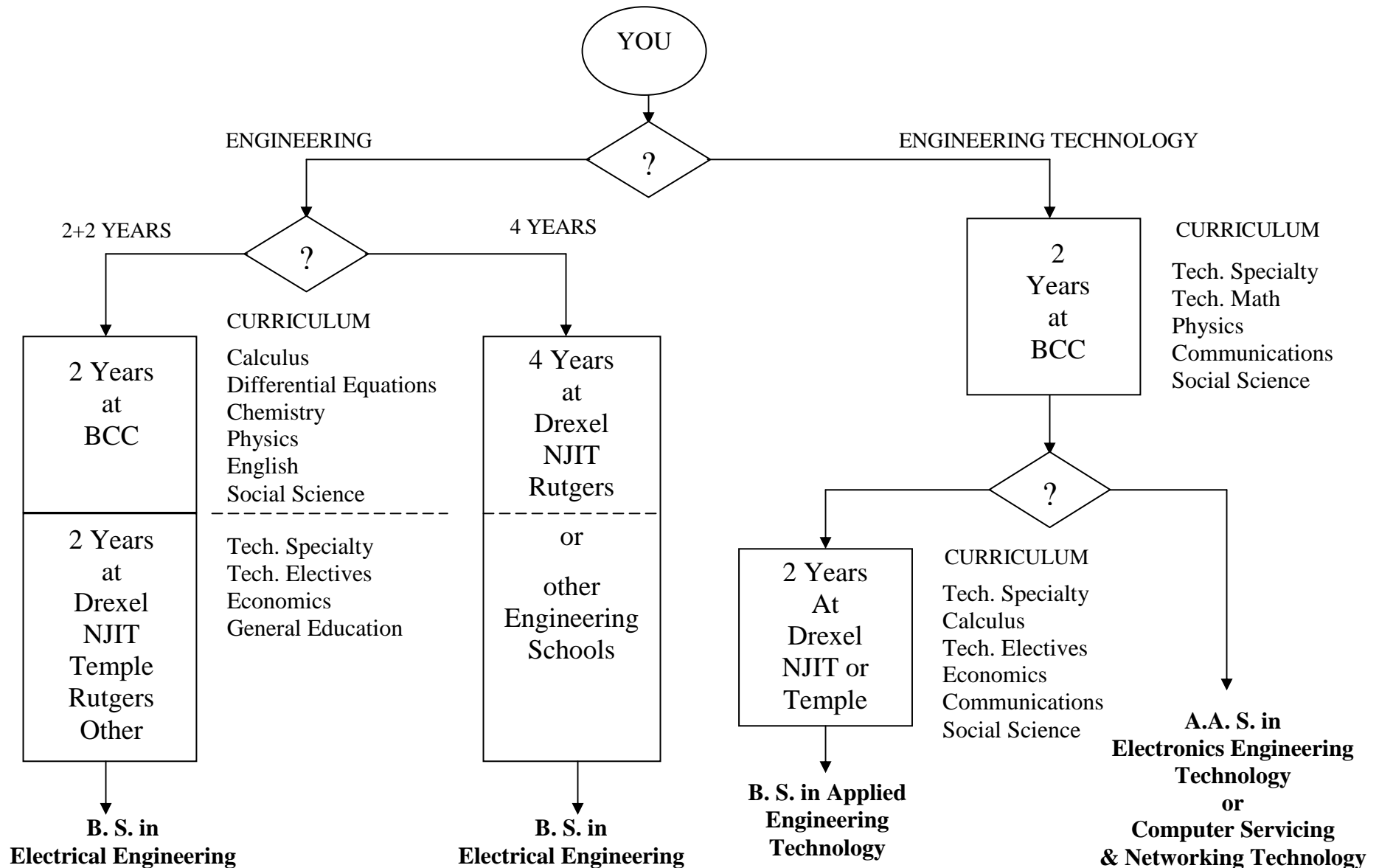
Note: The EET-101, EET-121, CIS150, and EET-210 courses fill up early. Don’t wait too long to register. Payment is not due until approximately 2 weeks before classes start.

The EET Program is Accredited by the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET)

111 Market Place, Suite 1050; Baltimore, Maryland 21202; (410)-347-7700; (410)-625-2238 (Fax)

THE CAREER DECISION

The differences between obtaining an A.A.S., B.S. in Applied Engineering Technology, and B.S. in Electrical Engineering Degrees.



The Field of Engineering Technology

Engineering technologists working in multidisciplinary teams, use the principles and theories of science, engineering, and mathematics to solve technical problems in research and development, manufacturing, sales, construction, quality control, field service and maintenance. Their work is more hands on oriented than that of scientists and engineers.

Electronics and computer engineering technologists help to design, develop, test, manufacture and service electrical, electronic and computer equipment such as communication equipment, radar, industrial and medical measuring or control devices, robotics, and computers.

Most employers prefer to hire someone with at least a 2-year associate degree in engineering technology. Training at technical institutes, other community colleges, and public and private vocational-technical schools, and in the Armed Forces can lead to advanced standing in the Burlington County College Electronics Engineering or Computer Servicing & Networking Technology programs.

Graduates of programs accredited by the Accreditation Board for Engineering and Technology (ABET) usually are recognized to have achieved an acceptable level of competence in the mathematics, science, and technical courses required for engineering technology.

Employment Opportunities and Earnings

Of the 530,000 engineering technician who held jobs in 2004, about a third or 180,000 were electrical and electronics engineering technicians. About 36 percent of all engineering technicians worked in manufacturing, mainly in the computer and electronic equipment, transportation equipment, and machinery manufacturing industries. Another 22 percent worked in professional, scientific, and technical service industries, mostly in engineering or business services companies that do engineering work.



The top four number of engineering technicians (2004) and their earnings:

Engineering Technician	Number	Median Earnings
Electrical and Electronic Engineering Technologists	182,000	\$46,310
Civil Engineering Technologists	94,000	\$38,550
Industrial Engineering Technologists	69,000	\$43,590
Mechanical Engineering Technologists	48,000	\$43,400

Refer to the Sloan Career Cornerstone Center for additional career information.

www.careercornerstone.org

Burlington County College

Fall 2009

Electronics Engineering Technology

This program is transferable to Drexel's
Electronic Engr. Tech or Mechanical Engr. Tech &
BSET Programs at NJIT, FDU, & Temple Univ.

Freshman Year

Freshman Required Electronics Courses: Credits

② EET 101	Introduction to Electronics	3
① EET 121	Circuits I	4
EET 111	Electronic Computer Graphics	3
EET 131	Solid State Devices	4
EET 141	Digital Circuits	4

Total **15 - 18**

Freshman and Sophomore

General Education Courses: Credits

Mathematics (MTH 130 required)	4
Public Speaking (SPE 102)	3
College Composition I (ENG 101)	3
Society, Ethics & Technology (SOC 160 required)	3
Natural Science PHY (110 & 111)	4
Arts and Humanities	3
Additional General Education Requirements (MTH 118 ^③ , or MTH 142, or MTH 225)	3 - 4

Total General Education Credits **23 - 24**

① If the student has a previous background in circuits he/she can get permission to take EET 121 without having taken prerequisite EET 101.

② EET 101 will not count towards graduation if taken after passing EET 121.

Electronics Engineering Technology

Sophomore Year

Sophomore Required Program Courses Credits

EET 222	Circuits II	3
EET 232	Analog Integrated Circuits	4
PHY (112 & 113)	Principles of Physics II	4
Computer Science	CIS 111 or 130, or ③ CSE 135	3

Total Required Freshman & Sophomore Program Credits 29 - 30

Program Electives

Select 6 or 9 credit hours from the following: Credits

⑤ EGR 103	Fundamentals of Engineering Design	3
CIS 150	Networking Fundamentals	4
④ EET 210	IT Essentials: A+	4
⑤ EET 242	Microprocessor Systems	4
③ MTH 119	Calculus II and Analytic Geometry	4
EET 251	Industrial Electronic Controls	4
CIS 158	Cisco Fundamentals of Wireless LANs	4

Total Program Elective Credits **6 - 9**

Electives (ENG 102 Required for Drexel) **3**

Total Credits Required for Degree **64**

③ Required for Drexel @ BCC as well as: MTH 119, ECO 203, and CHE 115/116.

④ EET 210 provides training to take the A+ Exam.

⑤ EGR 103 & EET 242 courses are required by Drexel and NJIT for transfer into their Bachelor of Science Program in Electrical Engineering Technology.

Computer Servicing & Networking Technology

Electronics Engineering Technology Option

*(This option provides training for
A+, Cisco CCNA, and
Wireless LAN Support Specialist Certifications)*

This option is transferable to Drexel's Mechanical Engr. Tech. (MET) and to NJIT's BSET with Computer option

Freshman Year

Freshman Required Electronics Courses		Credits
② EET 101	Introduction to Electronics	3
① EET 121	Circuits I	4
EET 131	Solid State Devices	4
EET 141	Digital Circuits	4
Total		12 - 15

Freshman and Sophomore

General Education Courses:

	Credits
Mathematics (MTH 130 required)	4
Public Speaking (SPE 102)	3
College Composition I (ENG 101)	3
Society, Ethics & Technology (SOC 160 required)	3
Natural Science PHY (110 & 111)	4
Arts and Humanities	3
Additional General Education Requirements (MTH 118 ^③ , MTH 142, or MTH 225)	3 - 4

Total General Education Credits 23 - 24

① If the student has a previous background in circuits he/she can get permission to take EET 121 without having taken prerequisite EET 101.

② EET 101 will not count towards graduation if taken after passing EET 121.

Computer Servicing & Networking Technology

Fall 2009

Sophomore Year

Sophomore Required Option Courses		Credits
④ EET 210	IT Essentials: A+	4
⑤⑦ CIS 150	Networking Fundamentals	4
⑤⑦ CIS 151	Cisco Network Routing Fundamentals	4
⑥ EET 242	Microprocessor Systems	4
Computer Science	CIS 111 or 130, or ③ CSE 135	3
Total Required Freshman & Sophomore Option Credits		31

Option Electives

Select 7 or 10 credit hours from the following:

	Credits	
⑥ EGR 103	Fundamentals of Engineering Design	3
⑥ EET 232	Analog Integrated Circuits	4
③ EET 222	Circuits II	3
⑤ CIS 152	Cisco SW Basics & Intermediate Routing	4
⑤ CIS 157	Cisco WAN Technologies	4
⑦ CIS 158	Cisco Fundamentals of Wireless LANs	4
CIS 207	Intro. to Computer Forensics	3

Total Option Elective Credits 7 - 10

Total Credits Required for Degree 64

③ Required for Drexel @ BCC (MET concentration) as well as: PHY 112/113, ENG 102, ECO 203, EET 111, CHE 115/116.

④ EET 210 provides training to take the A+ Exam.

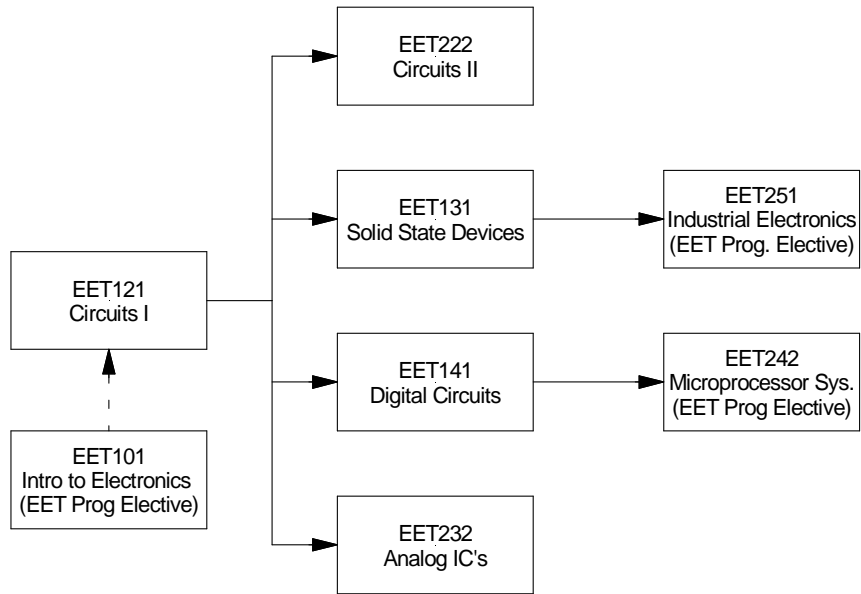
⑤ CIS 150, CIS 151, CIS152 & CIS157 provide training to take the CCNA Exams.

⑥ EGR 103 and EET 232 are required by Drexel and NJIT for transfer into their Bachelor of Science in Engineering Technology program

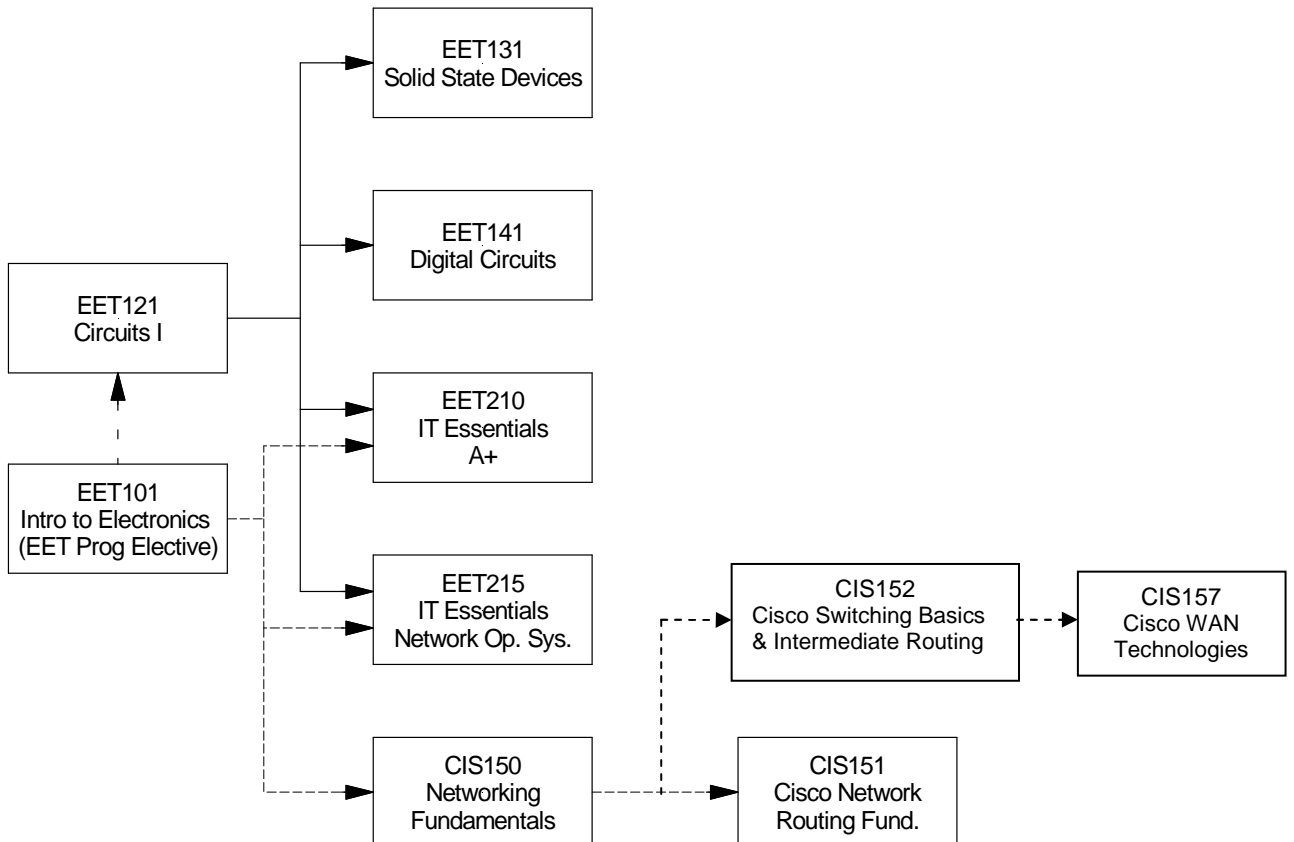
⑦ Required for the Cisco Wireless LAN Support Specialist Exam.

EET Program & CS&NT Option Prerequisites

EET Program - Course Prerequisite Flow Chart



CS&NT Option - Course Prerequisite Flow Chart



EET 101 Introduction to Electronics 3 Credits

Prerequisites and Co-Requisites: MTH 075 or high school algebra proficiency

Faculty contact: Jack Braun. (856)-222-9311 ext. 2037; email: jbraun@bcc.edu

Course Description: This course is designed for those who want to explore the fields of electronics and computers and have limited experience in these fields. Topics studied include: circuit components, Ohm's Law, basic DC and AC circuits, and an introduction to power supplies, transistor and integrated circuit amplifiers and opto-electronic communications. Laboratory experiments will cover the above topics and verify lecture theory. An introduction to measurement techniques using a multimeter, function generator, oscilloscope and computer operation using circuit analysis software will also be given in lab.

Note: This course cannot be taken after passing EET 121.

EET 121 Circuits I 4 Credits

Prerequisite: EET101 Co-Requisite: MTH 130

Faculty contact: Jack Braun. (856)-222-9311 ext. 2037; email: jbraun@bcc.edu

Course Description: This course is a study of the basic principles of direct and alternating current and of the properties of passive electrical components. Topics include atomic theory, current, voltage, resistance, resistive networks, network theorems, work, power, capacitance, inductance and transformers. Circuits will be built in the lab to develop skills in building circuits from schematics, in using laboratory equipment to make measurements and to verify theory. Circuit analysis software will be used to simulate and verify the laboratory analysis where appropriate.

CIS 150 Cisco Networking Fundamentals 4 Credits

Prerequisites: EET 101 or CIS 101 or Permission

Faculty contact: Steve Brady. (856)-222-9311 ext. 1193; email: sbrady@bcc.edu

This course emphasizes the knowledge and application of basic concepts of networking technology. It presents the OSI model, industry standards, network topologies, IP addressing, subnet masking, networking components, and basic network design.

EET 210 IT Essentials: A+ 4 Credits

Prerequisites: EET 101

Faculty contact: Steve Brady. (856)-222-9311 ext. 1193; email: sbrady@bcc.edu

This course is an in-depth exposure to information technology and data communications. Students develop the necessary skills to enter this field by building a computer, installing the operating system, adding peripherals, and connecting the computer to a local area network and to the Internet. This course helps students prepare for CompTIA's A+ certification exam..

Cisco CCNA Curriculum

The Cisco Networking Academy CCNA (Cisco Certified Network Associate) option consists of four courses that are normally taken in sequence. These courses, CIS 150, CIS 151, CIS 152, and CIS 157, prepare the student to sit for the CCNA certification exam and provide practical experience with Cisco routers, switches and communication devices. In addition, we offer CIS 158 which supplements the CCNA courses by providing support for Cisco wireless LAN equipment.

CIS 150 Networking Fundamentals 4 cr. Prerequisite: CIS 101 or EET 101 or permission

This course emphasizes the knowledge and application of basic concepts of networking technology. It presents the OSI model, industry standards, network topologies, IP addressing, subnet masking, networking components, and basic network design.

CIS 151 Cisco Network Routing Fundamentals 4 cr. Prerequisite: CIS 150 or permission

This course focuses on initial router configuration, Cisco IOS Software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Students develop skills on how to configure a router, managing Cisco IOS Software, configuring routing protocol on routers, and setting the access lists to control the access to routers.

CIS 152 Cisco Switching Basics and Intermediate Routing 4 cr. Prerequisite: CIS 151 or permission

This course focuses on advanced IP addressing techniques (Variable Length Subnet Masking [VLSM]), intermediate routing protocols (RIP v2, single-area OSPF, EIGRP), command-line interface configuration of switches, Ethernet switching, Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP). It emphasizes students demonstrating the ability to apply knowledge from CIS 150 and CIS 151 to a network explaining how and why a particular strategy is employed.

CIS 157 Cisco WAN Technologies 4 cr. Prerequisite: CIS 152 or permission

This course focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and Introduction to optical networking. It emphasizes students demonstrating the ability to apply knowledge from CIS 150, CIS 151, and CIS 152 to a network and explaining how and why a particular strategy is employed. Students prepare to take the CCNA Exam.

CIS 158 Cisco Fundamentals of Wireless LANs 4 cr. Prerequisite: CIS 151 or permission

This introductory course to Wireless LANs focuses on the design, planning, implementation, operation, and troubleshooting of Wireless LANs. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands-on skills. It prepares students for Cisco Wireless LAN Support Specialist certification.

Steve Brady, Phone (856) 222-9311 extension 1193; email: sbrady@bcc.edu
Main Contact, Cisco Networking Academy Program
Burlington County College

Fall 2009 Scheduled Offerings (as of 8/09)

Course	Days	Times		Course	Eve.	Times
EET-101-30	M, W	12:00 – 1:50 pm		EET-210-50	T, Th	6:00 – 8:45 pm
EET-121-30	T, Th	9:30 – 12:20 pm		EET-121-50	M, W	7:45 – 10:15 pm
EET-131-30	M, F W	2:00 – 3:15 pm 2:00 – 4:50 pm		EET-131-50	T, Th	7:45 – 10:15 pm
EET-242-30	F M, W	9:00 – 11:50 am 9:00 – 10:20 am		EET-222-30	T, Th	5:00 – 6:50 pm
EGR-103-30	T, Th	2:00 – 4:50 pm		EGR-103-50	M, W	5:00 – 7:30 pm
EGR-103-31	M, W	9:00 – 11:50 pm		SOC-160-50	W	5:00 – 7:30 pm

CIS-150 - Check **Fall 2009** Credit Courses pamphlet

http://www.bcc.edu/PDFFiles/BCC_Fall09Credit.pdf for days and times offered.

Answers to FAQ's

Drexel Transfer is handled by Jamie Bruno-Brooks – Director of Academic and Administrative Services; Contact Info: Tel: 856-222-9311 x2007; E-mail: jmb347@drexel.edu.

It is recommended that you take the EET-101 Introduction to Electronics course first, if you have no previous background in circuit theory, before taking EET-121, Circuits I.

EET-101 and EET-121 can be taken at the same time to reduce the time required for a degree, if you have a High School Algebra background or, are taking or have passed MTH-095

The EET-101 course credits will count as a Freshman elective toward graduation if taken before or while taking EET-121. EET-101 cannot be used as an elective towards graduation if taken after passing EET-121.

The EET 210 course, IT Essentials: A+, has a prerequisite of EET-101 - Introduction to Electronics
CIS-150 has a prerequisite of EET-101 or CIS-101 or Instructor permission.

You should register as soon as possible as these courses tend to fill up early or may be cancelled two weeks before classes start due to lack of enrollment.

See the current semester Credit course pamphlet for class times to register. In either case, don't wait until the last 2 weeks – your graduation could be postponed by as much as 1 year.

The salaries of graduates from Drexel's BSAET or NJIT's or Temple's BSET program with several years experience are close to those of graduates from the traditional BSEE programs from Drexel, NJIT, Rutgers, or the University of Pennsylvania.

Contacts for:

EET courses & program: Jack Braun, (856)-222-9311 ext. 2037 or email: jbraun@bcc.edu

CS&NT option: Berna Dike-Anyiam, (856)-222-9311 ext. 2303 or email: bdikeany@bcc.edu

CIS courses: Steve Brady, (856)-222-9311 ext. 1193 or email: sbrady@bcc.edu

EET-210: Steve Brady, (856)-222-9311 ext. 1193 or email: sbrady@bcc.edu