

CSIT 184: NETWORKING ESSENTIALS

1. Course Information

Subject

CSIT - Computer Science/ Information Technology

Course Number

184

School

Science, Technology, Engineering, Mathematics

Course Title

Networking Essentials

2. Hours

Semester Hours

3.00000

Lecture

3

Lab

0

Practicum

0

3. Catalog Description

For display in the online catalog

This course will examine the conceptual and physical structure of industry-wide computer networking standards. The concepts covered in this course will aid the perspective networking professional in a practical understanding of the implementation and fundamentals of a viable network. LANs, WANs, Inter and Intra net, among other topics will be extensively covered within this course. Familiarity with MS DOS and programming is recommended.

4. Requisites

Prerequisites

None

Corequisites

None

5. Course Type

Course Fee Code

3

Course Type for Perkins Reporting

vocational (approved for Perkins funding)

6. Justification

Describe the need for this course

This is a program specific elective in the Computer Science/Information Technology AAS degree.

7. General Education

Will the college submit this course to the statewide General Education Coordinating Committee for approval as a course, which satisfies a general education requirement?

No

If the course does not satisfy a general education requirement, which of the following does it satisfy:

Program-specific requirement

8. Consistency with the Vision and Mission Statements, the Academic Master Plan, and the strategic initiatives of the College

Please describe how this course is consistent with Ocean County College's current Vision Statement, Mission Statement, Academic Master Plan, and the strategic initiatives of the College:

Add item	
1	Offer comprehensive educational programs that develop intentional learners of all ages and ensure the full assessment of student learning in these programs. (Mission Statement)
2	Foster educational innovation through effective teaching-learning strategies, designed to develop and nurture intentional learners who are informed and empowered. (Vision Statement)
3	Employ technology and learning outcomes assessment to ensure student success in an increasingly diverse and complex world. (Vision Statement)
4	Prepare students for entrance into the workforce and/or for successful transfer to other educational institutions. (Academic Master Plan)
5	Seek to empower students through the mastery of intellectual and Practical Skills. (Academic Master Plan)
6	Challenge students to transfer information into knowledge and knowledge into action. (Academic Master Plan)

9. Related Courses at Other Institutions

Comparable Courses at NJ Community Colleges

Institution

Atlantic Cape CC

Course Title

INTERNET AND THE WORLD WIDE WEB

Course Number

CISM1273

Number of Credits

3

Institution

Bergen CC

Course Title

NETWORKING TECHNOLOGIES AND DATA COMMUNICATIONS

Course Number

INF160

Number of Credits

3

Institution

Rowan College at Burlington County

Course Title

INTRODUCTION TO WINDOWS AND NETWORKING

Course Number

CIS135

Number of Credits

3

Institution

Camden County College

Course Title

INTRODUCTION TO NETWORKING

Course Number

CST102

Number of Credits

3

Institution

Mercer County CC

Course Title

FUNDAMENTALS OF COMPUTER NETWORKS

Course Number

NET104

Number of Credits

3

Transferability of Course**Georgian Court University**

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
Elective, 3 credits	Elective	

Kean University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
CPSX1003, CS Elective, 3 credits	Elective	

Monmouth University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
CS001, 100 Level CS Elective, 3 credits	Elective	

Rowan University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
Elective credit, 3 credits	Elective	

Rutgers - New Brunswick, Mason Gross School of the Arts

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
		Will not transfer

Stockton University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
CSISEC, Computer Science and Information Systems Elective, 3 credits	Elective	

10. Course Learning Outcomes**Learning Outcomes**

Students who successfully complete this course will be able to:	
CLO1	Explain the history and development of voice and data communications networks; this survey will range from the telephone network to high-speed, local area networks.
CLO2	Identify and explain the architecture, topology, and type of networks and networking protocols, and explain the major computer data, instruction, and addressing formats.
CLO3	Discuss Intranet and Internet based applications and networking systems.
CLO4	Identify the hardware and software required to design, build, and operate networks in general and LANs (Local Area Networks) and WANs (Wide Area Networks), including wireless networks.
CLO5	Describe the major components of network management, maintenance procedures and network troubleshooting techniques. Identify and explain networking security systems

11. Topical Outline

(include as many themes/skills as needed)

	Major Themes/ Skills	Assignments (Recommended but not limited to)	Assessments (Recommended but not limited to)	Course Learning Outcome(s)
T01	Data Communications 1) History 2) Equipment 3) Asynchronous Communications 4) Synchronous Communications 5) Protocols 6) Network Structure and Architecture 7) OSI Model and IEEE 802 Project	Reading of textbook Homework Internet research Class discussion Real case analysis	Exam	CLO1, 2, 3, 4, 5
T02	Physical Layer 1) Transmission Media 2) Analog Transmission 3) Digital Transmission 4) Network Types	Reading of textbook Homework Internet research Class discussion	Exam	CLO1, 2
T03	Data Link Layer 1) Functions 2) Protocols 3) Examples and Comparisons	Reading of textbook Homework Internet research Class discussion	Exam	CLO1, 2, 3
T04	Network Layer 1) Network Topology 2) Functions 3) Examples and Comparisons	Reading of textbook Homework Internet research Class discussion Real case analysis	Exam	CLO1, 2, 3, 4, 5
T05	Remaining OSI Layers and Equivalents 1) Transport Layer 2) Session Layer 3) Presentation Layer 4) Application Layer	Reading of textbook Homework Internet research Class discussion	Exam	CLO1, 2, 3, 4, 5

T06	Network System Software and Topologies 1) LANs 2) WANs	Reading of textbook Homework Internet research Class discussion	Exam	CLO2, 4
T07	Network Maintenance and Troubleshooting 1) Managing Data, Users, and Security 2) Test Equipment 3) Protocol Analysis Software 4) Troubleshooting Procedures	Reading of textbook Homework Internet research Class discussion Real case analysis Hands-on practice	Exam Project & Presentation	CLO3, 5
T08	Windows, LAN, Operating Systems 1) Evolving Industry Standards and Novell Proprietary Protocols 2) Windows Operating Systems 3) Windows Workstation Shell 4) Operating System Installation 5) Administration 6) User Environment 7) Network Printing 8) Application Software Installation 9) Electronic Mail 10) Multiple File Servers	Reading of textbook Homework Internet research Class discussion Real case analysis	Exam	CLO2, 3, 5

12. Methods of Instruction

In the structuring of this course, what major methods of instruction will be utilized?

Class lecture, discussion, demonstrations, demonstration, student lab assignments

13. General Education Goals Addressed by this Course (this section is to fulfill state requirements)

Information

Technological Competency

Yes

Related Course Learning Outcome

All

Related Outline Component

All

Assessment of General Education Goal (Recommended but not limited to)

Exam & Project presentation

Independent/Critical Thinking

Yes

Related Course Learning Outcome

All

Related Outline Component

All

Assessment of General Education Goal (Recommended but not limited to)

Exam & Project presentation

14. Needs

Instructional Materials (text etc.):

Appropriate textbook and/or open educational resources will be selected. Contact the department for current adoptions. Class notes, presentations, software, and online materials.

Technology Needs:

College Portal and/or College Distance Learning Platform and/or Textbook or Instructor Website.

Human Resource Needs (Presently Employed vs. New Faculty):

Four (4) presently employed full-time faculty plus additional Adjunct Professors as needed.

Facility Needs:

Laboratory classrooms equipped with computer workstations, each configured to support networking, and networking hardware. Podium computer similarly equipped plus the ability to present audio-video presentations to the class.

15. Grade Determinants

The final grade in the course will be the cumulative grade based on the following letter grades or their numerical equivalents for the course assignments and examinations

A: Excellent

B+: Very Good

B: Good

C+: Above Average

C: Average

D: Below Average

F: Failure

I: Incomplete

R: Audit

For more detailed information on the Ocean County College grading system, please see Policy #5154.

16. Board Approval

History of Board approval dates

Revised: December 1990; February 27, 1996; April 30, 1996; December 1998; May 4, 2004; Feb. 28, 2006; March 8, 2006

Board of Trustees Approval Date: December 11, 2006

Board of Trustees Approval Date: March 26, 2012

Approval of Form: September 2017

Board of Trustees Approval Date: March 26, 2020