



**Digital Information & Technology (DIT)**  
**Center of Excellence (COE)**  
**Computer Systems Networking Department**  
(Cybersecurity, Linux, Microsoft, Cisco, BCIS)

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**Course and College Information**  
**ITNW 1425: Fundamentals of Network Technology**  
**#21469**

Spring Second Start 2020 | 12 Weeks (2.18.2020-5.17.2020)  
4 Credit Hours (2 Lecture, 4 Lab) | 96 hours per semester

**Instructor Contact Information**

Instructor: Kathie Herod | HCC Email: [Kathie.Herod@hccs.edu](mailto:Kathie.Herod@hccs.edu)  
Office Phone: 713-718-7174 (Voice Message)  
Office Hours: By appt only | Office Location: J. Don Boney Bldg. Rm 207 - Central Campus  
Campus Map: <https://www.hccs.edu/locations/central-college/central-campus/>

**Instructor's Preferred Method of Contact**

I will respond to emails as soon as possible, usually within 24 hours, Monday through Friday. Weekend email response times will vary, but you should have a response no later than Monday afternoon. Please use the Eagle Online (Canvas) Inbox tool to send me emails.

**What's Exciting About This Course**

Knowing how to install, configure, and troubleshoot a computer network is a highly marketable and exciting skill. This course first introduces the fundamental building blocks that form a modern network, such as protocols, media, topologies, and hardware. It then provides in depth coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, virtual networks, security, and troubleshooting. After completing this course and completing the exercises, you will be prepared to select the best network design, hardware, and software for your environment. You will also have the skills to build a network from scratch and maintain, upgrade, troubleshoot, and manage an existing network. Finally, you will be well-prepared to pass [CompTIA's Network+](#) certification exam.

**My Personal Welcome**

Welcome to this class, ITNW - Fundamentals of Networking. My name is Kathie Herod. I am delighted that you have chosen this course! I bring more than 30+ years of experience in various industries, including health care and information technology (IT), and 8+ years of computer and Cisco networking teaching experience at Houston Community College.

As the class title indicates, this is an introductory course on computer networking. The course begins with an overview of OSI Model and the importance of understanding all seven layers of any computer network. The rest of the course covers hardware, software, switching, routing, protocols, network security and more.

Please read the **rest of this syllabus** for the course description, prerequisites, student learning outcomes, required textbook, instructional material, course assignments, and assessments, as well as other course policies (participation, makeups, etc.). Pay special attention to the **Course Calendar** section shown below and in Canvas for assignments and assessment (exam) due dates. As the course progresses, you may encounter challenging ideas or difficulties with completing your coursework. I'm here to help you succeed and will support you in any way that I can.

The fastest way to reach me is through the Canvas Inbox e-mail. If, for any reason, you can't access Canvas, you can reach me at my HCC e-mail ( [kathie.herod@hccs.edu](mailto:kathie.herod@hccs.edu) ). The best way to discuss issues is in-person or via a phone conversation. I'm available before or after class to answer your questions and address issues you may have. My goal is for you to walk out of the course with a solid understanding of computer networking with an emphasis on CompTIA's Network+ certification.

### Prerequisites and/or Co-Requisites

Must be at college-level skills in reading, writing and math. Must be familiar with the basics of computer hardware and operating system (OS). For example, you must know basic definitions of computer networks and their purpose. If you have enrolled in this course having satisfied these prerequisites, you have a higher chance of success than students who have not done so. Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

### Canvas Learning Management System

This course will use [Canvas](https://eagleonline.hccs.edu) (<https://eagleonline.hccs.edu>) to supplement in-class assignments, exams, and activities. Please follow all the modules on Canvas and be sure to start with the first module titled "Getting started." You will use Canvas to access all the course assignments. HCCS Open Lab locations may be used to access the Internet and Canvas.

**USE [FIREFOX](#) OR [CHROME](#) AS THE INTERNET BROWSER.**

### HCC Online Information and Policies

Here is the link to information about HCC Eagle Online classes including the required Online Orientation for all fully online classes: <http://www.hccs.edu/online/>

### Scoring Rubrics, Sample Assignments, etc.

The scoring rubric is as follows:

Midterm Exam: 20% | Final Exam: 20% | Quizzes: 20% | Labs: 20% | Discussions 20%

## Instructional Materials

### Textbook Information

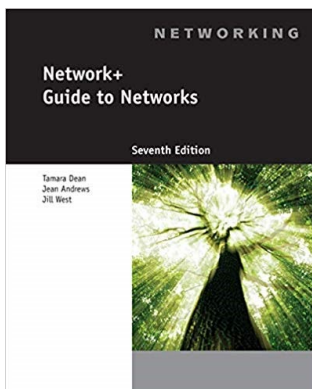
The textbook listed below is required for this course.

**Title:** Network+ Guide to Networks, 7<sup>th</sup> Edition  
**Author:** Jill West; Tamara Dean; Jean Andrews  
**Publisher:** © 2015 by Cengage Learning, Inc.  
**ISBN-13:** [978-1305090941](#)  
**ISBN-10:** [1305090942](#)

**\*\*\*Do NOT purchase MindTap lab key\*\*\***

### InfoSec Lab Information

Students **MUST** purchase the lab from InfoSec Course **ID:**  
**BJVRPDHHDV**



InfoSec Learning (<https://www.infoseclearning.com>) is a virtual lab solution and assessment tool. Access to InfoSec Training is **NOT** included by purchasing the textbook. When registering the InfoSec labs, you need to register this code from within the Canvas LMS link for the first lab and will need (i) *Access code* and (ii) a *Course ID*. You may purchase the access code from the bookstore or directly from InfoSec Learning. For information about how to register, visit <https://www.youtube.com/watch?v=VEhrvuobE7U&feature=youtu.be>



## Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services](#) website for services provided.

## Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <http://library.hccs.edu>.

## Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>.

## Course Overview

Introduction to the fundamentals of Networking, Networking concepts, terminology of networks. Students will gain a basic understanding of network components and how they interact.

### Core Curriculum Objectives (CCOs)

ITNW1425 satisfies the computer science requirement in the HCCS core curriculum. The HCCS Computer Systems Networking Discipline Committee has specified that the course address the following core objectives:

- **Critical Thinking:** Students will demonstrate the ability to engage in inquiry and analysis, evaluation and synthesis of information, and creative thinking by completing a written assignment such as a book report, research paper, or essay.
- **Communication Skills:** Students will demonstrate effective development, interpretation and expression of ideas through written, oral, and visual communication by completing a written assignment such as a book report, research paper, or essay.
- **Quantitative and Empirical Literacy:** Students will demonstrate the ability to draw conclusions based on the systematic analysis of topics using observation, experiment, and/or numerical skills by completing textbook reading assignments, completing assignments, and answering questions on quizzes and exams that pertain to Course Student Learning Outcome #2 below.

- **Social Responsibility:** Students will demonstrate cultural self-awareness, intercultural competency, civil knowledge, and the ability to engage effectively in regional, national, and global communities by completing textbook reading assignments, completing assignments, and answering questions on quizzes and exams that pertain to Course Student Learning Outcome #4 below.
- **Personal Responsibility (PR):** To include the ability to connect choices, actions and consequences to ethical decision-making.

### Program Student Learning Outcomes (PSLOs)

Can be found at:

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/computer-systems-networking--telecommunications/>

### Course Student Learning Outcomes (CSLOs)

1. Overview of Networking (OSI Model)
2. Network Media
3. Network architectures (LANs, WANs)
4. Network Devices (Routers, Switches, VPNs, Firewalls)
5. Network Services
6. Network Protocols (TCP/IP, HTTP, DNS, SMTP, UDP)
7. Network Topologies
8. Overview of Network Security Issues.

Students will be able to, upon successful completion of this course:

- Describe the fundamental concepts, technologies, components and issues related to communications and data networks
- Describe a basic network architecture given a specific need and set of hosts/clients.
- Track and identify the packets involved in a simple TCP connection (or a trace of such a connection)
- Use a network monitoring tool (e.g., Wireshark)
- Use a network mapping tool (e.g., Nmap)

### Learning Objectives

Learning Objectives for each CSLO are mapped to each module on Canvas.

### Student Success

Not all people are well suited for independent study. A general set of guidelines is used to determine if you should be accepted into the Distance Education sections of ITNW1425.

These guidelines will require you to:

1. Be self-motivated or self-starter: This usually means having completed at least 6 credit hours of college and having a cumulative GPA of 2.5 or better. Exceptions must be approved by the instructor.
2. Meet the course prerequisites: This means being ready for ENGL1301 and MATH1314 (i.e. no remediation needed) and high school computer literacy or equivalent.
3. Already be familiar with microcomputers by having used:
  - a) Windows 7 (prefer higher OS versions), Windows 8.1, Windows 10, Linux, Mac OS (any of these)
  - b) An Internet browser like Chrome or Mozilla Firefox
  - c) Files and folders. This means that you should be able to create, rename, delete, locate, move and copy files and folders. You should also be familiar switching between the icon view and the details view in My Computer/Windows Explorer. A basic understanding of the above file management skills is required.
4. Have access to computer resources:
  - a) either, have adequate hardware with software installed on a computer at home or work including adequate Internet access with DSL or cable speed

- b) Or, be able and willing to use open lab times provided by the college to complete the course.
- c) **Please note:** *The network or computer going down the night before an assignment is due is NOT a valid excuse. Assignments have ample lead time before the Cut off Dates to allow for these types of situations. Start work early and submit your work early and you should not have a problem.*

## Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Attain a raw score of at least 50% on the departmental final exam
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

## Assignments, Exams, and Activities

### Discussions

Students are required to give in their own words a discussion of the topics covered in each chapter. Students must give a summation of the values of the concepts and demonstrate understanding. A one-sentence comment will receive a grade of "F." Students must write at least one paragraph per discussion to receive credit for each discussion.

### Labs

**Student Registration Video: [InfoSec Student Registration Without an LMS Integration](#)**

Infosec Course ID: **BJVRPDHHDV – INFOSEC LAB**

- You must purchase an access code for lab access.
- Due dates for each lab will be posted within the course calendar.
- Students must complete all 16 labs by the due dates within each module.

### Exams

You will have two exams: a midterm and a final. They are both 50 questions. The Midterm exam has multiple-choice and true-false. The Final exam is all multiple-choice and True/False. The Final Exam must be taken in person on campus.

### Grading Formula

|              |      |
|--------------|------|
| Midterm Exam | 20 % |
| Final Exam   | 20 % |
| Labs         | 20 % |
| Discussion   | 20 % |
| Quizzes      | 20 % |

| Grade | Total Points |
|-------|--------------|
| A     | 90+          |
| B     | 80+          |
| C     | 70+          |
| D     | 60+          |
| F     | <60          |

**Incomplete Policy:**

To receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

**HCC Grading Scale is located at this site under Academic Information:**  
<http://www.hccs.edu/resources-for/current-students/student-handbook/>

**SP 2020 Second Start 12-Week Course Calendar**

| <b>Week #<br/>(Date)</b>          | <b>Topics</b>   | <b>Chapter<br/>Reading</b> | <b>Exams</b>    |
|-----------------------------------|---|----------------------------|-----------------|
| <b>1</b><br>(2/18/2020)           | Introduction to Networking                                | Chapter 1                  |                 |
| <b>2</b><br>(2/25/2020)           | How Computers Find Each Other on Networks                 | Chapter 2                  |                 |
| <b>3</b><br>(3/03/2020)           | How Data is Transported Over Networks                     | Chapter 3                  |                 |
| <b>4</b><br>(3/10/2020)           | Structured Cabling and Networking Elements                | Chapter 4                  |                 |
|                                   | Network Cabling   | Chapter 5                  |                 |
| <b>5</b><br><b>(3/16-20/2020)</b> | <b>SPRING BREAK</b>                                       |                            |                 |
| <b>6</b><br>(3/24/2020)           | Wireless Networking & Mid-term Exam Review                | Chapter 6                  |                 |
| <b>7</b><br>(3/31/2020)           | <b>On Campus (Mid-Term Exam)</b>                          | Chaps 1-6                  | <b>Mid-term</b> |
| <b>8</b><br>(4/07/2020)           | Cloud Computing and Remote Access                         | Chapter 7                  |                 |
|                                   | Network Risk Management                                   | Chapter 8                  |                 |
| <b>9</b><br>(4/14/2020)           | Unified Communications and Network Performance Management | Chapter 9                  |                 |
| <b>10</b><br>(4/21/2020)          | Network Segmentation and Virtualization                   | Chapter 10                 |                 |
| <b>11</b><br>(4/28/2020)          | Wide Area Networks  | Chapter 11                 |                 |
| <b>12</b><br>(5/05/2020)          | Industrial and Enterprise Networking & Final Exam Review  | Chapter 12                 |                 |
| <b>FINAL</b><br>(5/12/2020)       | <b>On campus (Final Exam)</b>                             |                            | <b>Final</b>    |

**Syllabus Modifications**

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

**Instructor's Practices and Procedures****Missed Assignments**

- Due dates prevent "Procrastination" on your part. It is "strongly suggested" that students set a regular study schedule.
- These dates allow you to complete materials on or before the "Due Date."
- Students that work ahead will be able to handle unexpected situations that will occur in their life.
- Assignments not received, and quizzes not taken by the "Due Date" for a Learning Module will result in no grade or a grade of zero for that assignment.
- Assignments must be submitted, and all quizzes must be taken by 11:59:00 PM (on OUR CLOCK) on the "Due Date" of each assignment or quiz.

- Remember, you can always turn in assignments before the "Due Date," but never after the "Due Date."
- If you are having problems completing course materials on time (by the "Due Date"), chat with the instructor. If you have over-scheduled your life (working 40 hours a week and taking 15 credit hours of college instruction), have computer problems (my computer is broke, and I don't know when it will get fixed) or don't have a textbook.

DON'T BE SURPRISED IF THE INSTRUCTOR SAYS, "You should withdraw from the course." In other words, you might not get much sympathy and the instructor because I expect that assignments and quizzes be submitted by the "Due Date." However, under unusual circumstances (death or illness in the family and other items that greatly disrupt your life), the instructor might be willing to accept late materials if you make contact in advance!

Final Exam details – details to be finalized:

- Hybrid classes require an on-campus visit
- Date, start time, building, and room to be confirmed
- Exam duration limited to 2 hours unless a student has ADA accommodations
- If a student has ADA accommodations, you will have 3 hours for testing time, then you must arrive no later than 5:00 pm
- Potential conflicts should be resolved individually with your Instructor

## Academic Integrity

An academically dishonest student is, by definition, not showing that they have not learned the coursework and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's academic achievements and for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has several roles, including teaching, grading, and enforcement roles. Students should be familiar with HCC's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Houston Community College System officials may initiate penalties and disciplinary proceedings against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion. For more information on HCC policy on academic honesty, refer to the HCC Student Handbook.

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

## Attendance Procedures

### Face-to-Face (In-Class Only) and Hybrid (Half In-Class and Half Online) Students:

- Students must attend class on scheduled meeting dates to prevent being withdrawn from the class, participate in class discussions and activities, and complete online requirements by the posted deadlines to receive credit. Student's class attendance is recorded in the student system per class. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences. As stated in the HCC Catalog, all students are expected to attend classes regularly.
- Students may be administratively withdrawn from class if they don't meet the State mandated attendance policy.
- You are responsible for materials covered during your absences.

### Distance Education (Online Only) Students:

- Students in DE courses must log into their Canvas class, or they will be counted as absent. Just like an on-campus class, your regular participation is required.
- Although it is the responsibility of the student to withdraw officially from a course, the professor also

has the authority to block a student from accessing Canvas, and/or to withdraw a student for excessive absences or failure to participate regularly. DE students who do not log into their Moodle class before the Official Day of Record will be dropped from the class automatically for nonattendance. Completing the DE online orientation does not count as attendance.

For complete information regarding Houston Community College's policies on attendance, please refer to the HCC Student Handbook.

## Student Conduct

Students shall not engage in disruptive activities while on the college campus or property. While it is impossible to compile a complete list of disruptive behavior, any form of conduct by an individual or group of students that interferes with or inhibits the educational opportunities of another student is considered a disruption. For more information regarding Student Conduct behavior, please review the Student Code of Conduct & Discipline Procedures.

## HCC Policies

Here's the link to the HCC Student Handbook:

<http://www.hccs.edu/resources-for/current-students/student-handbook/>

In the handbook, you will find information about the following:

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Academic Information</li> <li>• Academic Support</li> <li>• Attendance, Repeating Courses, and Withdrawal</li> <li>• Career Planning and Job Search</li> <li>• Childcare</li> <li>• disAbility Support Services</li> <li>• Electronic Devices</li> <li>• Equal Educational Opportunity</li> <li>• Financial Aid TV (FATV)</li> <li>• General Student Complaints</li> <li>• Grade of FX</li> </ul> | <ul style="list-style-type: none"> <li>• Incomplete Grades</li> <li>• International Student Services</li> <li>• Health Awareness</li> <li>• Libraries/Bookstore</li> <li>• Police Services &amp; Campus Safety</li> <li>• Student Life at HCC</li> <li>• Student Rights and Responsibilities</li> <li>• Student Services</li> <li>• Testing</li> <li>• Transfer Planning</li> <li>• Veteran Services</li> </ul> |
|--|---|

## EGLS<sup>3</sup>

The EGLS<sup>3</sup> (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS<sup>3</sup> surveys are only available for the Fall and Spring semesters. EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>

## Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<http://www.hccs.edu/departments/police/campus-carry/>

## HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go [to HCC Eagle ID](#) and activate it now. You may also use Canvas Inbox to communicate.

## Housing and Food Assistance for Students



Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable HCC to provide any resources that HCC may possess.

## **Office of Institutional Equity**

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<http://www.hccs.edu/departments/institutional-equity/>)

### **disAbility Services**

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long- and short-term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to: <http://www.hccs.edu/support-services/disability-services/>

### **Title IX**

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination based on sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy, please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross  
 Director EEO/Compliance  
 Office of Institutional Equity & Diversity 3100 Main  
 (713) 718-8271  
 Houston, TX 77266-7517 or [Institutional.Equity@hccs.edu](mailto:Institutional.Equity@hccs.edu)  
<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>

### **Office of the Dean of Students**

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>

### **Department Chair Contact Information**

Samir Saber, [samir.saber@hccs.edu](mailto:samir.saber@hccs.edu). 713-718-7513  
 Naseem Nikooei, [Naseem.nikooei@hccs.edu](mailto:Naseem.nikooei@hccs.edu). 713-718-7631