

# IST 452 - Advanced Computer Networking

---

- [Course Description](#)
- [Credit\(s\)](#)
- [Professor of Record](#)
- [Audience](#)
- [Learning Objectives](#)
- [Course Syllabus](#)
- [Other iSchool Courses](#)

---

## Course Description

Technical, design, and management issues related to enterprise computer networking. In-depth investigations of TCP/IP Internet work protocols and popular network technologies including Ethernet and Wireless. Hands-on experience with protocol analysis, network management, and security.

## Credit(s)

3.0

## Professor of Record

## Audience

Students who desire to gain a deep understanding of computer networking and who desire to achieve Cisco certification in routing and switching.

## Learning Objectives

After taking this course, students will be able to:

- Recognize the devices and services that are used to support communications across networks
- Use network models to explain the layers of communications in data networks
- Explain the role of protocols in data networks
- Describe the protocols and services provided by the OSI and TCP/IP models
- Interpret network diagrams
- Explain the critical role routers play in enabling communications across multiple networks
- Explain the route lookup process and determine the path packets will take in the network.
- Describe the network discovery process of distance vector routing protocols such as Routing Information Protocol (RIP)
- Describe the basis features and concepts of link-state routing protocols
- Describe the purpose, nature, and operations of the Open Shortest Path First (OSPF) Routing Protocol
- Describe the purpose, nature, and operations of internet's Border Gateway Routing Protocol (BGP)
- Describe today's increasing network security threats and explain the need to implement a comprehensive security policy to mitigate the threats
- Describe standards associated with wireless media (IEEE WI-FI Alliance, ITU/FCC)
- Identify and describe the purpose of the components in a small wireless network. (SSID, BSS, ESS)
- Compare and contrast wireless security features and capabilities of WPA security(open, WEP, WPA-1/2)
- Describe VPN technology (importance, benefits, role, impact, components)

## Course Syllabus

[IST 452 Spring 2021 Syllabus - Jeffrey Girard](#)

---

## Other iSchool Courses

- [IDS 301 - What's the Big Idea?: Technology Innovation](#)
- [IDS 302 - Idea2Startup](#)
- [IDS360 - Entrepreneurial Immersion Experience](#)
- [IDS 403 - iLaunchPad](#)
- [IST 101 - First Year Forum](#)
- [IST 195 - Information Technologies](#)
- [IST 233 - Intro to Computer Networking](#)
- [IST 256 - Appl.Prog.For Information Syst](#)
- [IST 263 - Intro to Front-End Web Dev](#)
- [IST 300 - Digital Platforms](#)
- [IST 300 - The Power of Information](#)

- [IST303 - Global Financial Systems Architecture](#)
- [IST 305 - Globalization: Collaboration, Culture, Systems & Data](#)
- [IST 322 - Digital Strategy & Analytics for the Web](#)
- [IST 323 - Intro to Information Security](#)
- [IST325 - Information Management Consultation](#)
- [IST 335 - Intro/Info Based Organizations](#)
- [IST 336 - Leading Issues in Info Security](#)
- [IST 337 - IM&T Support Practicum](#)
- [IST 341 - Human-Centered Design](#)
- [IST 342 - Information Security Policy](#)
- [IST 343 - Data in Society](#)
- [IST 344 - Info Reporting & Presentation](#)
- [IST 345 - Managing Info Systems Projects](#)
- [IST 346 - Info Tech Mgmt & Administration](#)
- [IST349 - Human-Computer Interaction](#)
- [IST 352 - Info Analysis of Org. Systems](#)
- [IST 359 - Intro to Data Base Mgmt Sys](#)
- [IST 363 - Advanced Front End Web Design](#)
- [IST 382 - Cultural Competence for Information Professionals](#)
- [IST 387 - Intro to Applied Data Science](#)
- [IST 426 - Information Justice and Community Engagement](#)
- [IST 400 - Blockchain Management](#)
- [IST 402 - Digital Forensics](#)
- [IST 407 - Advanced Data Analytics](#)
- [IST 414 - Data Driven Inquiry](#)
- [IST 419 - Economics for Info Mgmt](#)
- [IST 421 - Information Visualization](#)
- [IST 425 - Enterprise Risk Management](#)
- [IST 429 - Technology & the Future of Work](#)
- [IST431 - Security in Networked Environments](#)
- [IST 442 - Agile Project Management](#)
- [IST443 - Critique of the Information Age](#)
- [IST447 - Complex Issues in IT Project Management](#)
- [IST448 - Enterprise Wireless Networks](#)
- [IST 452 - Advanced Computer Networking](#)
- [IST453 - Telecommunications Regulations](#)
- [IST456 - Information Policies and Decision Making](#)
- [IST462 - Scripting for Data Analysis](#)
- [IST 466 - Prof Issues/Info Mgmt & Tech](#)
- [IST469 - Advanced Database Management Systems](#)
- [IST471 - Internship in Info Mgmt & Tech](#)
- [IST472 - Coop Educ in Info Mgmt & Tech](#)
- [IST475 - Full Stack Web Development](#)
- [IST476 - Applied Information Security](#)
- [IST 477 - Research in Innovation, Society, and Technology](#)
- [IST 486 - Social Media in the Organiz.](#)
- [IST 523 - Graphic Design for the Web](#)