**Description**

Introduction to networking principles and concepts for the development of distributed software. Topics include Internet protocol, data transport protocol (UDP and TCP), application-level protocols (e.g., HTTP, SMTP), ports, and sockets, among others.

**Overall goals**

The goal of this course is to introduce the students to the basic principles of computer networks, including protocols and APIs for engineering distributed software that can communicate over networks.

**Course objectives**

On the successful completion of this course, students will be able to:  
1. Explain the differences between commonly used communication protocols for the construction of software;  
2. Develop applications that use network libraries and APIs for remote communication

**Reading material**

Textbook:  
[Java Network Programming (Links to an external site.)](https://www.amazon.com/Network-Programming-Elliotte-Rusty-Harold/dp/1449357679). Elliotte Rusty Harold, O'Reilly, 4th Edition.

Online material:  
[https://docs.oracle.com/javase/tutorial/essential/io (Links to an external site.)](https://docs.oracle.com/javase/tutorial/essential/io)   
[https://docs.oracle.com/javase/tutorial/networking/ (Links to an external site.)](https://docs.oracle.com/javase/tutorial/networking/)

[Overview slides](https://canvas.eee.uci.edu/courses/41513/files/16052052/download?wrap=1)[Download Overview slides](https://canvas.eee.uci.edu/courses/41513/files/16052052/download?download_frd=1)

**Prerequisites**

The course assumes students have knowledge of:

* Java programming language
* Java concurrent programming using threads