Software Defined Networking

Dr. Nick Feamster
Professor

In this course, you will learn about software defined networking and how it is changing the way communications networks are managed, maintained, and secured.

Welcome to SDN (Summer 2015)

- New this year
  - New material reflecting new topics and changes
  - New programming assignments
  - New interviews
  - Improved forums and community TAs
  - Scoring (No certificates at Princeton)

New Material

- Programmable Data Planes
  - White-Box Networking
  - Hardware architectures
    - RMT, FlexPipe
  - Languages
    - NetASM (assembler), P4 (specification)
- Wide-Area SDNs
  - Inter-data center, transit, enterprise
- New Use Cases
- Security
- Network Functions Virtualization

New Interviews

- Programmable Data Planes (P4)
- Broadband Access Networks
- Mobile and Wireless
- Verification
- Wide-Area Networking

Eight-Week Course

- History
- Control/Data Separation
- Control Plane
- Network Virtualization
- **Data Plane**
- **Programming SDNs**
- **Troubleshooting, Verification, and Security**
- **Use Cases: SD-WAN, Access, Mobile, NFV**