Course name (English)	Advanced Computer Networks

Course ID:	-	No of units:	3	Program:	Graduate
Prerequisites:	Computer Networks			Co-requisites:	
Prepared by:	Mehdi Kharrazi				

Intro: History and context and packet switching.

Part 1: Internetworking

- **Internetworking: Architectural principles, names, addresses**
- **Interdomain Routing**

Part 2: Resource Management

- **End-to-End Congestion Control**
- **Fair Queuing**
- **Router congestion control**
- **` Quality of Service**
- **Router Design**

Part 3: Wireless

- **Wireless Networks overview and architectures**
- **Wireless Networks in the real world**
- **Routing in ad-hoc networks**
- **Routing in ad-hoc networks**
- **Sensor Networks**

Part 4: Applications, Naming, and Overlays

- **Topology**
- **Overlay Networks 1**
- **Distributed Hash Tables**
- **DNS and the Web**
- **What's in a name? Names, identifiers, and network architecture**

Part 5: Measurement (and Multicast...)

- **Measurement**
- **Data-oriented networking and DTNs**
- **Multicast**

Acknowledgments

This course is primarily based on the graduate level Computer Networks course thought by Srinivasan Seshan at CMU: http://www.cs.cmu.edu/~srini/15-744/S08/index.html

References

There is no specific textbook for the course. Instead, there are about 40 papers used as reference for this course. These papers could be seen at the class website here: http://sharif.edu/~kharrazi/courses/40693-881/