Computer Science (COMP) 347

Computer Networks (Revision 8)

Status:	Replaced with new revision, see the **course listing** ⬀ for the current revision ✕
Delivery mode:	**Individualized study online** ⬀ with **eText** ⬀
Credits:	3
Area of study:	Science
Prerequisites:	**COMP 314**
Precluded:	COMP 345 or COMP 346. (COMP 347 may not be taken for credit if credit has already been obtained for COMP 345 or COMP 346.)
Challenge:	COMP 347 has a challenge for credit option.
Faculty:	**Faculty of Science and Technology** ⬀
Notes:	Students who are concerned about not meeting the prerequisites for this course are encouraged to contact the **course coordinator** before registering.

Overview

Computer Science 347: Computer Networks is designed to teach the essential principles and technologies of computer networking. Different from computer network courses for professional certifications, this course is focused on the theories and technologies enabling today's computer networks. After a general introduction to computer network concepts, terminologies, and brief history, computer networking is taught using a top-down approach, in reference to the Internet protocol stack, and ends with wireless and mobile networks.

To accommodate the needs of students who do not have a programming background, there are no coding requirements in this course.

Outline

COMP 347 consists of the following seven units:

- Unit 1: Introduction to Computer Networks, the Internet, and the World Wide Web

- Unit 2: The Application Layer and Network Applications

- Unit 3: The Transport Layer

- Unit 4: The Network Layer: Data Plane

- Unit 5: The Network Layer: Control Plane

- Unit 6: The Link Layer and Local Area Networks

- Unit 7: Wireless and Mobile Networks

Learning outcomes

Upon successful completion of this course, you should be able to

- explain the fundamental concepts of computer networks and communicate with computer networking professionals using the proper technical terms.

- use the concepts of layered models and network principles and technologies to explain how computer networks and their components work and to explain various performance issues such as delays and quality assurance.

- explain and analyze various network standards and protocols.

- use computer network principles and technologies to solve network related problems.

- design new network protocols for network services to meet specific requirements.

- apply the principles and technologies obtained from the course to the analysis, design, implementation, and management of computer networks.

Evaluation

To **receive credit** ⤢ for COMP 347, you must achieve a course composite grade of at least **D (50 percent)** ⤓ , including a grade of 50 percent on each assignment, and at least 50 percent on the final examination. The weighting of these grades is as follows:

Activity	Weight
Assignment 1	20%
Assignment 2	20%
Assignment 3	20%
Participation	10%
Final Examination	30%
Total	**100%**

The **final examination** for this course must be requested in advance and written under the supervision of an AU-approved exam invigilator. Invigilators include either ProctorU or an approved in-person invigilation centre that can accommodate online exams. Students are responsible for payment of any

invigilation fees. Information on exam request deadlines, invigilators, and other exam-related questions, can be found at the **Exams and grades** ⬀ section of the Calendar.

To learn more about assignments and examinations, please refer to Athabasca University's **online Calendar** ⬀ .

Materials

Kurose, J. F., & Ross, K. W. (2021). *Computer networking: A top-down approach* (8th ed.). Pearson. 📖 (eText)

eText

Registration in this course includes an electronic textbook. For more information on **electronic textbooks** ⬀ , please refer to our **eText Initiative site** ⬀ .

Other materials

All other materials are available online.

Challenge for credit

Overview

The challenge for credit process allows you to demonstrate that you have acquired a command of the general subject matter, knowledge, intellectual and/or other skills that would normally be found in a university-level course.

Full information about **challenge for credit** ⬀ can be found in the Undergraduate Calendar.

Evaluation

To **receive credit** ⬀ for the COMP 347 challenge, you must achieve a grade of at least **D (50 percent)** 📄 on the examination and 50 percent on the project.

Activity	Weight

Activity	Weight
Project	50%
Examination	50%
Total	**100%**

📄 **Challenge for credit course registration form**

Important links

> **Academic advising** ⬈

> **Program planning** ⬈

> **Request assistance** ⬈

> **Support services** ⬈

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

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View **previous revision** 📄