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FORDHAM UNIVERSITY
Fordham College at Lincoln Center
*Department of Computer & Information Science*
**SYLLABUS**

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| **Semester:** | Fall, 2023 |
| **Course Number:** | CISC 4615 L01 |
| **Course Title:** | Data Communications & Networks |
| **Instructor:** | Dr. Robert K. Moniot |
| | Office LL 821-A, Phone (212) 636-6334 |
| | Office hours: TF 10:00–11:00 AM |
| | Other office hours by appointment. (I am in my office M–F 9–5; call my secretary at (212) 636-6300 to make an appointment) |
| | E-mail: moniot@fordham.edu |
| | URL: http://www.dsm.fordham.edu/~moniot |
| **Class Hours:** | TF 11:30–12:45 PM, Room LL 912 |
| **Required Texts:** | *Computer Networks, 6th ed.,* by Andrew S. Tanenbaum, (Pearson, 2021, ISBN-13: 9780137523214) |

**Prerequisite:** CISC 1600 — Computer Science I.

This is a required course for the Computer Science major and the Cybersecurity minor. It is a major elective option for the Math/CIS major.

**Course Outline:** A tour of computer networking concepts and practices from the bare metal up to the World-Wide Web. The course presents the basic concepts of data communications: data transmission, data encoding, data link control, multiplexing, error detection techniques. It covers communication networking techniques: switching, protocols, line control procedures, local networks. Communication carrier facilities and systems planning considerations will also be discussed.

**Protocol:** Grade will be based on homework (10%), projects (30%), a midterm (25%), and a final exam (35%).

**Test Dates:** Midterm exam: Friday, October 13. Final Exam: Friday, December 15, 1:30–3:30 pm.

**Schedule of Topics, Readings and Assignments:**

**Sep. 1:** Chap. 1 — Overview. OSI reference model. Standards.

**Sep. 8:** Chap. 2 — Physical layer. Bandwidth. Media.

**Sep. 19:** Chap. 3 — Data-link layer. Error detection & correction. Data link protocols.

**Sep. 29:** Chap. 4 — MAC sublayer. Ethernet. Wireless networks. Data link layer switching.

**Oct. 17:** Chap. 5 — Network layer. Routing. Congestion control. Quality of Service.

**Nov. 3:** Chap. 6 — Transport layer. Connectionless & connected sessions. UDP & TCP.

**Nov. 17:** Chap. 7 — Application layer. DNS. SMTP & e-mail. HTTP & World-Wide Web.

**Dec. 1:** Chap. 8 — Network security. Cryptography. Authentication protocols. Security issues.

**Dec. 15 (Fri):** Final Exam, 1:30–3:30 pm.

(Note that this schedule may need to be adjusted slightly as the course progresses. Any changes will be announced in class and posted on the Blackboard web site.)

Academic integrity is very important to the mission of the university. Plagiarism or excessively close collaboration with others on projects will result in an F on the assignment and may result in an F for the course. You are responsible for and expected to follow the Fordham College at Lincoln Center policy regarding matters of academic integrity.

For purposes of this course, generative AI tools will be considered the same as human helpers, i.e., you may use them only in the same way as you would a human helper. Any work you turn in must be your own, or, if collaboration on the assignment is permitted, you must acknowledge any such assistance you received, whether human or AI.

If you are a student with a documented disability and require academic accommodations, please register with the Office of Disability Services for Students (ODS) in order to request academic accommodations for your courses. Please contact the main ODS number at 718-817-0655 to arrange services. Accommodations are not retroactive, so you need to register with ODS prior to receiving your accommodations. Please see me after class or during office hours if you have questions or would like to submit your academic accommodation letter to me if you have previously registered for accommodations.