Course Outline :: *Final version :: Last modified: December 16, 2025*

1. Course Information

Instructor:	Dr. Christine Laurendeau (she/her)	**Lectures**:	Mon / Wed 4:05 - 5:25 pm
Email:	ChristineLaurendeau@cunet.carleton.ca	Classroom:	posted in Carleton Central
Office:	HP 5378	Web site:	Brightspace
Office hours:	posted in Brightspace	Teaching team:	posted in Brightspace

Land acknowledgement: Carleton University acknowledges the location of its campus on the traditional, unceded territories of the Algonquin nation.

2. Course Description

An introduction to wireless networks covering both networking issues and security aspects of modern wireless environments. Fundamentals of mobile LANs, ad hoc, sensor networks, secure routing, searching, clustering, multicasting, localization, mobile IP/TCP, confidentiality, key establishment, authentication, broadcasting, RFIDs, and rogue attacks.

Prerequisite(s): COMP 3203 or SYSC 4602.

3. Topics Covered

3.1. The course will cover the following topics (some material may be omitted due to time constraints): wireless communications; wireless technologies including LANs, PANs, cellular, ad hoc, and sensor networks; and wireless security.

3.2. *Estimated schedule*

Week	Dates	Course work	Topics
Wk01	Jan.05		Part 1: Wireless communications
	Jan.07		
Wk02	Jan.12		
	Jan.14	A1 posted	
Wk03	Jan.19		
	Jan.21		Part 2: Wireless technologies
Wk04	Jan.26		
	Jan.28	A1 due	
Wk05	Feb.02		
	Feb.04		
Wk06	Feb.09		
	Feb.11	A2 due	
Wk07	Feb.23		MIDTERM
	Feb.25	Proposal due	Project presentations
Wk08	Mar.02		
	Mar.04		
Wk09	Mar.09		
	Mar.11		
Wk10	Mar.16		Part 3: Wireless security
	Mar.18		
Wk11	Mar.23		
	Mar.25		Final exam review
Wk12	Mar.30		Project demos
	Apr.01	Project due	
Wk13	Apr.06		Office hours

4. Textbook(s) and Learning Material(s)

Required: Students are not required to purchase textbooks or other learning materials for this course.

Recommended (not required to purchase):

- Cory Beard and William Stallings, *Wireless Communication Networks and Systems*, Pearson, 2016. [eBook: ≈$58]
- Dharma Prakash Agrawal and Qing-An Zeng, *Introduction to Wireless & Mobile Systems*, 4th edition, Cengage Learning, 2016. [eBook: ≈$100]
- Michel Barbeau, *Wireless Mobile Communications, Networks & Security*, 2017, available online. [$0]
- William Stallings and Laurie Brown, *Computer Security Principles and Practice*, 5th edition, Pearson, 2018. [eBook: ≈$58]

5. Assessment Scheme

5.1. Students will be assessed in this course according to the following measures:

Component	Weight	Due dates
Assignments (2)	6%	Jan. 29, Feb. 12
Group project	25%	Feb. 24, Apr. 2
Midterm	24%	Feb. 23 (in class)
Final exam	45%	TBA

5.2. Each assignment is worth 3% of the final grade.

5.3. The group project weight is distributed over the following **mandatory** deliverables:
- 5%: written project proposal with in-class presentation
- 10%: written project final report
- 10%: project simulation code with demonstration

5.4. There will be no extra credit available in this course.

6. Assessment Notes

6.1. *Assignments and project deliverables:*

6.1.1. There will be two (2) assignments and three (3) project deliverables in this course. Assignment and project deliverable requirements will be posted in Brightspace.

6.1.2. All assignments and project deliverables are **mandatory**. No assignment or project deliverable will be waived, for any reason.

6.2. *Group project:*

6.2.1. The project work is group-based, with each group consisting of no more than three (3) students. Due to the research-based nature of the required work, students are discouraged from working alone.

6.2.2. Project proposals **must** be presented in class on Feb. 25, Mar. 2, Mar. 4, Mar. 9, and Mar. 11, by all members of the project team, in order for the written proposal to be evaluated.

6.2.3. Working project code **must** be demonstrated to the instructor or TA at scheduled appointments on Mar. 30 and Apr. 1, by all members of the project team, in order for the simulation code and written report to be evaluated.

6.2.4. No waivers or extensions will be granted for the project presentation or demonstration. In cases where the work cannot be evaluated because of student absence, a grade of zero will be assigned to the absent student.

6.2.5. Project topics will be selected by students and must be approved by the instructor. Duplicate projects, or projects with significant overlap between groups, or projects that are not at the 4th year undergraduate level will not be accepted.

6.3. *Collaboration:*

6.3.1. All assignments must be completed **individually**. Collaborating on assignments is strictly disallowed and will be reported as an academic integrity offence.

6.3.2. All project deliverables must be completed by *registered project teams*. Inter-team collaboration on project deliverables is strictly disallowed and will be reported as an academic integrity offence.

6.3.3. All course work submitted for credit must be *original*, and the student(s) submitting the work must be its sole and original author.

6.3.4. The use of any generative artificial intelligence (AI) tool, including but not limited to ChatGPT, Copilot, etc., is **strictly prohibited** and will be reported as an academic integrity offence.

6.4. *Submission:*

6.4.1. Only assignment and deliverable files uploaded into Brightspace will be graded for credit. Students are responsible for the integrity of their submissions. Submissions that contain incorrect, corrupt, or missing files may receive a grade of zero, in accordance with the marking scheme. Corrections to submissions will not be accepted after the submission link expires.

6.4.2. Technical problems do not exempt students from any submission requirement. If students wait until the last minute and then have issues with their computer or internet connection, their submission will still earn a grade of zero.

6.5. *Grading:*

6.5.1. Assignment marks will be released to students when **all** the grading is completed.

6.5.2. It is the student's responsibility to ensure that their midterm and course work marks posted in Brightspace are correct. All marking disputes must be addressed with the individual responsible for marking the work (TA or instructor), **within one week** of the marks being posted. In cases where a student and a TA cannot agree, the matter will be referred to the instructor for resolution. For course work that is due close to the end of the term, the dispute period may be shortened to allow for the timely submission of final grades.

6.5.3. The **only** valid reason to appeal a grade is an error by a TA in applying the grading scheme. Student errors, including but not restricted to submitting a wrong or corrupted file, are **not** a basis for appealing a grade. All appeals of this nature will automatically be denied.

7. Late and Missed Work Policies

7.1. **Late penalty**: Late assignments and project deliverables (excluding the presentation and demonstration) will incur a deduction of 5% of denominator marks for every hour late, or part of an hour late, up to a maximum of 10 hours past the submission deadline. Once this 10-hour time window has elapsed, the Brightspace submission link will expire, and no submissions, substitutions, or corrections will be accepted, for any reason. Late project presentations and demonstrations will not be accepted, for any reason.

7.2. **Extension**:

7.2.1. Students may request a 72-hour deadline extension for a maximum of one (1) assignment or project deliverable (excluding the presentation and demonstration) during the entire term. Extensions for the project presentation and/or demonstration will not be granted, for any reason.

7.2.2. Extension requests must be submitted **before** the original due date, using the online form provided in Brightspace. Emailed requests will *not* be accepted.

7.2.3. *No additional extensions will be granted*, for any reason, including in cases of short-term absence or incapacitation, as stated in paragraph 7.3.

7.2.4. Extension requests received after the course work deadline will automatically be denied.

7.2.5. Once granted, an extension **cannot** be cancelled or deferred, *even if a student does not use the granted extension*.

7.3. **Short-term absence:** Short-term student absence or incapacitation will be accommodated through *the existing flexibility provisions stated in this course outline* in paragraphs 7.1 and 7.2.

7.4. **Long-term absence:** Students who experience absence or incapacitation for longer than an accumulated total of five (5) days during the entire term **cannot** be accommodated, as they will be unable to achieve learning outcomes of the course.

8. Course Material

8.1. All concepts covered during the lectures and during the project presentations are part of the course material, including the course notes and related details discussed during lectures, all in-class examples, and in-class and forum discussions. **Students are expected to attend lectures and take their own notes**, to learn to demonstrate the course concepts at the level at which they will be assessed.

8.2. All materials created by the instructor for this course (including, but not limited to, course notes, example materials, assignment and project specifications, marking schemes, midterms, exams, and midterm and exam solutions), except where otherwise noted, remain *the intellectual property of the instructor*. They are intended for the personal and non-transferable use of students registered in the course. Reproducing, reposting, and/or redistributing any course materials, in part or in whole, without the written consent of the instructor, is a violation of IP rights, and is **strictly prohibited**.

9. Collaboration Policy

9.1. Collaborating on assignments, midterms, and final exams is **strictly disallowed** and will be reported to the Dean of Science as an academic integrity offence. Penalties for such offences can be found on the ODS web page. Students must complete all course work by themself.

9.2. Collaboration on the project is restricted to members of the same registered team, which will consist of no more than three (3) students.

9.3. Examples of academic integrity offences include: emailing course work to other students; uploading course work to a web site other than Brightspace, at any time; copying course work or solutions from any sources, even cited ones; working with other students; getting help from anyone other than the course TAs or the instructor; submitting course work, or portion thereof, written by anyone or any entity (including an artificial intelligence tool) other than the student submitting the work.

9.4. If students are unsure of the expectations regarding academic integrity, they must ask the course instructor. Sharing assignment or examination specifications or posting them online (to sites like Chegg, CourseHero, OneClass, etc.) is **always** considered academic misconduct. Students are **never** permitted to post, share, or upload course materials without explicit permission from the instructor. Academic integrity offences are reported to the office of the Dean of Science. Information, process and penalties for such offences can be found on the ODS web page.

9.5. Assignment and examination activities in this course are designed to be completed by an individual working alone, and deliverables are designed to be completed by members of the same registered team. The use of any artificial intelligence (AI) tool is **strictly prohibited** and will be reported as academic misconduct. This includes, but is not limited to, ChatGPT, Copilot, etc.

9.6. Posting course work and/or its solutions online, including assignment work, midterm work, and final exam work, and distributing course work and/or solutions to other students **at any time** is strictly prohibited and will be reported to the Dean of Science as academic misconduct. This includes work publicly posted on source control sites like GitHub.

10. Communications Policy

10.1. Students are expected to check their email on a **daily** basis. Important course-related announcements will be posted in Brightspace and forwarded to students' cmail accounts.

10.2. Due to a high volume of emails, the instructor will respond to student emails within 2 to 3 university business days. This timeframe excludes weekends, statutory holidays, and periods of university closure. Emailed questions that request information already available in a discussion forum, or in an assignment specification, or in the course outline may take longer.

10.3. Students are expected to post all short, simple course-related and course work-related questions in the corresponding discussion forum in Brightspace. Questions must be posted in the appropriate forum, using a professional tone, and in a solution-free manner. For questions that are more complex, students must see the instructor during office hours.

10.4. The instructor will endeavour to respond to discussion forum posts in Brightspace within 12 university business hours. Before posting, students are expected to check the forums to see if their question has already been asked, as duplicate questions may not be answered.

10.5. **TA office hours** are the first point of contact for students requiring help with completing their assignment or project deliverable. Please note that TAs are not experts in the course material or course work requirements. For questions about those topics, please see the instructor during office hours or post the questions in the appropriate Brightspace forum.

10.6. **Instructor office hours** are the first point of contact for students requiring help with the course material, or with understanding course work requirements, or for academic advising.

10.7. Student emails to the TAs and/or the instructor **must** indicate the course code and section in the subject line. Their tone and content must be *professional*, and not personal, in nature. Specifically, they must be written as to a colleague or co-worker, not as to a family member or friend.

10.8. Students are expected to behave and communicate in a **courteous** and **professional** manner at all times. Any communications, either in person, or online in forum posts and email, that do not follow the basic precepts of common courtesy and professionalism will not be answered, and in extreme cases will be reported to university authorities. Carleton University's expectations of student behaviour online can be found at this link.

11. SCS Laptop Requirement

Every student who has been enrolled in a 1000-level (i.e. first year) course offered by the School of Computer Science after the 2020/2021 school year is required to have a laptop. This includes COMP1001, COMP1005, and COMP1006. For more information, please visit this link and then review the requirements here.

12. Undergraduate Academic Advisors

The Undergraduate Advisors for the School of Computer Science are available in Room 5302 HP; or by email at scs.ug.advisor@cunet.carleton.ca. The undergraduate advisors can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisors will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and the Writing Tutorial Services.

13. SCS Computer Laboratory

Students taking a COMP course can access the SCS computer labs. The lab schedule and locations can be found at this link. All SCS computer lab and technical support information can be found at this link. Technical support staff may be contacted in-person or virtually (see this link for details).

14. Academic Accommodations and Regulations

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes are outlined on the Academic Accommodations website.

Statement on ChatGPT/Generative AI usage: The use of AI tools is strictly prohibited in this course and will be considered academic misconduct. As our understanding of the uses of AI and its relationship to student work and academic integrity continue to evolve, students are required to discuss their use of AI in any circumstance not described here with the course instructor to ensure it supports the learning goals for the course.

Statement on academic integrity: Students are expected to uphold the values of academic integrity, which include fairness, honesty, trust, and responsibility. Examples of actions that that compromise these values include but are not limited to plagiarism, accessing unauthorized sites for assignments or tests, unauthorized collaboration on assignments or exams, and using artificial intelligence tools such as ChatGPT when your assessment instructions say it is not permitted. Misconduct in scholarly activity will not be tolerated and will result in consequences as outlined in Carleton University's Academic Integrity Policy. A list of standard sanctions in the Faculty of Science can be found here. Additional details about this process can be found on the Faculty of Science Academic Integrity website. Students are expected to familiarize themselves with and abide by Carleton University's Academic Integrity Policy.

Student rights and responsibilities: Students are expected to act responsibly and engage respectfully with other students and members of the Carleton and the broader community. The Rights and Responsibilities Policy details the expectations of non-academic behaviour of students. Those who participate with another student in the commission of an infraction of this Policy will also be held liable for their actions.

Student concerns: If you have any concerns regarding this course, your first point of contact is your instructor. Please email or visit during office hours, and we will do our best to address your concerns. If we cannot resolve the issue, the next point of contact is the School of Computer Science at studentconcerns@scs.carleton.ca. If the concern remains unresolved, the final point of contact is the Office of the Dean of Science at ODScience@carleton.ca. Please follow this order of contact. Note: You can also bring your concerns to Ombuds services.