



Faculté de génie | Faculty of Engineering  
École de science informatique et de génie électrique | School  
of Electrical Engineering and Computer Science

## COMPUTER ARCHITECTURE I

CEG 2136 A00

2025 Fall Term

## Course Information

**Class Schedule:** 2025-09-01

### Lectures:

- Mo 10:00AM - 11:20AM 70 Laurier (MHN) 033 **AND** We 8:30AM - 9:50AM 70 Laurier (MHN) 033 **(section A)**
- Tu 2:30PM - 3:50PM 800 King Edward (STE) B0138 **AND** Fr 4:00PM - 5:20PM 800 King Edward (STE) B0138 **(section B)**

Labs and tutorials: Check your registered section on uOzone.

This course is delivered in person.

## Instructor Information

**Name:** Wassim El Ahmar

**Email:** WELAHMAR@UOTTAWA.CA

**Communication Preferences:** Email

**Call Me:**

**Office Hours: Tuesdays 13:00-14:15 - STE 5026A**

**Other instructor(s):**

Name	Email	Office Hours
Jay Kshirsagar	<a href="mailto:jkshi064@uottawa.ca">jkshi064@uottawa.ca</a>	By appointment
Youssef Elfaramawy	<a href="mailto:yelfaram@uottawa.ca">yelfaram@uottawa.ca</a>	
Tianyi Hao	<a href="mailto:thao@uottawa.ca">thao@uottawa.ca</a>	
Zeinab Eskandari	<a href="mailto:zeskanda@uottawa.ca">zeskanda@uottawa.ca</a>	

Name	Email	Office Hours
Reza Sadeghian	<a href="mailto:rsadeghi@uottawa.ca">rsadeghi@uottawa.ca</a>	
Ro'Yah Radaideh	<a href="mailto:rrada030@uottawa.ca">rrada030@uottawa.ca</a>	

Before emailing a question, please fully read this syllabus and explore the associated resources. The answers to many questions can be found in this document and students may be referred back to the syllabus if the answer is already available. Please allow **at least 2 business days** for replies before pursuing another route of communication.

## Official Course Description

Design a digital computer to execute a given instruction set. Design of digital computers. Register transfer and microoperations. Designing the instruction set, CPU and CPU control. Basic machine language programming. Using pipelines for CPU design. Designing the memory unit. Designing Input-Output subsystem.

## Indigenous Affirmation

### ANISHINÀBE

*Ni manàdjiyànàníg Màmìwinini Anishinàbeg, ogog kà nàgadawàbandadjig iyo akì eko weshkad. Ako nongom ega wikàd kì mìgiwewàdj.*

*Ni manàdjiyànàníg kakina Anishinàbeg ondaje kaye ogog kakina eniyagizidjig enigokamigàg Kanadàng ejì ondàpinangig endàwàdjìn Odàwàng.*

*Ninisidawinawànàníg kenawendamòdjig kije kikenindamàwin; weshkinìgidjig kaye kejeyàdizidjig.*

*Nigijeweninmànàníg ogog kà nìgànì sòngideyedjig; weshkad, nongom; kaye àyànikàdj.*



### ENGLISH

We pay respect to the Algonquin people, who are the traditional guardians of this land. We acknowledge their longstanding relationship with this territory, which remains unceded. We pay respect to all Indigenous people in this region, from all nations across Canada, who call Ottawa home.

We acknowledge the traditional knowledge keepers, both young and old.  
And we honour their courageous leaders: past, present, and future.

## Inclusion

The University of Ottawa aims to be an equitable and inclusive institution, actively participating in ensuring the well-being of students, personnel and faculty members. The University is committed to eliminating obstacles to student inclusion in accordance with the [Ontario Human Rights Code](#). The Code provides that every person has the right to equal treatment with respect to goods, services, facilities, housing, contracts and employment, as well as membership in trade or professional associations and unions without discrimination because of "Race, Ancestry, Place of origin, Colour, Ethnic origin, Citizenship, Creed, Sex, Sexual orientation, Gender identity, Gender expression, Age, Record of offence (in employment only), Receipt of public assistance, Marital status, Family status, Disability". The [Human Rights Office of the University of Ottawa](#) adds "although the Human Rights Code does not define discrimination, the notion of discrimination covers unfair treatment based on race, disability, sex, immigration or citizenship status, income, mental health or addiction, social class or any other personal characteristic. It can take many different forms, can target a single person or a group and can be part of a system."

The equity and inclusion of LGBTIQ individuals in our communities are important. The University of Ottawa aims to provide a safe and welcoming space in all its courses by encouraging students and instructors to identify and share their preferred names and pronouns. Please send [instructor] an email to request the use of a preferred name or pronouns (she, he, they, etc.) for your time in this course. If you wish to request a formal name change, which would affect your displayed information in uoZone, Brightspace, and affiliated systems, please reach out to the Office of the Registrar at [infoservice@uOttawa.ca](mailto:infoservice@uOttawa.ca).

If you have experienced discrimination or harassment, you can seek confidential assistance through the University Human Rights Office to discuss your situation and/or [file a formal complaint](#).

The following uOttawa Campus-based services are available to you and your fellow students.

- [uOttawa Counselling Service](#), including Individual Counselling provided by uOttawa Counsellor;
- University of Ottawa Students' Union (UOSU) [Centre for Students with Disabilities, Racialized and Indigenous Students Experience Centre](#), [Feminist Resource Centre](#), and [uOttawa Pride Center](#);
- Anti-racism student committee at [car.arc.uottawa@gmail.com](mailto:car.arc.uottawa@gmail.com);
- [Mashkawaziwogamig. Indigenous Resource Center](#);
- [University of Ottawa's Human Rights Office](#), including [policies on accessibility](#).

## Course Learning Outcomes

### General Course Learning Outcomes

The main objective of this course is to introduce students to the foundations of computer organization and architecture. They will understand the computer elements and the fundamentals of computer organization and will get knowledge on the principles of computer architecture.

Students will gain experience with basic design at various levels, from instruction set architecture (ISA) to datapath and control logic; small projects will be developed by using modern CAD environments and will be practically implemented on CPLDs or FPGAs.

Developing programs in machine language that run on their own designed/built computers, students will sense and understand the interface between the software and computer hardware.

### Specific Course Learning Outcomes

Upon completion of the course, student will be able to:

- Explain internal organization of computers, the relations between its main components and operation principles.
- Apply Boolean algebra techniques to analyze and synthesize computer logic components and to design simple processors.
- Design, implement, simulate and verify computer circuits on modern hardware/software development environments
- Write assembly language and machine code programs for the computers that they devise  
Communicate accurately and effectively through lab reports

## Required Materials

You are not required to purchase any textbook for this course, but the textbook in the optional materials section below is strongly recommended.

Course notes and supporting material will be supplied via the course webpage on Virtual Campus (BrightSpace) for student personal use. All posted materials on this course webpage are intended for

student registered in this course personal use only and may not be reproduced or redistributed without prior written consent of the author(s).

## Optional Materials

M. Morris Mano, "Computer System Architecture", 3rd edition, Prentice Hall, 1993.

## Assessment Strategy

Name	Type	Weight	Expected Date
Labs	Lab	30%	Check below
Quiz	Written exam	10 %	Week 5
Midterm	Written exam	20%	Week 8
Final Exam	Written exam	40%	TBA

Lab expected due dates:

- Lab 1: Week 4
- Lab 2: Week 6
- Lab 3: Week 10
- Lab 4: Week 14

The passing grade for this course is 50%. The written exam components of the course (quiz, midterm, and final exam) total 70% of the final course grade. In order to be eligible for a passing grade, students must also achieve at least 35/70 on the written exam components of the course.

Requests to defer the grade of any written examination will only be considered if the student submits an official declaration of absence and follows the procedure outlined in academic regulation A-8.6  
<https://www.uottawa.ca/about-us/leadership-governance/policies-regulations/a-8-evaluation-student-learning>:

**Note: The above due dates are tentative and might change depending on course requirements.**

## University of Ottawa Grading Scheme

[Academic Regulation A-3 - Grading System](#)

<b>Letter Grade</b>	<b>Numerical Value</b>	<b>Percentage Value</b>
A+	10	90 - 100
A	9	85 - 89
A-	8	80 - 84
B+	7	75 - 79
B	6	70 - 74
C+	5	65 - 69
C	4	60 - 64
D+	3	55 - 59
D	2	50 - 54
E	1	40 - 49
F	0	0 - 39
ABS	0	Absent
EIN	0	Failure / Incomplete

## Assessment Policies and Expectations

**Lab Work:** TAs will conduct oral assessment of students' pre-lab preparation and in-lab activity, representing 15% of the course mark. Laboratory rules and regulations will be posted on the course BrightSpace site. Four labs have been organized and will be distributed along the term proportional with their degree of difficulty. You will be working in groups of 2 students. The same group will work together throughout the semester. The FPGA Altera DE2-115 Development & Education Board will be employed to perform the following lab experiments:

1. Introduction to Quartus – FPGA Design Software
2. Design, Simulation and FPGA Implementation of Sequential Logic Circuits
3. Arithmetic Logic Unit
4. Basic computer organization

A lab report is expected from each group after completion of every of the four labs. The lab report should be prepared according to the guidelines found in the lab manual posted on BrightSpace. The report will be submitted electronically (in WORD format) no later than two days before the following lab; this would allow a minimum of two days for the preparation of the next lab. The report of the last lab (#4) will be submitted one week after its completion. The lab reports grades count for 15% of the final course grade. The same grade will be given to all report's authors, but, of course, they may receive individual lab activity assessments.

# Attendance

**Attendance for each in class session is mandatory.** You must arrive at the start of class, and barring any emergencies, remain for the entire session.

As per Faculty of Engineering regulations: Active participation (whether in-person or online, if available) in a minimum of 80% of the scheduled course components is required for students to be eligible for a passing grade in courses. All components of the course (i.e. laboratory reports, assignments, etc.) must be fulfilled otherwise students may receive an INC as a final mark (equivalent to an F). This is also valid for a student who is taking the course for the second time.

Attendance will be taken to ensure compliance with the minimum attendance requirement through pulse checks delivered through brightspace. The pulse checks will be password protected and only available to students attending the lecture (different password every lecture). If a student is proven to have completed a pulse check while not being in class (meaning another student shared the password with them), the student will receive an INC as a final course grade pursuant to academic regulation A-4 on academic misconduct.

If a student misses a number of course deliverables, for any reason, such that it is not reasonably possible for the professor to assess the student understanding of the course material, an INC grade would be assigned as a final course grade.

<Detail **Policies and Expectations** that will impact student assessment; please see **Help** for more guidance. Note additional details pertaining to specific assessments, e.g. instructions and rubrics, can be added in a following section.>

# Time Commitment

In order to succeed in a 3-credit course, alongside the standard 3 hours of in-class instruction, students should expect to spend a minimum of 6 hours per week outside of the classroom engaged in activities related to the course, e.g. homework, reading, studying, etc., and should expect a minimum time commitment of 9 hours per week per course (on average).

# Language Expectations

This course is delivered in English, and in class interactions, including the online discussion boards, and feedback will also be managed in English. As part of your evaluation will be on your writing abilities, it is recommended to take the appropriate measures to avoid mistakes such as spelling, syntax,

punctuation, inappropriate use of terms, etc. You may be penalized up to 15% for poorly written materials, to the professor's discretion.

## Mobile Devices

Unless explicitly requested, please refrain from using mobile devices during our class. As our in class time is quite limited, I would ask that you prioritize using this time to engage with class discussions and other content-related activities. Active participation and engagement with the content and your peers helps ensure full participation marks for your contributions this semester.

## Late Assignments

All assignments are to be submitted by their due date and time. All late submissions will be immediately docked 5%, with an additional 5% for each subsequent day late to a maximum of 3 days, including weekends. **After 3 days all outstanding assignments will be given a zero (0%) grade.** Exceptions are made only for illness or other serious situations deemed as such by the instructor. University regulations require all absences from exams and all late submissions due to illness to be supported by a medical certificate. Absence for any other serious reason must be justified in writing, to the academic assistants of the Faculty, within five business days following the date of the exam or submission of an assignment. The Faculty reserves the right to accept or refuse the reason; reasons such as travel, jobs, or any misreading of the examination timetable are not acceptable.

## Online Examination Strategy

Your (**identify exams, for example, mid-term and final**) exam(s) will be administered through Respondus (please read the FAQ here: <https://saea-tlss.uottawa.ca/stageit/en/teaching-technologies/academic-integrity-ouroriginal-respondus/respondus>, as well as the notice below). The University of Ottawa has allowed students to refuse to use this system. If you do not wish to write your exam through Respondus, you must advise your professor by **[Date]** so that alternate arrangements can be made.

## Missed and Deferred Examinations

Students who are excused for missing an exam will be required to write a deferred exam, except where the professor offers a re-weighting scheme which applies to the student's case. Professors may decline to offer a deferred exam. Instead, re-weight the remaining pieces of work only if (i) the re-weighted scheme is indicated on the syllabus and (ii) it respects both the 25 percent rule ([Academic Regulation A-8](#)) and the final exam rule.

# Grade Revision Requests

Note that all requests for revision of grades must follow [Academic Regulation A-9](#):

1. confirm the deadlines associated with [Academic Regulation A-8](#) to request a grade revision;
2. contact your professor for clarifications and/or reasoning behind the assigned grade;
3. if you remain unsatisfied with the outcome, you may submit your request to the chair of the academic unit offering the course.

Your request MUST include the following:

- a. the course title, the course syllabus, the grade assigned and the name of the professor assigned to it;
- b. the grounds for the appeal;
- c. the assignment/test corrected by the professor, if applicable, and other relevant documents.

## Academic Integrity

### Preamble

Academic integrity is a fundamental value at the core of all academic activities. The regulation on academic fraud ([Academic regulation A-4](#)) defines the acts that can compromise academic integrity, outlines the various sanctions and consequences of such acts, and the procedures for handling allegations and setting sanctions. Further information on academic integrity is available on the webpage: [Academic integrity for students](#).

### Definition

1. Any act by a student that may result in a distorted academic evaluation for that student or another student. Academic fraud includes but is not limited to activities such as:
  - a. plagiarising or cheating in any way;
  - b. submitting work not partially or fully the student's own, excluding properly cited quotations and references. Such work includes assignments, essays, tests, exams, research reports and theses, regardless of whether the work is in written, oral or any other form;
  - c. presenting research data that are forged, falsified or fabricated in any manner;

- d. attributing a statement of fact or reference to a fabricated source;
- e. submitting the same work or a significant part of the same piece of work in more than one course, or a thesis or any other piece of work submitted elsewhere without the prior approval of the appropriate professors or academic units;
- f. falsifying or misrepresenting an academic evaluation, using a forged or altered supporting document or facilitating the use of such a document;
- g. taking any action aimed at falsifying an academic evaluation.

## Sanctions

1. Students who commit or attempt to commit academic fraud or who are a party to academic fraud are subject to one or more sanctions, such as:
  - a. a written warning;
  - b. zero for part of the work in question;
  - c. zero for the work in question;
  - d. zero for the work in question and the loss of additional marks for the course in question;
  - e. zero for the work in question, with a final grade no higher than the passing grade for the course in question;
  - f. an F or NS grade for the course in question.

## Participation Guidelines

### **You can expect your facilitators to:**

1. Support you in your success using the tools and policies described in this syllabus and the associated netiquette guidelines;
2. Treat you with respect and hear and value your viewpoints;
3. Provide constructive feedback and criticism;
4. Deliver sessions and events as scheduled; understanding that emergencies happen, I'll communicate adjustments through virtual campus and email;
5. Respond to all inquiries, received through appropriate channels, within 2 business days, or within 2 hours of major events (e.g. midterms or online assignments);
6. Return all feedback within 1 week of assignments being submitted.

### **Learners are expected to take responsibility for their own success.**

1. Manage your time appropriately and read carefully over assignment instructions;
2. Participate positively and actively in the course experience, whether in class or online;
3. Come prepared to class having completed required readings or assignments;
4. Turn in assignments on time and in accordance with our late policies;
5. Proactively seek out support, attend office hours, or reach out to TAs or the Student Support Services as needed;
6. Demonstrate utmost academic integrity and respect.

## Netiquette Guidelines

It is important to recognize that online spaces are extensions of our classrooms, and certain behaviours are expected when communicating with your instructors and peers. For the most part, online etiquette, or netiquette, is similar to etiquette in a face-to-face classroom; we all want to ensure our digital impressions are clear and positive.

## General Guidelines

- **Be safe.** Don't share your password with anyone; it protects you from pranks or more serious harm. Change your password if you think someone else might know it. Always log out when you are finished using the system. Be careful with personal information (both yours and other's).
- **Be prepared.** Come to synchronous sessions ready to learn and participate! Dress as if you were in class and keep distractions and interruptions to a minimum. Please refer to the [Services and resources for students](#) to make your online learning experience as rewarding and enjoyable as possible.
- **Be respectful to your instructors and your peers.** Post only what you would say in a face-to-face conversation. Avoid offensive language, off-colour jokes, insults, or threats. Avoid humour or sarcasm, as tone can easily be lost in emails or discussion posts. Always use your professor's proper title, Dr. or Prof., and, unless invited, do not refer to them by first name.
- **Be clear and concise.** Support accessibility in your posts and discussions using standard fonts such as Arial or Calibri and a size 10 or 12 pt. font. Avoid slang terms such as "wassup?", texting abbreviations such as "u" instead of "you," and emoticons. The caps lock feature CAN BE INTERPRETED AS YELLING.
- **Be kind.** Criticism should be constructive; don't correct insignificant problems in front of the entire class. Avoid posting online when you are angry or tired. Save a draft and review it later when you are calmer. Don't share emails or messages sent directly to you without the sender's

permission. If you see a post you believe may have been posted accidentally, let the poster know about it privately.

- **Be patient and understanding.** Ask for clarification if the meaning or context is unclear. Be forgiving of other people's mistakes, and cheerfully acknowledge your own when you make them. Demonstrate that you are trying to understand a differing viewpoint by acknowledging and restating the other person's view in your own words.

## Email Guidelines

- **Be aware.** Please respect that we all have many responsibilities, and we may need to take time to respond to your inquiries. Your facilitators endeavour to respond to all emails within **two business days**. You can also bring questions to in-person or online office hours; further communication guidelines are included in the course syllabus.
- **Be professional.** Use official communication channels, such as uOttawa email or appropriate Discussion boards, to approach your course facilitators and peers. Use a descriptive subject line, including your course code. Be brief in describing your concerns and pose clear questions. Sign your message with your name and return e-mail address.
- **Be certain.** Review before you send. Does it make sense? Are there typos that might confuse your meaning? Does it follow the general rules of netiquette? Think before you send the e-mail to multiple people; is it necessary or helpful for them to be involved? If you are emailing while upset or angry, consider a 24-hour resting or cooling off period before sending.

## Discussion Guidelines

- **Be constructive.** Make your point, stay on topic, and don't forget to complete the task as directed. Take your posts seriously and review and edit your posts before sending them. Cite your sources, just as you would for a paper or a face-to-face discussion.
- **Be active.** Participate and contribute to the discussions and read all messages in a thread before replying. Don't repeat someone else's post without adding something of your own to it. Avoid short, generic replies such as, "I agree.", include why you agree or add to the previous point.
- **Be open-minded.** Always respect others' opinions, even when they differ from yours. Challenge ideas rather than the individual who offered them. Approach discussions to increase everyone's knowledge.

## University Policies

# Prevention of Sexual Violence

**If you feel unsafe, call 9-1-1 or contact campus protective services at 613-562-5411.**

The University of Ottawa has a zero-tolerance policy for any sexual act or act targeting a person's sexuality, gender identity or gender expression. This includes physical and psychological acts committed, threatened, or attempted against a person without the person's consent, such as sexual assault, sexual harassment, stalking, indecent exposure, voyeurism, sexual exploitation, and cyberbullying. The University, as well as various employee and student groups, offers various services and resources to ensure that all uOttawa community members have access to confidential support and information and procedures for reporting an incident or filing a complaint. For more information, please visit <https://www.uottawa.ca/about-us/respect/sexual-violence-support-and-prevention>

## Academic Accommodations

The [Human Rights Office](#) and the [Academic Support](#) support students in removing barriers to accessibility. The University has always strived to meet the needs of individuals with learning disabilities or other temporary or permanent functional disabilities (hearing/visual impairments, sustained health issues, mental health or learning disabilities). The campus community works collaboratively so that you can develop and maintain your autonomy, as well as reach your full potential throughout your studies. You can call on a wide range of services and resources, all provided with expertise, professionalism and confidentiality.

If barriers are preventing you from integrating into university life and you need adaptive measures to progress (physical setting, arrangements for exams, learning strategies, etc.), contact:

- (**currently unavailable**) visiting the SASS Academic Accommodations office on the third floor of the Desmarais Building, Room 3172
- logging into the [Academic Accommodations Portal \(Ventus\)](#) and completing the intake form
- calling the SASS Academic Accommodations office at 613-562-5976

## Deadlines for submitting requests for adaptive measures during exams:

- Midterms, tests, deferred exams: seven business days before the exam, test or other written evaluation (excluding the day of the exam itself)
- Final exams:

- November 15 for the fall session
- March 15 for the winter session
- Seven business days before the exam date for the spring/summer session (excluding the day of the exam itself).

## Justification of absence from an examination (mid-term, final, supplemental or deferred) or a test, or late submission of assignments

Absence from any examination or test or late submission of assignments on medical grounds or due to exceptional personal circumstances must be justified; otherwise, students will not be allowed to complete the missed examination or test or to submit late assignments.

[See regulation A-8.6 for more information...](#)

## Content Ownership

The materials you receive for this course are protected by [copyright](#) and to be used for this course only. You do not have permission to upload the course materials, including any lecture recordings you may have, to any website. If you require clarification, please consult your professor.

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## Regulation on Bilingualism at the University of Ottawa

Every student has the right to require that a course be given in the language used to describe the course in the course calendar ([Regulation on Bilingualism at the University of Ottawa](#)). Except in programs and courses for which language is a requirement, all students have the right to produce their written work and to answer examination questions in the official language of their choice, regardless of the course's language of instruction.

## Student Services and Resources

### [Academic Support](#)

The [Academic Support](#) hub is a one-stop shop for academic support. Whether you're an experienced student or just starting out, you'll find some great resources to help you succeed.

**With the [Academic Support](#), you can:**

- chat with a mentor seven days a week;
- register for study groups;
- take part in study methods workshops (note taking, time management, exam preparation, stress management, Academic Integrity Session, etc.);
- book an appointment with a mentor.

## [uOttawa Library](#)

### Access the Library's Physical Collections

We are currently providing mediated access to the physical library collection through the following services:

- Contactless pickup
- Scan-on-demand
- Returns and renewals
- Course reserves

### Changes to On-Campus Library Services

While the Library continues to offer services online, including remote access to specialized software and databases, we are also providing on-campus services like study spaces and computer workstations for both walk-ins and by reservation.

The services and operations of the library are updated often. Please check [our website](#) for the latest information.

## [Health and Wellness](#)

Your wellness is an integral part of your success. If you don't feel well, it can be hard to focus on your studies. Dedicated professionals and fellow students who care about you are always ready to provide advice and support. Depending on your needs, many activities and services exist to accompany you during your academic journey.

Services include:

- opportunities to connect;
- counselling sessions;
- peer support;
- physical activity;
- wellness activities and workshops; spiritual guidance.

If you want to connect with a counsellor, [you can book an appointment online](#) or go to their walk-in clinic at **100 Marie-Curie, fourth floor**. You can also drop-in to our wellness space, chat online with a peer helper, or access 24/7 professional help through the website at <https://www.uottawa.ca/wellness/>.

## Take Care of Yourself!

University can be stressful, and it can be challenging to take the time we need to stay healthy and happy. Please make sure you are giving yourself the space and time to take the steps you need to for your health and well-being.

If you or anyone you know, friends, family members, or classmates, experiences overwhelming academic stress, difficult life events, anxiety or depression, we strongly encourage you to seek support; reach out to a friend, faculty or family member you trust for assistance. There are also several support communities available to students, and staff, at the University of Ottawa and I encourage you to explore and leverage them as you require.

For a comprehensive list of support services here on campus, please see  
<https://www.uottawa.ca/campus-life/health-wellness/immediate-support>

**Association québécoise de prévention du suicide: 1-866-APPELLE (1-866-277-3553)**

**Ottawa Suicide Prevention: 613-238-3311**

## Access Service

The [Academic Accommodations Service](#) tries to make sure all students with disabilities have equal access to learning and research environments, the physical campus and University-related programs and activities. The Academic Accommodations service works with other campus services to create an accessible campus learning environment, where students with disabilities have an equal opportunity to flourish. We offer a wide range of services and resources, provided with expertise, professionalism and confidentiality.

Some services we offer:

- Help for students with disabilities in making the transition;
- Permanent and temporary accommodation measures;
- Learning strategy development;
- Adaptive exams
- Transcriptions of learning material Interpretation (ASL and LSQ);
- Assistive technologies.

If you think that you might need any of our services or supports, [email the Academic Accommodations service \(adapt@uOttawa.ca\)](#).

Note that the University of Ottawa is affiliated with [AERO](#) and [ACE](#) services for the adaptation of accessible academic materials for students with perceptual disabilities. If you have any questions, please contact the Accessibility Librarian ([libadapt@uottawa.ca](mailto:libadapt@uottawa.ca)) or the [Academic Accommodation Services](#) for textbooks.

## Human Rights Office

The mandate of the [Human Rights Office](#) is to provide leadership in the creation, implementation and evaluation of policies, procedures and practices on diversity, inclusion, equity, accessibility and the prevention of harassment and discrimination.

**Contact information:** 1 Stewart St. (Main Floor – Room 121) - Tel.: 613-562-5222 / Email: [respect@uOttawa.ca](mailto:respect@uOttawa.ca)

## Career Services

[Career Services](#) offers various services and a career development program to enable you to recognize and enhance the employability skills you need in today's world of work.