

Sh*t I Wish I Knew 2023 Edition



**CARLETON COMPUTER
SCIENCE SOCIETY**

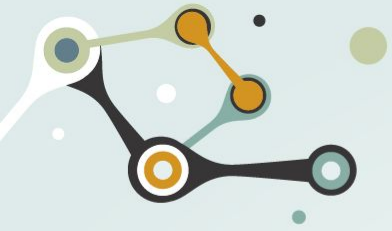


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Introduction

Welcome to Carleton!



Goal of This Presentation:

- Guide for Carleton CS
- Tips and tricks

Academics

Trying to pass...



CGPA

- What is CGPA?
 - Cumulative Grade Point Average
 - Calculated by taking the weighted average GPA of each of your courses
 - $CGPA = \text{Grade Points} / \text{Total Credits}$
 - Can be broken down by year (annual CGPA)
 - Annual term: Summer to Winter
- Carleton uses a 12-point GPA system
 - See chart (right) for details
 - Grade points assigned intervallically
 - Highest possible grade point in a course: any grade $\geq 90\%$

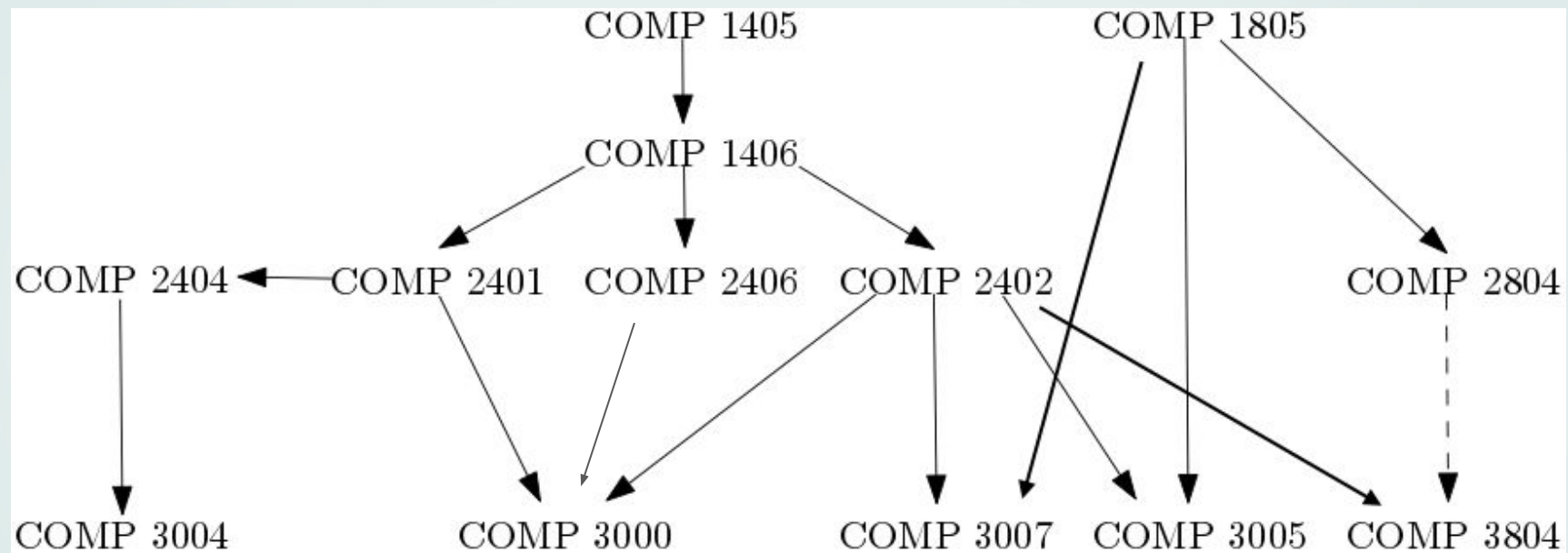
Carleton University's Grade Point Scale:

| Grade points for 1.0 credits | Grade Points for 0.5 credits | Percentage Equivalency |
|------------------------------|------------------------------|------------------------|
| A+ = 12.0 | A+ = 6.0 | 90-100% |
| A = 11.0 | A = 5.5 | 85-89% |
| A- = 10.0 | A- = 5.0 | 80-84% |
| B+ = 9.0 | B+ = 4.5 | 77-79% |
| B = 8.0 | B = 4.0 | 73-76% |
| B- = 7.0 | B- = 3.5 | 70-72% |
| C+ = 6.0 | C+ = 3.0 | 67-69% |
| C = 5.0 | C = 2.5 | 63-66% |
| C- = 4.0 | C- = 2.0 | 60-62% |
| D+ = 3.0 | D+ = 1.5 | 57-59% |
| D = 2.0 | D = 1.0 | 53-56% |
| D- = 1.0 | D- = 0.5 | 50-52% |
| F = 0.0 | F = 0.0 | 0-49% |

Importance of Grades

- Annual CGPA of **10.00** (A- average) required to renew entrance scholarship
- CGPA of **10.00** in first year required to qualify for DSRI
- Overall and major CGPA of **8.00** (B average) required to be in Co-op
- Some courses require a minimum grade in a prerequisite course(look at most recent calendar for prerequisites)
 - <https://calendar.carleton.ca/undergrad/>
- **9.0** Major CGPA is required for Carleton Grad School(**8.5** Overall CGPA)
- High CGPA required if you need to switch major





First Year Courses

COMP 1405 - Intro to CS I: variable types, branching and looping structures, arrays, functions, sorting and searching (in Python or Processing)

COMP 1406 - Intro to CS II: object-oriented programming, basic data structures, recursion, efficiency, debugging (in Java)

COMP 1805 - Discrete Structures I: logic, proof techniques, set theory, graph theory, asymptotic analysis of algorithms

MATH 1007 - Calculus I: limits, derivatives and differentiation, max/min optimization, basic integrals (similar to Grade 12 Calculus)

MATH 1104 - Linear Algebra I: systems of linear equations, matrix algebra, vector spaces, eigenvalues, complex numbers

*You can take the math courses in either order ****

Second Year Courses

COMP 2401 - Intro to Systems Programming: memory management, pointers, process management (in C)

COMP 2402 - Abstract Data Structures: stacks, queues, lists, trees, graphs

COMP 2404 - Intro to Software Eng.: object-oriented software development (in C++)

COMP 2406 - Web Applications: HTML/CSS, JavaScript programming, database querying, web technologies

COMP 2804 - Discrete Structures II: counting, probability, recurrence relations, randomized algorithms

STAT 2507 - Intro to Stat Modelling I: random variables, probability distributions, distribution of sample mean, hypothesis testing

****STAT 2507 and COMP 2804 have content overlap*

Third Year Courses

COMP 3000 - Operating Systems: Linux OS and file system, low-level C programming

COMP 3004 - Object-Oriented Software Eng: group project class, UML, computer ethics

COMP 3005 - Database Management Systems: ER modelling, SQL, relational algebra, normalization

COMP 3007 - Programming Paradigms: functional and logical programming (Haskell, Lisp/Scheme, Prolog)

COMP 3804 - Design and Analysis of Algorithms I: divide-and-conquer, dynamic programming, shortest path, NP-completeness

Honours VS Majors

| Computer Science B.C.S. Honours (20.0 credits) | | Computer Science B.C.S. Major (20.0 credits) | |
|---|---|---|---|
| A. Credits Included in the Major CGPA (9.0 credits) | | A. Credits Included in the Major CGPA (7.5 credits) | |
| 1. 6.5 credits in: | 6.5 | 1. 6.0 credits in: | 6.0 |
| COMP 1405 [0.5] | Introduction to Computer Science I | COMP 1405 [0.5] | Introduction to Computer Science I |
| COMP 1406 [0.5] | Introduction to Computer Science II | COMP 1406 [0.5] | Introduction to Computer Science II |
| COMP 1805 [0.5] | Discrete Structures I | COMP 1805 [0.5] | Discrete Structures I |
| COMP 2401 [0.5] | Introduction to Systems Programming | COMP 2401 [0.5] | Introduction to Systems Programming |
| COMP 2402 [0.5] | Abstract Data Types and Algorithms | COMP 2402 [0.5] | Abstract Data Types and Algorithms |
| COMP 2404 [0.5] | Introduction to Software Engineering | COMP 2404 [0.5] | Introduction to Software Engineering |
| COMP 2406 [0.5] | Fundamentals of Web Applications | COMP 2406 [0.5] | Fundamentals of Web Applications |
| COMP 2804 [0.5] | Discrete Structures II | COMP 2804 [0.5] | Discrete Structures II |
| COMP 3000 [0.5] | Operating Systems | COMP 3000 [0.5] | Operating Systems |
| COMP 3004 [0.5] | Object-Oriented Software Engineering | COMP 3004 [0.5] | Object-Oriented Software Engineering |
| COMP 3005 [0.5] | Database Management Systems | COMP 3005 [0.5] | Database Management Systems |
| COMP 3007 [0.5] | Programming Paradigms | COMP 3007 [0.5] | Programming Paradigms |
| COMP 3804 [0.5] | Design and Analysis of Algorithms I | | |
| 2. 0.5 credit in COMP at the 2000-level or above | 0.5 | 2. 1.0 credit in COMP at the 3000-level or above | 1.0 |
| 3. 2.0 credits in: | 2.0 | 3. 0.5 credit in COMP at the 4000-level | 0.5 |
| COMP 4905 [0.5] and 1.5 credits in COMP at the 4000-level, or | | B. Credits Not Included in the Major CGPA (12.5 credits) | |
| COMP 4906 [1.0] and 1.0 credit in COMP at the 4000-level, or | | 4. 1.0 credit in: | 1.0 |
| 2.0 credits in COMP at the 4000-level | | MATH 1007 [0.5] | Elementary Calculus I |
| B. Credits Not Included in the Major CGPA (11.0 credits) | | MATH 1104 [0.5] | Linear Algebra for Engineering or Science |
| 4. 1.5 credits from: | 1.5 | 5. 0.5 credit in: | 0.5 |
| MATH 1007 [0.5] | Elementary Calculus I | STAT 2507 [0.5] | Introduction to Statistical Modeling I |
| MATH 1104 [0.5] | Linear Algebra for Engineering or Science | 6. 5.0 credits in Breadth Electives | 5.0 |
| 0.5 credit in MATH at the 2000-level or above | | 7. 6.0 credits in free electives. | 6.0 |
| 5. 0.5 credit in: | 0.5 | Total Credits | 20.0 |
| STAT 2507 [0.5] | Introduction to Statistical Modeling I | | |
| 6. 5.0 credits in Breadth Electives | 5.0 | | |
| 7. 4.0 credits in free electives. | 4.0 | | |
| Total Credits | 20.0 | | |

*****Honours needed for grad school, higher CGPA for honours, COMP 3804 required for honours, honours has optional COMP 4905/4906(minimum major CGPA of 9.0 required)**

Breadth VS Free Electives

- **TLDR: Breadth = not COMP, STAT, MATH, or anything under faculty of Engineering**
- There's a prohibited list of courses you **cannot** use as computer science credits
 - Refer to newest [undergraduate calendar](#)
- Once you've completed your breadth electives, any courses you take that would have been considered breadth are used as free electives
- You cannot take more than 7.0 credits of 0000-level or 1000-level courses for your entire program

Prohibited Courses

Prohibited courses **cannot be used for credit** in a Computer Science or any Combined Computer Science program or Minor in Computer Science. *Please always refer to the most recent [Undergraduate Calendar](#) for the **most up-to-date list of prohibited courses** and for all prerequisites and preclusions.* These courses are:

- BUSI 2402, BUSI 3400, CGSC 1005, COMP 1001, MATH 1009, MATH 1119, ECON/MATH 1401, ECON/MATH 1402
- All courses in IMD, IRM, MPAD, NET, OSS, PLT, and ITEC
- All courses in BIT, **except** for the following: BIT 1000, BIT 1001, BIT 1100, BIT 1101, BIT 1200, BIT 1201, BIT 2000, BIT 2004, BIT 2005, BIT 2007, BIT 2100, and BIT 2300
- All 0000-level MATH courses

Consider getting minors with all those electives...

- Lots of options
- You can take up to 2 minors
- Some popular ones are **statistics** and **math**
 - Less extra courses
- Will help fill up your elective requirements

- African Studies
- Anthropology
- Applied Linguistics and Discourse Studies
- Art History
- Biology
- Business
- Canadian Studies
- Chemistry
- Communication and Media Studies
- Criminology and Criminal Justice
- Earth Sciences: Earth Resources and Processes
- Economics
- English
- Entrepreneurship
- Environmental Studies
- European and Russian Studies
- Film Studies
- Food Science
- French
- Geography
- Geomatics
- Greek and Roman Studies
- History
- History and Theory of Architecture
- Human Rights and Social Justice
- Indigenous Studies
- Law
- Linguistics
- Mathematics
- Music
- Neuroscience and Mental Health
- Philosophy
- Physical Geography
- Physics
- Political Science
- Psychology
- Religion
- Sociology
- Statistics
- Women's and Gender Studies

Streams

- **What is a stream?**
 - A concentration in certain CS fields
 - Gives priority access to certain optional COMP courses
- **Important notes:**
 - You must be in the **Honours program** to have a stream
 - Streams are unique to the CS program at Carleton - **may not** be recognized at other institutions/in the workplace
 - Some streams start earlier than others **(Game Dev)**
 - You can change streams **easily** via Carleton Central using the “Change of Program Elements” section

- **Computer Science Algorithms Stream B.C.S. Honours**
- **Computer Science Artificial Intelligence and Machine Learning Stream B.C.S. Honours**
- **Computer Science Management and Business Systems Stream B.C.S. Honours**
- **Computer Science Software Engineering Stream B.C.S. Honours**
- **Computer Science Computer and Internet Security Stream B.C.S. Honours**
- **Computer Science Computer Game Development Stream B.C.S. Honours**

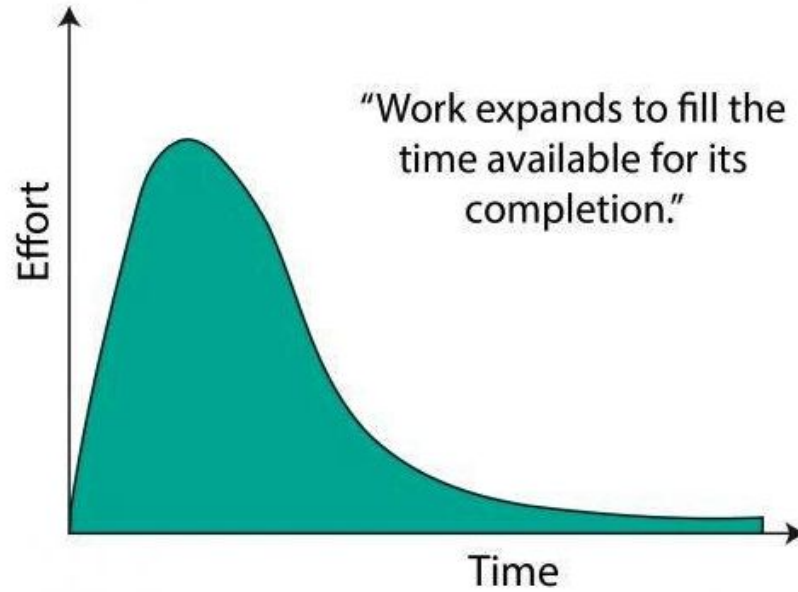
How do I change my program elements?

- Changes to your program are made through the “Change of Program Elements” feature of **Carleton Central**.
- Changes require up to 3 days for processing. Processing time may vary throughout the school year.
- Term specific deadlines are posted within the Carleton Central application.
- Requests to change your Degree should be directed towards the **admissions office** via the **internal application**
- Requests to remove the Co-Op option from your program should be directed to the **co-op office website** via their **online submission form**.

Things You Should Know About Courses...

- Check the **prerequisites** and **preclusions** for your courses(use the most recent calendar)
- Plan your schedule nicely(2-3 COMP courses + 2-3 electives)
- The max courses per term is 2.5 credits for fall/winter and 2.0 credits for summer
 - An additional 0.5 credit can be added for overload(CGPA of **7.00** required)
- You need at least 1.5 credit per term to be a full-time student(Important for OSAP and insurance policies)
 - Always check with Awards Office to be sure
- Take the amount of courses that works for you
- Use the resources available for you
 - PASS which are student led study sessions to help review on course content
 - Talk to your TAs and professors(utilize the office hours!)

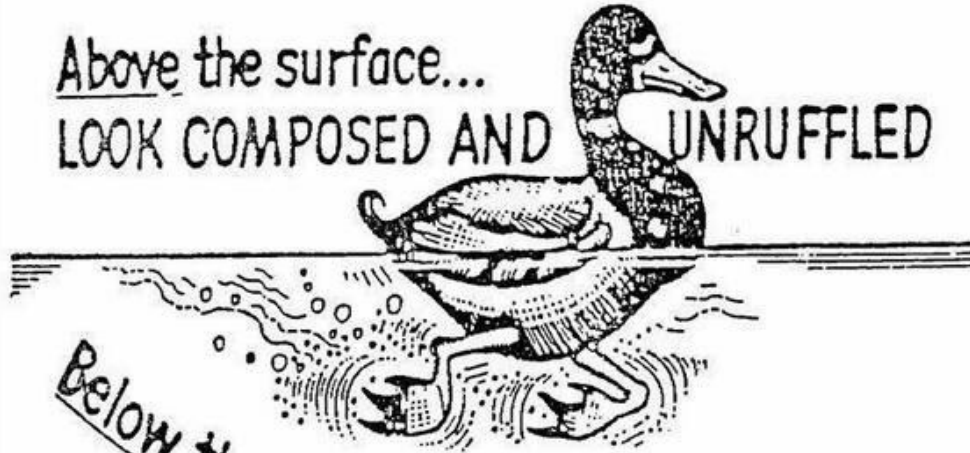
Parkinson's Law



BE LIKE A DUCK :

Above the surface...

LOOK COMPOSED AND UNRUFFLED

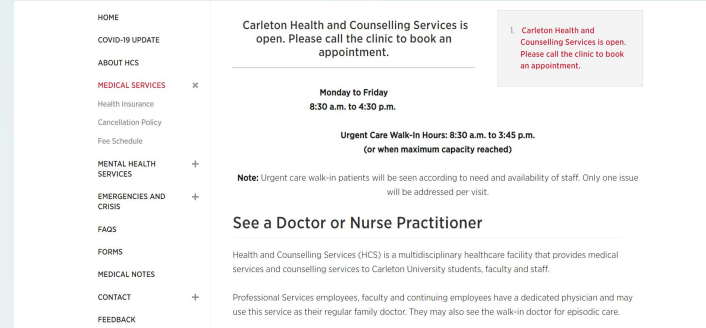


Below the surface PADDLE LIKE HELL!

University is hard. Don't be down when you're struggling

How to Stay Afloat:

- Find a time management tool that works for you
 - Physical agendas, calendar apps, notion, etc
- Start things as early as possible
- Have a designated study place
- Make your schedule as flexible as possible
 - You're probably going to procrastinate...be ready for that
- Take breaks
- Try using the resources available to you
 - Physical and mental health resources
 - [CSAS](#) = Centre for Student Academic Support
 - [SSSC](#) = Science Student Success Centre
 - [AAC](#) = Academic Advising Centre
 - Edina Storfer & Emily Burda (undergraduate advisors)
 - scs.ug.advisor@cunet.carleton.ca



HOME
COVID-19 UPDATE
ABOUT HCS
MEDICAL SERVICES ×
Health Insurance
Cancellation Policy
Fee Schedule
MENTAL HEALTH SERVICES +
EMERGENCIES AND CRISIS +
FAQS
FORMS
MEDICAL NOTES
CONTACT +
FEEDBACK

Carleton Health and Counselling Services is open. Please call the clinic to book an appointment.

1. Carleton Health and Counselling Services is open. Please call the clinic to book an appointment.

Monday to Friday
8:30 a.m. to 4:30 p.m.

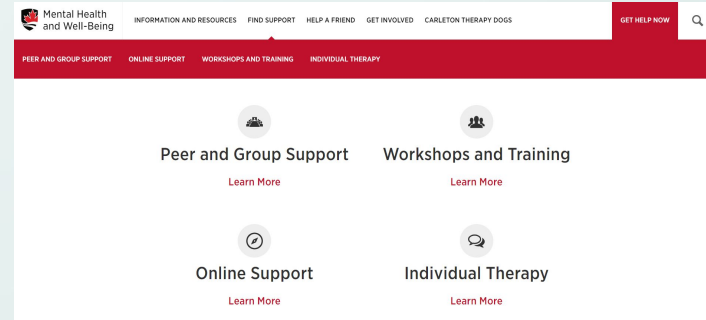
Urgent Care Walk-in Hours: 8:30 a.m. to 3:45 p.m.
(or when maximum capacity reached)

Note: Urgent care walk-in patients will be seen according to need and availability of staff. Only one issue will be addressed per visit.

See a Doctor or Nurse Practitioner

Health and Counselling Services (HCS) is a multidisciplinary healthcare facility that provides medical services and counselling services to Carleton University students, faculty and staff.

Professional Services employees, faculty and continuing employees have a dedicated physician and may use this service as their regular family doctor. They may also see the walk-in doctor for episodic care.



Mental Health and Well-Being

INFORMATION AND RESOURCES FIND SUPPORT HELP A FRIEND GET INVOLVED CARLETON THERAPY DOGS GET HELP NOW

PEER AND GROUP SUPPORT ONLINE SUPPORT WORKSHOPS AND TRAINING INDIVIDUAL THERAPY

Peer and Group Support
[Learn More](#)

Workshops and Training
[Learn More](#)

Online Support
[Learn More](#)

Individual Therapy
[Learn More](#)

COOP/Jobs

Probably the point why you're here





You're probably here to eventually get a job...

First Year Opportunities

- Dean's summer Research internship (DSRI)
 - Process starts December/January
 - You must find the placement by reaching out to profs
- Federal Student Work Experience Program (FSWEP)
 - A lottery process
- Internships
 - First year specific internships exist (STEP, Explore, etc.)

CO-OP

- You need at least **4** work terms to graduate with a co-op designation
- You need to complete the COOP1000 course in order to be in co-op
- Earliest time to start is summer of your **2nd year**
- Work term:
 - Job search -> Work -> Write report

| Computer Science | | | | | | | | | | | | | | |
|------------------|-----|---|---|-----|---|---|-------|---|---|------|---|-----|------|---|
| Year | One | | | Two | | | Three | | | Four | | | Five | |
| Term | F | W | S | F | W | S | F | W | S | F | W | S | F | W |
| Pattern | S | S | O | S | S | W | W | S | W | S | W | W/S | S | S |

Pros and Cons of CO-OP

● Pros

- Easy Job searching
- Saves you time
- Access to co-op only postings
 - tax credit
- Full-time status

● Cons

- You can only turn down one job
- You can't turn down interviews, but you can reschedule
- Course is fairly generic
 - claims to be tailored, but isn't
 - 10+ page report (but good reflection)
- Fees
- Course Restrictions

Ways to Enhance Your Resume



1. Personal Projects

- Are great for learning
- Best way to showcase your skills without experience
- Make sure you're at least interested in it
- Make sure it uses things you can talk about
 - Frameworks, libraries, etc
- Try not to directly copy or clone from tutorials
 - Add more to it
 - Your HR wants to hear about what you did

2. Github

- Great way to manage your coding projects
- Basically a portfolio for programmers
- Start by contributing to other projects if you don't have your own
 - <https://opensource.guide/how-to-contribute/>
- There are resources available for students
 - <https://education.github.com/pack>



3. Hackathons

- Actually events where you create projects within limited time frames
- Lots of options
 - <https://devpost.com/hackathons>



An abstract graphic design on the left side of the page. It features several organic, teardrop-like shapes in shades of orange, olive green, and dark grey. A central dark grey shape contains a white circle with the number '04' in white. Other shapes include a large orange one with a light green center, a white one with a blue center, and a dark grey one with a teal center. There are also several small solid circles in black, white, and teal scattered around.

04

Miscellaneous

Just some extra stuff...

Lockers

- There are lockers available on campus (\$30 for access from Sep 1st - Apr 30th)
- Rent one out for your coats, boots, and other stuff you don't want to carry
 - Could be useful for snacks or other essentials
- Useful for those that commute

- ABOUT PARKING SERVICES +
- STUDENT PARKING PERMITS +
- STAFF, FACULTY AND OTHER PERMIT OPTIONS +
- VISITOR PARKING +
- VIOLATIONS AND APPEALS
- LOCKER RENTALS
- ENFORCEMENT AND TRAFFIC REGULATIONS +
- SPECIAL EVENT/GUEST PARKING
- SUSTAINABLE TRANSPORTATION +
- TRANSPORTATION PLAN
- PRIVACY STATEMENT
- FOCUS GROUPS

Fall/Winter Locker Rentals Available on July 18, 2022

Locker Rental Information

Locker rentals at Carleton University are managed and administered through Parking Services. Lockers are available for rental in various tunnel locations throughout the university campus. Locker rentals are available to any current-registered, student, staff, or faculty member on a first-come, first-served basis.

Please follow these steps to rent a locker:

1. Create an account/log in at parkadmin.com
2. Click on the "Lockers" tab at the top of the screen
3. Select locker location, as well as a specific locker number.
4. Follow prompts to complete payment.
5. Once payment is processed, the renter can begin using the locker once the rental period begins (September 1st for the Fall, May 15th for the Summer)

Please note: Unoccupied banks of lockers are secured with plastic ties by Parking Services once cleaned to prevent unauthorized use, as well as to prevent damage and vandalism to any vacant lockers. Lockers must be registered/rented on-line via ParkAdmin and rental fees remitted to Parking Services prior to the removal of the plastic tie by the authorized renter.

Architecture Lockers are available for the academic year with access from September 1 - April 30. Building code AA on the above Campus Map.

| |
|--|
| Tunnel to Canal/Mackenzie Buildings |
| Yearly 62 Remaining \$30.00 |

Mackenzie (Engineering) Lockers are available for the academic year with access from September 1 - April 30. Building code ME on the above Campus Map.

| |
|--|
| Locker Room - Exit F |
| Yearly 38 Remaining \$30.00 |
| Locker Room - Exit F(a) |
| Yearly Sold Out \$30.00 |
| Tunnel Entrance at MC/ME |
| Yearly 140 Remaining \$30.00 |

Steacie/Herzberg Lockers are available for the academic year with access from September 1 - April 30. Building codes SC and HP on the above Campus Map.

| |
|--|
| Tunnel Entrance to Herzberg |
| Yearly 48 Remaining \$30.00 |
| Tunnel to Unicentre |
| Yearly 59 Remaining \$30.00 |

Athletics Complex Lockers are available for the academic year with access from September 1 - April 30. Building code AC on the above Campus Map.

| |
|--|
| Tunnel Area (Full-Length Lockers) |
| Yearly 20 Remaining \$30.00 |
| Tunnel Area (Half-Length Lockers - A) |
| Yearly 8 Remaining \$30.00 |
| Tunnel Area (Half-Length Lockers - B) |
| Yearly 9 Remaining \$30.00 |

Paterson/Tory Lockers are available for the academic year with access from September 1 - April 30. Building code TB on the above Campus Map.

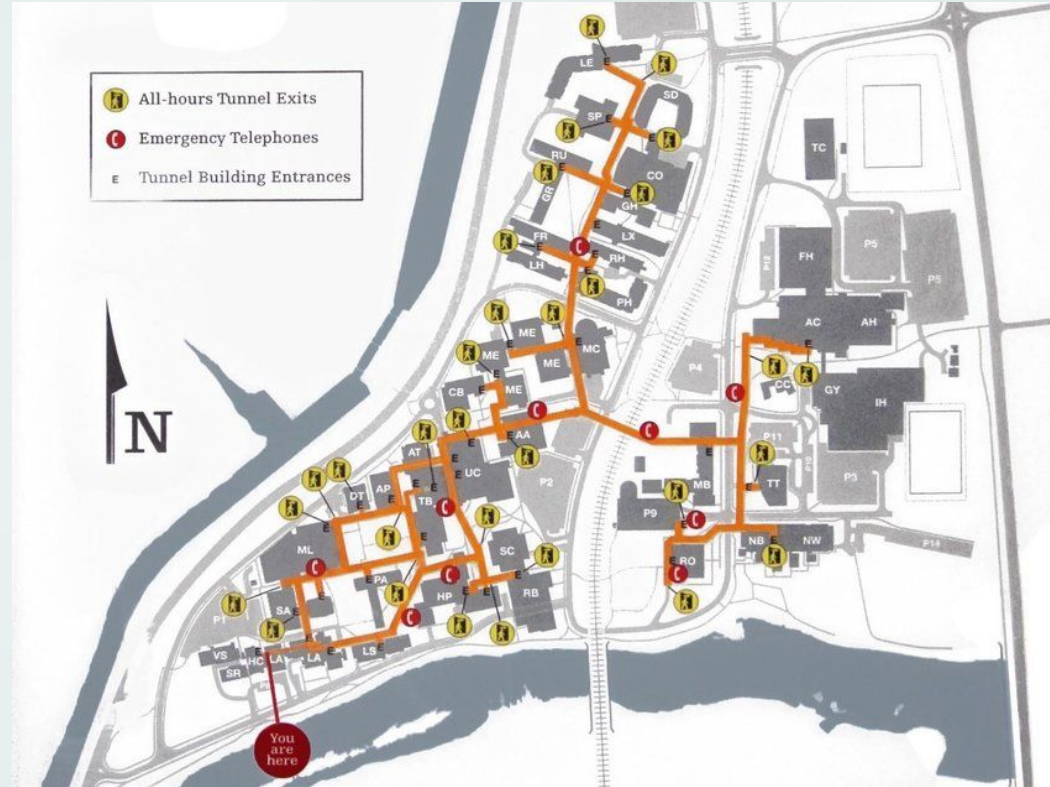
| |
|--|
| Tory to Unicentre Tunnel Area |
| Yearly 45 Remaining \$30.00 |

Unicenter Lockers are available for the academic year with access from September 1 - April 30. Building code UC on the above Campus Map.

| |
|---|
| Dunton Tower |
| Yearly 59 Remaining \$30.00 |
| Lower Ramp Locker Area |
| Yearly 302 Remaining \$30.00 |

Tunnels

- Underground tunnels that take you to various buildings
- Convenient in winter times

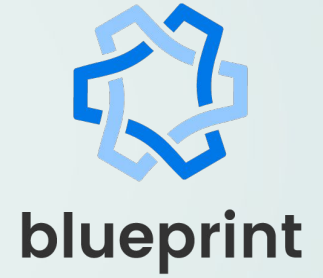
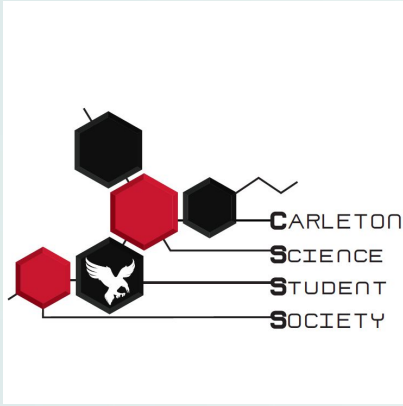


Computer Checklist



- Lightweight
- Good battery life
- Reasonably priced
- Not extremely big (12-15 inch)
- Lots of ports
- Official Requirements:
 - <https://carleton.ca/scs/scs-laptop-requirement/>

Get Involved!





05

Ending Notes

Just some concluding notes...



Questions?

THANKS

Do you have any questions?

info@ccss.carleton.ca



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