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Architecture Program Report

Master of Architecture Program

University of Waterloo_2023

The Canadian Architectural Certification Board
1 Nicholas Street, Suite 710
Ottawa (Ontario) Canada K1N 7B7
Voice: (613) 241-8399
Fax: (613) 241-7991
E-mail: info@cacb.ca
Web Site: www.cacb-ccca.ca

The text in this document is presented in two different colors:

- **Black** for the Conditions for Accreditation requirements
- Gold for the Program's responses to the Conditions for Accreditation

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I. Introduction • CACB Accreditation

The CACB is a national independent non-profit corporation and is the sole organization recognized by the architectural profession in Canada to accredit professional degree programs in architecture that are offered by Canadian universities.

Professional accreditation of a Program means that it has been evaluated by the CACBand substantially meets the educational standards that comprise, as a whole, an appropriate education for an architect.

The Accreditation process is governed by the Conditions and Procedures for Accreditation, (current Edition 2017). PDF copies can be obtained at https://cacb.ca/accreditation/

Graduation from a CACB-accredited program is the first of three steps (education, experience, and examination) on the path to licensure as an Architect.

For more information on the CACB, please refer to the website at: www.cacb-ccca.ca

III. The Program Report

1. Introduction to the Program

1.1 Program Identity and Mission

Accreditation requires an understanding of the specific scholastic identity and mission of the Program. The APR must:

- Include a summary of the Program's identity, uniqueness, strengths, and challenges;
- include the Program's current mission statement, the date of its adoption or revision, and the date of its endorsement by the institution (if such a statement and objectives do not exist, the Program's plans for completing one must be outlined); and
- demonstrate that it benefits from and contributes to its institutional context, including the Program's academic and professional standards for both faculty and students; the interaction between the Program and other programs in the institution; contributions by the students, faculty, and administrators to the governance as well as the intellectual and social life of the institution; andcontributions of the institution to the Program in terms of intellectual and personal resources.

https://tinyurl.com/11IdentityMission *^^^^ link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry.*

Waterloo Architecture adopted its current mission statement, included below in 1997, this Mission predates WA's 2004 relocation to its current location in the heart of Cambridge, 30km from the main campus
The University Of Waterloo School Of Architecture, dedicates itself to providing its students With an excellent education which builds on the traditions of a profession rooted in the Liberal arts and the art of construction, balances elements of theory and practice, Incorporates new and emerging areas of influence and engages in discourse and design Activity at a local, national and international level. The school is committed to maintaining a Fully supportive educational environment in which teaching, design and research form a Common project in which faculty, staff and students act as much as possible as Collaborators.
****** IDENTITY & CONTEXT - UNIQUENESS & STRENGTHS *********
The values expressed in this mission statement and the opportunities presented in WA's context, notably changed with its relocation to Cambridge, simultaneously shape WA's identity, uniqueness and strengths.
Aspects working together to characterize and differentiate the school, and its programs include:

1/4 > Community Engagement and Cambridge Campus:

The school is committed to fostering a nurturing environment where faculty, students, and staff are equally valued partners in architectural education. Its campus in Cambridge allows unique collaborations and partnerships with the local community. The school actively contributes to the city's cultural development and downtown revitalization through exhibitions, installations, and projects. Since 2005, The School of Architecture has been part of the Faculty of Engineering, joining seven other academic units. WA supports the university and faculty missions through a variety of contributions. Our faculty, staff and students fully participate in governance at both levels by sitting on numerous committees ranging from Planning and Academic Policy to Campus Design Review and Student Unions. WA's philosophy around education and research positions us as leaders in several domains at the university where nuanced navigation of technical, cultural and environmental perspectives is required. Our proactive approaches to issues such as Equity, Environmental Justice and Artificial Intelligence have been recognized at both the faculty and university levels. WA interacts with other programs at the university through academic, research and service activities. Most notably, WA and the Department of Civil Engineering are partners in the Architectural Engineering (AE) Program.

WA provides:

Leadership, teaching, facilities (AE students spend their third year at the Cambridge Campus) and other resources to this collaborative program. In return, a more diverse body of students, faculty and expertise enriches the intellectual life in Cambridge.

2/4 > Co-operative Education and Relationships to the Profession:

The school participates in the University of Waterloo's co-operative education program, allowing students to gain practical experience through numerous paid internships. Co-op work terms are integrated throughout the degree, offering students real-world exposure and international opportunities. The school emphasizes the intersection of education and practice, with practitioners actively involved in teaching and guiding students.

3/4 > Curriculum, Cultural History, and the Rome Program:

The school is uniquely committed to cultural history, viewing architecture as an interconnected form of humanistic study and cultural expression. Cultural history and theory are integral to the curriculum, carefully interwoven with four other program streams (Design, Technology & Environment, Visual & Digital Media, and Urbanism & Landscape), inspiring a broad range of critical study and creative endeavors. The school's longstanding Rome Program allows students to design and evolve in the eternal city, immersing them in a different cultural context.

4/4> Breadth, Depth, and Diversity of Graduate Research:

The graduate program boasts exceptional research diversity and thesis quality. Co-op experiences and comprehensive building design studios provide students with relevant real world engagement. Thesis research explores various architectural scales and contexts, including advanced construction technology, virtual dimensions, reconceptualization of materials and places, and post-human perspectives.

**** SUMMARY OF CORE STRENGTHS *****

The following is a summary of WA's core strengths:

Engaged and committed students, staff and faculty support a collaborative working environment.

The programs foster an environment for creative and critical inquiry, enabling a broad range of robust critical study, and creative endeavors.

The University and the School are deeply committed to enhanced student experiences

Through experiential learning, course enrichment and relationships to the profession.

Renewed equity, diversity and inclusion commitments positively impact operations and academic programs.

WA supports University-community relationships through community partnerships, joint projects and student-initiated connections.

***************CHALLENGES****************

Within the context of WA's identity and unique strengths, we are continuing to address

Some challenges:

Challenge 1 - Academic Unit and/or Campus

Despite its strengths, the location of the University of Waterloo School of Architecture in

Cambridge poses several challenges. Historically, Architecture as an academic unit and as

a campus have been one and the same, resulting in WA-built and resourced solutions to fill gaps in services. However, with the arrival of AE students in Cambridge and changing expectations from post-pandemic students, the intensity of required resources is increasing, challenging WA staff. To address this, WA is reframing Cambridge activities along academic unit and campus lines to ensure that resources managing campus-like things are not drawn from those allocated to academic and research programs.

Additionally, the physical distance between Cambridge and Waterloo campuses makes it difficult for serendipitous encounters, networking, and event participation for students, faculty, and staff. However, the university is taking steps to address these challenges, including creating new staff roles and resources and considering satellite campuses.

****Challenge 2 - Dense curriculum in a changing social and environmental climate*

As part of our core identity, we celebrate our ambitious mission of offering excellent professional education while situating that knowledge as a profoundly cultural practice.

Inevitably both of these efforts occupy time and space in the curriculum. While progress has been made to reduce overall program credit requirements, undergraduate students' core class schedules are still densely packed. As we straddle these two ambitions, elective options for UG students are limited to a handful of courses. Similarly, accommodating new topics, such as the recently added core course on Indigenous Practices, requires programwide adjustments. While we are committed to the values driving the density of the program, we are aware that the same values are reducing program flexibility. WA has worked steadily in the past few years to recognize and include a broader set of voices, histories and cultures across our activities. We are committed to these efforts continuing.

Confronting workload and density has also become a priority, and we've taken some modest steps, such as adding more flexibility in students' elective options in the past few months.

Challenge 3 - New Staff & Leadership Team

In June 2022, WA entered an exceptional period in our history, where over 75% of our staff team and the director are doing things for the first time at the school. We are not alone in this challenge; teams across universities have experienced similar changes throughout and since the pandemic. Training, process redesign, relationship building, and knowledge transfer are the resultant challenges. The leadership and staff team is in a development mindset. On the one hand, things are taking a little longer as the team learns the ins and outs of the WA-specific programs, workflows and procedures. On the other hand, revisiting how we do things with a broadly experienced team allows us to improve on many activities and processes.

1.2 Program Action Plan and Objectives

The APR must include:

- The Program's action plan and objectives developed in accordance with institutional norms; and
- its measures of success and a timeline for executing the plan.

https://tinyurl.com/12ActionPlanObjectives ^^^link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry.

The Faculty of Engineering at the university has undergone three planning processes since 2005: Vision 2010, Vision 2015, and the current Waterloo Engineering Strategic Plan 2020-2025, titled "The Epicentre of Technology Talent." This plan is centered on the vision of inspiring leaders to push boundaries in education, entrepreneurship, and research for societal benefit. The plan focuses on five areas: (A) Offering the best engineering and design education in Canada, (B) Becoming a world leader in work-integrated graduate studies, (C) Excelling in bringing research from the lab to real-world impact, (D) Fostering a collaborative culture of well-being and

sustainability, and (E) Becoming the epicenter of technology talent worldwide. Each academic unit adopts this framework and sets its goals within these strategic areas.
The current set of goals outlined below is in effect until 2025. As of June 2023, the Faculty of Engineering is initiating planning activities for its strategic plan post-2025.
Progress reports are generated annually to evaluate the progress towards goals, using both quantitative data and qualitative insights. The pandemic significantly influenced their approach to strategic goals, leading to adjustments in student learning, community outreach, research, and a focus on equity and environmental justice.
Additional information regarding the School's progress in achieving its strategic plan is provided through the above link. The School of Architecture's goals within the guiding strategic plan set forth by the Faculty of Engineering are summarized below.

A) Leveraging our LOCAL/GLOBAL education model (Cambridge & Rome) to address diversity and integrate design education across streams.

***Measures of Success** - Participation in Extracurricular Activities, Funding dollars available to support student enrichment, BAS Retention Rates, Student recognition, Student Surveys, Diversity Metrics, Course Perception Survey*

B) Strengthening the M.Arch Program to foster critical design research on urgent social and ecological issues.

***Measures of Success** - Participation in Research-focused Activities, Student Research Outputs, Funding dollars available to support experiential learning opportunities, Internship Placement Rates, Job Placement Rates*

C) Supporting groundbreaking studies in architecture through improved visibility, networks, and research facilities.

***Measures of Success** - Faculty Research Output, Faculty Recognition, Industry/Community Partnerships*

D) Securing resources and space for our satellite campus to foster a supportive community for student wellness and success.

***Measures of Success** - Advancement Efforts, Facility Upgrades, Track partnership/collaborative projects with other UW units*

E) Improving communications to enhance our reputation for leading design research and teaching through engagement with broader communities.
***Measures of Success** - Communication Metrics, Identity/Vision survey, Alumni Engagement, Recruitment Events*
WA plans to achieve these goals by fostering interdisciplinary research partnerships, expanding networks and research dissemination, and improving our identity and visibility within the university and beyond. Our emphasis on connecting with diverse voices and perspectives is driven by a commitment to equity and environmental justice.

2. Program progress Since the Last Visit

The APR must include:

- The Program's summary of its responses to the previous team's findings (VTR) as documented in the Annual Reports (AR). This summary must address the conditions identified as "not met," as wellas the "causes of concern." It may also address the conditions identified as "met" or it may address "team comments."

https://tinyurl.com/2Progress ^^ link offers an expanded text and access to various additional links. It's the preferred place to read this entry.

The VT listed six Causes for Concern. Five of these concerns were resolved through actions captured in annual reports. The cleared concerns included issues around satellite campus, Eurocentric curricular focus, faculty development, curriculum density and building operation. One about financial challenges remains a reporting requirement. The updates on our response to the financial challenges concern are addressed in the section updating our actions on our Not-met Financial Resources Condition below.

--Progress on Conditions Not-Met –
The VT identified six conditions not-met. Three of these conditions not-met (HR Development, SPC-B3-Site Design, and SPC-B12-Building Economics and Cost Control, were resolved through actions captured in the 2019 and 2021 annual reporting. Updates on the three remaining conditions not-met can be found below.

--Financial Resources—
Financial challenges have been subject to steady actions since the last visit. Careful attention to spending has allowed WA to operate within +/- 4% of the budget. During this period, we continued our annual cycles of communication and requests for additional support (~1.2M/year) from the Faculty of Engineering and the University.
We also continued to advocate for the particular circumstances of the School of Architecture to be granted a budget that enables us to fulfill our mandate as an accredited professional program of study, including maintaining a 1:15 studio faculty-to-student ratio and ensuring access to adequate support and resources.
Additionally, we began collaborating with the University's two other satellite campuses to advocate for similar services for students, faculty and staff, irrespective of where they study or work -- including plant operations, safety, athletic facilities, counselling and health services.

The newly created (Winter 2023) Associate Vice-President, Academic Operations – responsible for overseeing and supporting all Waterloo campuses (including Cambridge and Rome) – is a result of this effort. During this time, we have been reacting and adapting to the University's servicebased budget model (launched in 2017/18) wherein we only control the expenses and not the revenues, dictated by allowable tuition increases by the province.

-Program Audit
An external audit of WA, initiated by Dean Wells and Provost Rush, to understand and address the perception of a deficit under the current budget model is the most significant outcome of our efforts to address financial challenges. WA has faced an annual deficit of over $1 million for nearly two decades. This yearly shortfall has been covered through a subsidy either entirely from the University or, more recently, equally shared between the University and the Faculty of Engineering. Through

their review, the auditors concluded that the problem "is mostly though not entirely a result of insufficient budget allocation". The auditors provided six Accreditation Report University of Waterloo recommendations that will guide WA, the Faculty of Engineering and the Provost's actions going forward. Much work is needed, but the auditor's recommendations provide a way forward with faculty and university leadership. Items such as Rome, tuition, and curriculum density are already underway. -Advancement – In early 2020, WA added the Advancement Manager role to the staff team. The growth in fundraising outcomes has been very strong. In 2020 we fundraised $100k, with 69 donors and no gifts over 50k.
Our 2023 numbers are $675k, 138 donors and three gits over 50k.

--SPC B5 - Accessibility—

We continue to take a broader approach to accessibility, introducing its importance early in the curriculum (ARCH192 and ARCH193), describing more technical requirements as part of first-year Building Construction courses (ARCH172 and ARCH173), and then following up with its integration as part of upper year studios (ARCH493/473 in the UG stream and ARCH 691/671 in the MA graduate stream). Students also have opportunities to engage more deeply with other aspects of disability justice as part of cultural history courses (ARCH120 and ARCH342) and optionally through elective courses and independent projects (e.g. ARCH393 and master's theses). Further elaborations are offered in the topline link in this section.

--SPC C3 – Technical Documentation

Our approach to technical documentation takes place across a multitude of different courses, with the first introduction in Building Construction courses (ARCH172 and ARCH173), development of understanding through a series of cooperative work terms and studios, and final test of ability in ARCH473/493 (undergrad core) and ARCH 671/691 (grad MA stream) bundles. ARCH 364 and ARCH 673 are additional courses focusing on assessments and technical documentation outcomes. Further elaborations are offered in the top-line link in this section.

3. Compliance with the Conditions for Accreditation

3.1 Program Self-assessment

The APR must include:

- A description of the Program's self-assessment process and
- the faculty, student, and alumni assessments of the Program's overall curriculum and learning context. Feedback may be obtained through surveys and focus groups, but individual course evaluations are not deemed sufficient to provide insight into the Program's substantive focus and pedagogy.

https://tinyurl.com/31SelfAssessment link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry.

The School of Architecture is an open and discursive institution in which reviewing administrative and curricular decisions is a continuous process involving faculty, support staff and students through formal and informal means. Three general categories of self-assessments (listed below and accompanied by key assessment instruments) support WA's perception of overall curricular and program outcomes. Various assessment instruments are used within each category at

different intervals. Together, they constitute a self-assessment program valuing broad consultation with key stakeholders (students, faculty, and staff) that can adapt to emerging needs while balancing continuity, enabling comparison over time.

(1)Regular University-led Assessment Processes: Student Course Perception, Incoming Students and Non-confirmed, Ontario University Graduate Survey, National Survey of Student Engagement, Canadian Graduate and Professional Student Survey

(2) Regular School of Architecture Self-Assessment Processes: Faculty and Staff retreats, Program Perceptions & Degree Outcomes Survey, Alumni Survey, Faculty Survey, StudentDirector and Student-Associate Director Meetings, Curriculum & Teaching Committee, Peer Evaluation of Faculty Members

(3)Emergent, Ad-Hoc School of Architecture Self-Assessment Processes: Racial Equity and Environment Justice (REEJ), Student Workload Surveys, Grad student-led survey 2018

Finding and Actions
The various self-assessment activities listed above and elaborated on below have supported many findings and related actions.
The REEJ Taskforce's work has reshaped our understanding, approach and prioritization of the work needed to address racial equity and environmental justice in our school culture, processes, and practices. Details are elaborated on in the 2020/21 Annual Report. The impacts of this work are seen throughout our activities, including diversifying the curriculum, teaching methods, lecture series topics, hiring processes and student wellness supports, just to name a few.
Workload surveys have been instructive to understand the actual impacts of the program on student work-life balance. While this review is ongoing, we now have evidence to use in discussions about instructor course-level expectations and the comprehensive workload reality of our students. This ongoing work hopes to serve as a framework to discuss student well-being, course expectations and balanced workload within a single term and throughout the curriculum.

Primarily through the regular student-director meetings, issues around our students' access to resources delivered outside of the academic unit are becoming very clear. The challenges of the satellite campus model persist in some areas, but positive changes have been mobilized as well. Two examples of positive actions include extending the library hours (with the Dean's support) in winter 2023 and the launch of the housing task force. The work of the housing task force has formed tighter relationships with student housing units on the main campus, resulting in more support for students and staff. We plan to continue to drive change through the consultative model outlined above. Specifically, in fall 2023, we will launch a targeted self-study of the MArch program through consultations with students, faculty and staff.

Important findings from the centralized instruments include:

Ontario University Graduate Survey (OUGS):
Our BAS grads are 100% employed six months and two years after graduation. With 100%, at six months, and 90% at two years, BAS grads report very high levels of job relatedness to skills and subject matter developed in the program.

National Survey of Student Engagement (NSSE):
In 2020, approximately 60% of responses indicated that the program meaningfully contributes to their knowledge, skills and personal development in solving complex real world problems. This

number is down from the previous cycles, where approximately 75% reported the same way. WA will track this trend and work to reinforce this connection, as it is key to our mission. Over 85% of respondents evaluated their education experience as Good or Excellent in 2020. This number has been consistently around 90% in past years. Over three cycles of this survey, consistently 95% of respondents indicated that, if they could start over again, they would go to the same program.

Canadian Graduate and Professional Student Survey (CGPSS): With results from three cycles (2016, 2019, 2022), we see a mild decline in measures of success in the grad survey. The most significant area is the availability of courses - where students indicate a desire for more offerings. 75% of students would recommend the program in 2022 down from 78% in 2019. While we consider the impacts of pandemic disruptions in the most recent data as students essentially completed their degree online, we are watching these numbers and plan to look at the MArch program more carefully through a targeted self-study project initiated in Fall 2023.

3.2 Public Information

The Program must provide clear, complete, and accurate information to the public and include the in its official Program information.
“In Canada, the Canadian Architectural Certification Board (CACB) is the sole agency authorized bythe Canadian Architectural Licensing Authorities (CALA) to accredit Canadian professional degree programs in architecture for the purposes of architectural licensure.”

The APR must include:

- The program description as it appears in the university academic calendar or any other institutionally authorized official description of the Program; and
- Evidence that the Program has communicated to all faculty and incoming students the informationregarding the CACB process for accreditation.

https://tinyurl.com/32PublicInfo ^^^^ link offers access to various additional links.

The official Waterloo Architecture program description is available online at:

> Undergraduate Academic Calendar 2022-2023;

> Graduate Studies Academic Calendar 2022–2023 - M.Arch; M.Arch (Co-op); M.Arch (Water)

The School of Architecture makes every effort to accurately communicate its accreditation status and the process leading to professional registration via both digital platforms and inperson events.

Incoming and current students can access information and resources about the programs' accreditation at:
> The University of Waterloo's official website.
> The School of Architecture’s web page on Accreditation Information.
> UW's official web page for future undergraduate students.
> UW's official web page for future graduate students.
> UW's official web page for current undergraduate students.
> UW's official web page for current graduate students.

Faculty information and resources related to accreditation are available via Teams on a dedicated "Accreditation" channel in the Architecture Faculty and Staff Team. Resources include:

1) CACB Guide to Student & Program Performance Criteria
2) WA Faculty Guide on Accreditation
3) The current Conditions and Terms for Accreditation

In addition, the Director addresses the CACB Student Performance Criteria and the accreditation process at the all-school meeting at the beginning of each term, at the annual open house day for prospective students, and at U@Waterloo Orientation Day for incoming undergraduate students upon acceptance into the program.

3.3 Equity, Diversity, and Inclusion

The APR must include procedures in place to achieve equity, diversity, and inclusion in school operations and activities.

https://tinyurl.com/33EqDiIn ^^^^ link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry.
The School of Architecture at the University of Waterloo prioritizes equity, diversity, and inclusion, guided by the university's policies and regulations. Key policies include Policy #33 - Ethical Behaviour, ensuring a harassment-free environment;
Policy #58 - Accessibility, complying with the Accessibility for Ontarians with Disabilities Act;
Policy #65 - Equality in Employment, promoting equal opportunities for all individuals; and
Policy #70 - Student Petitions and Grievances, guaranteeing procedural fairness in academic settings.

To reinforce these principles, governing entities such as the Office of Equity, Diversity, Inclusion, and Anti-Racism (EDI-R), the Office of Conflict Management and Human Rights, and the Office of Indigenous Relations offer expertise and resources at the institutional level.
The EDI-R develops strategies and policies, offers consultations, and provides learning opportunities to promote equity and inclusion.
The Conflict Management and Human Rights Office provides services for persons dealing with human rights issues or workplace harassment. The Office of Indigenous Relations works to advance the Truth and Reconciliation Calls to Action goals and create a long-term vision for the University grounded in decolonization.
At the program level, the School of Architecture takes active measures to ensure it operates on the principle of a supportive community. Since 2020, this work has been spearheaded through its Racial Equity and Environmental Justice (REEJ) Task Force. This task force aims to identify areas for improvement and make recommendations to address systemic barriers and advance equity and environmental justice throughout the school. The resulting REEJ Plan outlines a series of goals pertaining to school culture, curriculum, hiring, admissions, outreach, and accountability, all aiming to foster a supportive community. The process of establishing the goals has been ongoing over the past five years through some of the changes that have marked the School under two different directors.

Additional program-specific initiatives include having Elder William Woodworth as the Elder in Residence since 2022, offering culturally sensitive counseling based on Haudenosaunee teachings. The school has also implemented a comprehensive course outline template that includes sections on territorial acknowledgement, EDI commitments, processes for reporting issues, and mental health supports. Additionally, faculty participating in hiring undergo Equitable Recruitment training.
The school has provided on-site training for Academic Service Coordinators and the leadership team on the Accessibility process in Winter 2023, with resources made available to course instructors. These efforts signify the school's commitment to continuous improvement in the pursuit of equity, inclusion, and decolonization.

3.4 Student Composition, Well-Being, and Enrichment

The APR must include:

- A description of the student cohort (background, gender, etc.); the Program's academic standards for students; a description of the students' educational backgrounds; and the selectivity, retention, and graduation rates of the Program since the last accreditation sequence;
- evidence that the school has policies and procedures in place for a safe, positive, and respectful learning and working environment;
- a description of the Program's approach to co-curricular, extracurricular, and enhanced learning opportunities available to students;
- evidence of the Program's facilitation of student opportunities to participate in field trips and other off-campus activities;
- evidence of opportunities to participate in student professional societies, honors societies, and other campus-wide student activities;
- a list of guest lecturers and visiting critics brought to the Program since the previous site visit;
- a list of public exhibitions brought to the Program since the previous site visit;
- a description of student support services, including health and wellness, academic and personal advising, career guidance, evaluation of progress, and internship placement(if applicable); and
- a description of teaching and research assistant opportunities for students.

https://tinyurl.com/34StudentComp ^^^^ link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry.

Most students enrolled in the BAS program are of Canadian citizenship, usually around 90%. Since 2017, approximately 5% of students enrolled have been international applicants, while the remaining 5% of students have been permanent residents. Approximately 70% of students enrolled in the first year of the BAS program have been female. An average of 75-80% of BAS program students come directly from Ontario Secondary Schools. Since 2017, the BAS program has had an average of approximately 1100 applicants annually. Typically, 100 admissions offers are made to acquire an incoming cohort of approximately 75 students. Therefore, approximately only 9% of applicants are admitted into the program. The cut-off mark to be granted an interview now sits in the mid-80s for students applying for admission from secondary school.

The school does not base final admission decisions on grades alone; applicants undergo a rigorous review process that begins with a thorough review of each applicant's academic background. From this group, approximately 450 proceed to a second stage involving a personal interview, portfolio review, and written précis test.

Most MArch students are Canadian citizens, with a smaller proportion of permanent residents and a number of international students. Of 137 students enrolled in 2021/22, 106 were Canadian citizens, 3 were permanent residents, and 28 were international students. Since 2017, all incoming M.Arch cohorts have been majority female, approximately 60%.
Background Most students entering the M.Arch program are graduates of Bachelor of Architectural Studies or Bachelor of Architecture programs across Canada. Approximately 10% of each incoming cohort have alternative prior bachelor's degrees such as a Bachelor of Engineering, Bachelor of Fine Arts, Bachelor of Science etc. A very small percentage of students enter the program with prior master's degrees.

Applicants to the graduate program must meet the minimum University of Waterloo requirements for admission (75%) or the minimum equivalents based on the country of study as outlined in the International Admissions placement guide. Any applicant who meets the minimum average (or equivalent country requirement), holds a pre-professional undergraduate Architecture degree and meets the ELP (English language proficiency) minimum test score will then be put forth to the admissions committee for reference review and portfolio evaluation.

Since 2017, the MArch program has had an average of approximately 300 applicants per year. In that time, the number of international applicants has doubled. Typically, 100 offers of admissions are made to acquire an incoming cohort of approximately 60 students.
The Waterloo co-op program places students in paid positions in architect's offices beginning in the second year of studies. The benefit of international employment experience comes to the majority of students. This brings an extraordinary variety and maturity to the senior undergraduate classes and graduate students. The M.Arch Co-op program allows students to participate in one work term at a firm of their choice within Canada or internationally. The program involves and promotes travel within a curriculum to achieve a broad cultural and architectural experience background.
Student Organizations are numerous and well-integrated into the operations and leadership at the school.
Guest critics and lecturers are used throughout the curriculum. Studios are provided with course budgets to support external critic participation. New fundraising initiatives support a fund to bring diverse voices as guest lecturers into classrooms.
The Arriscraft Lecture series is an established public lecture program at the school that presents 8-10 events annually. Additional lectures and symposia are planned around course activities and themes. Two regular annual exhibitions are mounted by the school in the gallery each year – one celebrates the best work of the prior year, and the other is a curated show of graduate thesis work. Faculty and students are involved in many other public exhibitions and public presentations within and beyond the school walls.
Support services provided by the School of Architecture and the Faculty of Engineering are devoted to facilitating the creative and academic activities of the student body and supporting student well-being. Students habitually use the computer labs, fabrication spaces, and library. Within the School, students receive advice and direction in academic matters from the Student Services Coordinators, the Director of Undergraduate Studies, the Director of Graduate Studies, and the Director of Research.

3.5 Faculty and Staff Resources

The APR must include:

- A description and tabulation of the academic and professional qualifications of faculty,as well as a description of the distribution of effort between teaching and the other responsibilities of each faculty member;
- A description of the distribution of effort between administration and other responsibilities for each position;
- A description and tabulation of the administrative and technical roles and qualificationsof Program support staff, as well as a description of the distribution of effort whereroles and responsibilities are split among multiple tasks or positions;
- The Program's policy regarding human resources development opportunities;
- A description of the policies, procedures, and criteria for faculty appointment, promotion, and tenure;
- A description of faculty and staff development opportunities;
- evidence of how faculty activities encourage currency in the knowledge of changing demands of practice and licensure; and
- A description of the Program's approach to research, research activities carried outwithin the Program, and how the research may or may not inform the professional curriculum.

https://tinyurl.com/35FacultyStaff ^^^^ link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry. As of September 2023, there are 20.5/22 filled FTE faculty positions in the School of Architecture. We have one position recently vacated (Aug 30, 2023), and we will be initiating a search process to fill the newly vacated position in Fall 2023. All full-time faculty of professorial rank are expected to devote 40% of their time to teaching, 40% to scholarship and creative activity and 20% to administration and service to the university, the profession or the community. For Continuing Lecturers, the allocation for teaching rises to 60%, and scholarly and creative activity drops to 20%. Faculty members of professorial rank teach two terms out of three each year to provide a non-teaching term, giving adequate time to maintain productive individual research and design programs. In the past two years, we have grown our practice of hiring Part-time Definite Term (DT) Lecturers on one- or two-year contracts.

These roles are typically 50% FTE appointments, and tasks are distributed as 80% teaching and 20% service. There are currently 4 DT lecturers on contract. WA appoints approx. 45 sessional instructors each year to teach core and elective courses across all streams. Most sessional appointees are practicing professionals with expertise in specific technical and professional fields. To account for equitable teaching in the program WA developed its own Timed Teaching Task (TTT) calculations to account for the variety of teaching roles in the program (2018). Faculty carries out research year-long but most productively during their non-teaching term. Research can take different forms through scholarly research, publications, competition, speculative work, award-winning design work or artistic installations.

Finally, service expectations carry year-round, whether or not a faculty is in a teaching or non-teaching term. Currently, 14 regular full-time staff members serve the students and faculty at the School. Additional staff support is provided through coop placements and part-time student positions each term. The Director, whose position is equivalent to that of the Chair of an academic department, is responsible for providing academic and administrative leadership in the School of Architecture. Three Associate Directors round out WA's administrative leadership team (Undergraduate Studies, Graduate Studies, Research). Associate Directors also serve on and

report to the appropriate Committees in the Faculty of Engineering, the Associate Deans, and the University Senate Undergraduate and Graduate Councils. WA restructured its committee structure in 2021 to include: > Executive and Strategic Planning Committee > Undergraduate Affairs, Admissions and Recruitment > Graduate Affairs, Admissions and Recruitment > Research Advisory Committee > Curriculum and Teaching Committee > Racial Equity and Environmental Justice Standing Committee > Library Advisory Committee > Awards, Exhibitions and Nominations Committee > Space/House Committee > Joint Health and Safety Committee > Advancement and Communications Committee > School Tenure and Promotion Committee > Merit Committee > School Advisory Committee on Appointments > School Council WA works closely with the Office of Human Resources to serve the human resource needs and strategic goals of the University of Waterloo community. The School of Architecture's Administrative Officer is responsible for human resources administration at the program level. At the institutional level, the Office of Human Resources provides a central team of expertise dedicated to attracting, developing and retaining an exceptional workforce and promoting a culture of inclusion, providing valued benefits and compensation programs, and fostering personal and professional development.

The University provides a range of development opportunities and support programs. Faculty Appointment and Tenure and Promotion processes are carried out in accordance to University-level Policies. University Policy allows and encourages faculty members to be engaged in professional practice and consulting for up to 20% of their time, and evaluation criteria explain that professional work related to research activity counts in the annual performance review and promotion and tenure consideration. These allowances, clearly encouraging practice, are reflected in the fact that most design faculty members maintain a creative professional practice. Not only are these faculty members current, but they are also at the forefront of practice. Faculty members are also encouraged to take regular sabbaticals, pursue individual interests, and renew their teaching activities. The Associate Director, Research position supports grant applications, academic research, and dissemination. WA's website integrates an area dedicated to research support and resources.

3.6 Space and Technology Resources

The APR must include:

- A general description with labeled plans indicating seminar rooms, lecture halls, studios, offices, project review and exhibition areas, libraries, computer facilities, workshops (including technology), and research areas;
- A description of any changes to the facility (including furniture, equipment, etc.), whether under construction, funded, or proposed;
- A description of workshop and fabrication resources including equipment, infrastructure, and other resources available to students, faculty, and staff; and
- A description of the information technology available to students, faculty, and staff, including hardware, software, networks, services, staff, and other computer resources.

https://tinyurl.com/36SpaceAndTech ^^^^ link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry. The School of Architecture is situated in the renovated Riverside Silk Mill building in historic downtown Galt along the Grand River. The ground floor comprises public spaces, such as a café, an art gallery, and outdoor

terraces, accessible to the public. It also houses two large lecture and teaching areas that host public events. The Fabrication Labs are situated on the ground floor with direct access from the building and the North Terrace.

The second floor houses the library, administrative and staff offices, Architecture Computing and Media services, graduate studios, and small seminar rooms. Additionally, there is a counseling office, photo studio, computer lab, and student-led maker lab. The third floor is primarily dedicated to student workspaces, including undergraduate and graduate studios. This floor has a large flexible space utilized for design reviews, student exhibitions, teaching, and examinations. Faculty offices are dispersed on the second and third floors. A quiet multi-faith room overlooks the river, opposite the undergraduate studio space entrance.

The Design + Fabrication Labs (DFL) encompass five specialized areas, each equipped with machinery, power tools, and hand tools for processing materials. The Architecture Computing and Media (ACM) group offers comprehensive digital media and computing support for students, faculty, and staff. This includes access to computing facilities, digital imaging, video, and audio production. ACM also manages a photo studio, scanning facilities, printing facilities, and a computer lab within the School of Architecture.

The facility has desktop computers offering access to advanced architectural drawing, rendering, graphic design, presentation, and video production software. They provide equipment loans and assistance with various software-related issues. The Rome Studio is considered part of the School's physical resource base. The facilities provided in Rome include six studios, a classroom, office space, a student lounge/computer area and critique space. The entire studio has wireless networking and facilities for printing, scanning and digital presentation.

Several facility improvements have been made or proposed since the previous accreditation in 2017. Improvements to studio furnishing and electrical systems are among the more significant changes. Adding technology to support hybrid delivery in two classrooms was another big project carried out since 2017. The Athletic room undergoes regular checks to ensure equipment safety and operational functionality. Plans are in motion to reinforce library shelves and create a quiet study pod for cooperative interviews. Moreover, the door access system will be upgraded to use WATCards, and three larger faculty offices will be renovated into six smaller offices. Future plans include revisiting the Founders Lounge renovation to create more flexible teaching, examination, defense, and meeting spaces, as well as reviewing space allocation and use through the House and Space committee, exploring dedicated research spaces and enhanced student areas like the courtyard.

3.7 Information Resources

APR must include:

- A description of the library, including library collections, visual resources, digital resources, services, staff, facilities, equipment, and budget/administration/operations;
- a library statistics report; and
- a current action plan outlining recurring levels of staff support; renewal of hardware, software, equipment, and infrastructure; anticipated modifications to the currentinstallation; and a demonstration of sufficient funding to execute the action plan.

https://tinyurl.com/37InfoResources The Musagetes Architecture Library (Musagetes) plays a crucial role in supporting research, teaching, and learning within the School of Architecture. Established in 2004 when the school moved to its present location in Cambridge, it is an integral part of the University of Waterloo Library system. Musagetes' comprehensive collections, digital resources, dedicated staff, and well-designed facilities make it a hub for research and learning.

Library Collections: The Library boasts a specialized research collection comprising 50,161 volumes, with a substantial focus on architecture. Musagetes' discipline-focused collection directly supports research, teaching and learning activities within the Honours Pre-Professional, Bachelor of Architectural Studies (BAS), and the Master of Architecture (M.Arch) degrees.
This collection has grown significantly over the years, supported by acquisitions and donations. The library maintains a Rare Book Room containing 6,323 rare items related to architecture and design. Visual resources are supplemented through subscriptions to image-rich databases like ARTstor and DETAIL Inspiration.
Digital Resources: The library provides access to over 400 research databases, full-text electronic journals, e-books, and data sets, catering to faculty, students, and staff. It supports bibliographic management software, including Zotero and RefWorks, for research purposes. Services: Musagetes offers various services, including reference support, consultation, and GIS assistance. The library conducts information literacy instruction tailored to the curriculum and collaborates closely with faculty to enhance information competencies. It supports open-access initiatives and houses a significant number of print and electronic journals.

Staff: The library has a dedicated team comprising 3.5 core staff members, led by a Department Head, and benefits from occasional support from main campus and student staff. While there have been staffing challenges, efforts have been made to ensure continuity, including backfill librarians and specialized reference teams.

Facilities and Equipment: Musagetes provides an inviting space for study, research, and collaboration, offering scenic views of the Grand River. The library accommodates various activities, from quiet study to group work, with lounge areas and group study tables. It also houses the Elder Lodge, promoting indigenization and decolonization efforts. The library is equipped with heating, cooling, and ventilation systems to ensure a comfortable and preservation-friendly environment. The library offers four public workstations, though there has been a decreased demand for these as students typically bring their laptops.
Additionally, there are two scanner/printer/copier machines, one for public use and one in the staff workroom. Staff members have access to computer workstations and terminals for assisting patrons.

Budget/Administration/Operations: The library operates within a budget that supports its diverse collections, services, and facilities. It follows an administrative structure with a Department Head and a staff model that facilitates collaboration with main campus library services.

Current Action Plan: The library has an action plan that focuses on regular staff support, collections maintenance, and addressing space and environment challenges. While growth in collections is dependent on donations, the library continues to enhance its support for architecture-related research, with a focus on topics like racial equity, environmental justice, and indigenous practices. Plans also include the acquisition of cabinets for architectural drawings.

Funding: Sufficient funding is demonstrated through the library's alignment with the University of Waterloo Library's 2020-25 Strategic Plan and its ability to meet the School of Architecture's needs effectively. Musagetes is a valuable resource for the School of Architecture at the University of Waterloo. The library's action plan underscores its commitment to continuous improvement, and support for the school's academic endeavors. With demonstrated funding and strategic alignment, Musagetes is well-positioned to serve the evolving needs of its community.

3.8 Financial Resources

The APR must include:

- An itemized Program budget that includes operating and salary expenses and adescription of research funding, endowments, scholarships, and development activities.

https://tinyurl.com/38FiancialResources
Link offers tables and access to various additional links. It's the preferred place to read this entry.
WA's financial resources flow from the University of Waterloo's central administration through the Faculty of Engineering to the School. WA's net revenue primarily comes from government funding and enrollment-based allocation amounts (less indirect costs recouped by the university and the faculty). In this model, our net revenue is less than our operating budget, leaving the School in a structural deficit of well over one million dollars annually. Additional funds are provided by the University and the Faculty of Engineering to erase the deficit each year - at least operationally. With a shared goal of alleviating the structural deficit, the Dean and Provost completed an external audit of the program in 2022/23, which concluded that the deficit is primarily a result of insufficient budget allocation.

Responding to the report's findings and recommendations (elaborated on in section 2.0) is a priority for the university, faculty and school. We are encouraged by the report's findings and the support from the Dean and Provost. Much work is needed, but the report's recommendations give us a way forward with faculty and university leadership.
Research funding has been steady over the past six years, averaging about one million dollars annually. The funding sources are diverse and include tri-council and other public and private sources. During the capital campaign to create the new school of architecture in Cambridge, over $6,000,000 was raised and placed in an endowment by the University of Waterloo to provide for operating and maintaining the facility, providing custodial services and security. WA continues to rely on this endowment to cover plant operations. Several modest endowments provide funds for graduate and undergraduate scholarships and awards. WA added one new endowment in 2022: The Andrew Levitt Award for Compassion.

The School of Architecture offers entrance scholarships to undergraduate and graduate students. These scholarships are subject to funding availability at the Faculty of Engineering and institutional level.
The quantity of awards and funding vary from year to year. This year 76 scholarships were awarded for a total of $143,500.
Graduate Studies and Post-Doctoral Affairs (GSPA) works closely with the School of Architecture to advertise, adjudicate and administer a variety of awards for graduate students.
Awards are based on academic performance, excellence in research, or financial need. Graduate Students can also receive Teaching Assistantships and Research Assistantships to assist them financially.

Teaching assistantships provide the largest source of support for graduate students. Over the past six years, there have been an average of 52 TAships per year.
This year, 41% of our grad students received support that averaged $19,500 for each supported student.
In early 2020, WA added the Advancement Manager role to the staff team. The growth in fundraising outcomes has been robust.
In 2020, we fundraised $100k, with 69 donors and no gifts over 50k. Our 2023 numbers are $675k, 138 donors and three gifts over 50k.

3.9 Administrative Structure

The APR must include:

- A description of the Program's administrative structure, a comparison of this structure with those of other professional programs in the institution, and a list of any otherprograms offered if the Program is part of a multi-discipline unit.

https://tinyurl.com/39AdminStructure link offers an expanded text, tables and access to various additional links. It's the preferred place to read this entry. The School of Architecture is part of the Faculty of Engineering at the University of Waterloo, which offers a total of 15 programs across eight academic units. A list of these programs and respective academic departments is available via link. These units, including the School of Architecture, operate with a degree of autonomy, reporting to the Dean of Engineering but having control over their academic, financial, and administrative affairs. Weekly meetings involve the department heads, Associate Deans, and various administrative committees at the Faculty of Engineering to discuss academic policy and planning.

The School of Architecture's administrative responsibilities are divided among faculty and staff members. The Director is supported by three Associate Directors for Undergraduate Affairs, Graduate Studies, and Research and a Rome Coordinator. An Administrative Officer manages facilities, equipment, strategic planning, and human resources administration. The school maintains connections with the Faculty of Engineering and various campus services while benefiting from a level of independence in decision-making. Administrative work at the school is organized into a robust committee structure. Student reps participate in many of these committees. Additionally, the Director has regular meetings with student government and group leaders. Proposed changes and improvements within the School are discussed in faculty meetings and, when necessary, brought to Engineering committees for further approval. The administrative structure ensures transparency and adherence to university policies while respecting the autonomy of the departments and preserving the institution's integrity.

The University of Waterloo offers diverse professional programs across multiple faculties, each supported by department-specific administrative staff. Programs have Directors or Chairs who report to the respective Faculty Deans. Administrative staff roles typically include Directors of Undergraduate Studies, Graduate Studies, Research, and Administrative Officers or Program Managers. Administrative staff to student ratios vary widely across programs, ranging from 4:1 in Social Work to 94:1 in Management Sciences, with the School of Architecture having a ratio of approximately 51:1.

3.10 Professional Degrees and Curriculum

The APR must include:

- Specification of the degree(s) offered;
- an outline of the curriculum of the Program describing how each performance criterion included in Section 3.11 is met and how the Program achieves its pedagogical goals;
- a description of any Program components that are outside of the administrative purview ofthe unit or institution that is accredited;
- a summary description of processes and requirements related to degree Program admissions that make up the Program, including those governing student applications for advanced placement; and
- student admission assessments concerning advanced placement within the Program.

CACB link to Requirements for Acceptable Degrees

https://tinyurl.com/310DegCurriculum ^^ link offers an expanded supporting text, tables and access to various additional links. It's the preferred place to read this entry. WA's professional program in architecture is a single stream that consists of two parts: a pre-professional degree, a Bachelor of Architectural Studies (BAS) and a professional Master of Architecture (MArch). The curriculum structure is the reverse of many schools of architecture in that it focuses on professional knowledge and skill in the early years to take full advantage of coop opportunities and becomes more open at the upper levels. The grad program has only a minimal core of required professional courses; generally, students have significant choices and a high degree of independence.

PERFORMANCE CRITERIA OVERVIEW
PPCS-----

PPC1 - WA's engagement with the profession is deeply embedded across academic programs, research, work-integrated learning and extra-curricular activities.

PPC2 - Interweaving social, technical and professional streams with design is a core part of WA's mission.

PPC3 - WA has always been committed to viewing architecture comprehensively and as a humanistic discipline and a field of social, cultural, technical, formal and aesthetic speculation. Since 2020, WA's focused much of its work on this commitment to articulating, amplifying and enacting a shared vision that diverse voices and perspectives enrich our teaching, learning and research. These efforts have improved our curriculum, added purpose to many extracurricular activities and established WA as a leader at the UW.

PPC4 - Community and collaboration are key pillars WA's identity. WA is committed to safeguarding a nurturing school in which faculty, students, and staff are all valued as equals in the architectural education project.

PPC5 - WA's approach to engaging technical aspects of building construction is shaped by its commitment to an interwoven design curriculum and the co-op component.

PPC6 - The belief that Architecture profoundly needs a broad and balanced knowledge base shapes UW's mission and informs activities within and beyond the curriculum. WA's Cultural History and Theory stream speaks directly to the breadth of education it offers its students.

SPCS-----
The overview below cross-references the number of courses within WA's curricular areas with their respective contributions to meeting SPC groups.
DESIGN THEME [GroupA:10 courses, GroupB:10, GroupC:2, GroupD:2, GroupE:2]
CULTURAL HISTORY & THEORY THEME [GroupB:6]
VISUAL & DIGITAL MEDIA THEME [GroupA: 3 courses]
TECHNOLOGY & ENVIRONMENT [GA:6, GB:1, GC:11, GD:2, GD:2]
URBANISM & LANDSCAPE [GB:2]
PRACTICE [GA:1, GC:1, GE:1]
RESEARCH [GA:1, GB:1]
WIL/PD [GE:3]

Bas
The Bas has dual focus, simultaneously providing a broadly based liberal education and, at the same time, a foundation of professional skills and knowledge that prepares students to succeed in their required co-op work experiences and future careers, to undertake independent research at the graduate level and to continue to learn throughout a career in design.

To graduate, students need to complete:
1. A 4-year academic program.
2. A series of at least 5 co-op work terms.
3. A suite of online Professional Development (PD) courses

The pre-pro BAS program consists of 8 academic terms of study. To complete the four year BAS, students must obtain 27.5 course credits distributed across 35 courses organized in 5 program streams.
The core curriculum consists of 25 credits (30 courses).
The 2.5 remaining credits are completed via electives: 2 credits (4 courses) are filled with Architecture electives, and 0.5 credits (1 course) is an unrestricted, open elective.
A detailed description of the program streams and summaries are found in Section 3.11.

Each term is conceived as a coherent learning opportunity in which the academic courses are related to one another and to the design studio.

The coop education program requires students to complete the equivalent of at least 5 approved 4-month co-op work terms.

Completing the BAS degree with a minimum cumulative average of 75% qualifies a student for admission to the WA Master of Architecture program with advanced standing.

BAS Admissions
We have a two-stage admissions process. Stage 1 - Common application, Stage 2- Interview, Portfolio & Precis. Details on the process are elaborated on WA's website here.

Transfer students are eligible for admission to the program's first year only. College courses do not qualify for transfer credit into the Architecture program. The combination of a cohort-based system and the Cultural History stream requirements makes advanced placement difficult for students. As a result, we rarely see these applications, so they are handled on a case-by-case basis.

MArch Curriculum Outline:
WA's MArch program combines elements of a professional master's program and a research-oriented master's program.
The MArch is a two-year degree program, with those coming from the Waterloo BAS (and those holding this equivalent pre-professional degree) admitted directly into the Second Year of study, also known as the Thesis Year. All other applicants enter the First Year (MA/MB Stream). This First Year contains transitional coursework covering essential criteria taught during WA's BAS program and a comprehensive design studio. Detailed descriptions of the program streams and curricular summaries are found in Section 3.11.

MArch Degree - Total 14.0 credits
YEAR ONE (MA/MB) - 6.0 credits

The First year of the M.ARCH (MA, MB terms) is composed of 7 core courses and an elective credit worth a total of 6.0 credits: a Modern Architecture course (0.50), Contemporary Theory, Culture, and Criticism (0.50), Science of the Building Envelope (0.50), a Steel & Concrete course (0.50), the Comprehensive Design Studio (1.50) and associated Technical Report (0.50), another Graduate Studio (1.50), and an open graduate elective (0.50).

YEAR TWO (M1/M2/M3) - 8.0 credits
During the first two terms of the Thesis Year, students must take two Thesis Research and Design Studios comprising 1.5 credits, for a total of 3.0 credits. They are also required to follow a course in methodology, Architecture Research and Analysis, for 0.5 credits. One credit is acquired through the completion of the Professional Practice core course. The remaining 1.5 credits are gained through completing three electives chosen from the available course selection to support their research. A total of 2.0 credits are gained for the completion of the Thesis.

Student admissions information is found on WA's website and centrally on the UW graduate site. Each admitted student must have a minimum of a four-year, honours pre-professional undergraduate Architecture degree or a professional Bachelor of Architecture degree with a minimum overall average of 75%.

--PROGRAM COMPONENTS OUTSIDE OF UW PURVIEW—

>Open Electives: one open elective in each of BAS and MArch programs
>Professional Development (PD) Options: One PD option course out of the required 5
>Work Term Credit Validation: handled by the COOP unit
>MArch Water Option: core interdisciplinary courses: WATER 601 and WATER 602

3.11 Performance Criteria

The APR must include:

- An overview of the curricular goals and content of the Program;
- a thematic summary of how the six program performance criteria (PPC) and twenty-four student performance criteria (SPC) are acknowledged in the structure and deployment of the curriculum described below; and
- a graphic matrix that cross-references each course with the student performance criterion (SPC) it addresses.

*https://tinyurl.com/311CurrGoalsContent ^^ link offers an expanded supporting text and access to various additional links. It's the preferred place to read this entry. The curriculum structure is the reverse of many schools. It focuses on professional knowledge and skill in the early years to take full advantage of coop and becomes more open at the upper-level undergraduate. The grad program has only a minimal core of required professional courses; generally, students have significant choices and a high degree of independence. *Honours Bachelor of Architectural Studies (BAS, pre-pro)* The BAS is guided by the following goals:*

1. Frontload Foundations in skills and knowledge

2. Interweave a Design Curriculum the program uses five main thematic groups to organize the curriculum. Each stream presents a body of knowledge following an internal logic regarding its sequence and specific content areas.
The theme areas are elaborated on the BAS program page on WA's website.
1. Design
2. Cultural History and Theory
3. Visual and Digital Media
4. Technology and Environment
5. The Urbanism and Landscape

*High-Level BAS Curriculum Narrative > 1A - Year 1 Fall - Design Foundations - links between design, technical knowledge, communication and cultural praxis are presented to the students. > 1B - Year 1 Winter - Small Buildings as Community Agents - reinforces the connections between design, technology, communication and cultural practice. >2A - Year 2 Fall - Multi-Unit Housing - examines design and construction issues while supporting the development and analysis of architectural propositions concerning personal space within the context of a larger community, ethics and regulatory frameworks. > 2B - Year 2 Spring - Buildings in Landscape - focuses on landscape and land-based practices relating to and informing architecture. > 3A - Year 3 - Winter - Big Urban Building -- brings the problem of building more into focus as students work across scales to confront urban design issues and building details. >3B - Year 4 Fall – Options - Option Studios and electives >4A - Year 5 Fall - Rome 4B - Year 5 Spring – CBD *Master of Architecture (March, professional)* The MArch has 3 primary objectives: • Professional qualification for students; • The conduct of useful research in the field; • Outreach into the community beyond our field Section 3.10 describes the structure of the 2-Year MArch program and elaborates on admissions and advanced standing rationale, where students from the Waterloo BAS (and those holding this equivalent pre-professional degree) are admitted directly into the Second Year of study, also known as the Thesis Year. All other applicants enter into the first Year.*

The program is organized around the MArch thesis, designed to develop competence in design research and critical analysis while allowing students to examine current architectural theory and

practice topics in-depth and position these within a broader cultural context.

Theme Areas: Design, practice and research Design studies form a significant part of the core MArch curriculum, remaining the program's primary focus, informed by the knowledge and skills developed in other theme areas.

The Year 1 curriculum offers transitional coursework covering essential criteria taught during WA's BAS program. In the fall (MA), students take comprehensive design studio and constituent courses.In the winter (MB-term), the Urban Design and Building Studio is integral to preparing for professional work in Canada and most global cities.

The program's core design curriculum of Year 2 (Thesis year) is structured to provide students with a critical and focused foundation for their thesis work by the end of their first four months of the thesis year (M1 term). The term offers a suite of option studios, each positioned to nurture and support specific themes, interests and methods. Students take a second TRD studio (ARCH 693: TRD II) in the following Winter term (M2) to continue developing their core ideas while working directly with their supervisor.

At the centre of the Master's program (M1, M2, M3) is this self-directed thesis. In this work, the School expects students to develop a critical, independent and fundamentally open-ended inquiry within the boundaries of architectural conception's practical, theoretical and artistic issues. The professional practice course forms the second component of the core graduate curriculum.

The MArch program guides students through how to undertake research in architecture. This can mean pushing the boundaries of practice, engaging in material research, conducting surveys or testing models, etc. Students build the ability to frame a research question, document potential sites, speculate on programs and explore through iterative design.

Beyond the specific research activities associated with thesis work and the shared foundations offered in core courses, elective courses build specialization and capacity on the research side.

3.11.1 Program Performance Criteria

The Program must provide its students with a well-thought-out curriculum with educationalopportunities that include general studies, professional studies, and elective studies.
Each of the PPCs must be addressed in a clear narrative statement and with reference to any relevant supporting documentation.

PPC 1. Professional Development

The Program must demonstrate its approach to engaging with the profession and exposing students to a breadth of professional opportunities and career paths, including the transition to internship and licensure.

https://tinyurl.com/3111PPC1 WA's engagement with the profession is deeply embedded across academic programs, research, work-integrated learning and extra-curricular activities. While ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and Contract Administration is the most outwardly professionally oriented course in the curriculum, numerous additional activities promote the professionalization of our students. For example,

client relationships and project management skills are reinforced in design-build projects such as the Design-Build projects with first nations (McMinn) and the Tiny Homes partnership with the City of Cambridge (McMinn and Blackwell). Many thesis projects integrate professional aspects and activities. Some students are involved with external 'clients' in their projects, while others deliver design and designed products to the real world or conduct research and design projects for the University.

WA offers a fully co-operative program in the BAS, placing students in offices once they have completed their 2A academic term; practice is a constant presence within the educational experience. BAS students must complete a minimum of five work terms. Two-year MArch students can complete one co-op term between their first and second years. The Co-operative Education (CE) and the Centre for Career Action provide workshops for students preparing for co-op employment interviews. Workshops cover resume writing, networking, international jobs, and interview skills. The School and CE have set up the Paths to Practice event to discuss careers and career paths directly with the students while they are in school.

Waterloo's Centre for Work-Integrated Learning (WIL) offers the Waterloo Professional Development (PD) Program. The PD program comprises a suite of online courses designed to support our students in enhancing their professional skills and employability (See Section 3.10 for details). The PD program promotes the integration of what is learned at work with what is learned during academic terms through critical reflection.
Completing three Work Term Reports further amplifies students' awareness of the role of internship in professional development and encourages students to take a critical position regarding their academic development related to work term experiences. 'Paths to Practice', along with many other events at the school, enrich students' exposure to the profession.

The Arriscraft Lecture series (Winter 2023, Fall 22, Winter 22, Fall 21, F20/W21, 2019/20, Fall 2018, 2017/18, Winter 2017) invites important voices into the school community, and in most instances, this includes someone invested in the practice of architecture. Guest critics at studio reviews and external reviewers for thesis defenses offer additional contact points with professional architects. Until 2022 we have been promoting and supporting the registration of our incoming 3A students into the OAA's IAP. Recent changes to the OAAs program, excluding them from logging work term hours, have admittedly cooled our BAS students' interest in registering. While a disappointing change for our community, we look forward to working with the regulators to get this interest back up and supporting our students in this way again soon.

PPC 2. Design Education

The Program must demonstrate how it situates and values education and training in design atthe core of the curriculum, including the ways in which the design curriculum weaves togetherthe social, technical, and professional streams of the curriculum.

https://tinyurl.com/3111PPC2 interweaving social, technical and professional streams with design is a core part of WA's mission. The Interweaving a Design Curriculum and Design, Practice Research texts in section 3.11 demonstrate how design is centered in the BAS and MArch programs, respectively. Design projects, not limited to studio, are given in all theme

areas. Activities in the 1B term demonstrate the inclusion of design across the program curriculum: Arch 113: Visual and Digital Media 2 and Arch 173: Building Construction 2 combine their final assessment, with students required to submit a proposal to the design competition set out by the Steel Structures Education Foundation, involving the highly developed design of a building whose materiality focuses on steel construction and expressive detailing. Outside of curricular commitments to design, WA centres design education in numerous additional areas. WA's faculty and staff support student groups, such as FormLab and GALT, engaging in either public projects of design research-creation or dissemination of design ideas. Many faculty research projects, and by extension, research-assistant positions, engage design directly. The tiny house project , the quality in the built environment SSHRC Partnership Project and the Buoyant Foundations Project are just some examples. Critical engagements with design and design education are also a part of the community's practices. As an example, the theme of our most recent lecture series, entitled Praxes of Care (https://uwaterloo.ca/architecture/events/lectures/lecture-series/fall-2021), brought together two or more architects, designers, researchers, artists, activists, and care workers to discuss care processes according to the themes of Attention, Action, Communication, and Maintenance. Previous themes such as what is Solidarity and "Climate Strike" fostered similar fora.

PPC 3. Global Perspectives and Environmental Stewardship

The Program must demonstrate how it embraces the diverse contexts that define contemporary architecture, including local, global, and environmental interests.

https://tinyurl.com/3111PPC3 WA has always been committed to viewing architecture in a comprehensive and integrated fashion as a humanistic discipline and a field of social, cultural, technical, formal and aesthetic speculation. Since 2020, WA's focused much of its work on this commitment to articulating, amplifying and enacting a shared vision that diverse voices and perspectives enrich our teaching, learning and research. These efforts have improved our curriculum, added purpose to many extracurricular activities and established WA as a leader at the University of Waterloo.

On the academic side, the redesigned Cultural History and Theory stream, best documented in the 2020/21 Annual Report, delivers a cultural and environmental history and theory sequence considering two fundamental aspects of architecture: how it mediates social, political, and economic relationships between people, and how it negotiates the relationships between people and the earth that sustains all life. Students follow two interconnected trajectories by approaching architecture, urbanism, and landscape within broad cultural and environmental contexts. Architecture is considered a form of cultural expression and ecological intervention, both constituting the backdrop of the creative activity that all students engage in as architects and designers.

In 2020 WA established a Task Force to work on Racial Equity and Environmental Justice. The Task Force (which in 2022 became a school committee) – with faculty, staff and student representation – brings the voices of Black, Indigenous and other racialized and marginalized groups to the table to implement changes across curriculum, school culture, human resources,

outreach and accountability. As part of the process, WA committed to a more rigorous review of the existing curriculum to further challenge its traditional Western bias. Diversifying case studies used in the 1B studio (ARCH 193: Design Studio) is one direct outcome of these efforts. WA fosters a culture of empowering student groups to establish and amplify their own voices as part of our collective efforts of inclusion and diversification. Treaty Lands and Global Stories, a student-led initiative that creates space for discussions centred on place, diversity, and inclusion at the school, is an excellent example illustrating the opportunities of this type of environment. WA contributes to UW's Indigenization commitments.

We strengthen students' knowledge of indigenous architectural and environmental practices through electives and a new core course. Our Design-Build with First Nations program engages with the cultural history of the Grand River valley and the relationship to land, natural habitat and the cultural heritage of the Anishinaabe peoples, whose territory this has been for millennia, as well as the Haudenosaunee peoples who have lived here since the late 18th century.

The courses typically offered (program was paused in 2022/23), allow students to work directly with Indigenous communities to realize a full-scale permanent structure. Elder Roweno:kwas Bill Woodworth, a member of the Faculty of Engineering, advises and supports our work toward truth and reconciliation. Bill has an Elder space both at the School of Architecture in Cambridge and on campus in Waterloo and teaches courses to Architecture students and Engineering students. He is also available to all students, staff and faculty in an advisory capacity. These more recent aspects of our program add to an already deep set of activities valuing global perspectives. The term in Rome and international co-op work terms are longstanding opportunities for students to immerse themselves in communities beyond Cambridge and Ontario.

Our commitment to valuing a balance between personal and scholarly drivers in MArch thesis work, further enhanced by our diverse student population, co-op experiences, and cultural history foundations, result in projects consistently, in some combination, being sited throughout the world (Practices of Furtive Commoning in the [Post]Apartheid, [Post]Colonial City of Cape Town, South Africa, The Churches of Pelion: Vessels of Faith, Tradition, and Cultural Endurance in Post-Byzantine Greece, Echoes of decolonization | From North Africa to Europe: questioning the trip back home), engaging marginalized communities (After Hours: Agency and Identity in Toronto's Do-It-Yourself (DIY) Electronic Music Scene, Closet Architecture: Reflections on the queer domestic interior), and engaging in environmental stewardship (WaterWoven: Living on the margins in the Roncador River region, Brazil, Learning from Manoomin: Restor(y)ing relationships between Anishinaabeg, settlers, and more-than-human beings in the Great Lakes Basin)

PPC 4. Collaboration, Leadership, and Community Engagement

The Program must demonstrate how it supports and fosters effective individual and team dynamics, a spirit of collaboration and inclusion, community engagement, and diverse approaches to leadership.

https://tinyurl.com/3111PPC4B Community and collaboration is one of the key pillars WA's identity. WA is committed to safeguarding a nurturing school in which faculty, students and

staff are all valued as equals in the project of architectural education. We pledge to support the students and provide an educational environment and curriculum that offers unique opportunities, emphasizes connections, builds community and treats everyone involved as partners in the institution's operation. Collaboration and community happen across WA's environment. Within the school community, teamwork, leadership, and community are nurtured within and between student cohorts, faculty and staff teams.
The same spirit extends beyond the building's bounds into various community partnerships and engagements. WA's academic programs recognize interdisciplinary collaboration as the profession's norm and integrate teamwork into many course activities. Therefore, the individual student at Waterloo finds him or herself working in groups at least once every term for varying lengths of time. Teamwork begins in the first year in the context of students working together on precedent case studies or producing their final Steel Design competition in pairs (as part of Arch 113 and Arch 173 combined final project).

Through second and third-year studios, students continue to work as teams in carrying out and presenting case studies and other analytical projects. Multiple co-op work terms challenge students to enter new work environments and build team dynamics efficiently. Through this experience, students learn to respond to different office and team environments while developing their skills in adapting to different work environments. Peer Mentorship is a well-established activity at WA.
Mentorship for Architecture Peers (MAP) is a mentorship-based program that connects incoming and junior students with knowledgeable upper-year and master's students for learning and support. The BAS studio space is shared and open to all cohorts; the single space encourages peer guidance across the student population.

Additionally, student groups at the school, such as TLGS and Bridge, blend BAS and MArch students and have organizational mechanisms to onboard new, more junior students and build capacity through experience.
Many of our school committees, task forces, and working groups also have students alongside faculty and staff as part of their membership. WA's deeply values its relationships with the Cambridge community and surrounds.
We continue to nurture this precious relationship through collaborations involving student installations, the tiny house project and community-sponsored opportunities for students to exhibit their work.
New partnerships, such as our refreshed collaboration with the Cambridge Food Bank (https://cambridgefoodbank.org/) and HIP Developments (Meander, Joy Summit), exemplify this tradition. WA's exhibitions (such as Project's Review and Masterworks, and lecture programs, such as the Arriscraft lecture series, are open to the public.
Further afield, we partner with the Candian Clay and Glass Gallery to jointly celebrate WA's accomplishments in robotic clay.
WA's culture of leadership amplifies the collectivity of the shared project that defines the school. Students, staff and faculty work on many initiatives together. WA's director (and other leadership team members) meet bi-weekly with a constellation of student groups to hear concerns and advance collective projects.

PPC 5. Technical Knowledge

The Program must describe how it engages fundamental and emerging technical aspects of building construction.

https://tinyurl.com/3111PPC5 *WA's approach to engaging technical aspects of building construction is shaped by its commitment to an interwoven design curriculum and the co-op component. In the BAS program, the introductory Building Construction and Environmental Building Design courses (ARCH 172: Building Construction I, ARCH 126: Environmental Building Design, ARCH 173: Building Construction 2) are all scheduled in the first three terms of study. This program structure recognizes and responds to the importance of early developing an understanding of issues surrounding technical competence and environmental responsibility and preparing students for a meaningful and enriching cooperative placement experience in their first work term between 2A and 2B academic terms. Deeper in the program, except for the Option term(3B) and Rome(4A) terms, at least one core course in the "Building Systems and Technology" stream is required each term. As described in the Curriculum narrative section in 3.11, the technical courses are delivered tightly coupled with the concurrent studio course's expectations and topics.*

As an example, during the 3A term, ARCH 362: Steel and Concrete: Design, Structure and Construction and ARCH 364: Building Science complement the technical resolution demanded in the studio course. The core 4B term, including the Comprehensive Building Design studio and constituent Technical Report, provides a forum for enhancing and assessing the student's ability to gather and synthesize knowledge and skills gained in the program through the comprehensive development of an architectural proposal. MA (ARCH 691: Design Studio/ARCH 671: Technical Report/ARCH 673: The Science of the Building Envelope) and MB (ARCH 690: Design Studio/ARCH 662: Steel and Concrete: Design, Structure and Construction) terms for the 2-year MArch students follow the same logic.

Outside of the core curriculum, BAS and MArch students have options, through option studios and electives, to engage more deeply with the technical aspects of building construction. WA offers ARCH 570 - Special Topics in Building Technology to organize and celebrate technical and environmental topics each term. Often focusing on emerging technical aspects of the discipline, this special topic area provides a range of courses, within building technologies, structures, materials and methods and environmental systems, including coursework in alternative energy systems, ecological design and design-build to MArch and upper-year BAS students. This past year, topics included Artificial Intelligence, Amphibious Architecture, Re-Narrativizing Net-Zero, and Architecturally Exposed Structural Steel. The impacts of coop are significant here as well. There is an undeniable feedback loop between technically-oriented conversations at the school and work term experiences. Students absorb emerging materials, methods and techniques on work terms and integrate their new knowledge into their coursework.

PPC 6. Breadth of Education

The Program must demonstrate how it provides an opportunity for students to participate in general studies and elective studies in the pursuit of a broad understanding of human knowledge and a deeper study of topics within the discipline of architecture.

https://tinyurl.com/3111PPC6 The belief that Architecture profoundly needs a broad and balanced knowledge base shapes UW's mission and informs activities within and beyond the curriculum. WA's Cultural History and Theory stream speaks directly to the breadth of education it offers its students.
In this stream, (see details in Curriculm narrative and overview), the core courses prioritize learning critical, discursive, and expressive skills by examining architecture's multi-lateral and reciprocal relationships with culture, society and the environment. Students interact with a plurality of built artifacts, such as objects of daily life, buildings, cities, and landscapes, as well as oral and written narratives that reflect histories and worldviews across time and space. The Rome term abroad further broadens the experiences and lessons in human knowledge and cultural understanding.

MArch and BAS students engage these topics outside the core curriculum through special topic streams. ARCH 540 Special Topics in Architectural History and Theory and the newly allocated ARCH 580 Special Topics in Race, Equity, and Environmental Justice organize and celebrate cultural, theory and justice-based topics each term.
Offerings this past year include Indigenous Architecture, Architecture and Philosophy. The culture of critical perspectives permeates other special topic streams as well. ARCH 510-Drawing as research asks students to embrace the critical aspects of the artifacts they produce.
ARCH 520 - the Architectures of Reconciliation asks students to investigate design's role in the reconciliation project. Such inherent binding of skills, technology and design to broader contexts and questions is a defining characteristic of most WA course offerings. Through the BAS/MArch sequence, students have up to two open elective courses to explore topics outside of architecture to diversify their academic experience or build specialization.
Co-op work terms, where students join professional environments and get exposed to diverse project types, clients, methods, contexts and challenges, broaden the education experience even further.
A core piece of WA's identity, the breadth and diversity of its theses and faculty research support and reinforce the pursuit of a broad understanding of human knowledge and a deeper study of topics within the discipline of architecture. Students and faculty alike embrace the challenge of positioning their work within a cultural framework.

3.11.2 Student Performance Criteria

A. Design

A1. Design Theories, Precedents, and Methods

The student must demonstrate an ability to articulate a design process grounded in theory and practice, an understanding of design principles and methods, and the critical analysis of -

architectural precedents.

https://tinyurl.com/3112SPCA1 The second studio, ARCH 193 (1B Term), builds on the design processes articulated in the 1A studio (ARCH 192). Students are coached through an iterative design process, moving through conceptual, material and tectonic phases. In both studios, students continue moving between physical making, drawing, and a core design process. Students articulate increasingly robust design processes as they move through the curriculum. The 2A studio (ARCH 292) asks students to use new methods, particularly in the first major project, where students connect theory to issues of representation. ARCH 392 and ARCH 690 develop design methods and processes for moving across scales from regional systems to building sites for undergraduate and two-year graduate students, respectively. Students articulate specialized methods and theories in each offering during undergrad- and grad-level option studios.

In the BAS program (ARCH 393 offerings): "The Biomimetic Design Lab" focused on bio-inspired design strategies shaping new technologies and challenging designers to look at the world in new ways. "Designing for Every Body" examines an architecture of care and inclusion by challenging what it means to design for disabilities. "Creativity, Identity, and Belonging" turns inward and offers an invitation to discover, explore, and deepen our sense of identity, its foundational role in our creative process, and our ability to find meaning in the world through design. "Whose Contemporaries Are We?" explores a methodological framework that can effectively respond to the continually renewing contemporary conditions, not only for the theorists but also for artists, designers and anyone involved in the creative process. "Designing for the Future of Diplomacy" confronts identity challenges during reconciliation by studying the embassy typology.
In the MArch program (ARCH 692 offerings): "Living Architecture Systems" asks students to frame their early thesis development through readings in contemporary complex systems, especially oriented to the natural world. "Communicative Space" promotes a poetic approach by offering a conceptual framework that considers culture the medium through which we relate to others, history, and the natural world, and architecture a project to build meaning in the environment, storing memory and knowledge. "Frameworks" promotes contextually-driven methods and theories by exploring recent discussions in urbanism and landscape, centring on notions such as generative design, knowledge production, and cities and landscapes of knowledge and culture.
The study of precedents significantly develops students' analytical skills while supporting new understandings of design principles and methods. "The Reverse Competition" project in ARCH 193 is a clear example where students foreground analysis as a vital driver in advancing architectural ideas and production.

Students acutely develop their architectural literacy by 'reading' a building as a set of interconnected architectural ideas. ARCH 293, the 2B studio, includes a precedent-based assignment focused on landscape case studies. As part of their Thesis development in general and in ARCH 610: Architectural Research and Analysis in particular, students engage research methodologies and diagrammatic strategies to analyze works of architecture, approaches to design and critical texts/literature.

A2. Design Skills

The student must demonstrate an ability to apply design theories, methods, and precedents to the conception, configuration, and design of buildings, spaces, building elements, and tectonic components.

https://tinyurl.com/3112SPCA2

The first-year BAS curriculum dedicates itself to establishing design skills as a foundation for the later studios that progressively illuminate an increasingly complex range of theoretical and practical issues. Projects in ARCH 192: Design Studio and ARCH 193: Design Studio establish core abilities with formal order, spatial organization, structural performance, material assemblies, economy of means, interiors, building components, details, program development, translation of program into organization and organization into built form, response to urban and natural context, public and private space, environmental performance, the concept of dwelling, issues of appropriateness and architectural representation. Abilities concerning structural feasibility and building components are also nurtured early on through the general overview of building technology presented in the core first-year courses, ARCH 172: Building Construction I and ARCH 173: Building Construction 2.

After developing these abilities in numerous academic and coop work terms, students' design skill abilities culminate in the comprehensive studios in each program. (BAS - ARCH 493, MArch ARCH 691) Various design methods and theories are presented to students throughout the curriculum. Iterative/non-linear approaches to design are built into the first-year design curriculum in studios such as ARCH 193: Design Studio. Through careful assignment sequences, students are coached on how to cycle through conceptual, contextualizing (via analysis and precedent studies) and refining phases of projects.
More specialized methods are developed and presented through the studio sequences. Manipulating (or remixing) precedent projects, users and programs as a generative design process in the 2A ARCH 292: Design Studio is one such method. The studio also advances theories shaping design, such as those related to actor-network theory, by promoting architecture as operating within a complex existing ecology. ARCH 392: Design Studio introduces students to theories about equity and care by framing design values around the concept of equity-driven transit development.

During undergrad (ARCH 393s)- and grad-level (ARCH 692s) option studios, students wrestle with design in each offering while working through specialized methods, tools and theories. (See A1 for specific descriptions of each option studio.)

A3. Design Tools

The student must demonstrate an ability to use the broad range of design tools available tothe architectural discipline, including a range of techniques for two-dimensional and three-dimensional representation, computational design, modeling, simulation, and fabrication.

https://tinyurl.com/3112SPCA3 *Skill-focused courses are bundled with concurrent studios in the BAS's first year to consolidate learning through practical and synthesized applications*

(ARCH 110/ARCH 192 and ARCH 113/ARCH 193). ARCH 212: Digital Fabrication offered in 2A expands on the digital foundations, including digital fabrication and computational design. Studio courses consistently require students to use and develop these foundations in their deliverables. Additionally, there are numerous opportunities for students to develop further specialized skills in design tools through electives and option studios.

ARCH 110: Visual and Digital Media I, a foundation course in graphic practice, introduces students to techniques, conventions, and theories of architectural graphic communication and visual representation, including orthographic and paraline drawing, mixed media, and digital media. The related studio, ARCH 192: Design Studio, develops these skills further. Model making and orthographic drawing are explicit requirements of all projects - simultaneously emphasizing the tools as representational and used for thinking through making. ARCH 113: Visual and Digital Media 2 introduces students to computing techniques for architectural drawing and representation.
The course engages students in 3D modelling and digital representation (drawing, rendering, and presentation drawings) to develop and communicate design ideas and spatial information. Concurrently, in ARCH 193: Design Studio, architecture is treated as a practice-based discipline engaged in various activities or operations. Students think about the strategies, methods, and materials used to help shape ideas and forms.

In each project, engaging distinct phases such as analysis, material assemblies and technical representation, students move between various modes of making, including 2D drawings, digital modelling and physical modelling (using manual and CAD/CAM approaches), to develop projects. ARCH 212: Digital Fabrication examines the potential of digital tools to drive design-to-production workflows in architecture. The course expands on foundational CAD and CAM skills to include parametric modelling and fabrication techniques to develop architectural ideas and become fluid in digital design methodologies.

The course examines how digital tools can enrich architecture practice by creating direct links between conceptualization and production. The ARCH 510 Special Topics in Visual and Digital Media electives offer computational design, urban analysis and simulation, advanced visualization, interaction design, and digital fabrication courses. It is exceedingly rare for a BAS student to graduate without completing at least one ARCH 510 offering. Additional electives also focus on specialized design tools like energy modelling and AI.
Option studios at both undergraduate and graduate levels are consistently offered to students to foster deeper engagements with specialized tools and methods. Relevant examples from the 2022/23 year include: Option Studios: • ARCH 393: Option Studio - Biomimetic Design Lab • ARCH 692: Thesis Research and Design Studio I - Living Architecture Systems Electives: • ARCH 510: Special Topics in Visual and Digital Media - Drawing as Research • ARCH 510: Special Topics in Visual and Digital Media - Introduction to Interactive Systems: Reactor Cells • ARCH 510: Special Topics in Visual and Digital Media - Responsive Architecture: Exploring Architecture and Organicism.
ARCH 510: Special Topics in Visual and Digital Media - Urban Analysis and Simulation • ARCH 684/510: Special Topics in Architecture - Material Syntax • ARCH 684/510: Special Topics in Architecture - The materiality of artificial intelligence beyond the digital • ARCH 570: Special Topics in Building Technology and Environment - Re-narrativizing Net-zero

A4. Program Analysis

The student must demonstrate an ability to analyze and respond to a complex program for an architectural project that accounts for client and user needs, appropriate precedents, spaceand equipment requirements, the relevant laws, and site selection and design assessmentcriteria.

https://tinyurl.com/3112SPCA4 The Studio curriculum is the primary contributor to developing students' abilities in program analysis. In ARCH 193 (1B studio), students design a small library that requires these abilities. Students must manage a core program while selecting additional programmatic elements in response to site and/or user analysis.

The work is done in the context of a rich foundation of library precedents collectively developed by the class in the "Reverse Competition" project. Design proposals also address space and equipment requirements and relevant regulatory considerations. Students opted for one of three available sites and made programmatic decisions based on their selection. The 2A studio (ARCH 292) centres on programmatically-focused precedent studies for the first half of the term with the students doing three short 1.5-2 week projects that examined different precedents: 1) the environmental context through a site section of a housing precedent, 2) a unit plan to understand the agency of users within the unit through a precedent, and 3) an exploded axonometric of a precedent that allowed students to understand the social organization of the building.

In the 3A studio (ARCH 392), students developed neighbourhood-scale designs to meet target densities established by the Waterloo region. Then, they chose one particular building/site to develop further to support their equitable/affordable housing goals. These additions included various student-added programs (live/work, art studio, daycare, health clinics, grocery, markets, job centres, etc). These also included outdoor space considerations. The BAS and two-year MArch comprehensive studios culminate these abilities: In ARCH 493: Design Studio/CBD (BAS), students respond to a real-world detailed program chart developed by the client. The course supports deeper engagement with the program through a series of tours at the Cambridge Food Bank - for students to familiarize themselves with the various program components in a Food Bank.
The students analyze and respond to a complex program by working through various iterations of their Food Bank proposal. Since they had a real client, they met with staff from the Cambridge Food Bank several times throughout the term - in seminar format - to discuss their program design decisions and outcomes. Students revise their program decisions based on the conversations and guidance from the client. From a pedagogical point of view - the ability to work with an actual client significantly impacted how each student designed their building. Conversations with staff at the Food Bank also influenced students' site design strategies. In ARCH 691: Design Studio/CBD (two-year MArch), students combined a supplied core program with additional programmatic elements shaped by analysis and specific focus areas in designing a learning centre. Students worked through individual and group studies on two available sites. After this work, a combination of programmatic and site-analysis drivers informed individual student site selection.

A5. Site Context and Design

The student must demonstrate an ability to analyze and respond to local site characteristics, including urban, non-urban, and regulatory contexts; topography; ecological systems; climate; and building orientation in the development of an architectural design project.

https://tinyurl.com/3112SPCA5 Abilities in environmental design practices leading to low carbon design, including passive heating and cooling, solar geometry, climate and meteorological influences, microclimate, site design, and daylighting, are developed in ARCH 126: Environmental Building Design. In this non-studio course, 1B students produce the design for a small building with a holistic set of environmental building design parameters.

The 2B (ARCH 293) studio removes students from an urban environment to focus more deliberately on natural systems and their role in shaping site context and design. As students propose a lodge on the Canadian Shield, the studio unpacks the differences between ecology, nature, and landscape ideas. Site analysis is a vital component of each project in the term. In the ARCH 292: Design Studio (2A), students learn how to engage buildings in their complex existing ecology and confront this engagement through ecologically motivated site strategies (Project 1). ARCH 392(BAS) and ARCH 690 (two-year MArch) are urban-scale studios focused on developing site-based abilities across scales.

ARCH 690: Design Studio is framed by regional questions concerning access and infrastructure, and students develop neighbourhood-scale design strategies to meet target densities established by Waterloo Region. Abilities in urban analysis are key outcomes for the course and are developed explicitly in the studio's assignment sequence - moving from the regional scale to the site. ARCH 690 is the urban scale studio for two-year MArch students. The first third of the studio is dedicated to detailed analysis and review of the urban context, the regulatory urban framework, and the possible urban development programs for a series of urban sites.

The ARCH 492 (4A) studio in Rome engages students in site considerations in yet another context where the site is understood simultaneously by its immediate physical reality and its broad and historical context. Students work through a site analysis exercise before developing a museum proposal through a blended approach, including aspects of new construction and adaptive reuse.

Finally, site analysis and design development are requirements of the CBD studios in the BAS (ARCH 493) and two-year MArch program (ARCH 691).

A6. Urban Design

The student must demonstrate an ability to analyze and respond to the larger urban context where architecture is situated; its developmental patterning and spatial morphologies; the infrastructural, environmental, and ecological systems; to understand the regulatory instruments that govern this context; the broader implications of architectural design decisionson the evolution of cities; and the impact of urbanism on design.

https://tinyurl.com/3112SPCA6 The historical development of urban form is studied in ARCH 327: Architecture of the Urban Environment. The course's central focus is the relationship between analysis and design of buildings and cities.
Topics include the urban plan as a generative form, urban building types, urban morphology and the shape of the public realm, infrastructure as both system and architectural object, nature and the park, and speculation, real estate and governmental urban development controls.

The take-home final exam/project includes a design of a preliminary conceptual urban site plan for a specific scenario outlined in the test package and a report accounting for key performance/targets of the proposal.

ARCH 392(BAS) and ARCH 690 (two-year MArch) are urban-scale studios focused on developing urban design abilities. ARCH 392 is framed by regional questions concerning access and infrastructure, and students develop neighbourhood-scale design strategies to meet target densities established by Waterloo Region.
Abilities in urban analysis and design skills are vital outcomes for the course and are developed explicitly in the studio's assignment sequence - moving from the regional scale to the site. Project 2a asks students to synthesize their earlier regional analysis into an urban neighbourhood's housing and development strategy. ARCH 690 is the urban scale studio for two-year MArch students. The first third of the studio is dedicated to detailed analysis and review of the urban context, the regulatory urban framework, and the possible urban development programs for a series of urban sites. The second third of the course has students develop urban design schemes before engaging in designing specific buildings in the final phase of the course.

The Rome term studio asks students to engage in the urban context of Rome. The studio (ARCH 492) has students produce a master plan for a museum complex, including public spaces and their urban armatures. While in Rome, students also take ARCH 446: Italian Urban History, which follows the development of the forms of Italian cities from the end of the ancient world through the rise of the modern era.

A7. Detail Design

The student must demonstrate an ability to assess, as an integral part of design, the appropriate combinations of materials, components, and assemblies in the development of detailed architectural elements through drawing, modeling, and/or full-scale prototypes.

https://tinyurl.com/3112SPCA7 ARCH 172/173 sequence introduces construction details and drawings. Students study and produce details at a large scale. Typically, students produce 1:1 details as a group project. Due to COVID considerations, the 2022/23-course cycle adapted the requirements and asked students to draw 1:20 details individually. We will resume the 1:1 exercise in 2023/24.

In ARCH 364: Building Science(BAS) and ARCH 673: The Science of the Building Envelope (two-year MArch), students develop and document enclosure details in course projects.

Finally, developing a variety of architectural details is required in the CBD studio/Technical Report bundles in both the BAS (ARCH 493/ARCH 473: Technical Report)) and the two-year MArch program (ARCH 691/ARCH 671: Technical Report). In each course bundle, students complete detail design development considering building materials, components and assemblies to satisfy the prescribed program and present drawings and models of project details as required.

A8. Design Documentation

The student must demonstrate an ability to document and present the outcome of a design project using the broad range of architectural media, including documentation for the purposesof construction, drawings, and specifications.

https://tinyurl.com/3112SPCA8 A broad range of abilities in architectural media is achieved in the core visual communication courses during the first year (ARCH 110: Visual and Digital Media I and ARCH 113: Visual and Digital Media 2). Focusing more specifically on technical aspects, our approach to technical documentation takes place across a multitude of different courses, with the first introduction in Building Construction courses (ARCH 172 and ARCH 173), development of understanding through a series of cooperative work terms and studios, and final test of ability in ARCH 473/ARCH 493 (BAS) and ARCH 671/691 (two-year MArch) bundles. ARCH 364 (BAS) and ARCH 673 (two-year MArch) courses focus on assessments and technical documentation outcomes.

ARCH 172/173 sequence introduces construction details and drawings. Students study and produce details at a large scale. Typically, students produce 1:1 details as a group project. Due to covid considerations, the 2022/23-course cycle adapted the requirements and called for students to draw 1:20 details individually. We will resume the 1:1 exercise in 2023/24. Multiple graded deliverables in ARCH 364: Building Science (BAS) and ARCH 673: The Science of the Building Envelope (two-year MArch) have specific requirements to exercise and demonstrate students' abilities to produce technical drawing documentation.

The ARCH 473/493 courses emphasize technical rigour, requiring students to create architectural projects prioritizing real-world functionality. Apart from the core teaching team, students benefit from guidance from experts in the field of architecture, structural engineers, landscape architects, and sustainability consultants, ensuring comprehensive reports that encompass diverse aspects of building design, such as construction assemblies, passive and active building systems, structural analysis, building and material lifecycle and carbon emissions assessments.
The final grade in Arch 473 is solely determined by the technical competency of the report, which serves as a foundation for further refinement and development in the building integration phase of the Arch 493 course.

In Arch 691, the project considers orientation, massing, envelope and systems throughout the preliminary phase of the student's work. Structure, building envelope and energy use were considered inseparable from forming the architectural narrative. The primary assignment of ARCH 671 is a Technical Report composed of diagrams and architectural details that demonstrate students' understanding of sustainability principles and strategies of their design. Working through and applying technical report requirements was integrated into the design

through workshops, seminars, and consultations throughout the term. The technical content included: Site Design taking into account the impact of boundary conditions; Enclosure assembly details; Energy sources and systems; Carbon analysis of the design (both embodied and operational); Structure (diagrams for framing, lateral load resisting system and stability issues, and structural systems and connections); Life Cycle; and Costing (elemental costs listed in the Yardsticks book for Costing).

ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and Contract Administration solidifies students' understanding of construction documents and specifications. Ability is confirmed through the Specifications Scavenger Hunt Project. Lastly, co-op experiences in architectural offices also reinforce students' abilities in the production of design documentation.

B. Culture, Communications, and Critical Thinking

B1. Critical Thinking and Communication

The student must demonstrate an ability to raise clear and precise questions; record, assess,and comparatively evaluate information; synthesize research findings and test potential alternative outcomes against relevant criteria and standards; reach well-supported conclusions related to a specific project or assignment; and write, speak, and use visual media effectively to appropriately communicate on subject matter related to the architectural discipline within the profession and with the general public.

https://tinyurl.com/3112SPCB1 Critical thinking and communication skills are established in the first year, developed in every design studio and many courses (especially in the Cultural History and Theory stream), and presented in their most elaborate form in the MArch thesis. Within the studio stream, ARCH 193: Design Studio offers a clear example. The projects in early studios are designed to establish the standard requiring students to develop well-articulated questions and their interpretation of and approach to each design challenge. The team teaching approach in virtually every studio guarantees that students will receive and respond to diverse viewpoints. Students regularly present their designs to critics and peers, requiring them to explain the criteria and values for their projects.
The option studios in the third-year offer another noteworthy touchpoint for these abilities. Here, rather than embracing a cohort-wide framing, students work in small groups to pursue and articulate more specialized questions and positions. Offerings in Fall 2022 included A Biomimetic Design Lab (Correa), Creativity, Identity, and Belonging (Fonseka), Designing for the Future of Diplomacy in the Age of Reconciliation (Fortin), Whose Contemporaries Are We - Forging Creative Tools for Our Time (Tang), Designing for Every Body (Bissett and Sheppard). Beyond the studio, the Cultural History stream fosters critical thinking and communication in a different learning environment. In the first-year, ARCH 120: An Introduction to Architectural Ideas and Communication promotes students' abilities in different verbal and written communication modes, including the language of architectural criticism, analysis, and interpretation.

ARCH 342/642: Local and Global is a core course for both BAS and two-year MArch students. The course explores multiple perspectives and discourses on global architectural culture since 1850. As part of its course outcomes, the course develops students' abilities: > to assess the

authenticity and value of a document > to read, unpack, and analyze complex theoretical texts and primary sources > to work collectively to discuss the lecture material and to analyze texts and buildings > to brainstorm, develop, outline, organize, and write an essay.

ARCH 442/640: Contemporary Architectural Theory, another core course for both BAS and two-year MArch students, delivers outcomes particular to critical thinking and communication beyond the subject. These outcomes include abilities to: > Engage in debates > Write an analytical paper > Address personal experiences in research > Develop public speaking and analytical thinking through class presentations and group discussions. > Deliverables such as panel discussions, exhibitions and a final paper confirm these abilities. Students position their work in a critical context as part of their thesis and related work.

ARCH 693: Thesis Research and Design Studio II requires that students fine-tune their thesis statements, literature review, and methods and incorporate these developments into a substantial positioning paper and final presentation.
Through the Thesis Milestone, students must engage the practice of architecture and existing discourse critically and creatively. They must explicitly reinforce, advance, refute or challenge existing practices or debates. Additionally, students need to know how their research is situated within this larger field. Students work across media and communication modes through their thesis.

While the blend between design research and more traditional forms of scholarship varies between projects, all theses have a substantial written component, supporting visual artifacts, and a final defence, including a formal presentation, panel questions, and more informal discussions.

B2. Architectural History

The student must have an understanding of the history of architecture and urban design inregard to cultural, political, ecological, and technological factors that have influenced their development.
https://tinyurl.com/3112SPCB2 The Cultural History and Theory stream presents history in an integrated fashion in the curriculum and directly supports many of the Group B SPCs. In this stream, students reinforce understanding through various course deliverables such as reading responses and reflections, presentations and discussions, quizzes and tests, and final term papers. In both BAS and MArch programs, architecture is presented as a form of cultural speculation, viewed in the context of history and other forms of artistic and cultural expression.

ARCH 342/642: Local and Global is a core course for both BAS and two-year MArch students. The course explores multiple perspectives and discourses on global architectural culture since 1850. The course analyzes fragmented but often connected global modernisms through various media: architecture and urbanism, material culture, film, dance, music, and literary texts.
Thematic areas include: > Global Modernisms, including developing world contexts. > Issues of labour and craft, including Loos alongside modern feminist voices. > Hygiene discourses, including Le Corbusier but balanced with diverse perspectives and issues of housing and home supported by readings from bel hooks and Dolores Hayden. > South Asian Modernism and the

Kinetic City > Modernist movements in South America.

ARCH 248: Cultural Encounters 1600-1914 critically examines the period from the 17th century to the first years of the 20th century, studying revolutions in science, agriculture, and industry and considering the social, political, and economic changes engendered globally in their wake. Selected works from philosophy, literature, the arts, architecture, landscape, and city design reveal complex social and political upheavals. The following course outcomes align with this SPC: > To understand the history of architecture and urban design with cultural, political, ecological, and technological factors that have influenced their development during the 17th to 19th centuries. > To understand conceptual and theoretical frameworks for architecture, cities, and landscapes of the 17th to 19th centuries, their relationships to parallel theoretical frameworks and activities in the artistic works of the period, and how they have shaped society through architecture, landscapes and urban design. >To understand the broader conceptual frameworks shaping the ecologies of the 17th to 19th centuries that inform the design of buildings and their systems and of the interactions among these ecologies and social frameworks, especially those leading to our age of the Anthropocene.

B3. Architectural Theory

The student must have an understanding of conceptual and theoretical frameworks and how they have shaped architecture and urban design.

https://tinyurl.com/3112SPCB3 *Many courses develop students' understanding of architectural theory within the Cultural History and Theory stream. The following courses are offered as key examples: ARCH 327: Architecture of the Urban Environment exposes students to urban design theory in the 3A term. Students encounter various theoretical frameworks to build their understanding of urban environment structure, organization and form.*

Specific theories are studied, including Rossi's "urban science, the Garden City, the Socialist City, and Modernism, among others. Students build understanding through lectures and course deliverables such as written reading responses and reflection assignments (Project 2 in particular).

ARCH 442/640: Contemporary Architectural Theory is a core course for both BAS and two-year MArch students. This course surveys contemporary architectural theory focusing on the relationship between vital theoretical texts and critical developments in contemporary architectural theory, practice, and their social and ecological contexts.
Course objectives directly related to this SPC include: > Develop an understanding of critical contemporary architectural theory. > Discuss the relationship between contemporary architecture and its social and material context. > Read contemporary architectural theory with a broad understanding of the social/cultural/ecological theories that underlie it.
Students build understanding through lectures and course deliverables, including an analytical paper on a related topic that critically engages with the course content. The M1 option studios, kicking off all MArch students' thesis year, offer collections of theoretical texts to support students in topic and methodological development.

While offerings change year-to-year, the ARCH 693 options consistently allow students to examine current topics in architectural theory and practice and position these within a broader cultural context. ARCH 692 offerings in 2022: Living Architecture Systems (Beesely), Frameworks (MacDonald), and Communicative Space (Winton). Students' theoretical positions are further clarified in the positioning paper produced as part of their thesis development in ARCH 693: Thesis Research and Design Studio II.

Beyond these core curriculum moments, theory-oriented electives are offered each year. In the 2022/23 cycle, topics included: ARCH 684: Special Topics in Architecture - The Materiality of artificial intelligence beyond the digital, ARCH 684: Special Topics in Architecture - Philosophy in Architecture, and ARCH 540: Twelve Architectures.

B4. Cultural Diversity and Global Perspectives

The student must have an understanding of the diverse needs, values, behavioral norms, and social/spatial patterns that characterize different global cultures and individuals and the implications of diversity on the societal roles and responsibilities of architects.

https://tinyurl.com/3112SPCB4 The core Cultural History and Theory stream investigates the relationship between cultural diversity and the roles and responsibilities of architects. The recent renewal of the course sequence (elaborated in the 2020/21 Annual Report) to support critical efforts towards decentering Europe and integrating teachings in Indigenous history and practices in the curriculum only strengthens the stream's impact. While almost any cultural history course could be used as evidence here, the following courses are offered as examples: > ARCH 243: Indigenous Practices exposes students to indigenous ecological knowledge and practices as other ways of knowing and engaging the world. > ARCH 248: Cultural Encounters 1600-1914 studies revolutions in science, agriculture, and industry and considers the resultant global social, political, and economic changes. > ARCH 342/642: Local and Global explores multiple perspectives and discourses on global architectural culture since 1850. The course analyzes fragmented but often connected global modernisms through various media: architecture and urbanism, material culture, film, dance, music, and literary texts.
In the Cultural History and Theory stream, students reinforce understanding through various course deliverables such as reading responses and reflections, presentations and discussions, quizzes and tests, and final term papers. Studios also address issues of cultural diversity. In this past cycle, for example, the 2A ARCH 292: Design Studio addressed the housing challenge through a lens of alienation.
As part of the project, students recognize that every housing unit is part of a complex social environment that includes family, friends, neighbours, acquaintances, and strangers. Students are asked how the building design can encourage mutual aid and practices of care. Additionally, students consider the potential for co-housing, inter-generational, queer, or other forms of housing that do not conform to the so-called norm of the nuclear family. The 4A Rome term contributes holistically to the global perspective aspect through courses and the immersive experience the study abroad term offers.

The ARCH 492: Design Studio offers a new set of questions around historical context and project-making while inviting new voices into the teaching team. The suite of Rome-based

courses, while officially elective options in the BAS program, are taken by most of the students. They include ARCH 449: Modern Italian Architecture, ARCH 446: Italian Urban History and ARCH 428: Rome and the Roman Campagna.

B5. Ecological Systems

The student must have an understanding of the broader ecologies that inform the design of buildings and their systems and of the interactions among these ecologies and design decisions.

https://tinyurl.com/3112SPCB5 Within the Group B SPCs, we consider ecologies pertaining broadly to understanding how the social structures related to the design of the built world adapt to and impact the quality of natural resources and to the existence of other human/non-human groups or systems. Ecologically-oriented perspectives are developed in many ways throughout the curriculum. The BAS's 2B term offers a clear curricular focus on expanding students' awareness and understanding of systems impacting the built world's design by focusing on landscape and land-based practices relating to and informing architecture.

ARCH 225: Theory and Design of the Contemporary Landscape frames Landscape Architecture as grappling with complex biophysical and social systems, reshaping the ground, and reorchestrating flows (of water, sediment, plants, and people), all while articulating cultural ideas and forms. Various biophysical systems (geological, hydrological, botanical, and ecological) are examined through a cross-referencing of theoretical texts, case study precedents (from lectures and student assignments), and techniques pertinent to the making of landscape architecture. ARCH 243: Indigenous Practices further expands students' understanding of indigenous ecological knowledge and practices as other ways of knowing and engaging the world.
ARCH 248: Cultural Encounters 1600-1914 continues layering deeper complexities in students' frame of reference by studying revolutions in science, agriculture, and industry and considering the social, political, and economic changes engendered globally in their wake. The studio itself, ARCH 293: Design Studio, demands that students work across scales and among disciplines, particularly landscape and architecture.

ARCH 292: Design Studio - another second-year studio (2A) confronts the design of a multi-unit housing project through an expanded perspective of interconnected social, environmental and economic forces. Students confront housing as a framework for engaging in relationships such as energy, material and social ecologies. The first project in the studio focuses on articulating these connections.

ARCH 327: Architecture of the Urban Environment expands on the ecological perspective by examining the forces that determine the creation and development of urban places. Topics include the urban plan as a generative form, urban building types, urban morphology and the shape of the public realm, infrastructure as both system and architectural object, nature and the park, and speculation, real estate and governmental urban development controls. Written responses, particularly to those elaborating on an "urban science," reinforce students' understanding of ecological systems.

ARCH 342/642: Local and Global introduces systems and ecology theory by way of Pask, Banham, Cross and Tamari. The core course in Contemporary Architectural Theory (ARCH 442 in BAS and ARCH 684 in two-year MArch) focuses on the relationship between vital theoretical texts and critical developments in contemporary architectural theory, practice, and their social and ecological contexts. Lectures on Colonialization, Geopolitics, and Power in Architecture expose students to the complex forces shaping architecture and its context. Group discussions, reading reflections, and a final essay consolidate students' knowledge of course material.

ARCH 690: Design Studio sees the two-year MArch students broadening the drivers shaping their design responses to include ecological forces such as economics, natural resources, infrastructures and planning frameworks.

C. Technical Knowledge

C1. Regulatory Systems

The student must have an understanding of the applicable building codes, regulations, and standards for a given building and site, including universal design standards and the principles that inform the design and selection of life-safety systems.

https://tinyurl.com/3112SPCC1 Regulatory systems - including life safety and universal design codes and standards, are introduced in the first-year building construction series (ARCH 172: Building Construction I,ARCH 173: Building Construction 2). Life systems and regulations for specific building systems and construction are covered in ARCH 260: Principles of Structures,

ARCH 276: Timber: Design, Structure and Construction and ARCH 362/662: Steel and Concrete: Design, Structure and Construction. ARCH 463: Integrated Environmental Systems introduces students to fire protection criteria and systems regarding building codes and standards. In addition to ARCH 662 (two-year MArch program) at the graduate level, ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and Contract Administration outlines regulatory frameworks impacting the profession's responsibilities through expert lectures oCodes, Regulatory Framework and Fire Safety, Regulatory Framework of the Building Process, Sustainability Frameworks, and Accessibility Frameworks. These courses use a combination of design-oriented assignments, quizzes and exams to confirm students' understanding of regulatory systems.
Parallel to these courses, the studio sequence nurtures an increasingly sophisticated understanding of regulatory systems. The 2A and 3A design studios outwardly address these issues by requiring compliance with the life safety requirements of the Ontario Building Code.

Finally, The CBD course bundles ARCH 493: Comprehensive Building Design/ARCH 473: Technical Report and ARCH 691: Comprehensive Design Studio/ARCH 671: Technical Report in the BAS and MArch programs demonstrate students' comprehensive understanding of regulatory systems.

Specific additional moments in the curriculum support the technical regulations and social impacts of universal design and accessibility. Namely, in the ARCH193 studio course, accessibility was clearly defined as a learning outcome in the course outline and implemented in two key assignments during the term. Both projects required students to utilize architectural drawings to communicate how their site and building design strategies employed mobility, cognition, and vision aids to provide an inclusive, accessible, and barrier-free environment.

In ARCH 172, we leverage our commitment to experiential learning as a way to foreground issues of accessibility in our students. "The Empathy Project" involves a half-day wheelchair experience for each student, where each student must navigate the challenges presented by the physical nature of the School of Architecture. A reflection report helps students account for the design challenges resulting from unintended decisions.
Beyond coursework, by the time students reach the advanced stages of their cooperative education, they will have experienced the process of regulated building design and encountered the application of life safety systems and the Building Code parameters for life safety design. For the Waterloo architecture student, the dialogue between the necessities of practice and the aspirations of studio design is one of the most critical aspects of the educational experience.

C2. Materials

The student must have an understanding of the basic principles used in the appropriate selection and application of architectural materials as it relates to fundamental performance, aesthetics, durability, energy, resources, and environmental impact.

\https://tinyurl.com/3112SPCC2 All studio work requires exploring, selecting and resolving building materials and assemblies. Additionally, the curriculum has several particular instances when it becomes an explicit agenda.
Early in the curriculum, ARCH 172: Building Construction I and ARCH 173: Building Construction 2 deal explicitly with materials and assemblies. The annotated construction documents produced in each course demonstrate a comprehensive level of research into materials and construction assembly.

ARCH 126: Environmental Building Design requires students to justify material choices of a small-scale design exercise with respect to their fundamental performance, aesthetics, durability, energy, material resources, and environmental impact.

Two courses, ARCH 276: Timber: Design, Structure and Construction and ARCH 362/662: Steel and Concrete: Design, Structure and Construction, correspond to a comprehensive material-oriented understanding of conceptual development, structural design, building process, and structural systems. In each case, students build an understanding of the advantages and disadvantages of building in the respective material across various stages of project development. The courses also expose students to the standards and regulations related to each material type. A combination of design-oriented assignments, quizzes and exams confirms students' understanding of both courses.

The two-year MArch students have ARCH 662 as a requirement. The CBD course bundles ARCH 493: Comprehensive Building Design/ARCH 473: Technical Report and ARCH 691: Comprehensive Design Studio/ARCH 671: Technical Report in the BAS and MArch programs demonstrate the students' consolidation of understanding of materials and application of architectural materials. The life cycle and embodied energy exercises in each technical report component expand students' understanding of energy and environmental aspects of material performance and selection.

C3. Structural Systems

The student must have an understanding of the principles of structural behavior in withstanding gravitational, seismic, and lateral forces, including the selection and applicationof appropriate structural systems.

https://tinyurl.com/3112SPCC3 First-year students are introduced to descriptions of static and dynamic principles in ARCH 172 and ARCH 173. ARCH 260: Principles of Structures explains static and dynamic principles, developing students' ability to analyze physical structures and solve actual problems in the design of structural elements. The principles taught in these earlier courses are expanded in two specialized structures courses:

ARCH 276: Timber: Design, Structure and Construction and ARCH 362/662: Steel and Concrete: Design, Structure and Construction. Two-year MArch students take ARCH 662 to support their structural system understanding further. Understanding is refined and applied in the comprehensive design bundles ARCH493/473 (BAS) and ARCH 691/671 (MArch) technical reports.

ARCH 172: Building Construction I introduces the basic theories of structures and the behaviour and applications of typical structural systems. Relationships between design development and building technique: materials, building science and construction practices, and factors of climate and geology are among the principles introduced. Students are expected to: 1. Understand the framing of a light wood frame building and draw it both as a wall section and as a 3D axonometric and 2. Understand the role of masonry and differentiate the detailing of load-bearing versus veneer systems. Understanding is verified through various course activities, including the production of structural and detail sketches and design drawings.

ARCH 173: Building Construction 2 examines relationships between design development and the building science and construction practices of structural systems and enclosures. Case studies, lectures and projects investigate various structural systems (steel, wood, masonry). The final project requires students to design and detail a small steel-structured building.

ARCH 260: Principles of Structures delivers an understanding of the fundamental concepts of mechanics and structures related to architectural design. The course also introduces and contextualizes the structural aspects of the National Building Code of Canada. Course outcomes include: > Determine the resultants and support reactions from a system of forces. > Distinguish between external and internal forces and use internal forces to determine the stress present in structural members. > Identify and class loads applied to a typical building structure, and differentiate between ultimate and service loads. > Identify load paths and differentiate

between gravity system types. A combination of design-oriented assignments, quizzes and exams confirms students' understanding.

ARCH 276: Timber: Design, Structure and Construction expands students' understanding of structural systems by focusing on timber construction. Timber design topics such as flexural, compression and tension members, connections, and plywood construction are studied using calculations, design aids, rules of thumb and the latest CSA design standards. Specific outcomes include: > Identify and class loads applied to a typical building structure > Identify and design tension, compression and bending members, along with connections > Create preliminary gravity and lateral system schemes Combining deliverables such as design-oriented assignments, weekly problem sets, and tests confirms students' understanding.

ARCH 362/662: Steel and Concrete: Design, Structure and Construction works parallel to ARCH 276 but focuses on Steel and Concrete rather than timber. ARCH 362/662 uses architectural case studies to examine conceptual development, structural design, building process, and structural steel and concrete system selection. Topics such as tension, flexural, and compression members and connections are studied using calculations, design aids, rules of thumb, and the latest CSA design standards. Specific outcomes include: > Identify and design tension, compression and bending members in steel and concrete > Create gravity and lateral system schemes, and identify the load paths therein. A combination of design-oriented assignments, weekly problem sets, and tests confirms students' understanding.

The CBD course bundles ARCH 493: Comprehensive Building Design/ARCH 473: Technical Report and ARCH 691: Comprehensive Design Studio/ARCH 671: Technical Report in the BAS and MArch programs demonstrate the students' consolidation of understanding. In each bundle, students produce an architectural project from schematic design through detailed development and account for the project's required spatial and environmental systematic components.

C4. Envelope Systems

The student must have an understanding of the basic principles used in the design of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, durability, energy, material resources, and environmental impact.

https://tinyurl.com/3112SPCC4

Arch 172 and Arch 173 broadly introduce building services and energy management matters. ARCH 126: Environmental Building Design advances understanding early in the BAS curriculum. ARCH 364: Building Science places particular emphasis on envelope selection and appropriate detailing, explaining the science relating to the building envelope and the factors that influence design, performance, durability, rehabilitation, construction and operational aspects of buildings and building enclosure. ARCH 673: The Science of the Building Envelope (MArch) further supports the understanding of envelope issues for two-year MArch students. Understanding is refined and applied in the comprehensive design bundles ARCH493/473 (BAS) and ARCH 691/671 (MArch) technical reports.

Demonstrating an understanding of the basic principles of envelope design is a key outcome of ARCH 126: Environmental Building Design. The learning is supported through lectures and further developed through course deliverables such as reflective writing and presentations. The required

understanding is consolidated in the final project, which asks students to design a small building with a holistic set of environmental building design parameters with the aspiration of a net-zero-impact design. Students must diagram all basic electrical and mechanical systems necessary in such a building and incorporate passive strategies for reducing energy use.

ARCH 364: Building Science builds on ARCH 126 content to further advance understanding of envelope systems. Related learning objectives include
> define the functions of the building enclosure and its constituent parts.
> develop enclosure schedules including functional requirements
> calculate the thermal resistance of building assemblies, and identify thermal bridges
> explain the principles of good building science, i.e., primarily the principles of rain penetration management, air leakage, heat flow, and condensation control
> apply the principles of building science to the detailing of common building enclosure intersections

These outcomes are supported through lectures and tutorials. Quizzes, exams and assignments, including a final project requiring an enclosure detail from the concurrent 3A studio, consolidate the understanding further.

ARCH 673: The Science of the Building Envelope supports two-year MArch students in building the required understanding. Related learning objectives include:
>Explain some of the reasoning behind technology choices made by Canadian architects.
>Describe common building enclosure materials and systems used in Canada.
>Identify the critical control layers in modern building enclosures.
> Be able to detail junctions and transitions, which ensure control layer continuity.
> Develop enclosure details for high-performance buildings.

In addition to a final exam, which comprehensively tests these topics, the course has two design projects used to reinforce and consolidate the content delivered in lectures. The first project involves designing building enclosure details for a specific building type-climate-exposure combination. The second project requires the development of four prescribed enclosure-component intersection details.

The CBD course bundles ARCH 493: Comprehensive Building Design/ARCH 473: Technical Report and ARCH 691: Comprehensive Design Studio/ARCH 671: Technical Report in the BAS and MArch programs demonstrate the students' consolidation of understanding. In each bundle, students produce an architectural project from schematic design through detailed development and account for the project's required spatial and environmental systematic components.

C5. Environmental Systems

The student must have an understanding of the basic principles that inform the design ofpassive and active environmental modification and building service systems, the issues involved in the coordination of these systems in a building, energy use and appropriate toolsfor performance assessment, and the codes and regulations that govern their application in buildings.

https://tinyurl.com/3112SPCC5 *Arch 172 and Arch 173 broadly introduce building services and energy management matters. Two building services courses, ARCH 126: Environmental Building Design and ARCH 463: Integrated Environmental Systems, specifically introduce students to the principles of the design of interior environments, the integration of building*

systems, and energy management. The understanding is refined and applied in the comprehensive design bundles ARCH 493: Comprehensive Building Design/ARCH 473: Technical Report (BAS) and ARCH 691: Comprehensive Design Studio/ARCH 671: Technical Report (MArch) technical reports.

ARCH 126: Environmental Building Design directly engages the environmental systems topics through a number of its outcomes and objectives. > Describe the development of environmental building design from green buildings to regenerative design. > Summarize the differences between several sustainable rating systems, their strengths and weaknesses. > Demonstrate an understanding of the basic principles of building envelope design and associated assemblies relative to their fundamental performance, aesthetics, durability, energy, material resources, and environmental impact. Correctly place control layers and justify material choices.

These outcomes are met through lectures and further developed through course deliverables such as reflective writing and presentations. The required understanding is consolidated in the final project, which asks students to design a small building with a holistic set of environmental building design parameters with the aspiration of a net-zero-impact design. Students must diagram all basic electrical and mechanical systems necessary in such a building and incorporate passive strategies for reducing energy use.
ARCH 463: Integrated Environmental Systems builds on ARCH 126 content to further advance understanding of environmental systems. Related learning objectives include > Develop an awareness of mechanical building systems and terminology; > Develop an understanding of the various attributes of mechanical systems, including space requirements, performance, capital costs and energy efficiency; >Gain an ability to develop conceptual mechanical system designs for various applications; > Understand performance requirements sufficiently to explore alternative solutions as part of a multidisciplinary design team.

These outcomes are supported through independent study and reading, projects, lectures, and discussions. Quizzes and assignments, which include design calculations, investigation/research, and simulation/analysis, consolidate the understanding further. The CBD course bundles ARCH 493: Comprehensive Building Design/ARCH 473: Technical Report and ARCH 691: Comprehensive Design Studio/ARCH 671: Technical Report in the BAS and MArch programs demonstrate the students' consolidation of understanding. In each bundle, students produce an architectural project from schematic design through detailed development and account for the project's required spatial and environmental systematic components.

D: Comprehensive Design

D1. Comprehensive Design

The student must demonstrate an ability to produce an architectural design based on a concept, a building program, and a site which broadly integrates contextual factors, structuraland environmental systems, building envelopes and assemblies, regulatory requirements, and environmental stewardship.

https://tinyurl.com/3112SPCD1 The BAS program is specifically configured to address this criterion. The academic program, in conjunction with the required Co-op work experience, prepares the student to complete a comprehensive design as the summative exercise in the pre-professional program. Throughout the curriculum, the Design Studios normally include a variety of exercises that are speculative and experimental. Still, most terms call for a highly resolved architectural solution as the concluding project.

As outlined in Section 3.10, the MArch's first year contains transitional coursework covering essential criteria taught during WA's BAS program and a comprehensive design studio. The CBD course bundles ARCH 493: Comprehensive Building Design/ARCH 473: Technical Report and ARCH 691: Comprehensive Design Studio/ARCH 671: Technical Report in the BAS and MArch programs demonstrate the students' consolidation of these abilities.

To recognize and acknowledge the workload of a broadly integrated and comprehensive design project, we deliver the CBD studio as a bundle of two courses where a traditional studio course is integrated and coordinated with an additional course focusing on producing a technical report. Each bundle ensures students demonstrate the ability to develop an appropriate resolution of technical and programmatic design criteria. In each bundle, students produce an architectural project from schematic design through detailed development and account for the project's required spatial and systematic components.

E: Professional Practice

E1. The Architectural Profession

The student must have an understanding of the organization of the profession, the Architects Act(s) and its regulations, the role of regulatory bodies, the paths to licensure including internship, and the reciprocal rights and responsibilities of interns and employers.

https://tinyurl.com/3112SPCE1 ARCH 655 provides a comprehensive picture of practice, including new and emerging forms and alternate modes of delivery of services. The roles of the associated professional disciplines in architectural practice are examined. Specialists and representatives of trade and professional associations make presentations for students to become aware of the consultation and information resources they offer to the architect.

Two required work reports (WRPT 103, WRPT 303) promote additional understanding and engagement with the role of internship in professional development. The five required coop work terms offer students real-world experiential learning opportunities concerning the profession.

ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and Contract Administration directly engages these topics through several its outcomes and objectives. > To understand the legal and legislative underpinnings of the profession. > To understand and appreciate the ethical, legal and technical standards of practice. > To develop an awareness of the many roles and contexts in which architects operate. > To develop an appreciation for the key role of collaborative thinking and teamwork in the profession. These outcomes are met through lectures delivered by field experts and covering topics such as OAA -Structure of the Profession and Licensure, Economics alongside Agency and the Profession of Architecture,

Allied Professions and Regulatory Frameworks. Quizzes 1 through 4 test the students' incremental understanding in these areas. The exam comprehensively tests for these topics and others in the course.
In WRPT 103: CACB Criteria, students initiate a record and assessment of their educational and work experience tracked against the Student Performance Criteria, a list of outcomes required by the Canadian Architectural Certification Board as a condition of professional accreditation. In WRPT 303: Canadian Experience Record Book, students continue to track their experience by revisiting the tracking exercise near the end of the BAS program. They expand their tracking to include practicing completing the Experience Record book.

E2. Ethical and Legal Responsibilities

The student must have an understanding of the ethical issues involved in the formation of professional judgment; the architect's legal responsibility under the laws, codes, regulations,and contracts common to the practice of architecture; intellectual property rights; and the roleof advocacy in relation to environmental, social, and cultural issues.

https://tinyurl.com/3112SPCE2 ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and Contract Administration explicitly addresses the architect's legal and ethical responsibilities. The course has many outcomes directly tied to these concerns: > To understand the legal and legislative underpinnings of the profession. > To understand and appreciate the ethical, legal and technical standards of practice. > To explore the meaning and application of ethical conduct in professional and business affairs and its relationship to personal integrity and reputation. > To understand the application of the Building Code and its impact on design > To develop an awareness of the architect's role and responsibilities in the provision for persons with disabilities. > To develop an awareness of the challenges and opportunities for the architect in design and building for sustainability.

These outcomes are met through a series of lectures covering The Architects Act, The Planning Act and the various codes related to safety and access. The course also presents and discusses a series of complex questions regarding the architect's responsibility to the client, the municipality, and society. Specific lectures delivered by field experts include: The Planning Act and Regulatory Framework, Codes, Regulatory Framework and Fire Safety Research/ Alternative Solutions, Construction Contracts, Regulatory Framework of the Building Process, Accessibility Frameworks, Sustainability Frameworks and Intellectual Property. Quizzes 1 through 4 test the students' incremental understanding in these areas. The exam comprehensively tests for these topics and others in the course.

E3. Modes of Practice

The student must have an understanding of the basic principles and types of practice organization, including financial management, business planning, entrepreneurship, marketing, negotiation, project management, and risk mitigation, as well as an understanding of trends that affect the practice.

https://tinyurl.com/3112SPCE3 each of the topics listed are comprehensively treated in ARCH 655. PDARCH3, WRPT 203 additionally contribute to these understandings. ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and Contract

Administration directly engages these topics through a number of its outcomes and objectives. > To develop an awareness of the issues and challenges facing contemporary professional practice > To explore the meaning and application of ethical conduct in professional and business affairs and its relationship to personal integrity and reputation. >To develop an awareness of the many roles and contexts in which architects operate.

These outcomes are met through lectures delivered by field experts and covering topics such as The Business of Architectural Practice, Designing an Architectural Career, Professional Liability Insurance and Construction Claims, , and Practice Management and Services.

The Business Plan project synthesizes these topics into a critical course deliverable. Quizzes 2 through 4 incrementally test the students' understanding in these areas, and the exam comprehensively tests for these topics and others in the class. PD ARCH 3: Electronic Communication and Web Design supports marketing skills by focusing on using the internet as a platform for promotion and dissemination. Here, students learn the fundamentals of web design and create living, interactive digital portfolios as promotional and marketing tools.

Students complete WRPT 203 - Firm Case Study as part of their professional development. Here, students carry out a case study of the firm at which they were employed during their third coop work term by reviewing several aspects of the firm, including: > How is the firm structured administratively? > What type of commissions does the firm take on? > Does the firm take on non-traditional types of work? > Is the firm engaged in innovative design or contract admin tools or strategies? > How does the firm get its commissions, and what kind of clients do they work with? > History of the firm.

E4. Professional Contracts

The student must have an understanding of the various contracts common to the practice of architecture.

https://tinyurl.com/3112SPCE4 ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and Contract Administration directly engages the topic of professional contracts through a number of its outcomes and objectives. > To understand and appreciate the legal standards of practice. > To understand the various instruments used during design, approval, documentation and construction phases of a project. Construction Contracts is the topic of a lecture delivered by a field expert, and understanding is tested through the course's quizzes and exam.

E5. Project Management

The student must have an understanding of the relationships among key stakeholders in the design process; the methods for selecting consultants and assembling teams; building economics and cost control strategies; the development of work plans and project schedules;and project delivery methods.

https://tinyurl.com/3112SPCE5 ARCH 655 comprehensively delivers an understanding of Project Management topics. Students also engage some of these topics in an applied manner in the comprehensive building studio/technical report bundles (ARCH 493/473 and ARCH 691/671). ARCH 655: Architectural Professional Practice: Ethics, Business, Legal Issues, and

Contract Administration explicitly addresses the numrous aspects related to project management. The course has many outcomes directly tied to these concerns including: > To understand the various instruments used during design, approval, documentation and construction phases of a project. > To understand the principles and procedures for the management of projects and the ability to apply cost-control techniques > To develop an appreciation for the key role of collaborative thinking and teamwork in the profession These outcomes are met through lectures delivered by field experts and covering topics such as Construction Methodologies, Cost Management, Integrated Project Delivery, and Lean Construction. Lectures given by landscape architects, structural engineers, and property developers further support students' understanding of the collaborative nature of the architect's work and the consultation and information resources such allied professionals offer to the architect. Quizzes 1 through 4 test the students' incremental understanding in these areas. The exam comprehensively tests for these topics and others in the course.

The BAS ARCH 493: Design Studio/Comprehensive Building Design and ARCH 473: Technical Report bundle is purposefully structured to simulate collaborative thinking and teamwork in the profession. During the heart of the projects, various consultants (aka guest instructors) join the group to meet with students to discuss specific aspects of their design. Students' understanding of the collaborative nature of the architect's work is reinforced through the presence and contributions of these consultants.

The MArch Comprehensive Building Design Studio (ARCH 691) and ARCH 671: Technical Report bundle requires a costing exercise. As part of the technical report component, students must outline a costing strategy and summary while undertaking specific cost reduction strategies - such as reducing building size.

4. Supplemental Information

4.1 Introduction to the Institution and Program History

4.1.1 History, Description, and Mission of the Institution

The appendix of the APR must provide a brief history and description of the institution, inwhich the Program exists, as well as the institution's current mission statement and the date ofits adoption or last revision. This may be provided as a web link.
https://tinyurl.com/411InstitutionHistory

4.1.2 Program History

The appendix of the APR must provide a brief Program history.
https://tinyurl.com/412ProgramHistory

4.2 Student Progress Evaluation

The appendix of the APR must include:

- The procedures for evaluating student transfer credit and advanced placement; and
- The procedures for evaluating student progress, including the institutional and Program

policies and standards for evaluation, advancement, graduation, appeal, and remedial measures.
https://tinyurl.com/42StudentProgressEvals

4.3 Current Course Descriptions

The appendix of the APR must include a one- or two-page description with an overview,learning objectives, course requirements, prerequisites, date(s) offered, and faculty for each required and elective course in the Program.
https://tinyurl.com/43CourseDescrips

4.4 Current Faculty Resumes

The appendix of the APR must include a condensed resume (no more than two pages) for each faculty member currently teaching in the Program. The resume must list: current course roster; educational background and registration data; recent honors and awards; recent research, scholarship, and creative activity; recent publications; current academic, professional, and public service; and professional memberships. The term “recent” refers to accomplishments since the previous accreditation visit.
https://tinyurl.com/44FacultyResumes

4.5 Visiting Team Report from the Previous Visit

The appendix of the APR must include a copy of the report from the previous site visit in its entirety.
https://tinyurl.com/45PastVTR

4.6 Annual Reports

The appendix of the APR must include copies of all ARs (including the Annual StatisticsReport) that have been submitted to the CACB since the previous site visit. Only the mostrecent school academic calendar should be submitted.
https://tinyurl.com/46AnnualReports

Appendix B: Report Signatures

A: Program Signatures

University Name University of Waterloo

Program Name Master of Architecture (M.ARCH)

Name	Maya Przybylski
Title	O'Donovan Director, School of Architecture, University of Waterloo
Date	2023-09-14

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University of Waterloo : Master of Architecture (M.ARCH)

The Matrix does not require inputting the full curriculum structure. Please enter only Mandatory Courses contributing to SPC compliance. In cases where the student cohort is divided into concurrent parallel sections or streams during a single term (for example: a class divided into parallel 3 studios) please enter a generic description, generic course number and the common SPC compliance on a single line.

Reminder: all students must achieve full SPC compliance as shown in the Matrix.

			A. Design							B. Culture, Communications, and Critical Thinking					C. Technical Knowledge					D. Comprehensive Design	E. Professional Practice				
			Design Theories, Precedents, and Metho	Design Skills	Design Tools	Program Analysis	Site Context and Design	Urban Design	Detail Design	Design Documentation	Critical Thinking and Communication	Architectural History	Architectural Theory	Cultural Diversity and Global Perspective	Ecological Systems	Regulatory Systems	Materials	Structural Systems	Envelope Systems	Environmental Systems	Comprehensive Design	The Architectural Profession	Ethical and Legal Responsibilities	Modes of Practice	Professional Contracts	Project Management
			A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	E1	E2	E3	E4	E5
BAS 1A Term Fall	ARCH 110	Visual and Digital Media I			■																					
	ARCH 120	Intro to Arch Ideas and Comm										■														
	ARCH 192	Design Studio			■																					
BAS 1B Term Winter	ARCH 113	Visual and Digital Media 2			■																					
	ARCH 126	Environmental Building Design					■												■	■						
	ARCH 173	Building Construction 2															■									
	ARCH 193	Design Studio	■	■	■	■																				
BAS 2A Term Fall	ARCH 212	Digital Fabrication			■																					
	ARCH 260	Principles of Structures																■								
	ARCH 292	Design Studio	■			■								■	■											
	PDARCH 3	Web Design																						■		

			A. Design								B. Culture, Communications, and Critical Thinking					C. Technical Knowledge					D. Comprehensive Design	E. Professional Practice				
			Design Theories, Precedents, and Metho	Design Skills	Design Tools	Program Analysis	Site Context and Design	Urban Design	Detail Design	Design Documentation	Critical Thinking and Communication	Architectural History	Architectural Theory	Cultural Diversity and Global Perspective	Ecological Systems	Regulatory Systems	Materials	Structural Systems	Envelope Systems	Environmental Systems	Comprehensive Design	The Architectural Profession	Ethical and Legal Responsibilities	Modes of Practice	Professional Contracts	Project Management
			A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	E1	E2	E3	E4	E5
BAS 2B Term Spring	ARCH 225	Theory and Design of the Contemp Landscape													■											
	ARCH 243	Indigenous Practices												■												
	ARCH 248	Cultural Encounters 1600-1914										■		■												
	ARCH 276	Timber: Design, Structure and Construction															■	■								
	ARCH 293	Design Studio					■																			
BAS 3A Term Winter	ARCH 327	Architecture of the Urban Environment						■					■		■											
	ARCH 342	Local and Global (w/ARCH 642)									■	■		■												
	ARCH 362	Steel and Concrete (w/ ARCH 662)														■	■	■								
	ARCH 364	Building Science							■	■									■							
	ARCH 392	Design Studio				■	■	■																		
	WKRPT 103	CACB Tracking (in succeeding coop)																					■			
BAS 3B Term Fall	ARCH 442	Contemp. Arch Theory (w/ ARCH 640)									■		■		■											
	ARCH 393	Option Studios	■	■							■															
	WKRPT 203	Firm Case Study (in succeeding coop)																						■		

			A. Design								B. Culture, Communications, and Critical Thinking					C. Technical Knowledge					D. Comprehensive Design	E. Professional Practice				
			Design Theories, Precedents, and Metho	Design Skills	Design Tools	Program Analysis	Site Context and Design	Urban Design	Detail Design	Design Documentation	Critical Thinking and Communication	Architectural History	Architectural Theory	Cultural Diversity and Global Perspective	Ecological Systems	Regulatory Systems	Materials	Structural Systems	Envelope Systems	Environmental Systems	Comprehensive Design	The Architectural Profession	Ethical and Legal Responsibilities	Modes of Practice	Professional Contracts	Project Management
			A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	E1	E2	E3	E4	E5
BAS 4A Term Fall - Rome	ARCH 492	Design Studio					■																			
	WKRPT 303	CERB (in succeeding coop)																				■				
BAS 4B Term Spring	ARCH 463	Integrated Environmental Systems														■				■						■
	ARCH 473	Technical Report							■	■							■	■	■	■	■					
	ARCH 493	Design Studio- CBD		■		■			■							■					■					■
MArch MA Term Fall (2-year stream only)	ARCH 671	Technical Report							■	■							■	■	■	■	■					■
	ARCH 673	The Science of the Building Envelope							■	■									■							
	ARCH 691	Design Studio- CBD		■		■										■				■	■					■

			A. Design								B. Culture, Communications, and Critical Thinking					C. Technical Knowledge					D. Comprehensive Design	E. Professional Practice				
			Design Theories, Precedents, and Metho	Design Skills	Design Tools	Program Analysis	Site Context and Design	Urban Design	Detail Design	Design Documentation	Critical Thinking and Communication	Architectural History	Architectural Theory	Cultural Diversity and Global Perspective	Ecological Systems	Regulatory Systems	Materials	Structural Systems	Envelope Systems	Environmental Systems	Comprehensive Design	The Architectural Profession	Ethical and Legal Responsibilities	Modes of Practice	Professional Contracts	Project Management
			A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	E1	E2	E3	E4	E5
MArch MB Term Winter (2-year stream only)	ARCH 642	Modernism To The 21st Century										■		■												
	ARCH 662	Steel & Concrete (w/ ARCH 362)																								
	ARCH 690	Design Studio					■	■							■											
MArch M1 Term Fall	ARCH 610	Architectural Research and Analysis	■																							
	ARCH 692	Thesis Research and Design Studio I (options)	■	■									■													
	ARCH 640	Contemp Arch Theory (2-year only)											■													
MArch M2 & M3 Terms Winter/Spring	ARCH 655	Architectural Professional Practice								■						■						■	■	■	■	■
	ARCH 693	Thesis Research and Design Studio II									■		■													
	Milestone	Thesis									■															