



UNIVERSITY OF CALGARY

SCHOOL OF ARCHITECTURE, PLANNING AND LANDSCAPE

SAPL EVDS 697.98 Industrial Landscapes: Mass Timber 2020

March 2020 Block Week

March 9 – 13, 8:00am to 5:00pm

Course Coordinator: Prof. Josh Taron, jmtaron@ucalgary.ca

Room: CBDLab – Event Hall

INTRODUCTION

Mass timber is a term used to describe different kinds of massive wood elements used in building assemblies. Mass timber consists of a range of glued and non-glued elements including but not limited to glue-laminated timber (GLT), structural composite timber (SCL), laminated veneer lumber (LVL), parallel strand lumber (PSL), cross-laminated timber (CLT), nail laminated timber (NLT), dowel-laminated timber (DLT), and interlocking cross-laminated timber (ICLT) (Smith, 2017). The use of these elements optimizes the inherent structural behavior of wood with advantages ranging from sustainable resourcing, low embodied energy, carbon sequestration properties, off-site fabrication, mitigated waste streams, reduced construction and assembly complexity, decreased on-site construction time and energy waste, optimized material value, and added value to low grade timber. But mass timber as a product and relies on a complex industrial landscape that touches on supply chains, advanced manufacturing, regulatory bodies and the AEC industry.

This block week course provides an introductory view of mass timber in Western Canada for graduate students and practicing professionals that includes perspectives from manufacturers, regulators, engineers, builders, designers and researchers who will speak to the challenges and opportunities that mass timber and mass timber construction provides.

OBJECTIVES

1. Expose students to a variety of perspectives in the industrial landscape of mass timber (Tier 1&2)
2. Host a dialog between mass timber experts, non-expert professionals and master's students on topics connected to mass timber (Tier 1&2)
3. Build practical knowledge about the intersection of mass timber and digital fabrication (Tier 2)
4. Extend awareness of mass timber research through public exhibition of outcomes in the City Building Gallery (Tier 1&2)

TEACHING APPROACH

The course is multi-tiered and consists of a blended student cohort that includes continuing education, professional, and post-professional master's degree students. Tier 1 students will attend and participate in lecture and discussion sessions (mornings). Tier 2 students will take part in Tier 1 activities plus participating in a mass timber prototyping workshop (afternoons).

Each day will consist of a set of thematic lectures and discussions in the mornings for Tier 1&2 students that address a particular perspective within the Western Canadian mass timber ecosystem. The afternoons will be used for Tier 2 students to work on the digitally fabricated mass timber prototypes. Thursday afternoon will be reserved for the Future of Architecture Panel Discussion held in the CBDLab Event Hall. There will be a site visit to a mass timber project in the middle of the week (location TBD).

COURSE EXPECTATIONS, MEANS OF EVALUATION AND SCHEDULE

Tier 1 students are expected to attend and participate in lecture and discussion sessions (morning sessions). Tier 2 students are expected to fulfill Tier 1 student responsibilities as well as participating in and completing the mass timber prototyping activities (afternoon sessions).

Monday AM	8:00-12:00	MANUFACTURER + BUILDER PERSPECTIVES
Monday PM	1:00-5:00	Tier 2 Prototyping Introduction + Tool Training
Tuesday AM	8:00-12:00	REGULATORY + ENGINEERING PERSPECTIVES
Tuesday PM	1:00-5:00	Tier 2 Prototyping Activities
Wednesday AM	8:00-12:00	MASS TIMBER PROJECT SITE VISIT
Wednesday PM	1:00-5:00	Tier 2 Prototyping Activities
Thursday AM	8:00-12:00	ARCHITECTURAL PERSPECTIVES
Thursday PM	1:00-5:00	Future of Architecture Panel Discussion
Friday AM	8:00-12:00	RESEARCH PERSPECTIVES
Friday PM	1:00-5:00	Tier 2 Exhibition Set-up + Opening

GRADING SCALE

The following equivalencies (the University of Calgary has no official percentage scale system) will be used in calculating grades: A+ (95.0-100.0); A (90.0-94.99); A- (85-89.99); B+ (80.0-84.99); B (75.0-79.99); B- (70.0-74.99); C+ (65.0-69.99); C (60.0-64.99); C- (55.0-59.99); D+ (50.0-55.99); D (45.0-49.99); F (0-44.99). A student who receives a "C+" or lower in any one course will be required to withdraw regardless of their grade point average (GPA) unless the program recommends otherwise. If the program permits the student to retake a failed course, the second grade will replace the initial grade in the calculation of the GPA, and both grades will appear on the transcript.

At the discretion of the instructor, assignments submitted after the deadline may be penalized with the loss of a grade (e.g.: A- to B+) for each day late.

University of Calgary Policies and Supports

ACADEMIC ACCOMMODATION

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>.

ACADEMIC MISCONDUCT

Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Most commonly plagiarism exists when: (a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work, (b) parts of the work are taken from another source without reference to the original author, (c) the whole work (e.g., an essay) is copied from another source, and/or, (d) a student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved. While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such

references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

COPYRIGHT LEGISLATION:

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

UNIVERSITY STUDENT APPEALS OFFICE: If a student has a concern about the course, academic matter, or a grade that they have been assigned, they must first communicate this concern with the instructor. If the concern cannot be resolved with the instructor, the student can proceed with an academic appeal, which normally begins with the Faculty. <https://ucalgary.ca/student-appeals/>

More student support and resources (e.g. safety and wellness) can be found here: <https://www.ucalgary.ca/registrar/registration/course-outlines>