Extending the existing. Multi-use, Multi-story in Wood Architecture

DESIGN TASK

A concept for a rooftop extension of existing residential buildings that allows
1. Strategies for installing, modifying, and reusing wooden buildings, spaces, and components
2. A prefabricated wooden frame in an existing environment
3. Use of wooden products, components, and elements
4. Update of the technical installations according to changing uses

A study of resources used in wood construction
1. How much wooden material is needed
2. How the material is processed into components and elements
3. How the components and elements are reused and what is their end-of-life scenario

Application of ideas on a detailed and tangible building design

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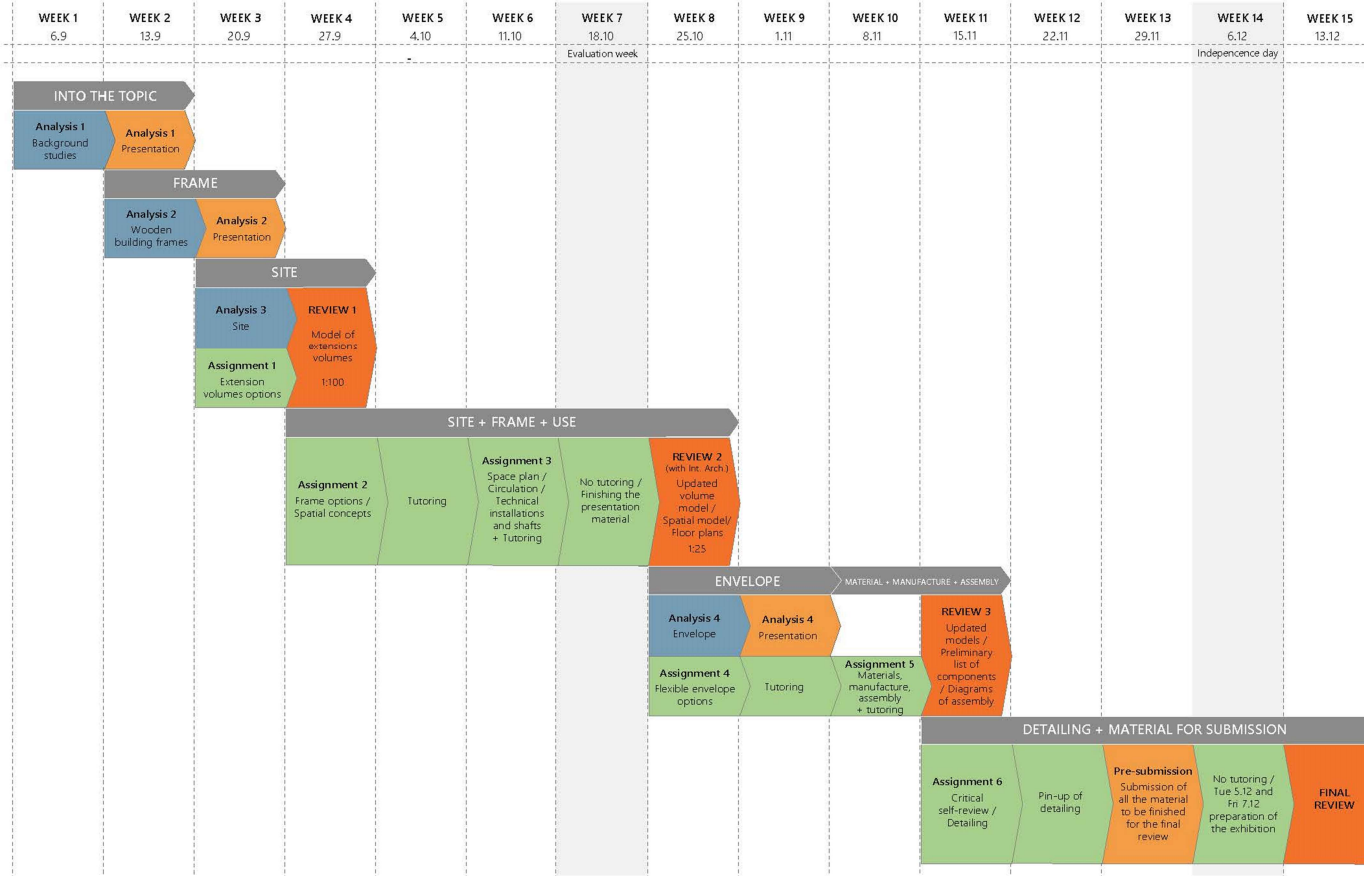
WAY OF WORKING

- Teamwork, communication, and organizing the resources
- Tutoring + discussion
- Wood-workshop working (reserve the slot)
- Pin-ups + feedback
- Presentations + reviews
- There is a possibility to work at Paja´s homebases

SCHEDULE



Aalto University
Department of Architecture

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MODULES

1. BACKGROUND STUDIES	weeks 1-2
2. FRAME - Flexibility in a wooden frame with principles of technical installations - Principles of fire safety and sound insulation	weeks 2-3
3. SITE, FRAME AND SPACE - Study of possibilities and options to extend existing buildings - Testing possibility for different uses (living, working, commercial…) - Studying the circulation (new stairs, elevators…)	weeks 3-8
4. Catching up / rethinking	week 7
5. ENVELOPE (interior architects join the course) - Designing the principles of building envelope that allow different uses - Sketches of principal details	weeks 8-9
6. MATERIAL, MANUFACTURE AND ASSEMBLY	weeks 10-11
7. DETAILING, MATERIALS - Concentrating on detailing and resourcing the materials	weeks 11-13
8. FINISHING THE PROJECT	weeks 13-14
9. PRESENTATION AND REVIEW	week 15

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WORKLOAD

- 12 credit points
- 324 hours (includes reflection)
- appr. 23 hours per week / student = 69 hours per group

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LEARNING OUTCOMES

1. Ability to analyze, learn, agree, implement and adapt
2. Understanding of the main principles and elements of a detailed design of a wooden building
3. Understanding the environmental impact of architectural design
4. Ability to create and shape a vision or concept and develop it into a tangible building design

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EVALUATION PRINCIPLES

1. Logical and personal perspective on the design theme
2. Ability to analyze information and apply it creatively to design
3. Resourceful approaches and solutions that address the studio design questions
4. Responsible and creative use of resources
5. Development throughout the process + quality of presentations
6. Ability to work in teams

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STUDENTS:

24 master-level students = 8 groups of 3 students

TUTORS:

5 instructors:

Laura Zubillaga
Willem van Bolderen
Pekka Heikkinen
Pekka Pakkanen
Jaakko Torvinen

INFORMATION:

All the information and materials are delivered in MyCourses:

ARK-E1020 Studio Autumn — Wood Architecture, design studio

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STUDIO COMPONENTS

1. Analyses / inventories
- Background studies on wooden multi-story extensions
- Flexible wooden building frames
- Site and extension volumes
- Flexible envelope

2. Design and self-evaluation of the design alternative options

3. Models
- Physical working models at 1:100 / volumes, 1:25 / spaces and 1:5 /details
- 3D digital model

4. Diagrams
- Different uses of spaces
- Amount of materials needed, resourcing of materials
- Assembly and disassembly of the building

5. Detailed building design

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OTHER COURSES REQUIRED:

SUPPORTING LECTURE COURSE REQUIRED:

- Wood in Architecture and Construction course online on Friday afternoons 13:15-15:00