

AR-487

Technological innovation

Tombesi Paolo

Cursus	Sem.	Type
Architecture	MA1, MA3	Opt.

Language of teaching	English
Credits	3
Session	Winter
Semester	Fall
Exam	During the semester
Workload	90h
Weeks	12
Hours	2 weekly
Courses	2 weekly
Number of positions	

Summary

Technological Innovation has three aims. It seeks to: a) examine how new products and processes are developed specifically in or for the building sector, b) discuss the elements constraining their dissemination, and c) lay out a theory of how success can be determined.

Content

By looking at technical change as the result of specific industrial dynamics, the class will clarify how technological innovation in building takes on different meanings depending on context, markets and economic cycles. This type of understanding should inform building actors' strategies and government policy.

The objectives embedded in the program can be described as follows:

1. Introduce students to product substitution processes and their logics in the construction industry.
2. Articulate the impact of 'non-building' factors over introduction and dissemination of change in building.
3. Clarify the extent to which the construction industry operates in conjunction with manufacturing, real estate and policy sectors.
4. Enable students identify the conditions allowing technological transformations to take place.

Learning Prerequisites**Recommended courses**

AR-401(n) Theorie et critique du projet MA1 (Tombesi and Pathiraja)

Learning Outcomes

By the end of the course, the student must be able to:

- Interpret socio-technical contexts.
- Specify agency roles.
- Propose implementation strategies.
- Theorize appropriate industrial conditions.
- Work out / Determine relationships of power and interest.
- Analyze product introduction landscapes.
- Formulate strategic plans.
- Assess / Evaluate viability of innovation proposals.

Transversal skills

- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Set objectives and design an action plan to reach those objectives.
- Communicate effectively with professionals from other disciplines.
- Demonstrate the capacity for critical thinking
- Take feedback (critique) and respond in an appropriate manner.
- Access and evaluate appropriate sources of information.
- Collect data.
- Summarize an article or a technical report.

Teaching methods

Content will be delivered through lectures and amplified through seminar discussion and case-study development.

Assessment methods

Assessment revolves around three components:

- Class participation, or the display of one's ability to discuss how project operations are structured against technological alternatives, risk allocation and definable constraints.
- Gathering of discussion-specific data, showing one's ability to research and collate information about relevant technological options in given industrial contexts /situations.
- Essay due at the end of the term, demonstrating one's ability to think strategically and creatively in addressing key construction issues and/or planning construction project activities, as well as evaluating building output.

Resources

Bibliography

General references provided by the instructor in the course of the semester.