

WorldSkills Croatia Conference

14 October 2025, Dubrovnik, Croatia



Construction technical school Zagreb
Ivana Gagro, Principal

SHORT SCHOOLS' HISTORY



THE TECHNICAL SCHOOL

- 4 years duration
- Students between 15 and 19 years
- Students are educated for two professions
 - Architectural Technician (residential and public buildings) in 3 classes per year and
 - Construction Technician (roads, railways, bridges and hydrotechnical buildings) in 2 classes per year
- This year school has a total of 442 students (male=229, female=213) in 20 classes
- At the end of four years of secondary education each student prepares the final paper
- After the presentation student receives a secondary school diploma
- With this diploma they can compete on a job market on a construction site or in a design studio
- If our students want to continue their education at University or a Junior college, they have to take State Matura Exams

THE TECHNICAL SCHOOL SUBJECTS

BASIC SUBJECTS: CROATIAN LANGUAGE, ENGLISH/GERMAN LANGUAGE, MATHEMATICS, RELIGION, ETHICS, PHYSICS, BIOLOGY, HISTORY, GEOGRAPHY, SPORT, POLITICS AND ECONOMY

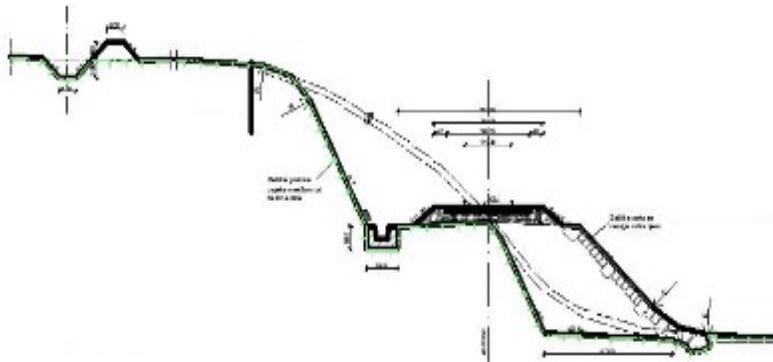
ARCHITECTURAL TECHNICIAN

- TECHNICAL DRAWING
- DESCRIPTIVE GEOMETRY
- COMPUTING
- ARCHITECTURAL STRUCTURES
- STRUCTURAL ENGINEERING
- CONSTRUCTION MANAGEMENT
- PRACTICAL INSTRUCTION
- FREE-HAND DRAWING
- HISTORY OF ARCHITECTURE AND ART
- RESIDENTIAL AND PUBLIC BUILDINGS

CONSTRUCTION TECHNICIAN

- TECHNICAL DRAWING
- DESCRIPTIVE GEOMETRY
- COMPUTING
- ARCHITECTURAL STRUCTURES
- STRUCTURAL ENGINEERING
- CONSTRUCTION MANAGEMENT
- PRACTICAL INSTRUCTION
- TRANSPORT SYSTEMS
- HYDRAULIC STRUCTURES

SOME STUDENT'S WORKS



GREENCO PROJECT – BASIC INFORMATION

- **GREENCO** – Education for GREEN transformation of CONstruction sector
- Project funded by the European Union through the Erasmus programme – Alliances for Education and Enterprises
- Duration: 3 years (1 September 2023 to 31 August 2026)
- Project coordinator: University of Zagreb, Faculty of Civil Engineering (Assoc. Prof. Dr. Marijana Serdar, Dipl. Ing. Civ. Eng., Department of Materials)
- Maximum funding amount (total): €1,040,020.00

GREENCO PROJECT – BASIC INFORMATION

Main goal of the project

Education and training of all participants in the construction ecosystem at the levels of:

- secondary vocational education
- education of engineers and graduate engineers
- education of doctors of science



GREENCO PROJECT – BASIC INFORMATION

Kick-off meeting (Pula, Vodnjan, Rovinj 6 to 8 November 2023)



GREENCO PROJECT – PREVIOUS ACTIVITIES

- ✓ Analysis of the vocational curriculum carried out
- ✓ Companies surveyed
- ✓ Needs identified for introducing new topics into education (technical, digital, and so-called “soft” skills)
- ✓ Topics defined with learning outcomes
- ✓ The GREENCO School team prepared the manual “Green Construction I and II”
- ✓ A new elective course Green Construction introduced for 4th-grade students – first generation enrolled in 2024/2025
- ✓ Workshops on green transition and green construction held during field classes in Istria
- ✓ During field classes in Baranja, participants were introduced to traditional construction techniques using earth and clay
- ✓ Working meetings held in Denmark and France

GREENCO PROJECT – PREVIOUS ACTIVITIES

- In the school year 2023/2024 (May), 90 students participated in the field classes in Istria
- In the school year 2024/2025 (September/October), 95 students participated in the field classes in Istria
- Duration of the field classes: 3 days
- 3rd-grade students participated under the mentorship of 18 4th-grade students

GREENCO PROJECT – PREVIOUS ACTIVITIES



GREENCO PROJECT – PREVIOUS ACTIVITIES

- In the period from 19 to 23 August 2024, four teachers visited the project partners: Technical University of Denmark in Copenhagen and CELF in Nykøbing Falster
- Working meetings were held, presentations of the manual, follow-up activities, expert visits)



GREENCO PROJECT – PREVIOUS ACTIVITIES

- field classes in Baranja in April 2025





GREENCO PROJECT – CURRENT ACTIVITIES

- Editing the Green Construction I and II manual
- Creating original graphic materials for the manual
- Conducting classes in the elective course Green Construction
- Planning upcoming activities (field classes in Pula from 18 to 20 September 2025; field classes in Baranja in April 2026)

GREEN CONSTRUCTION MANUAL

The manual consists of 14 chapters covering various topics related to green construction, ecology, energy conservation, natural and recycled materials, nearly zero-energy building design, and much more.



Graditeljska tehnička škola
Zagreb



Co-funded by
the European Union

Zelena gradnja I



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Tihana Matota
Ksenija Kralj
Iva Illeš



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Zelena gradnja II



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Maja Lovrić
Ivana Gagro
Marko Štuhec
Dragana Javor



CONCLUSION: A COMMITMENT TO SUSTAINABLE CONSTRUCTION

- **Raising Awareness:** We aim to make students more aware of key green topics.
- **Innovative Teaching:** Workshops and hands-on exercises; Creation of our own handbooks and teaching materials.
- **"Green Construction" Elective:** Providing specific knowledge and skills; Preparing students for the future of the construction sector.
- **Vision:** Creating a new generation of professionals who will build a sustainable future.



Thank you for your attention

Ivana Gagro, M.Arch.