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Digital content for Vocational Education

MULTIDISCIPLINARY, PROJECT-BASED DIGITAL LEARNING CONTENT FOR VET

SÁRA EKERT – ZITA GÓDORNÉ HAZENAUER

R3 – Labour market-oriented projects for students
Leader: DRDC

Real-life project tasks will be created for VET students (the target group here) who will be supported/guided by their teachers in the process that leads to the successful completion of the project tasks assigned by representatives of the labour market in the selected sectors.
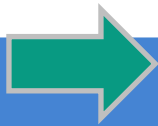
Activities

R3 - A1: Defining projects - based on the demands of the labour market
R3 - A2: Design student projects with multidisciplinary approach
R3 - A3: Developing project plans including mini-courses

Min. 9 projects (in at least 5 different topics) and 9 mini-courses are defined altogether. (Italy 2, Germany 2, Hungary 5 projects)

Selected topics for multidisciplinary projects in Hungary

- Information and communication technology
  - web programming
  - web development
  - software development
  - server administration

- Agriculture, horticulture
  - heating technologies in smart greenhouses
  - modern irrigation technology for greenhouses
  - irrigation systems for domestic gardens
  - growing strawberries without soil
  - soil testing by drones

http3

http4

Collaboration between the school and company

1. The company defines the real-life project
2. Practical demonstration at the workplace
3. Taking part in the evaluation of the project results

Optionally:

• Collaborating in developing micro-courses
• Mentoring the students during the project implementation

PLANNED PROJECTS - MAKESZISZ

Magyar Kertészeti Szakképző Intézmények Szövetsége

AGRICULTURE

Students

IVET, EQF 3-4

Topics

- Foundation training for agriculture students
  - Introduction to agriculture,
  - Introduction to horticulture,
  - Technology in Horticulture (Ornamental horticulture)

PROJECT 1.: COMPLETE CULTIVATION TECHNOLOGY OF A MODEL PLANT

Workflow planning and learning professional skills through the entire

cultivation technology of two model plants.

Open questions:

- IT side

- Timeframe

- Number of students

- Age of students

PROJECT 2: METEOROLOGICAL DATA INFLUANCE AT AN ANNUAL GROWER COMPANY

Get known a company who developed his own system

Technical adaptation to individuals

Influence on plants back at school

PROJECT 3. SOILSIENCE BY DRONES

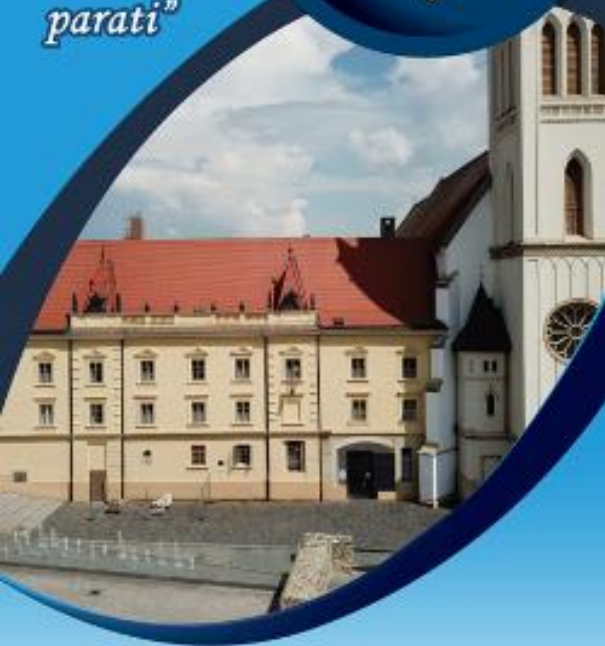Drone supported data input

Data filtering

Adaptation in school garden

PLANNED PROJECTS OF

PREMONTREI SECONDARY SCHOOL

Gradwohl Ágnes

Dr. Sediviné Balassa Ildikó

PROJECT 4: Food processing – development of a software aiding wine cooling

PROJECT 5: Development of a software for recording pesticide treatments

PROJECT 4: APPLICATION OF MATHEMATICAL FORMULAS RELATED TO AGRICULTURE

- Develop a standalone application.

- Simple API development or independently creating an application using the available API using the Python programming language

- Development of an application for temperature control of fermentation tanks in grape and wine processing departments using available temperature data.

- Using the application can control the temperature of the tank and container by the user.

- Data set/ data management, query (master data, variables, what information should be in the background?)

PROJECT 5: DEVELOPING APPLICATION FOR AGRICULTURE

- Build your own application using the Python programming language.

- Agricultural area: spray logbook, recording of appointments, spray preparation, quantity survey, calculation

- Programming: data types, input-output operations, types of selection, types of iteration, functions, file management

- Web application with login interface (HTML), authorization management, stores data using Python and returns the previously recorded plant protection treatments,

- appearance formatted with CSS, form management

DEULA - NIENBURG GMBH, GERMANY

AGRICULTURE

Students

- Fachstufe Landwirt (Subject Level Farmer)
- CVET– EQF level 3-4-5

Subject

Project 7: Agriculture 4.0

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PROJECT 6 – DEULA – AUTONOMOUS HOEING ROBOTS

– Purpose of the project:

Learners will be able to install a GPS-controlled hacking robot that will automatically hack within a given field. Increasing the number of qualified staff in digital and sustainable areas in the agricultural field.

Special area of the project tasks

(Sustainable) Weed Control

Estimated duration of project implementation (maximum 2-3 months)

10-15 hours of theory, 16 hours of practice

Description of the project tasks

PROJECT 7 – DEULA – AUTONOMOUS PEST-CONTROL BY DRONE

Description of the project tasks

– Purpose of the project

  Getting to know alternative and soil protective ways in the field of plant protection, learning new digital ways in sustainable agriculture

  Students will discover the science behind how a drone works, explore how drones are used in agriculture, especially in biological crop protection, and program and operate a drone to survey a field in order to then deploy beneficial insects. The economical and ecological benefits are to be determined.

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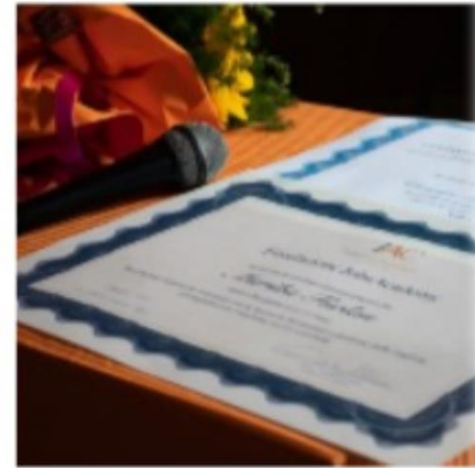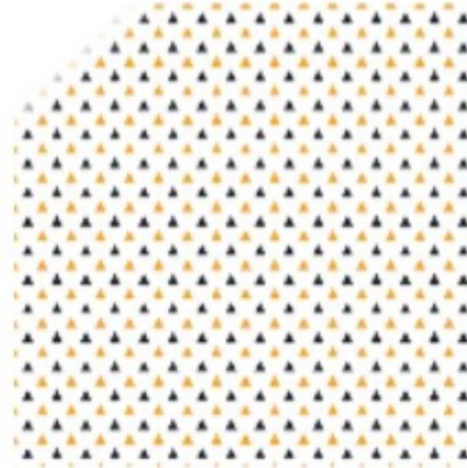
IT AND TELECOMMUNICATIONS SECTOR

Students

- Web developers
- CVET – EQF level 3-4

Subject

Design of systems that interact with databases and their applications in management

Project 8: Green Building

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PROJECT 9: MANAGEMENT SOFTWARE FOR COMPANIES

Promote real-world software development skills, especially front-end software for data visualization, in a data-driven and data-centric context.