



*SCHOOL CENTER VELENJE
THE RAINBOW OF KNOWLEDGE*

since
1958



*INTER-COMPANY
TRAINING CENTER*

*Development,
acquisition and
promotion of skills
related to the quality
of life and lifelong
learning as well as
good business results.*



<http://micscv.si>



We live in times when we constantly need to

ADAPT TO CHANGES.

We know that **KNOWLEDGE** is never redundant!

Therefore - contact us or visit us

in order to find out what we can do for you

and what we can do **TOGETHER.**

We look forward to your visit.

Vision

To strengthen the position of School Center Velenje as one of the leading school centers in Slovenia by means of professional and friendly attitude. To offer and share with domestic and foreign partners our own knowledge, learning efficiency, innovation and creative experience.

Activities in MIC

- Education
- Functional training
- Research, development, project planning and prototype production
- Project work
- Energetic engineering
- Promotional and service activities
- Partnership cooperation



INTRODUCTION

In MIC we encourage interdisciplinary development, exchange of experiences and information flow.

In just over five years, Inter-company Training Centre (MIC) has reached quite a lot with respect to the content and technology. Particular emphasis was placed on cooperation with industry, commerce and the local community. We have been increasingly recognized for successful work in domestic and international projects. The acquired knowledge and experience are opening the doors to countries from the Balkans, where we work and offer assistance in the preparation of calls from EU funds and development of projects and equipment for education. We have accepted the economic crisis as a positive incentive for new challenges, as the investment of knowledge for the future and for the environment. Our good reference is also investing in the development of modern technology through our own resources and EU funds. We are building energy polygon with the latest educational equipment for all areas of renewable energy sources. The integral part of the energy polygon will be a passive house. Through education we try to increase the share of renewable energy sources in energy use. We represent the bridge between generations. With knowledgeable and engaged staff we encourage interdisciplinary development, exchange of experiences and information flow.

We look forward to your visit and the possibility to present our laboratories, specialized classrooms and work process in them. The door to MIC is always open. We have quite a lot to show and quite a lot to share.

Darko Lihteneker,
Head of MIC



YOUTH EDUCATION

PRACTICAL TRAINING AND LABORATORY WORK FOR SECONDARY SCHOOL STUDENTS AND COLLEGE STUDENTS

is conducted in modern educational workshops and laboratories for:

lower vocational education (2-year and six-month program)

- Assistant in technological processes
- Assistant in biotechnology and care

secondary vocational education (3-year program)

- Geomechanic miner
- Auto mechanic
- Mechatronic operator
- Designer of metal - toolmaker
- Machine installer
- Electrician
- Gastronome hotelier
- Seller

secondary technical education (4-year program)

- Mining technician
- Geotechnician
- Environmental technician
- Mechanical technician
- Electrotechnician
- Computer technician
- Mechatronics technician
- Gastro-tourism technician
- Economics technician

vocational-technical education (2-year program called 3 + 2)

- Geotechnician - PTI
- Mechanical technician - PTI
- Car repair technician - PTI
- Mechatronics technician - PTI
- Electrotechnician - PTI
- Gastronomy technician - PTI
- Economics technician - PTI

higher professional education (2-year post-secondary program)

- Electronics
- Geotechnology and mining
- Information science
- Environmental protection and public utility services
- Mechatronics
- Catering and Tourism



ADULT EDUCATION

has had a long tradition at the School Center Velenje. Special attention is devoted to the quality of education.

Due to the fact that participants have some or considerable work experience as well as a clear vision of their professional work we devote special attention to each individual and consequently we adapt to his/her needs.

In programs for obtaining a publicly valid document we educate for obtaining vocational/professional education for the following areas: **mining, environmental protection, electrical engineering, mechanical engineering, mechatronics and service activities**. One can also attend **matura course** and the following programs to obtain higher professional education: **electronics, information science, mechatronics, geotechnology and mining, environmental protection and public utility services, and catering and tourism**.

In addition to organized forms of education (lectures) we also offer programs for **self-education, consultations and counselling**.

Our teachers have years of experience in the area of education and we include experts from companies because we are aware that co-operation between school and industry is of great importance.



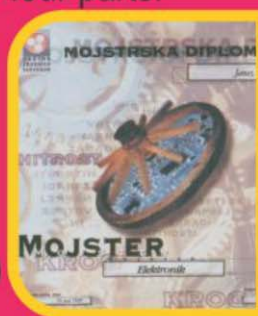
PREPARATION AND IMPLEMENTATION OF MASTER CRAFTSMAN EXAMINATIONS

Obtaining a master craftsman title means:

- obtaining secondary vocational education
- meeting the qualifications condition for performing handicraft business
- possibility of continuing education at higher level
- meeting the qualifications condition for training apprentices
- with professions which are bound by the Construction Act a craftsman title enables a craftsman to be a responsible head at the site.

To obtain a master craftsman title the candidates have to pass a craftsman examination, which consists of four parts:

- practical part (1st part)
 - master craftsman examination
 - master craftsman work test
- professional and theoretical part (2nd part)
- management and economics (3rd part)
- pedagogical and andragogical part (4th part)



MIC Velenje (Inter-company Training Center in Velenje) in co-operation with the Slovenian Chamber of Crafts prepares and implements master craftsman examinations for practical (1st part) as well as professional and theoretical part (2nd part) of the master craftsman examination for acquiring the following titles: master craftsman of general electromechanics, master craftsman of electrical installations and master craftsman of telecommunications. The 3rd and 4th part of the examination is performed in the Slovenian Chamber of Crafts. In our premises and with our equipment examination boards examine knowledge for master craftsman titles. Recently we have also been involved in updating the examination catalogues for the master craftsman exams.



CERTIFICATE EDUCATION FOR NATIONAL VOCATIONAL QUALIFICATIONS

National vocational qualification is **officially recognized vocational or professional qualification** which is needed to:

- practice a particular profession or
- particular assignment within a profession at a given level.

Certification for National Vocational Qualification is intended for adults, aged at least 18, and exceptionally for persons who have not yet reached this age - if their student status has terminated and they prove adequate work experience.

A vocational qualification is proven:

- by direct examination of knowledge, skills and competences determined by the catalogue,
- by certifying documents and certificates which are collected in portfolios of individual students,
- by combining both.

School Center Velenje implements procedures for establishing and certifying the following national vocational qualification:

- web developer
- web designer
- multimedia operator
- CNC machine operator
- administrator of process devices – technician of mechatronics
- MIG/MAG welder
- flame welder and solder technician
- manual metal-arc welding technician
- TIG welding technician
- tourist animator
- tourist informer



For candidates who wish to obtain certain vocational qualification, School Centre Velenje provides information about the possibilities and conditions for obtaining these qualifications as well as appropriate counseling.

SEMINARS, COURSES, TRAINING

Our experienced teachers perform training programs, courses and seminars in a friendly environment, modern teaching workshops, laboratories and multimedia classrooms.

Seminars (basic and advanced):

- techniques of explosive-proof protection in mining and/or industry
- CNC and RPT technology
- AutoCAD, SolidWorks
- procedures for joining metals (for welders): REO, MAG, TIG and flame welding
- automation, automation of industrial processes, mechatronics
- fluid techniques (pneumatics, electropneumatics, hydraulics, electrohydraulics)
- rational use of energy, renewable energy sources and ecology
- business enterprise and entrepreneurship
- typing (touch typing, ten fingers typing)
- correspondence
- business communication and management
- Slovenian language in practice

Courses (basic, advanced and specialized):

- foreign languages (English, German, French, Italian and Spanish)
- preparing and serving meals:
 - modern knowledge in preparing and serving meals
 - serving raises the quality of service
- design of jewelry, products for decoration, ornaments
- modern textile design



ICT (information and communication technology) training – basic, advanced and specialized program:

Certification training

ECDL

Training programs in the field of ICT for obtaining ECDL certificate, which is an internationally recognized document. ECDL is internationally certified also by the European Union and recognized by the individual Member States, their public administrations and institutions and companies. The full ECDL certificate can be obtained after completing all seven modules.

In preparation for passing ECDL examination we offer:

- demonstration workshops (free)
- short-period and long-period training
- final training.



RPO

For those who are faced with a computer for the first time or want to learn basics of computer use, we prepared the program RPO (computer literacy for adults).

RPO program covers the following areas:

- basic IT skills
- texts editing
- Internet use
- use of electronic mail.





RDO

Computer and digital literacy training develops general computer and digital literacy for friendlier life and better communication in society, with emphasis on the acquisition of basic skills to use computer and digital technologies (e.g. Internet, e-mail, e-administration, ATMs, parking meters, cellular phones, other similar digital devices...). The target group are adults who have obtained primary or lower vocational education and lack experience with computer and digital technology, and need this kind of knowledge in everyday life and/or for occupation.



Training for e-competent tutor/lecturer and ICT-competent teacher

Today, organizations in the educational process include ICT and modern e-learning materials in the LMS/CMS environments. For this purpose we have prepared programs for e-competent teachers and e-competent tutors. The programs consist of three modules of 24 hours of combined training.

Institutional training and preparation for NPK

The project Institutional Training and Preparation for NPK (national vocational qualification) combines education and training to acquire additional skills that will enhance the employability of the unemployed persons. School center Velenje, together with consortium partners, submitted the application to the Employment Service of the Republic of Slovenia. The project comprises education in the areas of foreign languages (English, German, French, Italian, Russian and Slovenian for foreigners), and functional training and NPK (driving tests for categories C, D, E, welding, training for manicurists, makeup artists, warehousemen ...). The operation is partly financed by the EU through the European Social Fund. The project will last till 2015. More about the project can be found at <http://izo.scv.si>.

In the car repair business functional training for the following profiles is carried out:

- controllers of technical inspections
- candidates who regain knowledge to perform the procedures of registration of motor vehicles
- operators of heavy construction machinery (forklifts, overhead cranes, tower cranes).

We perform preventive technical inspections for vehicles (winter and spring review), exchange and storage of tires in areas specifically set aside in MIC for the storage area.



RESEARCH, DEVELOPMENT, PROJECT PLANNING AND PROTOTYPE PRODUCTION

Research incubator

If you have ideas, but yet you do not have specific knowledge, available space, technology and financial means for their development and implementation we invite you to cooperate with us.

Development and elaboration of educational technology and teaching aids:

work and test benches, teaching equipment, workbooks, students' books...

We constantly take care of modernizing educational technology. Last year we were especially proud of the opening of specialized classrooms for computers, lab work and practical work in electrical engineering, mechanical engineering, mechatronics ...

We also equipped schools with equipment in the Republic of Serbia and the Republic of Montenegro.

Development and production of prototype products for industry, crafts and other institutions:

work and test benches for Gorenje, d.d., Coal Mine Velenje, University of Maribor and Ljubljana...

Development and production of prototype products and automatization of measuring processes for Gorenje, d.d. (intelligent household appliances...).





Development, project planning and manufacture of prototypes

are important integral parts of most of our projects. It is evident from the list of references that School Center Velenje, Inter-company training center, has a professional, efficient and experienced group of project leaders and programmers, who are capable of implementing almost every development project. Our main advantages lie in the effort and ability to understand the problem, which is the only way to solve it efficiently.

Planning and development tools and technologies which we use in our work are accepted as the industry standard worldwide. Development and prototype manufacture of products is in line with global trends in this area. Still the most recognizable and dominant is our development work and prototype production in the area of electrical engineering, computer science and mechanical engineering.

We cooperate with many companies and craft industry at the state and local level. We are well known for our cooperation in the project of intelligent household appliances where we developed first prototypes together with the company Gorenje, d.d.

In future we will continue to seek improvements (to obtain the relevant certificates for the equipment, as well as for training of employees); we will strive to maintain and improve high technological level of machinery and equipment, and primarily to act as development supplier for our clients, with whom we will in synergy contribute to better common success.



PROJECT WORK

At School center Velenje we regularly participate in various domestic and international projects; project work has been our constant since 1973. In school year 2010/2011 we are, as carriers or as partners, involved in 18 projects that are directly or indirectly associated with the educational activities. All students, teachers and other professionals are included in the project activities. By implementing projects we gain experience, we share modern skills and competences in national and international environment. The acquired knowledge and experience are then transferred to the educational activities.

MAJOR PROJECTS

Secondary and higher schools renovation projects of educational programs: Munus 2 - Introduction of new educational programs in secondary vocational and technical education in engineering for the period 2008-2012. (Ministry of Education and Sport and the European Social Fund)
Modernization of high school programs in professional grammar schools. (Ministry of Education and Sport and the European Social Fund)
Modernization of high school programs in gymnasiums. (Ministry of Education and Sport and the European Social Fund)
Impletum - Introduction of new educational programs in the field of higher education. (Ministry of Education and Sport and the European Social Fund)

Development projects: Developmental and educational energy polygon MIC Velenje. (Ministry of Education and Sport and the European Regional Development Fund)
Pilot project on education of foreign citizens from the Western Balkan countries in technical and professional educational programs of secondary schools in Slovenia during the school years 2008/2009 and 2009/2010 (Public Fund for Human Resources Development and Scholarships)
SEKER - Implementation of self-evaluation in the region of Konya (Leonardo da Vinci Innovation Transfer Programme)
Professional Competence Matrix - Model 2009/2010; long-term practical training of students in companies abroad. (Leonardo da Vinci Mobility)
INSTALL+RES - providing training for installers of renewable energy devices (Intelligent Energy Europe)
European Young Energy Manager Championship - the competition on the energy management of buildings. (Intelligent Energy Europe)

YOUNG RESEARCHERS

The movement 'Young researchers for the development of the valley Šaleška dolina' is **28 years old**. With the movement we popularize the activities of young people and encourage them towards research, innovation and creativity. With the help of means of urban municipality Velenje, municipalities Šoštanj and Šmartno ob Paki and others we concern ourselves with pupils and students who are willing to participate in the movement with the aim of developing their skills, gaining experience...

School Center Velenje coordinates all activities. You can get information about the movement and tender at <http://mladiraziskovalci.scv.si>.

Add your name to the list of **1983** young researchers who have so far produced **980** research papers, while they were helped by **985** mentors.

We wish you great success and above all personal satisfaction.

We look forward to working with you. Join the movement!



ŠOLSKI CENTER VELENJE
mavrica znanja 1958



Gibanje **mladi**
RAZISKOVALCI
ZA RAZVOJ ŠALEŠKE DOLINE



<http://mladiraziskovalci.scv.si>



MESTNA OBČINA
VELENJE

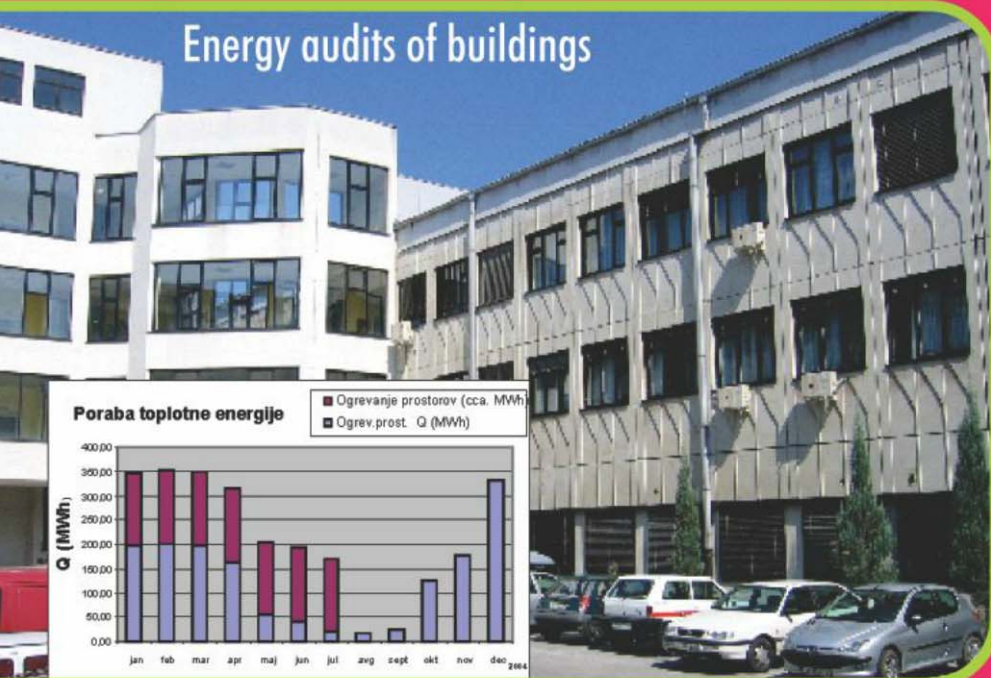


OBČINA ŠOŠTANJ



OBČINA ŠMARTNO
OB PAKI

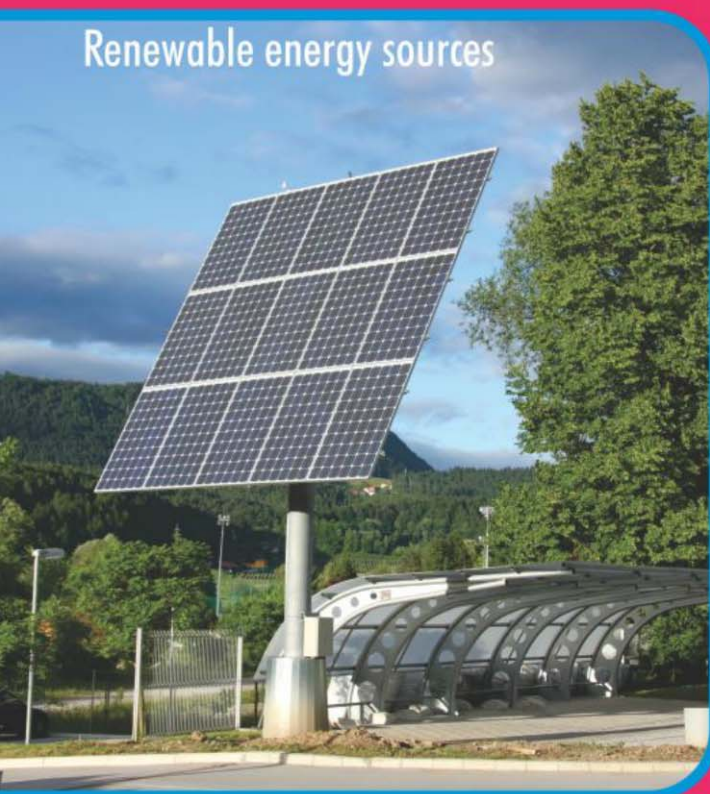
Energy audits of buildings



Rational use of energy



Renewable energy sources



Ecology

ENERGETIC ENGINEERING

Primary areas of work:

- construction physics
- thermoenergetics
- electroenergetics
- energetic analysis
- microclimate measurements and thermal imaging
- measurements of installations
- measurement of electricity use and quality in buildings

Activities of engineering:

- energetic management of public buildings
- energetic audits and analyses
- implementing research assignments
- technical and investment activities
- project engineering
- educational activities
- organization of seminars and workshops
- preparing and issuing materials

Tasks of engineering

Rational use of energy:

- analyzing and planning energetic needs of School Center Velenje
- implementing and controlling energy saving measures
- participation in internal and external projects in RUE and RES
- cooperation with other institutions (MŠŠ, SVPS, Ape, e-forum, ERICO, EKO-program...)
- implementation of energetic accountancy in public institutions

Renewable energy sources RES:

- carrying out measurements and system optimization
- research work in the area of renewable energy sources
- participation in internal and external projects
- education: preparation and implementation of seminars, workshops
- promotion of renewable energy sources

Ecological activities:

- coordination of School Center Velenje ecological council
- participation in the ecological movement in schools
- cooperation with other institutions (DOVES, EKO-program ...)



DEVELOPMENTAL AND EDUCATIONAL ENERGY POLYGON

is an innovation in education since it is a connection between work in the laboratory and work outside in the field (in the external real world) and at the energy plants.



This experimental environment is intended for education, experimentation and raising awareness of all age groups.

Polygon has a modernly equipped laboratory for renewable energy sources, but at the same time this is a realistic environment in which energy plants are installed to capture energy in the vicinity. With this combination of laboratory and authentic professional equipment it is possible to compare laboratory results with those obtained 10 or 100 m underground, in three different photovoltaic power plants installed at the outside of the polygon, flat and vacuum solar thermal receivers, professional heat pump water-water, air-water, cogeneration plant for cogeneration of electricity and thermal energy, wind turbines at a height of 15 m, etc.

Polygon also includes a passive house – i.e. a house that uses solar energy and internal resources with minimal heat loss, so it is almost unnecessary to heat it or cool it. It's typical for it that it is constructed from natural and environmentally friendly materials, which can be, by their lifetime, fully degradable, recycled and do not overload the environment.

The passive house will be able, due to its energy base, to compete with PLUS ENERGY facility, which means that it will use its best-designed and built facilities to produce more energy than the users in this house will manage to use, so that we will be able to direct surplus energy to electricity grid and geothermal heat reservoir - located under the building.



ENERGETSKI POLIGON

za pridobivanje energije iz obnovljivih virov

PROMOTIONAL AND SERVICE ACTIVITIES

include various activities which enhance recognizability of School Center Velenje.

Planning and implementing events and presentations:

- promotion of vocational and professional education
- preparation and implementation of competitions and meetings at state and international level
- further development of image and promotion of School Center Velenje
- public events
- prom (a formal dance held at the end of an academic year)
- art exhibitions.

Lease and use of specialized classrooms, laboratories and multipurpose rooms

External and internal maintenance, public contracts:

- maintenance of vehicles within the practical training of auto mechanics
- preparation of vehicles for technical inspection, replacement of tires
- driving school.





PARTNERSHIP COOPERATION

Fast-developing technology as well as continuous demands for new knowledge and skills require constant search for new knowledge, investments into our own development, lifelong learning, competent and responsible actions, good cooperation and above all teamwork. Therefore the cooperation with domestic and foreign partners is of high importance for School Center Velenje and covers different areas.

Partnership contracts

So far we have signed partnership contracts with the following partners:

- Bisol, d. o. o.,
- Esotech, d. d.,
- Gorenje, d. d.,
- Chamber of Commerce and Industry of Slovenia (GZS), Center for professional education and training,
- GZS, Chamber of Commerce and Industry of Savinjska and Šaleška region- autonomous regional chamber,
- Coal Mine Velenje, d. d.,
- Chamber of Craft and Small Business of Slovenia (2006),
- Thermal Power Plant Šoštanj, d. o. o.,
- Zumtobel Licht, GmbH, Germany.

We are also preparing for cooperation with several other partners who wish to develop new technologies and approaches in education and training together with us:

Cooperation Treaty

was signed with the following domestic and foreign companies and institutions:

- Christiani, GmbH & Co. KG, Germany,
- Secondary school: JU Mješovita srednja škola, Tešanj,
- Secondary school: Mješovita škola „Nikola Tesla”, Teslić, Bosnia and Herzegovina,
- NET – business services, Žalec,
- Secondary school: Srednja mješovita škola „Jovan Dučić”, Teslić, Bosnia and Herzegovina,
- Secondary school: Sredno elektrotehničko učilite na Grad Skopje “Mihajlo Pupin”, Macedonia,
- Secondary school: Tehnička škola Čačak, Serbia,
- Secondary school: Tehnička škola Trstenik, Serbia.

In this school year we will sign the cooperation treaty with the Ministry of Information Society from Macedonia.



The consortium of school centers aims to

- integrate school centers for joint participation in invitations to tender,
- exchange of ideas and proposals in the national and European projects.

It consists of: School Center Celje, School Center Ptuj, Technical School Center Nova Gorica, School Center Novo mesto, Technical School Center Kranj, School Center Ljubljana and School Center Velenje.

We provide and take care of information and communication system within School Center Velenje.

We participate in various fairs, seminars, national and international conferences.

We welcome various domestic and foreign delegations and present our educational work, experience and plans of Inter-company Training Center, School Center Velenje and Slovenian education.

Let's find new opportunities together!





EQUIPMENT IN INTER-COMPANY TRAINING CENTER (MIC)

In all three buildings of MIC there are 43 specialized classrooms, workshops, laboratories and multipurpose rooms or conference halls.

These areas are:

- laboratories for automatization of technological processes
- laboratory for electronic circuits and measurements
- laboratories for mechatronic systems
- laboratory for rational use of energy and renewable energy sources
- workshops and laboratories for electrotechnics
- workshops for auto repair service with test track
- specialized workshops for project work in the area of autorepair service
- classroom for CNC technology and computer assisted teaching technologies
- classrooms for pneumatics and hydraulics
- classrooms for mechatronics
- welding furnace for flame and electric welding
- workshop for thermal treatment
- workshops for manual and machine treatment of materials
- multimedia and computing classrooms
- project classrooms
- multi-purpose lecture room
- teaching staff rooms and project offices.





Specialized classrooms for learning foreign languages, computer science and multimedia

are intended for project work and presentations. They are equipped with at least 16 personal computers with the requisite software and multimedia equipment and conform to the ECDL standard. In the middle of the room there is an oval table with 16 or 25 seats and connections for laptops.

Lecture room (M 3-105 and 106)

is intended for teaching, lectures, promotion and other presentations. There is room for 130 participants, if necessary it can be divided into two separate lecture rooms and thus simultaneously hosting two groups of 65 persons.




Multipurpose room (M 1 - 119)

may take up to 70 participants, if necessary it can be arranged into 3 separate units for work in groups (project work).





- | | |
|---|---|
|  Pasivna energetska hiša |  Zbiralnik toplotnih virov |
|  Kogeneracijska naprava |  Vertikalni zemeljski kolektorji 10 X 7, m |
|  Sledilna "PV" elektrarna |  Vetrna elektrarna |
|  Stabilni "PV" elektrarni |  Sončni kolektorji |
|  Geosonde 3 x 100 m | |

Laboratory for rational use of energy (RUE) and renewable energy sources (RES)

enables training in the field of environmental protection (environmental technician), installing (installer of modern energy systems for renewable energy sources), specialists in heating and photovoltaic systems. Following the modular principle the training can be performed as the retraining in energy area - based on renewable energy sources as well as workshops for the positive attitude towards the rational exploitation of energy and the environment. In the laboratory and in the outer area of the energy polygon there are several small rounded polygons, where it is possible to implement training, research and project work on solar thermal systems, photovoltaic systems, heat pumps, cogeneration and other alternative energy sources (geothermal, wind, utilization of biomass).

The integral part of the external energy polygon is also **A PASSIVE HOUSE.**

The aim of the laboratory for rational use of energy and renewable energy sources is to increase energy efficiency.





Location

Location of laboratory for renewable energy sources is in the ground floor of the second building (MIC 2). The external part of the energy polygon is located in the south side of the second building (MIC 2).

Dining Room

is the self-service type restaurant and may take up to 110 people.



All the specialized classrooms, workshops and multi-purpose rooms are air conditioned and equipped with modern computer and multimedia equipment. In classrooms for mining, environmental protection, electrical engineering, mechanical engineering, mechatronics and service activities there is also equipment that conforms to the rules of modern education. In buildings MIC 2 and MIC 3 there are lifts for the transport of disabled persons.

Parking

At the location of MIC, Koroška cesta 62 a, there are 50 free parking spaces. Nearby is a large free car park at the stadium, near the Museum of Coal Mining, lake, golf course, restaurant...

More detailed presentations of the rooms are available at <http://mic.scv.si> in chapter Technology Park - Equipment and facilities.





Authors: Darko Lihteneker, Srečko Podveržen, Uroš Lukič, Cveto Fendre, Nevenka Rozman, Igor Doler, Marjeta Primožič, Miran Papež, Gita Podvratnik Photographs: Foto Hans, Zdravko Kočevar, Karel Planko, Uroš Lukič, Klemen Belavič, School Center Velenje archives Proofreading: Bernarda Lenko Translation: mag. Vlasta Leban Design: Rok Poles Print: Tiskarna Bizjak, Velenje 2011



HOW AND WHERE TO FIND US?

Šolski center Velenje
Medpodjetniški izobraževalni center
Koroška 62 a, 3320 Velenje

Phone: +386 (0)3 896 82 00 or 03 896 82 01

Fax: +386 (0)3 896 82 10

Internet: <http://www.scv.si> or <http://mic.scv.si>

E-mail: mic@scv.si

MIC

TRAIN

A

B

C

ŠCV

LIBRARY - ŠCV

BUS

YOUTH HOSTEL

