1. PRESENTATION OF THE PROJECT
- The Leonardo da Vinci Partnership project “Building Europe together”-

The project "BUILDING EUROPE TOGETHER» has been is a framework between:

- Panstwowa Wyzsza Szkola Zawodowa (Krosno State College) in Poland,
- København Tekniske skole (Copenhagen Technical College) in Denmark
- Stryn and Måløy vidaregåande skule (Stryn and Måløy Upper Secondary Schools) Norway
- Bygg Opp (The Training and Education Office of Building and Construction in Sogn and Fjordane) Norway.

In January 2011, the partners in the project had a preparatory meeting in Copenhagen to plan a Leonardo da Vinci Mobility project. During the meeting the partners also agreed to plan and apply for a Leonardo Partnership project.
The Leonardo Partnership project "Building Europe Together" should function as an "umbrella" over Leonardo da Vinci Mobility Project: “Building and Construction – Education and Training across the Boarders”. This project should link policy and theory to practice in the field of vocational education and training (VET). The projects should give students and apprentices a chance to improve their competences, knowledge and skills through a placement period abroad through a Europe-wide co-operation between training schools and organizations.

THE MAIN AIMS OF THE PARTNERSHIP PROJECT:

- To see the European dimension in the VET system for students, apprentices and staff in the field of Building and Construction
- To define similarities and differences in the VET system for students and apprentices in the cooperating countries
- To discuss health, safety and security system on a European level
- To enhance the attractiveness of VET
- To improve the quality education and ensure implantation of education
- To draw attention to the need of career guidance
- To make trade and vocational training attractive and relevant to both individuals and employers across the boarders
- To spread knowledge about cultures and societies

THE CONCRETE OBJECTIVES OF THE PARTNERSHIP;

- To develop a better understanding of the education and training systems in the cooperating countries
- To compare and discuss Building and Construction education and training systems in the cooperating countries
- To cooperate in activities devoted to themes of mutual interest to the participating organizations

- To obtain better knowledge about other cultures and societies and thus promote European identity
- To enhance and develop the command of the English language among teachers and trainers

SUBJECTS WE INTEND TO ADDRESS

- The vocational school systems in Norway, Denmark and Poland
  - What is similar and what is different?
- The VET system for students and apprentices in the cooperating countries
- Upper Secondary education, technical and higher education in Norway, Denmark and Poland
  - What are the similarities and differences
- Health, safety and security systems on a European level
- How to enhance the attractiveness of vocational education and training
- How to increase the quality of education to ensure its implantation
- How to improve career guidance
- How to make vocational training attractive and relevant to both individuals and employers

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Stryn vidaregåande skule

Krosno State College

Måløy vidaregåande skule

København Tekniske skole

2. PRESENTATION OF THE PARTNERS IN THE PROJECT

a. KROSNO POLAND

Krosno is a middle-sized town (ca. 50,000 inhabitants in the south-east of Poland, close to Slovakia and Ukraine. Beginnings of its history go back to the middle Ages and the Renaissance, when the fortified town was an important trade centre for cloths and Hungarian wine. Vestiges of the rich history of Krosno can still be seen in the renovated buildings of its historical Old Town. In the 19th and early 20th century the region of Krosno was an important centre of the Polish oil industry. It was here that carosine was first refined from crude oil by Ignacy Łukasiewicz in 1853. Today Krosno is an industrial centre with many modern-technology companies and worldwide known glassworks, some of which focus on the production of hand-made artistic glass.

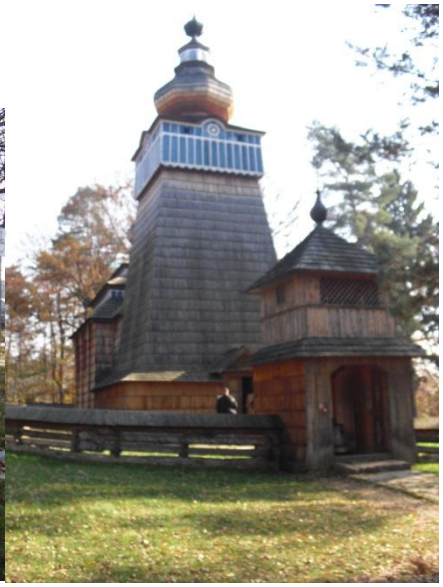
KROSNO STATE COLLEGE

Education has always been a priority in Krosno: the first college was opened here by the Jesuits as early as the 17th century and the tradition is continued by Krosno State College. Państwowa Wyższa Szkoła Zawodowa w Krosnie (Krosno State College) was founded in 1999. It is an institution of higher education offering undergraduate courses lasting 6 to 7 semesters leading to the degree of "licencjat" (equivalent to B.A) or "inżynier" (equivalent to B.Sc.)

Degrees are offered in twelve different fields: building and construction, mechanical engineering, energetics, environmental engineering, informatics, nursing, agriculture, Polish studies, foreign languages (English, German, Russian), translation studies and pedagogy. All courses combine theoretical content with extensive professional training organized in co-operation with business and educational institutions in Poland and in others countries. Graduates are prepared to undertake a professional career and to continue their education towards an M.A. or M.Sc. at other universities. PWSZ Krosno has currently ca. 4500 students.

The Building and Construction Department is one of the largest and fastest growing departments in the school (about 250 students) offering a combination of practical vocational training and academic theoretical knowledge. The education lasts 7 semesters and leads to awarding graduates with the degree of “inzynier” (B.Sc.). PWSZ Krosno believes in practical education and has therefore invested in developing high-standard laboratories and practice-rooms in which students are taught to solve problems they will face in their future jobs. Students of the Building and Construction department spend eight weeks in practical training on construction sites run mostly by our strategic partner, Krośnieńskie Przedsiębiorstwo Budowlane (KPB). The staff includes both practitioners with a wide experience of work at construction sites and academics. To bring education closer to the job market we make sure that our students are in continuous contact with practitioners from building and construction firms.
International cooperation is an important element of our policy. The School is a partner of the European LLP Erasmus programme and sends some 40 students a year for one-semester study periods abroad. We receive over 40 Erasmus students from abroad.

PWSZ in Krosno operates in a region with relatively high unemployment so our mission to increase the employability of graduates. As many of them search for work abroad, the internationalization of their educational experience is an important element in our approach.



Project Meeting in Krosno November 2011

b. COPENHAGEN DENMARK

København (Copenhagen) is the capital of Denmark and its most populous city, with a population within city limits of 562,253 an urban population of 1,230,728 and a metropolitan population of 1,954,411. Copenhagen is situated on the eastern coast of Zealand and stretches across part of Amager. A number of bridges and tunnels connect the parts of the city together, and the cityscape is characterized by promenades and waterfronts.

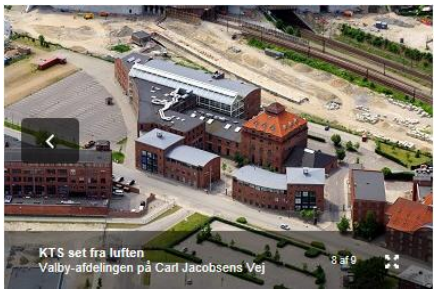
Originally a Viking fishing village founded in the 10th century, Copenhagen became the capital of Denmark in the beginning of the 15th century. During the 17th century, under the reign of Christian IV, it became a significant regional centre. Since the turn of the millennium, Copenhagen has seen a strong urban and cultural development, partly due to massive investments in cultural facilities and infrastructure. Since the completion of the transnational Øresund Bridge, Copenhagen has become increasingly integrated with the Swedish city of Malmö, growing into a combined metropolitan area, known as the Øresund Region.




Copenhagen is the cultural, economic and governmental centre of Denmark; it houses various economic sectors and it is an important centre for maritime industries and maritime trade, offering marine transportation and shipping lanes in both the North Sea and the Baltic Sea. Copenhagen is among the financial centres of Northern Europe with the Copenhagen Stock Exchange. Copenhagen has 89,000 students enrolled in its educational institutions.

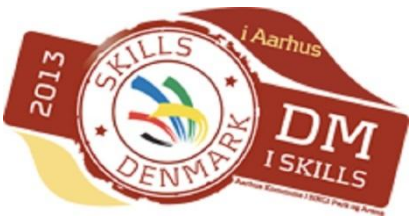
KØBENHAVN TEKNISKE SKOLE

Copenhagen Technical College (KTS) is the capital's technical college, known for its broad scope and high academic standards. Taking social development and the business sector as our point of departure, we educate people to tackle the demands of a globalized world. We generate pride, we are innovative and we show initiative. Our education programs are exciting and we guarantee a high level of utility.
The college provides tuition at nine venues in Greater Copenhagen. The college is one of Denmark's largest technical colleges.



Copenhagen Technical College offers five vocational introductory courses aimed at 32 main programs, 24 of which are offered by the college. In addition to general education program, the college offers more than 250 different supplementary courses in 19 different sectors of industry. The Copenhagen Technical College program also include a three-year upper secondary school program focusing on IT, mathematics, physics, chemistry, communication, technology, Danish, social studies and foreign languages.

A professional board of directors manages the Copenhagen Technical College with representatives from the labor market and the school's employees (the latter have no voting rights). The board of directors is responsible for the efficient and sound operation of Copenhagen Technical College as a business and for ensuring that the college undergoes continuous development in line with society as a whole.
Copenhagen Technical College (CTC) is an international oriented college with partners among other colleges and associates in different parts of Europe. The college seeks to provide the opportunity for every student at the CTC to go abroad and learn in both school and companies based training and are also experienced in receiving students and teachers from abroad.

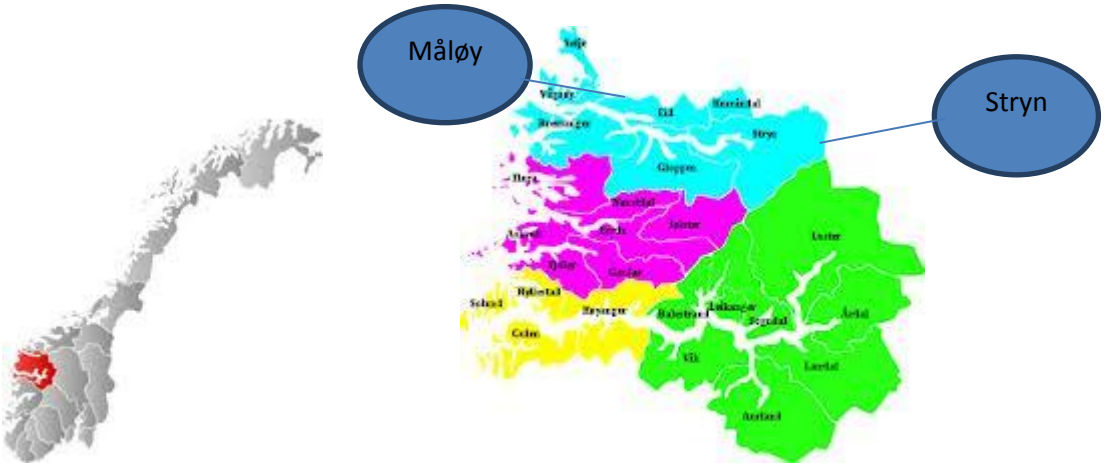


The Danish champions from KTS

Project Meeting in Copenhagen October 2012

c. UPPER SECONDARY EDUCATION IN SOGN AND FJORDANE NORWAY

Upper Secondary education for youth and adults is the largest service area for the county council in "Sogn and Fjordane". The county has 14 Upper Secondary Schools which can take 4500 students. Most schools offer both academic preparatory and vocational education programs. The county is also responsible for 708 apprentices and trainees who receive advanced training in trade and industry. In addition, the Technical College (**Tertiary vocational education)** in Sogn og Fjordane offers courses to 156 students in technical and maritime subjects.



The department of education, with its 34 employees, has the administrative responsibility for youth and adults getting a good Upper Secondary education which leads to study qualifications, certificates of apprenticeship, certificates in crafts or other expertise. In addition to its administrative staff, the department has 3 departments: Admission and notification, quality and development and exams and documentation.

Conference in Nordfjord April 2012

VÅGSØY MUNICIPALITY

Måløy attained town status in 1997. It lies by Ulvesundet sound on the island of Vågsøy, after which the municipality is named, and is joined to the mainland by a 1,224 metre long bridge, an impressive structure that forms a majestic gateway for all sea-going traffic.
6,022 people live in Vågsøy where the economic mainstays are fishing, fish-farming and shipbuilding. Vågsøy is the second biggest fishing municipality in the country and one of Norway's most modern fish-processing plants is situated here.
Vågsøy covers an area of 165 square kilometres.
The most popular attractions in Vågsøy are Kråkenes Lighthouse, Kannesteinen rock, Vågsberget and
Refviksanden beach.

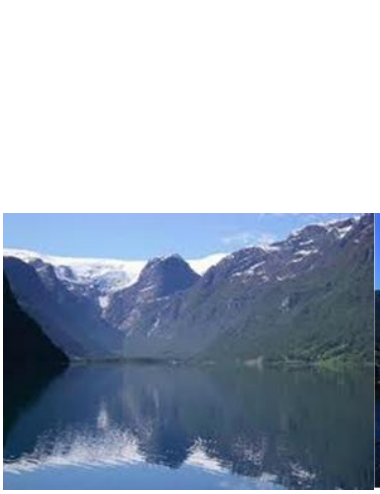
MÅLØY VIDAREGÅANDE SKULE

Måløy Upper Secondary School is located in the Nordfjord region, on the west coast. It is a combined vocational and general school, with about 300 students and a staff of about 80. The school has a local as well as regional scope, as we are the only school in the county which offers maritime subjects and fishery. Our vocational studies include Health and Social Care, Building and Construction Trades, Technical and Industrial Production, Restaurant and Food Trades, Fishing and Aquaculture. In addition you can take General and Business Studies at the school.


Måløy Upper Secondary school has a long experience with international projects, especially mobility, but this will be the first that is aimed at Building and Construction.
The school cooperates very well with building enterprises in the area, and some students are placed in building firms one to two days a week throughout the school year.

STRYN MUNICIPALITY

Stryn is situated in Western Norway, approximately a 5-hour drive north of Bergen. Long and deep fjords surrounded by towering mountains and blue glaciers characterize the Nordfjord region. The main fjord, Nordfjord, is about 100 km long. Stryn lies at the end of the fjord, and is a beautiful village where the fjord, mountains and glaciers meets.



The Nordfjord region lies close to the 62nd northern latitude, which in itself suggests we have a cold climate, but this is not so. Because of the Gulf Stream which runs north along the coastline, we have a humid climate with mild winters and cool summers. Humid westerly winds cause a lot of rainfall, in the lowlands even in wintertime. This climate gives us a very green nature and a lot of bare mountains from about 600m above sea level. As a result of

the northern position of Stryn and the Nordfjord region, days and nights are very bright in summertime, whereas we have short and dark days during the winter.

Visitors from all over the world come to visit the glacier of Briksdal every year. The Briksdal glacier is a part of the largest glacier on the European continent, the Jostedal glacier. Due to the beautiful and wild nature Stryn has been given the name of: "*The outdoor cathedral of Norway".*

Today, Stryn and its surroundings, is one of the most visited sites in Norway. In addition to tourism, health care, agriculture, forestry, industry and building industry are important trade for Stryn municipality.

STRYN VIDAREGÅANDE SKULE

Stryn vidaregåande skule (Stryn Upper Secondary School) is situated in the centre of Stryn village, in new modern buildings. The college has about 300 students between 16 and 19 years of age and 70 employees.

Vocational studies

Healthcare, childhood and youth development
Building and Construction
Technical and Industrial Production
Restaurant and Food processing

General studies

Specialization in general studies
Sports and physical education

Vocational education

The main principle for the vocational education and training is to show the students and apprentices the connection between the different subjects and practical work.
The vocational courses are two-years-long and afterwards the students have their apprenticeship. After two years of practical training and education they get their final diploma.

In the last eight years Stryn College has given priority to International cooperation with other European Schools and enterprises through Comenius and Leonardo da Vinci projects.

General studies

These studies satisfy the general admission requirements to higher education at University Colleges and Universities.

BYGGOPP

THE REGIONAL OFFICE OF BUILDING AND CONSTRUCTION IN SOGN OG FJORDANE

BYGGOPP
Opplæringskontoret for Bygg- og Anleggsteknikk
SOGN OG FJORDANE

At the regional office there are 4 staff members and about 150 apprentices. The regional office cooperates with other offices in the field of building and construction in Norway and manages the practical training system for students and apprentices.

Main activities:

* Cooperate with the Upper Secondary School in the county of Sogn and Fjordane
  - Building and Construction programme
* To enhance the attractiveness of vocational education and training
* Placement for students
* Apprenticeship for students
* In –service training for teachers
* Development and further development of the education and training at the Building and Construction programme
* Information to Upper Secondary schools and the Junior High schools
* Responsible for all the formal papers for the students during the apprenticeship
* Education and training for apprentices during their apprenticeship
* Health, safety and security system
* Final Diploma

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3. THE BUILDING AND CONSTRUCCTION EDUCATION SYSTEM

a. The Education system in Poland

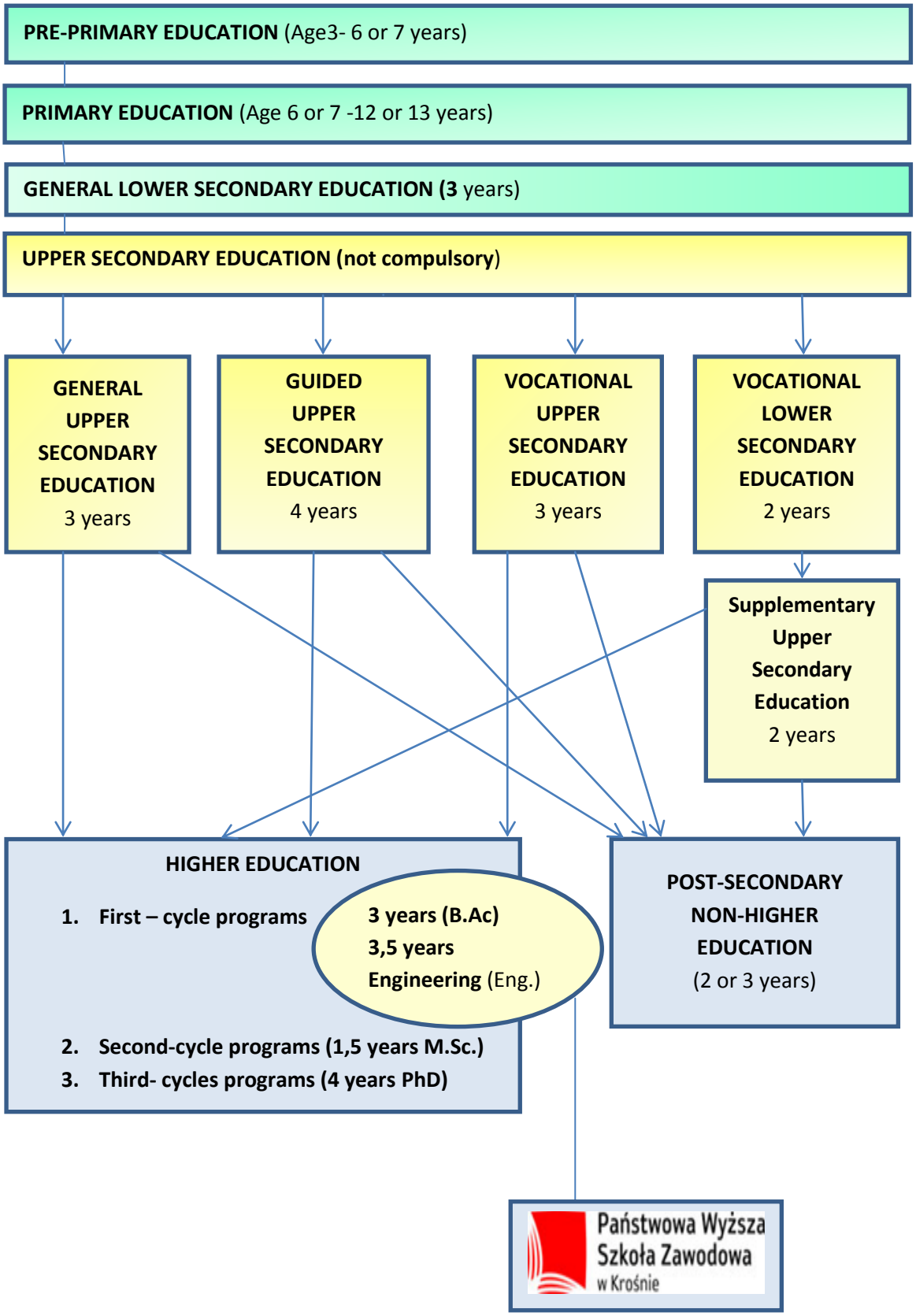
The education system in Poland is centrally managed by the Ministry of National Education and the Ministry of Science and Higher Education.

Full-time compulsory education (to be received in school) covers children and young people aged 6-16 years. Compulsory education includes the final year of pre-primary education, 6-year primary education and 3-year lower secondary education. Nursery schools, primary schools and lower secondary schools are administered by commune authorities.
Upper Secondary Schools, which are not compulsory, are attended by the vast majority of the population in the age group 16-19/20 years and are administered by district authorities.
Autonomous higher education institutions offer mainly first-, second- and third-cycle programs (long-cycle Master's degree programs are available only in a few fields of study).
Adult education is provided by continuing education centers, practical training centers and further and in-service training centers.

In 2009/2010 there were 13 968 primary schools and 7 224 lower secondary schools, attended by approximately 2 234 900 and 1 322 100 pupils respectively. In 2009/2010 there were 2 446 general upper secondary schools with approximately 658 100 pupils, 2 932 technical and specialized upper secondary schools with around 614 900 pupils and 1 411 basic vocational schools with 220 700 pupils. In the same school year there were 3 210 post-secondary schools attended by 284 800 students.

At the end of the course, all schools (except for the basic vocational schools) organize final (matriculation) examination, prepared and assessed by Regional Examination Commissions. They may issue a certificate for those who sat for and successfully completed the final examination, which is required for admission to higher education.
The upper vocational schools, technical upper-secondary schools and post-secondary technical schools organize the vocational examination, which examines the knowledge and skills necessary to perform the job. The basic vocational schools issue a living certificate that gives student access to the job market. All tests and examinations are organized by agencies – eight Regional Examination Boards.

SCHOOL SYSTEM IN POLAND



Higher education

The following types of state higher education institutions can be found in Poland: university, technical university and university with another adjective, polytechnic, academy and state college. All types of HEIs may have the status of university or non-university institutions depending on whether their organizational units have the right to confer PhD degree.
In the academic year 2010/2011 there were 470 HEIs in Poland, 132 public and 338 non-public. Two types of studies are distinguished by the Polish Law on Higher Education, full-time (the basic type of studies) and part-time studies. In 2010/2011 there were approximately 1 930 000 higher education students, 1 270 000 (930 000 full time and 340 000 part-time) in public HEIs and 660 000 (120 000 full-time and 440 000 part time) in non-public HEIs. There are approximately 168 000 (8.7%) students of engineering courses.
According to the Polish Law for Higher Education (2005), from the academic year 2007/2008 three-levels study programmes in civil engineering education are obligatory, following the Bologna Declaration. The generic structure of teaching programme was established by the MNiSzW Decree of Standards (2007).

The first degree cycle in civil engineering in Krosno State College

Civil Engineering at Krosno State College (PWSZ im. St. Pigonia w Krośnie)

Civil Engineering study helps to acquire both traditional and modern knowledge based on the latest technological advances.
Due to rapid development of civil engineering industry there is a huge demand for construction engineers both in Poland and Europe. The number of construction sites is growing fast. Buildings and structures are modernized and renovated. Thus, our civil engineering graduates may enter a wide range of careers. Many civil engineers work in building materials factories, manage investment processes, and become valuable administrative workers and construction worker supervisors.

They are trained to perform building construction, design basic building objects and elements, run building companies and manage construction teams. Equipped with the knowledge in the scope of the use of computer techniques and the application of modern technology in engineering practice, our graduates hold jobs in administrative enterprises, building supervision services, building materials industry and the administrative local and council units.

The knowledge acquired through the building internship forms the foundation that facilitates applying for qualifications to perform independent duties in civil engineering industry regulated by Building Law. In Poland, every civil engineer is required to obtain building qualifications to function in the building market.

The graduates speak intermediate English and use specialized language and terminology.

Państwowa Wyższa Szkoła Zawodowa w Krośnie

Independent technical functions in the building industry:

- The tasks of the Polish Chamber of Civil Engineers include granting building qualifications, that are licences to purse the following regulated functions in the buildinig industry:

- A construction manager and a contract engineer in extent limited to simple building works/construction processes (BSc degree + 3 years period of vocational practice on building site + exam)

- A construction manager, a contract engineer and construction supervision inspector in unlimited extent (MSC degree + 2 years period of vocational practice on building site + exam)

- A professional designer of building and engineering structures (MSc degree +1 years period of vocational practice on building site and 2 years in designing + exam)

- A building expert/surveyor (licence in unlimited extent + additional 10 years period of vocational practice + recommendations from 2 experts).

b. UPPER SECONDARY EDUCATION AND TRAINING IN DENMARK

The education programme often begins with an introductory course at the college, but you can also start at a work placement if you have one. A vocational education usually lasts four years.Copenhagen Technical College also offers Higher Technical Examination, htx, at two venues. A Higher Technical examination takes three years.

Introductory course

Copenhagen Technical College offers five vocational introductory courses aimed at 32 main programmes, 24 of which are offered by the college.

Main programme

At the beginning, or during the introductory course, the student must decide which subject they wish to follow. The part of the vocational education that comes after the introductory course is called the main programme and consists of periods of study at the college and practical periods with on the job training. The practical periods are spent in a company. In order to begin a main programme, the student must have a training agreement with an approved company or employer or have the possibility of practical training in the college. The duration of the main programme will depend on the choice of education programme. The main programme concludes with an apprenticeship exam/assignment.

Supplementary training

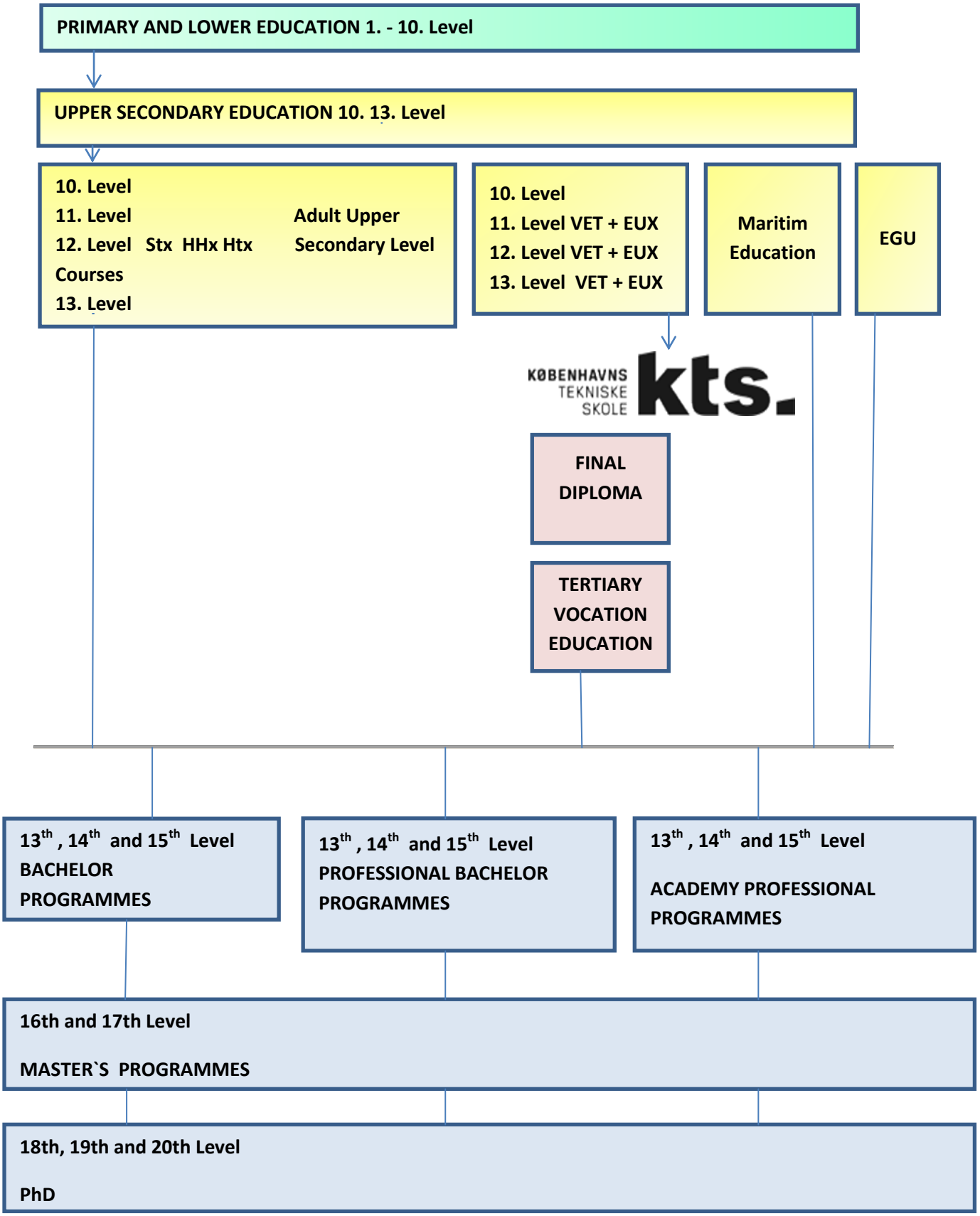
In addition to general education programmes, the college offers more than 250 different supplementary courses (2010) in 19 different sectors of industry.

Higher TechnicalExamination (htx) The Copenhagen Technical College programme is a three-year upper secondary school programme focusing on IT, mathematics, physics, chemistry, communication, technology, Danish, social studies and foreign languages. All students are responsible for a college-supplied laptop. The teaching methods used at the Copenhagen Technical College are highly practically oriented and the students often work in projects groups.

Eux

Eux is a brand new youth education programme, where you gain both a degree in craftsmanship and an upper secondary school diploma – within the same education! With the eux study programme, you get a traditional vocational education (VET) with supplementary upper secondary school subjects. The training takes four years and one month.With a eux diploma, you can apply directly into higher education, for example as an architect, construction manager or engineer.The eux study programme consists of upper secondary school subjects such as Danish, mathematics, social studies and English at the HF level along with the subjects normally taken during a traditional vocational education. In this fashion, you have the opportunity to combine the secondary school courses with the practical VET courses, and eux becomes a sublime combination of practical and theoretical knowledge.

THE SHOOL SYSTEM IN DENMARK



Programmes

The overview shows the five introductory courses offered by Copenhagen Technical College and the main programmes at which they are aimed.Note: The main programmes marked with an asterisk (*) can be completed at Copenhagen Technical College.The other programmes must be completed at another technical college.

Building and construction

- Construction technician, site engineer, paver*
- Housing assembly training
- Wall, ceiling and unit installer
- House painter
- Tiling*
- Floor laying*
- Bricklaying*
- Organ building*
- Joinery*
- Carpentry*
- Plumbing

Vocational education

The objective of vocational education and training programmes is to motivate young people to complete a programme of training that can qualify them for employment and at the same time, accommodate the needs of the labor market. The programmes aim to give the young people a taste of further education and active participation in society by developing the students' personal and social skills like instilling a spirit of independence and cooperation, and stimulating their awareness about innovation, environment and internationalization.

c. Apprenticeship in Denmark

For businesses – further education and training and apprentices

Naturally, the extensive range of courses offered by Copenhagen Technical College also available to businesses, but if any business has special needs, they can simply make a telephone call to one of our consultants. The business and the consultant can work together to decide on the composition of the course.

When an enterprise needs an apprentice

Most businesses regard it as a bonus and a profitable investment to take on an apprentice and Copenhagen Technical College assists enterprises with finding a training agreement that satisfies their specific needs.

There are four types:

- Ordinary agreement where the enterprise has the apprentice during the entire programme
- Short-term agreement where the enterprise has the apprentice for part of the programme
- Combination agreement where two or more enterprises share an apprentice
- Flexible combination agreements where an enterprise only has the apprentice during part of the programme because the enterpriseis not fully approved as a practical training

The specialised employees at our Enterprise Secretariat assist with:

- Registration of training agreements
- Rules of training
- Pay and employment conditions
- Possible grants
- School periods
- Transport grants for school periods
- Boarding facilities for apprentices
- Practical training abroad
- Further training

Basic vocational training

Some of the reasons that students drop out of or choose not to take a youth education programme may include a lack of academic or social skills or general uncertainty about their own abilities. The basic vocational training programmes take all that into account, as the programme is planned individually and with varying durations depending on the needs of the individual student.

d. Counselling and guidance in Denmark

Receive assistance from a guidance counsellor

It may be difficult to choose an education or training programme, but even if you know exactly what you want, it may be a good idea to have a chat with a guidance counsellor.

The Copenhagen Technical College has an extensive team of guidance counsellors that can help find the education or training programme best suited for you. They can also answer the many practical questions you may have, e.g. questions regarding economy, admission requirements, finding a placement for practical training or opportunities to travel abroad in connection with the programme.

Contact teachers

A contact teacher is assigned to all students enrolled in vocational training programmes. The contact teacher is the student's guidance counsellor during the programme and will help solve any issues relating to the education or training.

At the Higher Technical Examination (htx)programmes, the class teacher or the indivi-dual teachers are the guidance counsellors.

Educational theory and practice and study environment

It is our goal at Copenhagen Technical College that students and course participants shall develop professionally and personally during their education or training. Practice-based, problem-oriented and project-based instruction is therefore a major element of all programmes. Furthermore, the instruction is evaluated thoroughly in order to enable us to check and improve its quality.

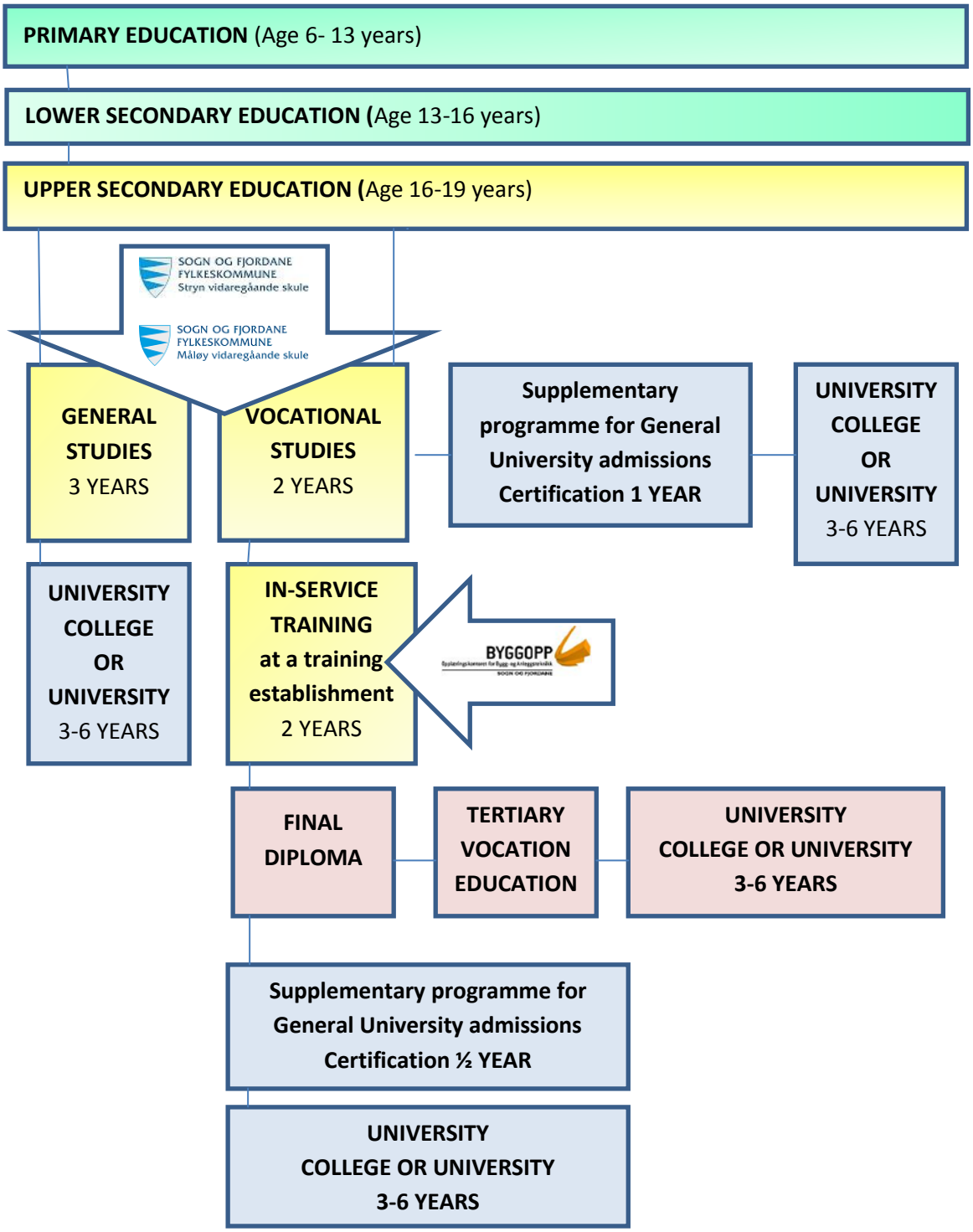
The planning of the learning is based on equality and student participation, since we believe that these fundamental values strengthen the students' own sense of responsibility for the learning process. We give high priority to the physical environment and study facilities and we continuously invest in improving our facilities at our nine venues.

The teachers

At Copenhagen Technical College, we believe that it is essential for our teachers to have close professional relations with the disciplines and the subjects they teach. All the teachers at the vocational training programmes offered by Copenhagen Technical College therefore have a minimum five years' professional experience within the disciplines they teach.

Naturally, all teachers have completed a basic training programme in educational theory and practice. The Copenhagen Technical College also works with systematic competence development for all employees.

d. UPPER SECONDARY EDUCATION AND TRAINING IN NORWAY



Upper Secondary education and training builds on the 10th year in lower secondary education. Upper Secondary education and training leads to university admissions certification, vocational competence or basic competence. Upper secondary education and training is normally provided with 3 years in school or with 2 years in school and 2 years in an enterprise.
Upper Secondary education and training is the gateway to working life and to further studies. This is why Upper Secondary education and training differentiates between general studies and vocational studies.
Vocational education and training leads to an occupation and to vocational competence with or without a craft or journeyman's certificate. Choosing vocational education/training allows to enter working life within 3–5 years or you may take further education, for instance at a tertiary vocational college . Students also have the opportunity to take the supplementary programme for general university admissions certification if you want to take further studies at a University College or University.

Tertiary vocational education

Tertiary vocational education is based on Upper Secondary education or the equivalent formal, non-formal and informal qualifications and is an alternative to education at University Colleges and Universities. The admissions requirement for Tertiary vocational education is vocational competence, with or without a craft or journeyman–s certificate, or general university admissions certification.

Tertiary vocational education is meant to give vocational further education that can be used directly in working life. You learn how to combine theory and practical work by working with realistic tasks. The education is to develop reflected workers and after completion of the course you are to have achieved a basis for lifelong learning and continual adjustment. A successful completion of Tertiary vocational education gives many options, such as junior manager in the private and public sectors. Legislation concerning Tertiary vocational education (Lov om fagskoleutdanning) determines that the education is to last from at least half a year of studies up to at most two years. Approved Tertiary vocational education gives the right to loans and grants from Lånekassen.

e. Building and Construction in Norway

This education programme involves the production, construction, renovation and maintenance of buildings and plants with the attendant technical installations. There are strict requirements as to quality and safety.

Upper Secondary School Level 1	**Upper Secondary School** Level 2	**In-service training** Level 3	**In-service training** Level 4	**Final Diploma**
Building and construction	**Construction techniques**	**Concrete subject** **Bricklaying** **Scaffolding** **Carpentry**	In-service training	Final Diploma
	Construction	**Construction work** **Construction machinery operation** **Blasting**	In-service training	Final Diploma
	Climate, energy and environment work	**Plumbing** **Roofing** **Ventilation and sheet metal**	In-service training	Final Diploma

Education Programme for Building and Construction
Upper secondary level 2 (VG2)

Description of the programme subjects

Production

The programme subject deals with adjusting, use and simple maintenance of the most common machines for working with wood. Introduction in programming and the use of computer-controlled machines for production of simple components or products is included in the programme subject. Planning, documentation and evaluation of own work is central to the subject. The programme subject also deals with surface treatment, composition and working with materials for finished products. The basic principles of material and production control are also included. Use of environmental standards and norms for quality for the products in question are included in the subject. Environment, health and safety (EHS) and quality assurance (QA) are central themes in the subject.

Trade studies

The programme subject deals with selecting and using materials. It deals with the forest as a resource and as a source of raw materials, properties of wood, and discusses which materials are best suited to different products. The programme subject deals with the interrelationship between idea and finished product, design and construction. Drawings, understanding drawings and the use of computer-assisted drawing programs are also included in the subject. The subject also deals with trade history and relationship between employer and employee.

Basic skills

Basic skills are integrated into the competence aims for this course in areas where they contribute to the development of and are a part of the basic subject competence. In the program area *Woodworking*, basic skills are understood as follows:

Being able to express oneself orally and in writing in Woodworking involves communicating with various collaborators. It also involves documenting work processes up to product completion. In addition to this are included discussing and evaluating work processes and professional solutions.

Being able to read in Woodworking involves finding relevant information in technical literature and in current laws and regulations. It also involves understanding content and use of specifications, drawings, product descriptions and work descriptions.

Numeracy in Woodworking involves doing calculations related to work processes and calculating strength, weight, volume, amounts, sizes and angles. It also involves calculating times and costs.

Digital literacy in Woodworking involves planning, execution, documentation and quality control of production processes and products with the help of digital tools. It also involves using digital tools for measuring, calculating, drawing and image processing.

CURRICULUM FOR CARPENTRY
VG3 / IN-SERVICE TRAINING AT A TRAINING ESTABLISHMENT

The objectives of the subject

Carpentry represents great assets in the construction industry. The profession is run by large and small enterprises around the country; the range of professions varies from simple manual labour to the use of advanced tools and equipment.
Carpentry is a traditional vocation that works to uphold the aesthetic and cultural values of the trade.

Learning in the subject shall contribute to developing competence in construction and installation of different kinds of wooden structures and interior work in new buildings and for rehabilitation of older ones. Learning in the subject shall also contribute to promoting independence, creativity, order, good working habits and the ability to communicate with customers, colleagues and other collaborators.

Learning in the subject shall emphasise the development of professional interaction and an understanding of the trade, and lay the foundation for sustainable development. Learning in the subject shall ensure compliance with environment, health and safety regulations.

Training completed and passed in the subject will lead to a Journeyman's Certificate.
The professional title is Carpenter.

Structure

Carpentry consists of two main subject areas. The main subject areas complement each other, and should be viewed in relation to one another.

Overview of the main subject areas:

Year level	Main subject areas	
Vg3 / In-service training at a training establishment	Production	Trade studies

Description of the main subject areas

- **Production**

The main subject area deals with erecting new buildings using different kinds of materials. It also covers rehabilitation and maintenance of existing buildings. Building practices and ensuring that aesthetic and cultural values are upheld are central themes in the subject. The main subject area covers the use of tools and machines, use of preaccepted solutions and

quality control systems, drawing and descriptions, and current rules and regulations. Planning, doing, documenting and assessing work is included in the main subject area. The main subject area also covers source separation, waste management and Environment, Health and Safety (EHS) issues.

- **Trade studies**

The main subject area deals with different kinds of materials and where these are used. The use of work descriptions, drawings and documentation is also included. Standards for upgrading older buildings and basic construction physics are also included. Also included are the history of the trade and its place in society and ethical guidelines for the trade.

Basic skills

Basic skills are integrated into the competence aims for this course. They contribute in areas to the development of and are a part of the basic subject competence In Carpentry, basic skills are understood as follows:

Being able to express oneself orally in Carpentry involves communicating with customers, colleagues, and other collaborators. It also involves being able to document working processes until the final product is delivered. It also involves being able to discuss and evaluate professional solutions and working processes.

Being able to read in Carpentry involves locating relevant technical literature, regulations and standards. It also involves understanding the content and use of specifications, assembly instructions, drawings, product descriptions and work descriptions.

Numeracy in Carpentry involves creating estimates for costs and the use of time, reckoning weights, surface area, volume and quantities. It also includes different ways of measuring mass amounts. It also involves being able to measure in scale and figure angles, heights and slope.

Digital literacy in Carpentry involves using digital tools for planning, production, documenting, quality assurance and communication. It also involves using digital tools to measure and calculate.

CURRICULUM FOR BRICKLAYING
VG3 / IN-SERVICE TRAINING AT A TRAINING ESTABLISHMENT

The objectives of the subject

Bricklaying shall contribute to building masonry constructions and rehabilitating old masonry and brickwork. The subject shall help protect buildings from weather and wind, and contribute to a good indoor climate.

Learning in the subject shall contribute to competence in masonry work on façades, fireplace, chimneys and when laying tiles. Furthermore, learning in the subject shall develop competence in bricklaying, block wall masonry, plastering, laying tiles, wet room work, slating and natural stonework, as well as caring for aesthetical and cultural values.
Learning in the subject shall also contribute to promoting creativity, good working habits and the ability to communicate with customers, colleagues and other collaborators.
Furthermore, learning in the subject shall instruct in the subject's wide range of traditional crafts. Learning in the subject shall uphold requirements for environment, health and safety.

Training completed and passed in the subject will lead to an examination for a Journeyman's Certificate in the trade.
The professional title is Bricklayer.

Structure

Bricklaying consists of two main subject areas. The main subject areas complement each other, and should be viewed in relation to one another.

Overview of the main subject areas:

Year level	Main subject areas	
Vg3 / In-service training at a training establishment	Production	Trade studies

Description of main subject areas

- **Production**

The main subject area is concerned with bricklaying, building block walls, plastering and surface work, tiling and working with natural stones. Wet room work and different kinds of rehabilitation are central themes in the subject. It also covers drawings, work descriptions and the use of measuring tools. Planning, doing and assessing one's own work are also included. The use of pre-accepted solutions, quality assurance systems and ethical requirements for the trade are also included. Environment, health and safety are central themes of this subject.

- **Trade studies**

The main subject area is concerned with the use of materials and their areas of application. Descriptions and drawings as a basis for documenting production are also included. The main subject area also covers aesthetics and cultural values and the subject's historic development and place in society.

Basic skills

Basic skills are integrated into the competence aims for this course in areas where they contribute to the development of and are a part of the basic subject competence. In Bricklaying, basic skills are understood as follows:

Being able to express oneself orally and in writing in Bricklaying involves communicating with different collaborators. It also involves being able to document working processes until the final product is delivered. It also involves being able to discuss and evaluate professional solutions and working processes.

Being able to read in Bricklaying involves locating relevant technical literature, regulations and standards. It also involves understanding the content and use of specifications, assembly instructions, drawings, product descriptions and job descriptions.

Numeracy in Bricklaying involves calculating surface area, volumes and quantities. It also involves different ways of calculating masses in addition to using measuring tapes, taking measurements and calculating angles and heights related to construction.

Digital literacy in Bricklaying involves using digital tools for planning, production, documenting, quality assurance and communication. It also involves the use of such tools for measuring, calculating, image processing and drawings.

f. Apprenticeship in Norway

Craft or journeyman's examination

The examination takes the competence aims of the curriculum as a starting point and consists of four parts:

- Planning a piece of work and giving reasons for the solutions one has chosen
- Implementation of a professional piece of work
- Assessment of own test work
- Documentation of own test work

The length of the examination is decided in the subject curriculum.

If the students do not pass the craft or journeyman's examination, they may sit a new examination. The training establishment is to assist in this, but they are not obliged to extend your apprenticeship contract until the time you take the final examination. If both you and the company agree, the apprenticeship can be extended through a voluntary agreement.

Before they can sit a craft or journeyman's examination you must as a rule have passed all subjects at Vg1 and Vg2 leading to your recognized trade. In special path subjects there is no Vg2 in school, so there they must follow tuition both in programme subjects and common core subjects during the apprenticeship and they must sit all the required examinations before they can take the craft or journeyman's examination.

In some recognized trades in the education programmes for electricity and electronics and technical and industrial production, they must sit a separate examination at Vg3-level before they can take the craft or journeyman's examination. The curricula show which trades this applies to.

The Regulations to the Education Act lay down some exceptions to the requirement of having achieved passes in up to two common core subjects. Their school will give you more information about this.

g. Counselling and guidance in Norway

- The school's educational and vocational counsellor can help make it easier to make a good choice of education and vocation.
- The school's socio-educational counsellor can help with personal, social or emotional problems that affect your education or training.
- The Educational Psychological Service (PPT) can help with personal, social or academic problems.
- The Follow-up service can help students are not in Upper Secondary education or training or in a job.

4. OCCUPATIONAL SAFETY AND HEALTH SYSTEM (OSH)

a. The OSH system in Norway

What is OSH?

Abbreviation of occupational safety and health systems
- Common term for all conditions in the sector that embrace the scope of safety regulations:
- Considering both the individual and society
- Often used only about the work environment, but also includes fire safety and the outer environment

Definitions:

HEALTH

In the definition of health as given by the World Health Organization (WHO) it is stressed that a person must not only be free of disease, but also enjoys complete physical, mental and social well-being.

HEALTH in job context

- Health includes physical, mental and social aspects
- Health in relation to a work situation can be assessed both in terms of capacity to perform the daily tasks, and to adapt to norms, rules and safety in the workplace.
- Health may also involve other citizens in preventing the enterprise from harming the surrounding environment
- Overall satisfaction with the work
- Health is related to safety in the workplace
- Health is therefore influenced by both environmental and safety work

Environment

- Both internal and external environment.
- Internal environment - the sum of the factors that influence the employee physically, mentally and socially (+ / -)
- Also about pollution, waste, recovering and recycling - taking responsibility for preventing discharges and negative impact
- Work environment means physical and mental conditions, workplace design, employment conditions and behaviour (cf. classroom)

Safety
- Here understood as safety for personnel and material
- Prevention against accidents and injuries
- Prevention against strain injuries to muscles, hearing, lungs, vision, etc.

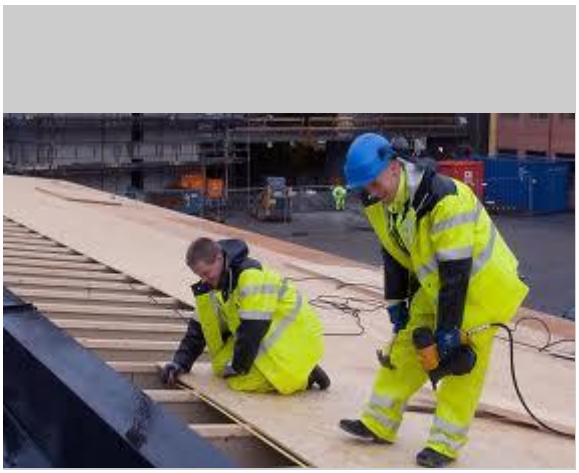
Guidelines in the "Knowledge Promotion" (the latest school reform):
Competence objectives state that students/trainees must acquire the following knowledge:
- Conduct risk assessment and perform work according to rules of occupational safety and health systems
- Explain and use ergonomically correct working techniques and postures.
- Use of work equipment.
- Locate and follow data sheets for different products and OSH.
- Plan OSH measures for tasks to be carried out.
- Life-saving first aid.

Requirements for training companies:
For an enterprise to become an approved training establishment, they must fulfill a number of requirements:
- The company must submit its internal control results and its semi-annual report.
- They must have a technical manager for apprentices.
- Conduct conversations with apprentices.
- The manager must undergo training offered by the county.
- The company must provide an internal training plan.

Training and documentation:
In accordance with Rule nr.551 in Regulations on child and youth work, young people under 18 are not allowed to do work with machines/dangerous tools that require documented training, without supervision by skilled personnel present during the entire operation.

Training and documentation is required for the following tools/work methods:
Chainsaw
Circular saw
Crosscut saw
Hammers
Grinders
Jigsaw
Bolt pistols and nailers
Straps and slingers
Hot work
Scaffold fitting (certificate requires 36 hours of theory and 72 hours of practice)

All pupils and apprentices log and document their training, as established in the Education Act. This also applies in relation to OSH in the workplace.



Here is the list of objectives for their work:

Main objectives:
- Act according to the current regulations for health and safety.
- Work in accordance with current regulations for occupational safety and health.
- Follow applicable regulations for work in heights.
- Explain and perform sorting according to applicable regulations for waste handling.
- Work in line with ergonomic principles.

Additional objectives:
- Know the construction site safety plan
- Know about the company's substance register
- Perform work in a way that avoids accidents and damage to the environment
- Receipt and use of personal protective equipment

- Keep own workplace tidy and clear
- Use necessary equipment to prevent damage to the body.

On their first day in the company all pupils/apprentices must document the receipt and use of protective equipment. This includes helmet, hearing protection, goggles, dust mask, safety shoes, gloves and knee protection.

"Hierarchy" within the rule system:

1. Law - compulsory
2. Regulations - compulsory
3. Guidelines - optional. If one chooses to do something else than the recommendations in the guidelines, one must be able to prove that what one is doing is at least as good or better.
4. Standards - optional
5. Internal company requirements

Why is OSH work so important?

- It is a requirement of Law and Regulations
- Goal oriented and systematic work pays up:

o Lower sick leave
o Improved reporting of accidents and occupational injuries (work accidents and occupational diseases)
o Fewer acute emissions leading to pollution
o Improved fire prevention
o Improved operating efficiency
o Improved cooperation climate

Measures for good OSH at school or in the workplace:

- Make sure your machinery is in proper working order.
- Ensure that employees use protective equipment.
- Give young people relevant training with practical follow-up in the use of tools and equipment
- Make sure students understand their responsibility for their own and other people's safety
- Make sure you have the necessary tools/aids (e.g. hoists) available

- Use proper equipment at school and provide training.
- Create procedures that promote safe behavior

A part of good safety in the workplace is risk assessment and to be able to foresee dangerous situations such as:

- Lack of railings
- Faulty machines
- Error with tools

All apprentices must have participated in a safety round at the start of their apprenticeship.

b. The OSH system in Denmark

The Danish work environment system

The background for the Danish work environment system is Risk Assessment (WRA)

As a tool it is adopted by law in Denmark

APV Puts working environment in system

Risk assessment (RA) is an important focal point for the working environment. RA can be used to set the working environment in the system: Identify the general working environment, identify the areas where there is a need for action and make a plan for how it will improve the working environment.

It is also here that all have the opportunity to give their assessment of the work environment and to engage in dialogue with each other, including on the solutions needed to improve it.

The purpose of risk assessment is to ensure that the workplace is working systematically and continuously to prevent / solve problems in the work environment - with the aim of preventing all forms of injuries.

What can APV used for?

It is a legal requirement that all businesses with employees must make a Risk Assessment (WRA). The aim is to help the company to find out:

- Whether there are problems with the working environment
- Where any problems are
- How the company addresses the issues
- Who is responsible for them being solved?
- When the follow-up

Planning and organization of work

Work at all stages planned and organized so that it can be performed safely and without risk to health. It should be observed that there is no prescribed or intended to be used constructions, designs, detailed solutions and methods that can be dangerous to or otherwise impair the health or safety at work. It should also be ensured that the total impact on the working environment in the short or long term do not impair the employee's health or safety.

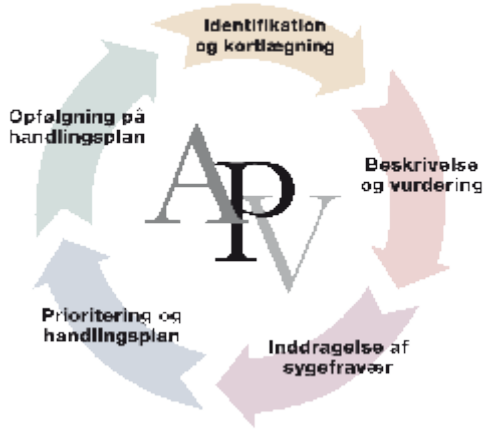
When planning new or modification of existing jobs, processes and methods, introduction of new technologies, acquisition of technical equipment, personal protective equipment and substances and materials, ensure that the work environment brought into line with health and safety legislation general and special requirements.

The company's health and safety organization shall participate in the planning of the work, as well as in the control of the working environment.

The five stages of RA

The company must ensure that WA has the following five elements that make up the phases of workplace assessment work:

1 Identification and mapping of the company's total work
2 Description and assessment of the company's health and safety problems
3 Involvement of the company's sick leave
4 Prioritization of solutions to the company's safety problems and out-
preparation of a plan of action
5 Guidelines for follow-up action plan



What is working environment

Abbreviation of occupational safety and health systems
- Common term for all aspects of the sector, which embrace the level of safety regulations:

- Considering both the individual and society
- Often used only for work, but also includes fire safety and the external environment

HEALTH

In the definition of health given by the World Health Organization (WHO) emphasizes that a person must not only be free of disease, but also enjoys complete physical, mental and social well-being.

HEALTH in the professional context

- Health includes physical, mental and social aspects
- Health in relation to a work situation can be assessed both in terms of ability to perform everyday tasks, and to adapt to the norms, rules and safety at work.
- Health may also include other citizens to prevent it from harming the environment
- Overall satisfaction with the work
- Health is related to safety at work
- Health is influenced by both environmental and safety work

Environment

- Both internal and external environment.
- Internal environment - the sum of the factors that influence employee physically, mentally and socially (+ / -)
- Also about pollution, waste, recycling and reuse - to take responsibility for preventing discharges and negative effects
- Work means physical and mental conditions, workplace design, employment and behavior (see classroom)

Safety

- Here the sense of security for personnel and equipment
- Prevention of accidents and injuries
- Prevention of stress injuries to muscles, hearing, lungs, vision, etc.

The students / trainees must acquire the following knowledge:

- Carry out risk assessment and perform work according to the rules of safety and health systems
- Explain and use ergonomically correct working techniques and positions.
- Use of work equipment.
- Find and follow data sheets for various products and safety problems.
- Plan occupational health and safety measures for the tasks to be performed.
- Life-saving first aid.

Required Education companies:

For a company to become an approved educational institution, they must meet a number of requirements:

- The company must submit its internal control results and interim report.
- The manager and safety representative must undergo a safety training with satiriseret teachers.

Training and documentation:

Under 18 not allowed to do the job of machines / dangerous equipment that requires documented training, unattended by skilled personnel present during the entire operation.

All students in the construction of a course in scaffolding
All trainees log and document their education, as set out in the Education Act. This also applies to the working environment at work

c. Occupational Safety and Health system (OSH) in Poland

In the Occupational Safety and Health system (OSH) in Poland we may distinguish a system of law regulations from an organisational system. However, both systems of OSH are linked and correlated

a. Legal foundations of the Polish OSH

The Constitution of the Republic of Poland is the basic legal act which provides for the right to safe and healthy working conditions. The means of implementing this right is defined by the Labour Code. In the context of our project the Section IX of the Labour Code has particular significance, because it concerns the protection of young people at work. The other important legal acts from this field are:

- Health Insurance Act,
- International Labour Organisation (ILO) conventions 155 and 161 are not ratified, but their requirements are met,

- internal law-regulations made by an employer or elaborated on the way of an agreement between social partners – Corporate Collective Labour Agreement [1, 2].

1.2 Outlook of OSH organisational system in Poland

The organisational system of labour protection can be divided into a nationwide and cross-workplace system. The first (nationwide system) include the parliament, government and other state offices, state supervisory and control bodies, which have different tasks. The supervisory and control bodies include the National Labour Inspectorate, the Office of Technical Inspection, the National Health Inspectorate and the courts and public prosecutor's office. An important role in the OSH organisational system is played by the Labour Protection Council, which exercise control over National Labour Inspectorate.

At the cross-workplace level, varied legal entities exist. They are in charge of creating safety working conditions or social control and supervision over it. The main body responsible for safety and healthy working conditions in any workplace is an employer. The employer execute those duties utilizing specialized, corporate safety and health services and occupational physicians, which hold a health care over employees. Employees have also influence on shaping the working conditions in any company as an advisory party – as an example: OSH committee which consists of employees representatives from all departments of a company. Representative bodies, such as Trade Unions and Social Labour Inspector conduct supervision and control over employer's obedience of the health and safety standards that were set in a company. They have the right for issuing a formal notice with recommendations regarding elimination of any violation within OSH system, that have been noticed by a social labour inspector [1, 2].

1.3 Occupational Health Service (OHS) in Poland

The main objectives of OHS are prophylactic activities of occupational physicians and other personnel (which goal is to diminish the harmful effects of work on employers health), diagnosis and statement of occupational diseases. The most important legal acts connected with this issue are consistent with those listed in the earlier paragraphs. The system include primary units – authorised doctors, Voievodeship Occupational Healthcare Centres, Institutes of Occupational Medicine, Sanitary and Labour Inspections, Central Institute for Labour Protection. In the system employers cover costs of hygienic measurements and prophylactic examinations and health insurance cover costs of curative activities. Authorised doctors (specialist in occupational medicine) are both counselling employees and are decision makers – allowing employee to work at a given workplace [3].

1.4 OSH training in Poland

The Polish Labour Code imposes an obligation to an employer to conduct training for employees in the scope of OSH. It should be fulfilled before the new employee is allowed to perform his/her job. Additionally every employee is trained in the field of OSH periodically. Training is conducted in the working hours of employees and an employer covers all expanses related with those trainings. The OSH trainings are compulsory for all employees including apprentices. During initial OSH courses an employee should be acquainted with law rules contained in Labour Code, corporate Working Regulations and with principles of the first aid. This part of OSH course is called as general training and it is conducted usually by a specialist from an OSH services department of a company. It also should not be shorter than 90 minutes. The second part of OSH teaching is a workplace training. It is held at the particular worksite at which the new employee is going to perform his job. Its goal is the acquaintance of an employee with hazard which occurs at the worksite, with means of hazard's prevention and with the ways of the safety work performance. It is conducted by an supervisor of an employee – head of a department, team leader or foreman. This part of the OSH training ends with an exam. Passing this exam entitles employee for performing of a work at a specific worksite. The initial OSH course should be documented.

2. OSH rules within vocational education system in Poland

2.1 Requirements for schools and universities

High schools

Headmaster/-mistress, who administer a public or nonpublic school in Poland is obliged by Polish law (*Ordinance of the Polish Minister of National Education and Sport on occupational health and safety at public and nonpublic schools and educational agencies Dz.U.Nr 6 poz. 69*) to assure the safe and healthy conditions for teachers and students in a school and as well during lessons organised by a school outside the school's facilities. It describes in details requirements concerning the technical conditions of buildings, classrooms, laboratories, workshops and equipment. It imposes an obligation to a principal to assure necessary safety clothes and personal protective equipment for teachers and students.

Higher education

According to the Polish law the role of an employer at an university is performed by university Rector. Because of that he is in charge of assuring the safe and healthy conditions for teachers and students. Responsibilities of Rector in this field have been described in details in the *Ordinance of the Polish Minister of Science and Higher Education on occupational health and safety at universities* (Dz.U.2007.128.897). In compliance with this regulation all students should be trained in the scope of OSH at the beginning of the studies and the training should take not less than 4 teaching hours. The

same ordinance gives detailed regulations on other OSH issues. It imposes an obligation to Rector to supply both employees and students with necessary safety clothes and personal protective equipment and to keep buildings, lecture rooms, laboratories, workshops and all equipment in a good technical conditions compliant with other adequate Polish law regulations. The way of chemicals handling, storage and use are regulated, as well as requirements for supplying technical devices and apparatus with manuals.

2.2 Requirements for training companies

An apprenticeship at both high school and university levels are conducted on the basis of an agreement (contract) between a school/university and an employer, who commits himself to hold an apprenticeship in his company. The agreement should define in details a training scheme during apprenticeship and its duration. Furthermore, an employer can be obliged to keep an apprenticeship log book and to document: working hours of an apprentice, apprenticeship subjects and qualifications of an apprentice which he/she gained in the course of apprenticeship. An employer who accept to hold an apprenticeship in his company is obliged to assure a healthy and safety working conditions and apply all necessary rules and means of OSH to protect health and life of apprentices. The apprenticeship should commence with OSH training. As a general rule the initial training is sufficient due to the apprenticeship duration, which usually do not exceed 3 months. In the course of the initial training an apprentice should be acquainted also with an occupational risks related with a specific worksite. Rector or headmaster of a school is responsible for preparing a referral to an authorized doctor for a prophylactic examination of a student. Authorised doctor prepare a certified statement for a student that he/she is able to continue a vocational education and anticipated apprenticeships. The employer supplies apprentices with necessary working clothes, personal protective equipment and covers expanses related with maintenance of those utensils and outfits. For adolescent employees (between 16 and 18 years old) an employer should prepare a list of activities that are forbidden in his company for young apprentices. During an apprenticeship an instructor should supervise the work of trainees.

2.3 OSH in the syllabuses of vocational education

In Poland topics regarding OSH problems and culture are included in the basis of the teaching schemes at every level of education. However, Central Institute for Labour Protection indicates that there is still lack of consistent and precise formula of OSH teaching in general and vocational education in Polish system.

3. Case study: OSH education and assurance for civil engineering students in Krosno State College

3.1. Introduction

All of the students of Civil Engineering Department of Krosno State College participate in compulsory training in the field of occupational safety and health at the beginning of the studies. Furthermore in the syllabus of the studies in Civil Engineering of Krosno State College there is a separate course on Ergonomics and occupational safety. It dimension is 30 hours of lectures. Then the topics of OSH are repeated periodically at the beginning of a new cycle of laboratory or workshop's classes. It concerns students of all years of their studies. Buildings, lecture rooms, laboratories and workshops, as well as their systems, equipment and apparatus are maintained in a good technical condition and periodically checked. Apparatus and equipment used in the course of laboratory classes are supplied with manuals. Chemicals are properly stored and handled and their Safety Data Sheet are easily available for any student. The Krosno State College assures OSH services and personal protective equipment for both lecturers/trainers and students. In the next paragraphs two regulation applied in the Civil Engineering Department are described as an example of our approach to OSH issues.

3.2 Regulations of Laboratory of Strength of Materials and Building Construction

1 Regulations on the course of Bachelor's Degree studies specify the conditions of use of the laboratory and student's responsibilities related to this.

2 The right to participate in laboratory classes is restricted to the students of a particular faculty/department and of the year of study when the classes are scheduled.

3 A student must be acquainted with the regulations before the beginning of the laboratory classes and should follow the rules of conduct in the laboratory.

4 In order to participate in laboratory classes every student is obliged to sign a statement

(Annex 1).

5 A student who applies for classes is required to provide, at the request of the university lecturer or an employee of SM&BC a valid student ID or a student's grade book.

6 Students leave their outdoor clothing, large bags and backpacks outside the laboratory in a designated place.

7 Student groups are allowed to enter the laboratory only having been invited by the lecturer. Entering or staying in the laboratory in the absence of a lecturer is forbidden.

8 Students are allowed to stay in the laboratory only during scheduled teaching hours or in a time appointed with the lecturer or an employee of the Institute.

9 While being in the laboratory, students must comply with the comments and instructions of the lecturer and the Institute's technical staff.

10 Students who come from other universities, which cooperate with the laboratory, to prepare their master's thesis, are allowed to work in the laboratory only in specific areas within a specified time appointed with the Head of the Faculty manager.

11 Neither smoking nor consumption of food and use of drugs is allowed in the laboratory.

12 It is forbidden to bring any materials and equipment that may interfere with the laboratory equipment and materials.

13 Any damage caused to laboratory as a result of a violation of these regulations has to be compensated by those who caused them.

14 Any noisy and inappropriate behaviour is forbidden in the laboratory, as well as vandalizing the property of the Krosno State College.

15 It is strictly forbidden to take out from the laboratory any equipment, machinery, materials and other property of the Krosno State College.

16 Students conducting any laboratory activities should be compliant with occupational safety and health and fire safety regulations, especially while using laboratory equipment, apparatus and measuring devices.

17 In case of fire, anyone is obliged to report this fact immediately to a lecturer or to other supervisor.

18 Students who are sick or out of the university because of illness must not take part in the laboratory classes.

19 All issues that are not covered by these regulations are to be considered according to the following ordinances: Krosno State College Regulations, the Civil Code, the Labour Code and the generally applicable law.

3.3 Regulations on Student's Apprenticeship of Krosno State College - Civil Engineering Department

1. A training course of the students participating in the apprenticeship should be carried out before the apprenticeship commence.

2. The apprenticeship can take place on the conditions determined in an *Agreement on the organization and conduct of student's apprenticeship of Krosno State College* concluded between the Krosno State College and the company where the apprenticeship will take place. The agreement

imposes to an employer an obligation to familiarize students - before the apprenticeship commence - with general corporate regulations, regulations on occupational safety and health and specify the way of treatment of confidential information.

3. The training scheme should include:

- familiarizing students with an organizational structure of a workplace,

- familiarizing students with a corporate work regulations and internal regulations concerning occupational safety and health in a given company,

- discussion on a technological process in a company with a special focus on the departments where the students apprenticeship is to be held,

- discussion on a specific work accidents that have taken place in a given company,

- instruction for a job at a specific worksite,

- informing students about obligation to notify to a team leader/foreman (or to another person in charge at a workplace) about any noticeable hazard to life or health.

4. Student's training is conducted by the apprenticeship coaches on behalf of the Krosno State College.

5. Responsibilities of a trainer of an apprenticeship include:

- confirming that the statement, consistent with the template – *Annex 1*, declaring that the students took a training in accordance with the *Instruction of training the students of Krosno State College in a field of occupational safety and health during the apprenticeship,* had been delivered to the organizational unit of the Krosno State College that organizes the apprenticeship,

- confirming that the training conducted at a site of apprenticeship had been documented and signed by trainers and trainees.

5. SIMILARITIES AND DIFFRENCES

	POLAND	DENMARK	NORWAY
UPPER SECONDARY EDUCATION SYSTEM	4 years	4 years	4 years
	1st -3rd year Theoretical subjects General subjects 1 day practical work at School General subjects: 1st year 40 hours per week 2nd year 14 hours per week, 3rd and 4th year 10 hours per week	1st and 2nd year Theoretical and practical Education and Training at School	1st and 2nd year Theoretical and practical Education and Training at School About 10 weeks Work placement in companies General subjects: 1st and 2nd year 10 hours per week
	4th year Theoretical subjects 2 months Work placement in a Company	3rd and 4th year In-service Training / Apprenticeship	3rd and 4th year In-service Training / Apprenticeship
	FINAL DIPLOMA The students could start at the University or they could start at their apprenticeship in a Company – 2 years	FINAL DIPLOMA The students could now start their carrier as a professional worker. They could also continue their education with the Supplementary programme for General University admissions or Tertiary Vocational Education and then fulfill their higher education at a University.	
SIZE OF GROUPS	Practical Work -15 students Theoretical subjects – about 30 students	Practical Work –about 15 students Theoretical subjects – about 30 students	Practical Work -12-15 students Theoretical subjects – about 24 students
PSYCHOLGIST AND SOCIAL WORKER	Psychologist and social worker is available for the students	Psychologist and social worker is available for the students	Psychologist and social worker is available for the students
COUNSELLING AND GUIDEANCE	Teachers have the duty to counselling and guide the students. 2 hours per week	The Copenhagen Technical College has an extensive team of Guidance Counsellors that helps the students to find their education and Training programme	In Norway the Schools Guidance, the Companies, The Regional Office (BYGG OPP) and the teachers helps the students.
FOUNDING	Free Working Clothes	Free books Loans and grants from the government	Free books Computer Working Clothes (Grants from the Government) Loans and grants from the Government

	POLAND	DENMARK	NORWAY
DIFFRENCES	More theoretical subjects than in Denmark and Norway (A lot of General Subjects) Less focus on work placement and apprenticeship. Job centres offer apprenticeship to students. Much less funding spent on education in Poland. Apprenticeship comes after the Final Diploma.	Competence Courses Change between theoretical education and practical training during the School Education The students have to show their competence before they could continue to the next step in the Module. The students have to apply for an apprenticeship in a Company by themselves. No Follow-Up system from schools or Education and Training Office	Change between theoretical and practical work at School and in Companies Cooperation between The Education and Training Office (BYGG OPP) in the students Apprenticeship. "Follow Up" system for the apprentices during their apprenticeship period, done by BYGG OPP.
SIMILARITIES	Professional Pride	Professional Pride	Professional Pride
	Today In Poland at little more respect is given then a few years ago to young people who decide vocational education and carrier.	In Denmark and Norway the students get a Final Diploma (FAGBREV) after they have finished their apprenticeship. Norway and Denmark is still working to raise the respect for vocational education. The Final Diploma give the young workers a; • Identity • Documentation as a Professional Worker • He or her is a person who take responsibility in the society • Give him or her a Professional Pride • Take care of the Basic Craft Tradition	

Conference in Krakow 17th – 21st of April 2013

6. RESULTS OF THE PROJECT

- The foundations for the project were laid and agreed upon during the preparatory meeting in Copenhagen in January 2011. The meeting also rendered preliminary information about vocational training at Copenhagen Technical College.

- Similar visits to Poland and Norway allowed partners to learn about:
  - Education and training systems
  - Building industry
  - Traditional methods and new development in construction
  - Culture of the visited country

- Organizing conferences in the three participating countries allowed the partners to develop a constructive and comparative study which will be disseminated in a publication discussing:
  - Implications for vocational education and training in wiev of European open job market.
  - Cooperation between education and building industry and how to facilitate transition from school to job market
  - European standards and quality assurance in vocational education.

a. The impact on participating institutions and their environments

- Participating institutions began to implement a European dimension in the education and training system for students and apprentices in the field of Building and Construction.
- Obtained experience has already resulted in innovative educational solutions in all institutions (changes in curricula, initiatives concerning work placement)
- The vocational school systems in Norway, Denmark and Poland has come one step closer to standardization by becoming aware of what is similar and what is different in them.
- The teaching of Health, safety and security system has been acknowledged to be a very important part of vocational education and will continue to be treated with attention by participating institutions.
- Quality career guidance during the educational process and after graduation has been found to be one of the ways to raise the attractiveness of vocational training.
- Participating institutions have become better players on the international market by gaining better knowledge about other cultures and societies.

b. Partnership Meetings and Conferences have resulted in:

- Extended field work, surveys and studies of the educational systems and practices in participating countries in search for materials for discussion
- Exchange and dissemination of knowledge, experience and good practices
- Developing a theoretical and practical framework for the student and staff mobility within the Leonardo project ¨Building and Construction Across Borders¨ (2011-1-NO1-LEOO1-03144)
- Increasing awareness of the need to bring vocational education in Europe to a higher status
- Generating of innovative and quality-driven impulses within vocational education and training
- Creation of professional networks which will continue to cooperate and share experiences
- Formulation of recommendations for educational authorities supervising vocational training

Conference in Stryn 29th of May– 2nd of June 2013

7. RECOMODATIONS FOR EDUCATIONAL AUTHORITIES

1) Policy makers should ensure the stability of educational policies. Definitions of required professional qualifications must not be changed too often or too rapidly as they influence the planning of educational programmes and curricula.
2) Vocational education should be given more attention and prominence. In most European countries it has lost its prestige and the support of educational authorities it used to process. More work should be done on changing the common perception of vocational education as less prestigious and socially undesirable.
3) Vocational training should focus on teaching practical competences and invest more in practical work than in theoretical and general education. The Norwegian government has just issued new directions for the Vocation Education and Training system (Stortingsmelding 20). Their directions are similar to our recommendations.
4) Practical work in companies should start early in the educational process - the Danish system is an example of good practices. Early involvement in practical work will prevent drop-outs and create a perspective for better job opportunity and job security.
5) With the European job market in mind the educational authorities should develop a system of regulations defining basic requirements measured by qualification examinations for builders in all European countries.
6) Career guidance should be made an integral part of the educational process in vocational training.
7) Longer periods of work placement and apprenticeship during the educational process should be encouraged in all countries.
8) Opportunities for international work placement and apprenticeship should be made widely available to students of building and construction schools in Europe.
9) Language education (English) should be given greater attention and should address the needs of specialized communication.
10) Differences in the amounts of funding spent on vocational education in different European countries should be addressed and alleviated to ensure the creation of a more uniform European Educational Area.

Read more about the project "Building Europe together"
www.stryn.vgs.no
International Projects