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# **Sustainable Public Buildings Designed and Constructed in Wood (Pub-Wood)**

**2018-1-LT01-KA203-046963**

## **Comparison of the Education Systems**

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## INTRODUCTION

The Pub-Wood Project is a two-year project that aims to develop a trans-disciplinary and transnational course/ elective element in the EU HEIs on the design, construction and management of sustainable public wooden buildings in order to enhance the quality and relevance of students' knowledge and skills for future labour market needs.

The specific objectives of the project are:

- 1) To strategically research at which level sustainable design, construction and management of wooden public buildings are to be planned and implemented in the partner countries.
- 2) To educate all participants (students, teachers, entrepreneurs) in the field of the sustainable wooden construction.
- 3) To develop and implement the new strategic trans-disciplinary module/elective element, which meets the needs of the HEIs and market representatives, fulfils the future challenges of sustainable public wooden buildings' design, construction and management.
- 4) To improve competencies of students and teachers in problem solving and team work, innovative thinking, motivation, awareness of cross-professional project input and project management by using real problem-based and blended learning approaches.
- 5) To ensure open awareness of the project results to local, national, EU level and international target groups.

The report presents education systems in five higher education institutions: Vilnius Gediminas Technical University (Lithuania), VIA University College (Denmark), Coventry University (UK), Häme University of Applied Sciences (Finland) and Riga Technical University (Latvia). Pathways for integration of the new BSc/BA module/elective element "Design, Construction and Management of Wooden Public Buildings" are presented.

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## 1. ABOUT UNIVERSITIES

### 1.1. Vilnius Gediminas Technical University

#### General information

Vilnius Gediminas Technical University (VGTU) (<http://www.vgtu.lt>) is a leading higher education institution situated in Vilnius the capital of Lithuania. Established in 1956 VGTU is one of the biggest research universities in Lithuania with a focus on technologies and engineering and strong emphasis on university-business cooperation.

#### Vision, mission, objectives

**The university's mission** is to develop a publicly responsible, creative, competitive individual who is receptive to science, the latest technologies and cultural values; to promote scientific progress, social and economic well-being; to create value that ensures the development of both Lithuania and the region in the global context.

**The university's vision** is to be a prestigious Lithuanian institution of higher education, the scientific and studies level of which conforms to the best European technical universities' level. The university is attractive for both Lithuanian and foreign scientists and students, is able to respond to the environmental challenges and has a great social importance to the national progress.

**The university's objectives** are as follows:

- To prepare qualified, creative and socially active professionals, who are able to work successfully in both Lithuanian and foreign scientific and labour markets;
- To carry out international-level research concentrating scientific activities at the departments with the highest level of competence; to implement the recruitment of established scientists policy;
- To develop research-based innovations for society and business; to become a leader of the Baltic universities in the scientific areas of sustainable construction, transport, sustainable environment, information technologies and communication;
- To promote the sustainable development of the country and region; to develop the innovative society.



### Facts and figures

Number of students	9600
Number of international students	1195
Number of graduates/alumni	80 000
Number of academic staff	960 academic staff members (72% with PhD degree)
Number of faculties	10 faculties: Antanas Gustaitis' Aviation Institute, Architecture, Business Management, Civil Engineering, Creative Industries, Electronics, Environmental Engineering, Fundamental Sciences, Mechanics, Transport Engineering
Number of laboratories	22 research laboratories
Number of Bachelor degrees offered	44 (15 in English)
Number of Master degrees offered	50 (18 in English)
Number of PhD degrees offered	11
Number of business partners	490
Number of international partners	511

### Rankings

VGTU is among top 2.1% of universities globally according to QS World University Rankings.

VGTU is ranked 39st in the Emerging Europe and Central Asia region according to the “QS World University Rankings 2019”.

VGTU is among top universities by 7 subjects in QS WUR 2019:

- Top 51-100 in Engineering – Civil and Structural
- Top 101-150 in Architecture / Built Environment
- Top 101-150 in Business and Management Studies
- Top 201-250 in Economics and Econometric
- Top 201-250 in Engineering – Mechanical, Aeronautical and Manufacturing
- Top 201-250 in Engineering – Electric and Electronic
- Top 201-250 in Computer Science and Information Systems
- Top 256 Engineering and Technology
- Top 276 Social Sciences and Management.

### Internationalisation

Having more than 480 international higher education institutions as partners, VGTU offers wide range of international studies and internships. VGTU is the leader in Lithuania by the number of students, studying under the Erasmus Exchange Programme abroad.



## 1.2. VIA University College

### General information

VIA University College, located in the Central region of Denmark, educates future engineers, designers, teachers, education specialists, nurses among others. We offer more than 40 degree programmes at eight campuses across the region.

VIA's departments of further education has more than 20,000 annual participants in programmes on diploma, academy profession and master degree level. This means that we are the largest institution for further education in Northern Europe.

Through research and development, we make sure that our programmes are based on the latest knowledge. In addition, we help develop the society for which we educate students. We cooperate closely with public and private companies and help develop industries and societal solutions.

### VIA's vision 2020

#### Strategic intentions

We educate for professional practice in cooperation with the professions - We develop new knowledge for, challenge, and inspire professional practice - We create opportunities for students and staff - We engage globally with a local foundation - We act with courage, passion and curiosity

#### Strategic principles

Sustainability through awareness of people and resources - Movement through recognition of enterprise and potential - Quality through ambition and focus of action

### VIA's mission

It is VIA's mission to provide professional educational programmes and professions-orientated knowledge in highquality learning- and educational environments. We educate candidates and develop knowledge that meets and challenges society's needs – regionally and globally.

**The university's objectives** are as follows:

- To prepare qualified, creative and socially active national and international professionals, in close cooperation with society and the professions within the regional, national and global market.
- To develop research-based innovations for society and business;
- To promote sustainable development regionally and nationally and shape awareness on responsible sustainable thinking.



### Facts and figures

Number of students	19,000 full time 20,000 participants in continuing education
Number of international students	3,000
Number of graduates/alumni	60,000
Number of academic staff	2,100 faculty and staff
Number of faculties	11 Departments: Teacher Education; Social – and Social Education Assistant Education; Nursing; Social Sciences; Health Sciences; Engineering; Built Environment Educations; Storey Telling, Design and Business; Continuing Education - Management and Business; Continuing Education – Social Education; Continuing Education – Social Work, Occupation and Health. 18 Research and Development Centres
Number of laboratories	29 research laboratories
Number of Bachelor degrees offered	42 (17 in English)
Number of Master degrees offered	2 (in cooperation with University Partners)
Number of PhD degrees offered	0
Number of business partners	Appr. 300
Number of international partners	530

## 1. 3. Coventry University

### General information

Coventry University is a public research university in Coventry, England, formally known as Lanchester Polytechnic until 1987, and Coventry Polytechnic until it was awarded university status in 1992. Its five faculties, which are made up of schools and departments, run around 300 undergraduate and postgraduate courses. Across the university there are 11 research centres which specialise in different fields, from transport to peace studies.

### Vision, mission, objectives

Since 2010 the Coventry University Group has undertaken an evolutionary transformation. Strategic initiatives such as Coventry University London, CU Coventry, CU Scarborough, Coventry University Online and the Institute for Advanced Manufacturing and Engineering have been successfully delivered alongside investment in campus regeneration, including our state-of-the-art Engineering and Computing building, Science and Health building and Student Hub.

In 2018, we celebrated 175 years since our ground-breaking institution began in Coventry. A focus on growth and continuous improvement in teaching and learning, research and



internationalisation has seen the University rise rapidly in both the Guardian University rankings and in the Times and Sunday Times Higher Education UK rankings.

The landscape of higher education is evolving. It will continue to change as a result of the policies of the UK government; the dynamics of research and enterprise and innovation funding; the approach to international staff and student visas; and the undoubted increasing national and global competition in higher education.

The coming years will be challenging but exciting. Our approach to partnership delivery, entrepreneurship and financial and operational sustainability combined with a delivery and implementation focus that is fast-paced and responsive, reflects “The Coventry Way”. This will ensure that we address these challenges through our 2021 Strategy and achieve transformational growth.

### Facts and figures

Number of students	31690
Number of international students	-
Number of graduates/alumni	-
Number of academic staff	1890
Number of faculties	5 faculties: Arts and Humanities; Engineering, Environment and Computing; Health and Life Sciences; Coventry Business School; Coventry Law School
Number of laboratories	Extensive laboratories, exact number unknown.
Number of Bachelor degrees offered	130
Number of Master degrees offered	100
Number of PhD degrees offered	-
Number of business partners	-
Number of international partners	Extensive partners. Our Collaborative list can be found here: <a href="https://www.coventry.ac.uk/international-students-hub/partnerships-and-places-to-study/see-our-partners-across-the-world/">https://www.coventry.ac.uk/international-students-hub/partnerships-and-places-to-study/see-our-partners-across-the-world/</a>





## Rankings

### National UK rankings

<i>Complete (2020)</i>	<i>53<sup>rd</sup></i>
<i>Guardian (2019)</i>	<i>13<sup>th</sup></i>
<i>Times / Sunday Times (2019)</i>	<i>44<sup>th</sup></i>

### Global rankings

<i>ARWU (2018)</i>	<i>901-1000</i>
<i>QS (2019)</i>	<i>571-580</i>
<i>THE (2019)</i>	<i>601-800</i>

### British Government assessment

<i>Teaching Excellence Framework</i>	<i>Gold</i>
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## Internationalisation

Our internationalisation aim:

We will continue our sector leading position for global engagement, including being recognised nationally and internationally by our students and strategic partners for the quality and diversity of our international education experience, student mobility opportunities and our international research collaborations.

Times Higher Education has ranked Coventry University as one of the world's top 200 young universities and included us in the top 50 of "Generation Y universities". Through the Group's International Strategy we will create a sustainable and differentiated future based on the preparation of students for global careers and the generation of knowledge relevant to global issues, underpinned by high quality execution and partnership.

Through the International Strategy we will develop a sustainable network of multi-faceted overseas offices to provide a comprehensive presence in all significant global regions. We will increasingly deliver our programmes overseas; primarily through strategic relationships with high quality partners who offer scale, breadth, in-country market intelligence, local relationships and influence, and opportunities for engagement with business. In line with our commitment to enhance the student experience we will deliver a number of service improvements specifically targeted at international students.

The Group is recognised as being at the forefront of providing its students with opportunities for international experience and mobility, and we recognise that this activity significantly enhances their career prospects and contributes directly to employability. Through our Student Mobility Service and other initiatives, particularly those relating to employability, we will produce global



graduates with attributes and capabilities enabling them to become global professionals and citizens, and successfully enter the international work environment. We will also develop a staff mobility programme that mirrors the success of, and demand for, our student mobility programme. By investing in the global capabilities of our staff through targeted training and experiences overseas, we can drive forward professional development and the overall value staff bring to the classroom.

#### Key actions

Our internal strategy is based around five pillars of internationalisation:

- Increased overseas recruitment to the UK
- Growth in delivery overseas, including through joint ventures
- Remaining the UK's number one for internationalisation experiences
- Developing the international capacity and capability of our staff
- Enhancing our international research, rankings and reputation.

## 1.4. Häme University of Applied Sciences

### General information

Häme University of Applied Sciences (HAMK) is a multidisciplinary institution of higher education. HAMK offers education in the following areas: bachelor's and master's degrees, professional teacher education, continuing and further education, open university studies and exchange studies. Education in HAMK is based on strong links to business and industry.

### Vision, mission, objectives

In 2030, HAMK will be the most inspiring and workplace-oriented university of applied sciences. Competence, knowledge, internationalisation, entrepreneurship and cooperation are the main elements in forming an international, influential, significant and independent university.

HAMK promotes lifelong learning and its strategy focuses on management and development of intellectual capital. World of work, entrepreneurship and international cooperation are at the heart of HAMK operations. HAMK research units are significant social innovators and HAMK is an important part of national and international innovation ecosystems. HAMK is an international, active and modern higher education community.



### Facts and figures

Number of students	7363
Number of international students	591 degree students, 119 exchange students
Number of graduates/alumni	1189 in 2017
Number of academic staff	446
Number of faculties	School of Bioeconomy, School of Entrepreneurship and Business, School of Technology, School of Wellbeing, School of Professional Teacher Education
Number of laboratories	10
Number of Bachelor degrees offered	20 (four in English)
Number of Master degrees offered	9 (one in English)
Number of PhD degrees offered	-
Number of business partners	not defined
Number of international partners	158

### Rankings

In higher education, the Finnish Higher Education Council (FINHEEC) audits the quality assurance systems of Finnish higher education institutions (both universities and universities of applied sciences). FINHEEC is an independent expert body assisting higher education institutions and the Ministry of Education and Culture in matters relating to evaluation. The Council Members represent universities, universities of applied sciences, students and world of work. Decisions made by the Council are prepared and implemented by the Secretariat, led by Secretary General.

In order to assure the quality of the HAMK audit system and process on a global level, FINHEEC is a member of several worldwide organizations related to quality assurance and adheres to their standards:

- ENQA *European Association for Quality Assurance in Higher Education*
- EQAR *The European Quality Assurance Register for Higher Education*
- NOQA *Nordic Quality Assurance Network in Higher Education*
- INQAAHE *International*
- Network for Quality Assurance Agencies in Higher Education*
- ECA *European Consortium for Accreditation in Higher Education*
- EHEA *The European Higher Education Area*

In general terms, HAMK's quality system is a set of processes, procedures and systems, which supports quality management and provides guidance for HAMK personnel in the performance of their work, in accordance with mutually agreed strategies, goals and pledges.

HAMK passed the most recent international quality assurance system audit which was conducted in 2016.



HAMK takes part in 2019 Times Higher Education Europe Teaching Ranking.

## Internationalisation

Internationalisation is a core element in HAMK's activities. Students as well as staff members are encouraged to visit our partners abroad as exchange students or visiting lecturers and to take part in projects involving multinational partners. All study programmes are obliged to include international elements in their modules.

Additionally, HAMK's Global Education unit offers degree-awarding education, applied research and development, professional development programmes, consultation services and capacity building projects for clients abroad. Clients are governmental and regional development organizations, higher education institutions and vocational education providers, other educational organizations, companies and businesses and individual students.

## 1.5. Riga Technical University

### General information

Riga Technical University (hereinafter - RTU) is a modern internationally recognized university. It is the only polytechnic university in Latvia and the largest university in the country – it educates and trains almost 15 thousand students.

RTU is focused on becoming a third generation university that not only provides high quality education, but also conducts advanced research and ensures innovation and technology transfer, practically implementing scientific discoveries. In the nine faculties of RTU it is possible to obtain high quality education not only in engineering, but also in social sciences and humanities.

Study programs implemented by RTU have been positively evaluated by international experts and are officially accredited. RTU is constantly developing its infrastructure by constructing a campus on Ķīpsala Island. On completion, the campus will be the most advanced engineering study centre in the Baltic Region.

### Vision, mission, objectives

**Mission.** To ensure internationally competitive high quality scientific research, tertiary education, technology transfer and innovation for Latvian national economy and the society.

**Vision.** Riga Technical University – a modern and prestigious University, internationally recognised as the leading university of science and innovation in the Baltic States – a cornerstone of the development of Latvia.



### Three key directions of RTU:

*Quality study process* - Prestigious, internationally recognised high quality studies that train internationally competitive, analytical and creative specialists who ensure growth of Latvian national economy and who are able to participate in lifelong learning.

*Research excellence* - High quality scientific research to match the demand of Latvian national economy and international economy, with comprehensive involvement into international, state and field research programmes and integration in the study process.

*Sustainable innovation/ commercialization* - Efficient technology transfer and innovation development environment to promote creation of new technology businesses and products.

Horizontal priorities define three key directions of RTU – Study process, Research process and Innovation process with 5 horizontal tasks to be incorporated and implemented throughout the whole activity process of the University.

### The tasks of horizontal priorities:

- *Internationalization*: Competitive activities of the University in the field of science, innovation and studies at international level.
- *Interdisciplinarity*: Cooperation between different sectors and specialities, as a basis for development of new and innovative products and modern education content.
- *Organisational efficiency*: Efficient and high quality management of the University to ensure development and modern implementation of study and research processes.
- *Financial efficiency*: Established financial independence and motivating internal financial system of the University to boost its growth.
- *Infrastructure efficiency*: Up-to-date study, scientific and innovation environment with modern buildings and technical equipment that comply with the activities of the University.

RTU is a modern internationally recognized university in Latvia. RTU is focused on becoming a third generation university that not only provides high quality education, but also conducts advanced research and ensures innovation and technology transfer, practically implementing scientific discoveries.



### Facts and figures

Number of students (01.10.2018.)	14 322
Number of international students (01.10.2017.–01.10.2018.)	2763
Number of graduates/alumni	1300 (in 2018/2019)
Number of academic staff (01.10.2018.)	546
Number of faculties (please list faculties)	Total 9 faculties: Architecture; Civil Engineering; Computer Science and Information Technology; E-Learning Technologies and Humanities; Electronics and Telecommunications; Power and Electrical Engineering; Engineering Economics and Management; Mechanical Engineering, Transport and Aeronautics; Materials Science and Applied Chemistry
Number of laboratories	21
Number of Bachelor degrees offered	57
Number of Master degrees offered	59
Number of PhD degrees offered	20
Number of business partners	More than 1286 business partners
Number of international partners	More than 100

### Rankings

Rankings provide RTU the opportunity to evaluate own performance in accordance with the international criteria and compare itself with other higher education establishments in Latvia and over the world. Ten different rating evaluations let more accurately identify strengths and weaknesses, set new goals to ensure progress in studies, research and overall University performance, as well as monitor general development dynamics.

Riga Technical University takes part in many national and international ratings and comparison tools. International ratings promote healthy competition among universities; they may be of use for future students choosing a university to study.

Ratings allow RTU to assess its achievements according to the international criteria and weigh itself against other higher education institutions in Latvia and abroad.

Based on the ranks received within various ratings it is possible to make conclusions on the current performance and set new goals concerning organization of the study process, research activities and overall sustainable development and progress of the university.

RTU is ranked in the following international ratings: QS Stars University Ratings, QS University Rankings: EECA, U-Multirank, UI GreenMetric Ranking, 4International Colleges & Universities,



Worldwide Professional University Rankings, Webometrics Ranking of World Universities and other.

Riga Technical University (RTU) has been recognised as the 128th world's most sustainable university in the **UI GreenMetric World University Rankings**. Compared to the previous year, RTU has increased its position by 20 places in 2018 and shows the best results among the Latvian higher education institutions. In the GreenMetric Rankings, world universities are ranked according to their commitment to reducing environmental impact.

**U-Multirank** is a new multidimensional user-oriented international university comparison tool. It is used to compare university performance in five areas: teaching and learning, research, knowledge transfer, international orientation, and regional engagement. According to U-Multirank rating, in 2018 Riga Technical University received evaluations – A “very good” in the following areas:

- Research: Art related output; Post-doc positions;
- International Orientation: Bachelor programs implemented in English;
- Regional Engagement: Bachelor and Masters graduate students employed in the region;
- And B “good” in the following areas:
- Teaching and Learning: Masters graduate rate; timely graduation from Bachelor programs; timely graduation from Masters programs;
- Research: external research revenue;
- Knowledge Transfer: spin-off enterprises;
- International Orientation: Master programs implemented in English; International joint publications;
- Regional Engagement: student internship in the region, publications on regional development issues.

U-Multirank uses a letter grading scale (from A to E, where A is «very good» and E is «weak», respectively) to compare universities considering each indicator included in the rating.

Riga Technical University (RTU) has been included in the «**QS Graduate Employability Ranking 2019**», taking the 301–500th place in the university group. RTU received the highest score in Employer Reputation that ranks RTU in 175th place.

Riga Technical University (RTU) has received an excellent evaluation – five stars – at the international university rating **QS Stars**. Overall, university performance was evaluated considering eight categories, and RTU received the highest evaluation – five stars – in six of them.

Riga Technical University (RTU) has been ranked in the 751 to 800 range of **QS World University Rankings 2019**, which is the highest score among three Latvian universities included in the ranking. RTU received the highest ranking for employer reputation, as well as international students.

In 2018, Riga Technical University was ranked 57th in **QS Emerging Europe and Central Asia (EECA) University Ranking** among 200 leading universities.

Riga Technical University has improved its performance in several criteria of **the Times Higher Education World University Ranking 2019**. This rating includes the very best universities in the world, evaluating their performance in studies, collaboration with industry, internationalization, as



well as in science and citation. The data of the Times Higher Education World University Rankings 2019 were published on 26 September, and RTU ranked in the 801–1000 group. From Latvia, the University of Latvia has been included in the ranking and it is in the same group, but in the overall score RTU has shown better results.

Riga Technical University (RTU) has been highly evaluated in one of the leading university rankings – «**Times Higher Education (THE) BRICS & Emerging Economies University Rankings 2019**», taking 196th place. Evaluation of RTU in «THE BRICS (Brazil, Russia, India, China, South Africa) & Emerging Economies University Rankings 2019» is substantial not only for RTU, but also for the whole higher education field in Latvia as the ranking attests university's international competitiveness. Altogether, 443 universities were ranked this year.

Riga Technical University (RTU) is ranked in 361st place of best universities in Europe. The Europe ranking is based on the data of **the Times Higher Education World University Ranking**, in which RTU was included for the first time in September 2016. The Times Higher Education World University Rankings 2019 ranks more than 1,250 universities around the world. Just over 450 of them are universities in Europe.

Master study programmes of the Faculty of Engineering Economics and Management (FEEM) of Riga Technical University (RTU) and Riga Business School (RBS) of RTU have been highly ranked for the fifth time by the prestigious international Master study programme ranking «**Eduniversal Best Masters Ranking 2018**». The programmes are divided by thematic groups, and each group has a global ranking of top 100 study programmes. These rankings include a total of five Master professional study programmes of RTU FEEM, each ranked 20th–43rd, respectively, in their thematic group. Master professional study programme «Civil Construction and Real Estate Management» has been highly recognised and included in the World Top 100 in categories of Real Estate, taking 20th place in the World.

## Internationalisation

Internationalization is one of the top priorities of Riga Technical University (RTU), which is also highlighted in the RTU Strategy and RTU Development Program for 2014 – 2020. Development of the international environment covers both studies and research; it is an essential aspect of the general university strategy. Our aim is to ensure RTU competitiveness at the global scale in the field of studies, research and innovation.

To make sure internationalization is successful it is necessary to motivate academic personnel and students of RTU and promote their purposeful daily work. International achievements of RTU in studies and research are the best affirmation of their quality.

Export of higher education in Latvia has become a noteworthy sector of the Latvian economy, and RTU plays the leading role in this sphere in Latvia.

Cooperating with universities all around the world and educating and training undergraduate, post-graduate and Doctoral students from more than 70 countries, RTU has developed the most comprehensive international university environment in Latvia.





## 1.6. Pub-Wood in the context of HEIs

HEI	Strategic importance of the Pub-Wood project	Study programmes related to Pub-Wood project
<b>VGTU</b>	VGTU aims to contribute to sustainable development of the country, therefore promotion of sustainable wooden design, construction and management and improvement of education in this area considered as important in achievement of this objective. Moreover, internationalisation of studies and application of innovative study methods (i.e. project based learning, blended learning) is among priorities in improvement of education process at VGTU. Pub-Wood project fits into research focus areas of the Faculty of Civil Engineering: sustainable building, design of environmental-friendly structures.	Civil Engineering (BSc) Construction and Real Estate Management (BSc) Construction Technology and Management (MSc)
<b>VIA UC</b>	Fits into internationalization strategy	Civil Engineering Architectural Technology and Construction Management
<b>COVUNI</b>	Pub-Wood forms part of the international, academic development and research strategies of the university. The project sits within the Natural and Built Environment Research Centre and the outputs from the project help form the academic approach within our Civil Engineering and Construction courses in the School of Energy, Construction and Environment.	BSc (Hons) Civil Engineering BSc (Hons) Architectural Technology BSc (Hons) Building Surveying
<b>HAMK</b>	Internationalisation and cooperation with partners as well as combined modular studies fits perfectly to HAMK strategy 2030.	Construction and Civil Engineering
<b>RTU</b>	Design and construction of large wooden buildings is innovation for RTU. By participating in this project RTU aims to significantly improve its civil engineering and real estate courses with topics of sustainable wooden constructions and sustainable wooden construction in Latvia. Relevant project topics are: – Environment and climate change	Professional bachelor study programme “Real Estate management”



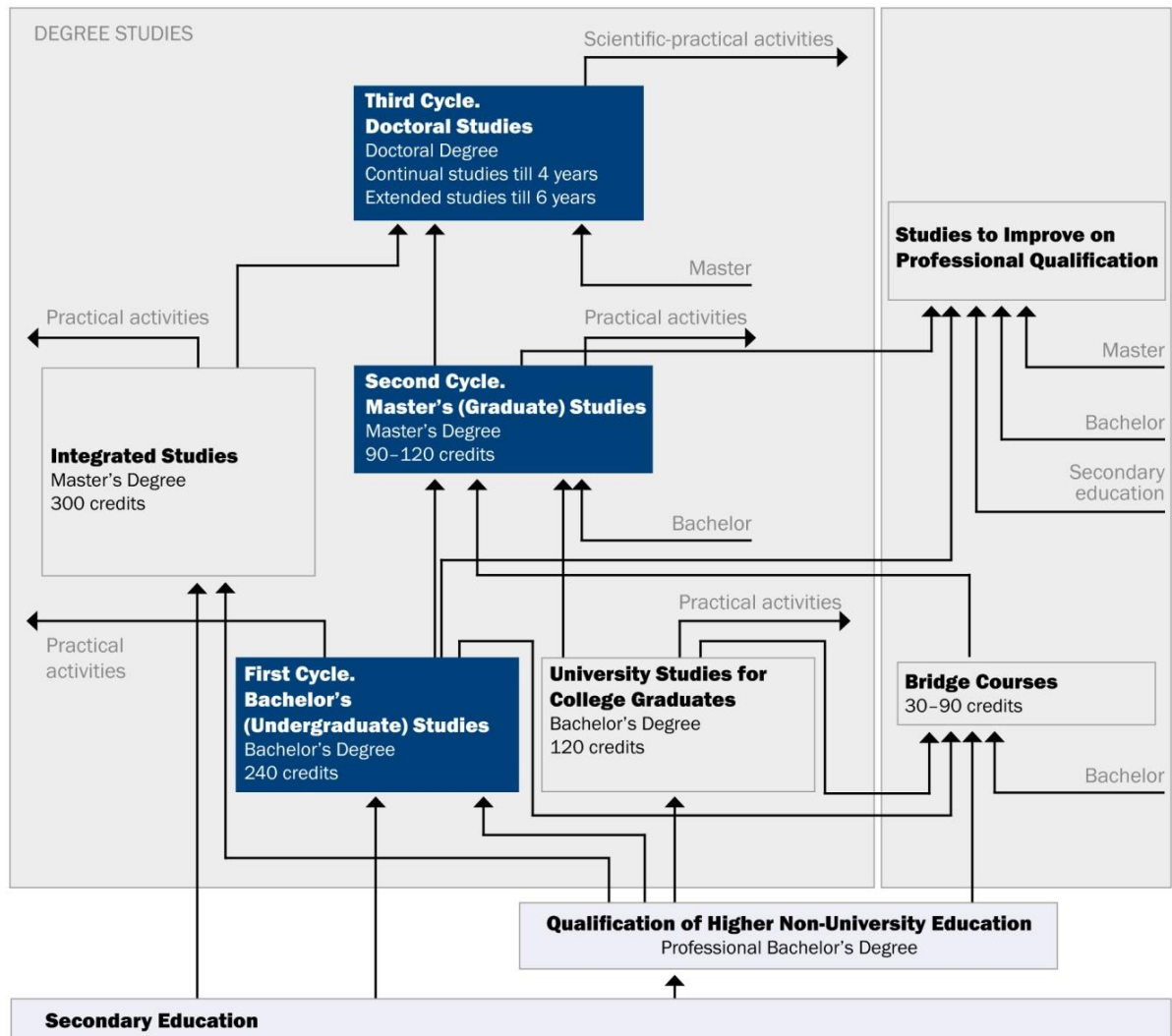
Sustainable Public Buildings Designed and Constructed in Wood (Pub-Wood)

	<ul style="list-style-type: none"> <li>– New innovative curricula/educational methods/development of training course</li> <li>– Intercultural/intergenerational education and lifelong learning.</li> </ul>	
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## 2. MODEL OF STUDIES AND REQUIREMENTS FOR BACHELOR STUDY PROGRAMMES

### 2.1. Vilnius Gediminas Technical University



The volume of first cycle university study programmes is 240 ECTS. The ECTS is a fundamental tool for realising the European higher education policy as its major functions are to promote the quality and transparency of information, the recognition of study programmes and degrees, and to stimulate international student mobility.

A typical BSc study programme consists of two targeted parts:

1. Part of the course studies (including placements and preparation of the final thesis) with at least 120 ECTS to achieve the results; the total scope of the placement must be at least 15 ECTS; at least 15 ECTS shall be awarded for the final project or work (in cases specified in the course



descriptions); when the studies are interdisciplinary, it is recommended to perform one single thesis (project) integrating the general study outcomes.

2. The proportion of university-determined or student-selected studies is no more than 120 ECTS. This part is devoted to deeper studies of the same field, study subjects (modules) of another field, studies of the adjacent direction(s), additional practice, achievement of digital competence, other general skills, etc.

Course projects may be provided as separate study subjects. The volume of course projects must be at least 6 ECTS. During the semester, there must be no more than two course projects as separate study modules (modules) or course projects and course papers which are an integral part of the study subjects (modules).

In the study program, a complex project with a scope of at least 6 ECTS may be envisaged as a separate study subject (module).

The study program may include two optional study modules (modules) of 3 ECTS, and it is recommended that these subjects (modules) be provided in the 3rd and 4th or 5th and 6th semesters. Study programs may provide additional optional elective subjects (modules).

Educational or cognitive placements may be organized in the 2nd or 4th semester. The scope of these placements is up to 6 ECTS (up to 4 weeks). Occupational placements are organized in the 7th, 8th semesters and 12–15 ECTS (8–10 weeks). The total volume of placements is no less than 15 ECTS included in a total of 20 weeks duration of the semester.

The study program is completed by assessment of the graduate's competence during the defence of the final thesis or project. It is recommended to start the final project or work in the 7th or 8th semester, as a separate study subject (module).

### General requirements for bachelor study programmes

Length of studies (years)	4 years (full-time), 6 years (part-time)
Semesters, starting and ending dates	Autumn semester: September 1 – December 31; Spring semester: February 1 – June 31.
Number of credits per semester (ECTS)	30
Number of modules/subjects per semester	May not exceed 7
Maximum number of ECTS per module/subject	9
Minimum number of ECTS per module/subject	3
System of grades	10-point system (ECTS scale): Excellent achievement level: 10 – (A) 9 – (B) Typical achievement level: 7, 8 – (C) Threshold achievement level:



	6 – (D) 5 – (E) Not satisfactory: 4 – (FX) 3, 2, 1 – (F)
Most popular teaching/learning strategies that are used in education process	Theoretical lectures, exercises, course projects The aim is to adapt innovative teaching/learning strategies: group work, blended learning, project based learning

## 2.2. VIA University College

### Programs

VIA University College offers **short cycle** (Academy Profession Programs; 2 years) and **medium cycle** Higher Education (Professional Bachelor Programs; 3½ - 4½ years).

VIA also offers Master Courses in close cooperation international partner universities.

### Admission

Admission requirement either General Upper Secondary School (3 years) or Vocational Education and Training (3 – 4 years). Please see structure on the diagram below.

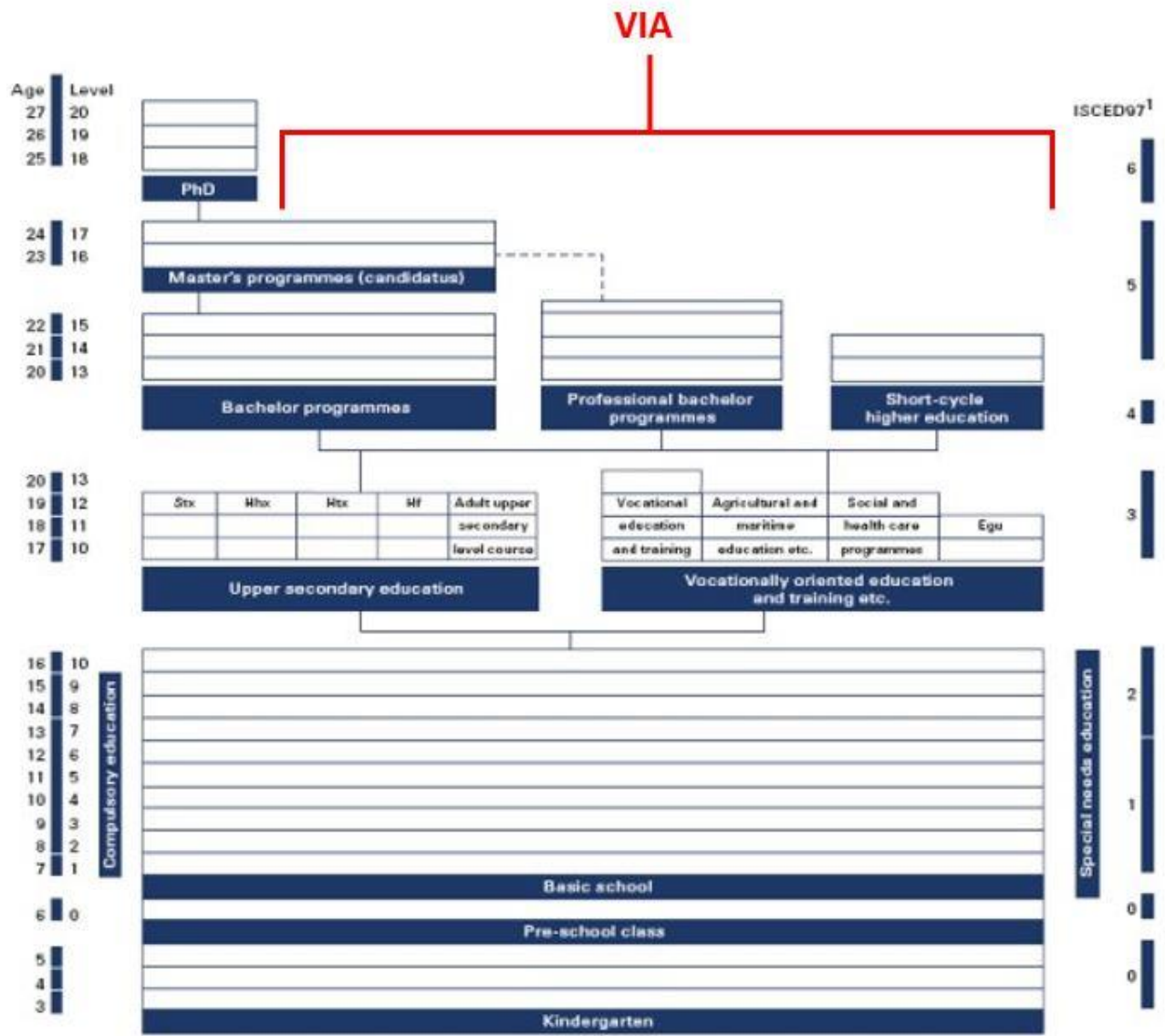
Professional Bachelor programs are of 3½ to 4½ years equivalent to 7 to 9 and semesters respectively.

All Professional Bachelor Programs contain 1 semester internship = 30 ECTS.

Admission requirements are either upper secondary school (3 years) or vocational education and training (3–4 years).

### General requirements for bachelor study programmes

Length of studies (years)	3.5– 4.5 years (full-time)
Semesters, starting and ending dates	<b>Autumn semester:</b> (Beginning of September to end of January) <b>Spring semester:</b> (Beginning of February to end of June)
Number of credits per semester (ECTS)	30
Number of modules/subjects per semester	From 5 – 30 credits, depending on which semester. All modules are multiples of 5 credits
Maximum number of ECTS per module/subject	20
Minimum number of ECTS per module/subject	5
System of grades	7-point grading system
Most popular teaching/learning strategies that are used in education process	PBL, Problem Based Learning approach



Note 1: International Standard Classification of education.

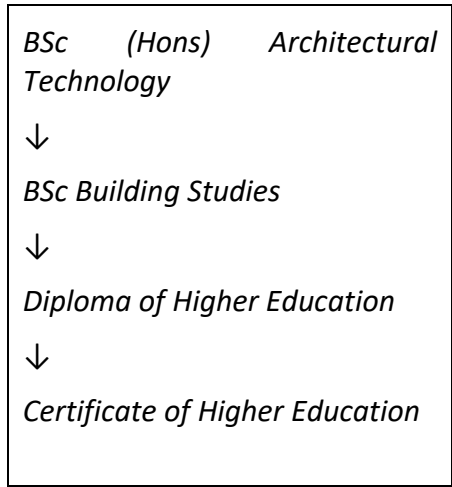
### 2.3. Coventry University

BSc 360 UK Credits (180 ECTS) typically 3-4 years.

MSc 180 UK Credits (90 ECTS) typically 1 year.

PhD studies typically 4 years.

Cascade of awards according to the level of achievement from BSc (Hons) and fall back awards below:



Bachelor’s Degree in UK (also called a Baccalaureate or Undergraduate Degree) - These degrees have been developed in such a way so that you can have a full understanding of a subject or field of study. In UK, the average amount of time needed to complete a bachelor’s level degree is approximately three years, but in some cases, it could take four. There are different types of bachelor’s degrees offered in UK, including Bachelor of Arts (BA), Bachelor of Science (BSc) and Bachelor of Engineering (BEng) degrees.

*Typical Coventry Entry requirements:*

A Level	BTEC	IB Diploma	GCSE requirement
BBB-BBC Excludes General Studies	DDD-DMM	30 points	Minimum 5 GCSEs at grade A*-C including English, Mathematics, or specified equivalents. Typical Offers



### General requirements for bachelor study programmes

Length of studies (years)	3 years (4 years for integrated masters)
Semesters, starting and ending dates	2 semesters per year starting September and January.
Number of credits per semester (ECTS)	60 ECTS
Number of modules/subjects per semester	4 or 5 per semester (with one optional module)
Maximum number of ECTS per module/subject	25 ECTS for major design module for Architectural Technology.
Minimum number of ECTS per module/subject	5 ECTS
System of grades	% out of 100% (40% is pass rate)
Most popular teaching/learning strategies that are used in education process	Project based learning.

### 2.4. Häme University of Applied Sciences

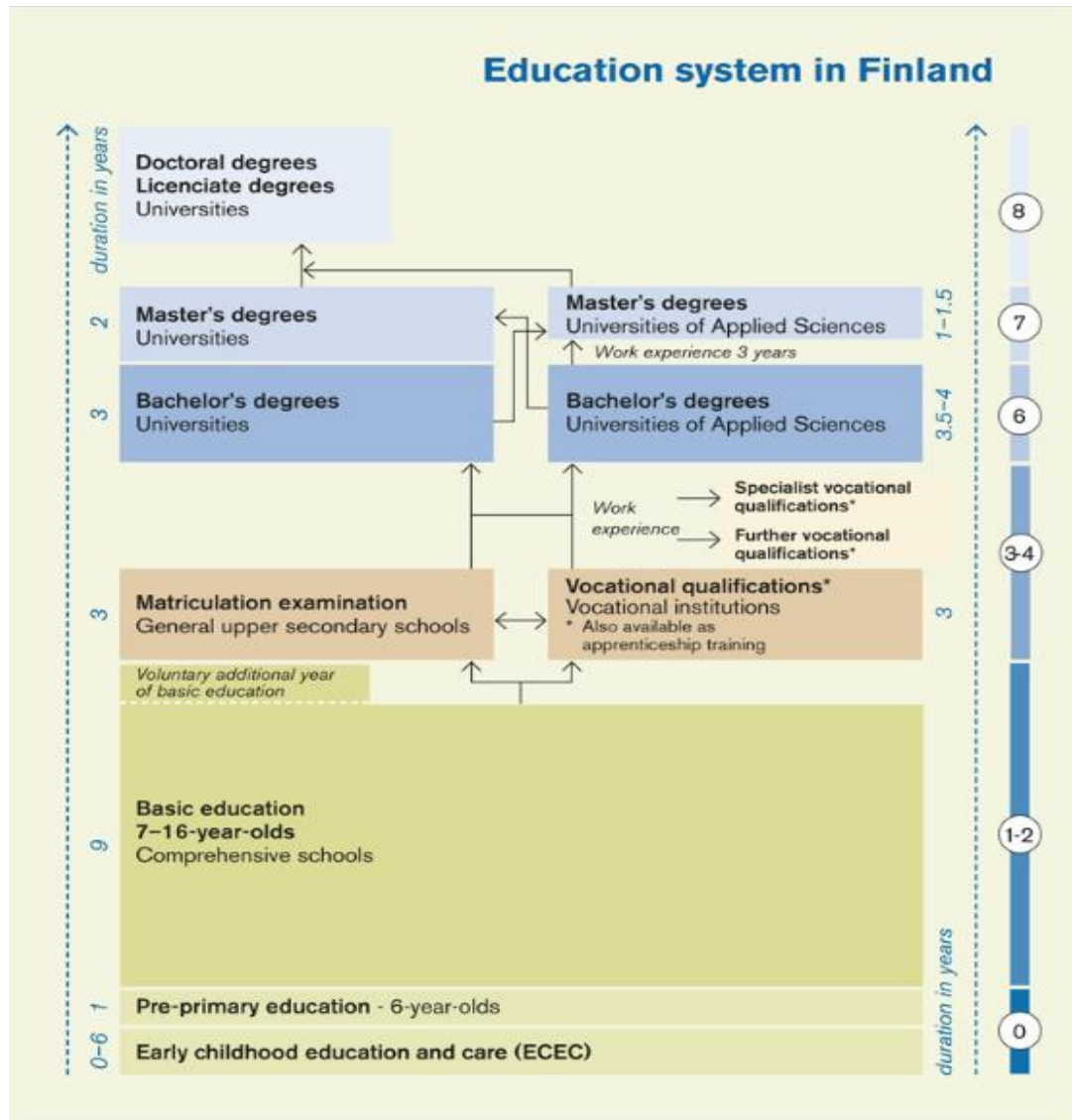
Scope of BSc degree is 240 ECTS and the planned study time is 4 years. It is possible to apply to a MSc programme (mostly offered in Finnish) at HAMK after having gained three years of work experience after graduation. Scope of MSc programmes is 60-90 ECTS and planned study time 1-2.5 years. Currently HAMK does not offer PhD studies.

The Government Decree on Universities of Applied Sciences, (1129/2014) defines the objectives, extent and overall structure of degrees completed at universities of applied sciences. The Ministry of Education and Culture confirms the degree programmes of universities of applied sciences, and within the framework of these regulations, the institutions decide independently on the detailed content and structure of their degrees. The universities of applied sciences also decide on their annual curricula and forms of instruction.

One can apply to a bachelor study programme after completing studies in a general upper secondary school (matriculation examination) or in a vocational institution or by doing an apprenticeship training (vocational qualification).

Studies leading to the Bachelor's degree provide the student with broad overall knowledge and skills with relevant theoretical background for working as an expert in the field; knowledge and skills needed for following and advancing developments in the field; knowledge and skills needed for continuous learning; adequate language and communication skills; and knowledge and skills required in the field internationally.





**General requirements for bachelor study programmes**

Length of studies (years)	3,5 - 4 years
Semesters, starting and ending dates	Autumn 1.8.-31.12. / Spring 1.1.-31.7.
Number of credits per semester (ECTS)	30 ECTS
Number of modules/subjects per semester	2 modules per semester
Maximum number of ECTS per module/subject	15 ECTS per module
Minimum number of ECTS per module/subject	1 ECTS
System of grades	1-5 (0 = fail)
Most popular teaching/learning strategies that are used in education process	Lectures, Learning by Doing



## 2.5. Riga Technical University

**Access to higher education.** All holders of general secondary education certificates have access to higher education. The 4-year vocational secondary education programmes (but not the 2- and 3-year ones) also meet the standard of general secondary education. Thus, graduates of general secondary education and 4-year vocational programmes meet the general admission requirements. However, the universities are free to set specific requirements, e.g. to determine a list of elective subjects that should have been taken at the secondary school level to qualify for admission to a particular programme.

Admission procedures may vary depending upon the competition level to a particular programme. The admission procedures range from 1 to 4 competitive entrance examinations to a ranking of applicants according to secondary school final marks or results of centralised national school-leaving examinations in subjects relevant to the programme in question, the latter may be combined with an interview by the admissions board.

**Higher education system.** The Law on Higher Education Establishments stipulates that HEIs can deliver academic and professional higher education programmes. Some of the professional HE programmes however include the Bachelor's standard and are therefore regarded to as university-type programmes the diagram below. These programmes that do not include Bachelor's standard are regarded to as non-university type professional HE programmes.

Academic higher education (ISCED-97 level 5A). Academic higher education programmes are research-based; they comprise a thesis at the end of each stage.

Bachelor degree is awarded after completion of the first stage of academic studies, duration of programmes being 6-8 semesters of full-time studies. The total workload of bachelor programmes is 120-160 Latvian (180-240 ECTS) credits. These programmes include compulsory part – no less than 50 (75 ECTS) credits, elective part  $\geq 20$  (30 ECTS) credits, thesis  $\geq 10$  (15 ECTS) credits, the rest is student's free choice. The compulsory part includes basics, principles, structure and methodology of the particular branch of science -  $\geq 25$  (37.5 ECTS) credits, its history and contemporary problems  $\geq 10$  credits (15 ECTS), its state of the art and interdisciplinary aspects  $\geq 15$  (22.5 ECTS) credits.

Master degree is awarded after the second stage of academic education and requires total duration of university studies no less than 5 years.

Degrees in medicine and dentistry (6 and 5 years of studies respectively), are considered equal to Master.

Professional higher education. There are two types of professional higher education in Latvia:

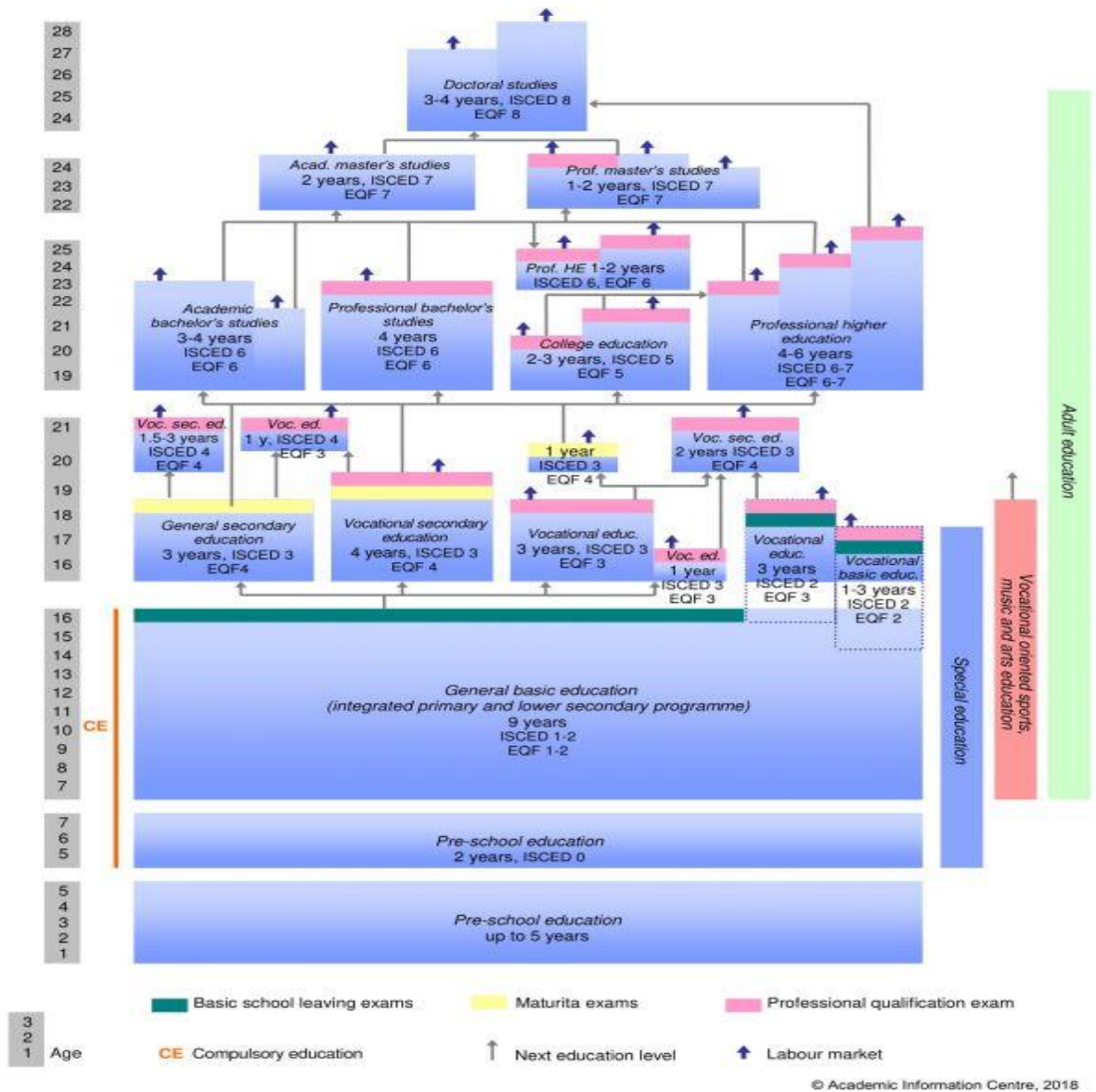
University-type professional studies, ISCED-97 level 5A. This type of professional studies includes the compulsory part of bachelor studies (apart from thesis)  $\geq 70$  (105 ECTS) credits. Graduates of these programmes are admitted to Master's studies without additional requirements.

Such professional programmes, which provide a professional qualification to holders of bachelor degree, also belong to the university-type.



Sustainable Public Buildings Designed and Constructed in Wood (Pub-Wood)

The education system of the Republic of Latvia (2018)



Non-university type professional studies, ISCED-97 level 5B. These programmes are mainly aimed at acquiring of professional skills and they don't comprise a standard for an academic degree. This group of professional higher education programmes in some fields may be organised in two cycles with award of a first-level professional higher education diploma (also called college diploma) and a Level IV professional qualification (according to CEDUC classification) after the first cycle.

At the end of the second cycle (or at the end of the one-tier programme) a second-level professional higher education diploma and a Level-V professional qualification is awarded (see diagram).



Since December 2000 the Law on Higher educational establishments provides for award of professional bachelor and Master degrees to the graduates of professional study programmes. Contents of the respective programmes are determined by the State standard of professional higher education (Cabinet regulation No 481 of 2001) and the standard of the profession in question.

Doctoral studies. From January 1, 2000 onwards a single type of doctoral degree Doctor's is being awarded in Latvia.

The degree of Masters (or the equivalent) is required for admission to doctoral studies. The degree Doctoral can be achieved at public defence of a doctoral thesis that may be a result of three to four years of full-time doctoral studies at an university or an equivalent amount of independent research while working at a university, research institution, etc.

Latvian Council of Science appoints promotion councils and sets the procedures for award of doctoral degrees.

**Grading system.** The new State standards for higher education set the following ten-point grading system. Students' assessment is carried out in 10 point scale according to such criteria:

- The volume and quality of obtained knowledge;
- Obtained skills;
- Attitude towards learning;
- Dynamics of learning achievements.

If in a regular test it is not possible to assess achievements in the 10-point scale, teachers may use "pass" or "fail".

10-point grading scheme for assessment

Achievement level	Grade	Meaning	Approx. ECTS grade
very high	10	izcili ( <i>with distinction</i> )	A
	9	teicami ( <i>excellent</i> )	A
high	8	ļoti labi ( <i>very good</i> )	B
	7	labi ( <i>good</i> )	C
medium	6	gandrīz labi ( <i>almost good</i> )	D
	5	viduvēji ( <i>satisfactory</i> )	E
	4	gandrīz viduvēji ( <i>almost satisfactory</i> )	E/FX
low	3-1	negatīvs vērtējums ( <i>unsatisfactory</i> )	Fail

At present, some higher education institutions may still use a different pass mark or attach a different meaning to the grades. In some cases, the grades 9 and 10 can only be reached upon completion of additional requirements.

**Credit point system.** Latvian credit point system is different from yet compatible to ECTS. Latvian credit point is defined as a one-week full-time study workload. Thus, an average workload of a full-time study year in most cases is 40 credit points. Transfer of Latvian credit points into ECTS credit points requires multiplication by a factor of 1.5.



**Quality assurance.** According to the Declaration on Co-operation in Quality Assurance of Higher Education in the Baltic States of October 25, 1994, the quality assessment in all the three Baltic States is carried out using international experts from the three Baltic States and beyond. In 2001 the first accreditation round in Latvia was completed. Repeated assessments should take place no later than after six years.

**General requirements for bachelor study programmes**

Length of studies (years)	4 or 4,5 (full time); 5 or 5,5 (part time)
Semesters, starting and ending dates	8 or 9 (full time); 10 or 11 (part time); starting and ending dates in accordance with the requirements of regulatory enactments and the Rector of RTU
Number of credits per semester (ECTS)	30 ECTS (full time); 24 ECTS (part time)
Number of modules/subjects per semester	Not specified, may not exceed the total number of semester credits
Maximum number of ECTS per module/subject	Not specified
Minimum number of ECTS per module/subject	Not specified
System of grades	Students' assessment is carried out in 10 point scale
Most popular teaching/learning strategies that are used in education process	Lectures, modelling, feedback, practical tasks, cooperative learning, class discussion and others



### 3. INTEGRATION OF PUB-WOOD BSC/BA MODULE/ELECTIVE ELEMENT “DESIGN, CONSTRUCTION AND MANAGEMENT OF WOODEN PUBLIC BUILDINGS” INTO STUDY PROGRAMMES

#### 3.1. Vilnius Gediminas Technical University

The new Pub-Wood module “Design, Construction and Management of Wooden Public Buildings” will be integrated as an additional optional 9 ECTS subject into the BSc programmes of the Faculty of Civil Engineering. Following activities will be undertaken:

1. Preparation of module specification and its adoption to VGTU context;
2. Revision and approval of the module by the Department of Construction Management and Real Estate, Study Committee of the Faculty of Civil Engineering, and University Committee of Studies;
3. Placement of the module to into VGTU optional subjects’ data base;
4. Implementation of the pilot course at Coventry University in frames of the Pub-Wood project;
5. Improvements of the module (if any);
6. Development of the module in Moodle environment;
7. Delivery to local and international (i.e. Erasmus) students in class or virtually;
8. Recognition of students’ achievements by grades, entry into graduation diploma supplements.

#### 3.2. VIA University College

The course programs at VIA University College already now comprise elective subjects ranging from 5 to 15 ECTS. The elective subject elements are compulsory, but the subject itself is for the student to choose.

Currently the elective subjects are predominantly within:

##### Energy and Sustainability

Moreover, there is a growing interest in and awareness of climate, environment, CO2 emission and resources within society directing the focus the built environment towards these topics.

This applies to owners and uses of buildings, designers, entrepreneurs, contractors authorities and thus also to our students and their future employers.

It has been a growing demand over the last decades to improve competences and attitude amongst professionals within the built environment which are reflected in the development of curricula towards sustainability and i.e. “Building Green”.

There for the knowledge developed within the PUB-WOOD project will fit very well into the program for Architectural Technology and Construction Management as well as Civil Engineering both in compulsory and elective course elements and both in degree programs as well as in Summer School programs.



### 3.3. Coventry University

The new Pub-Wood module is planned to replace the masonry and timber module within the BSc (Hons) Civil Engineering degree program. It has already been integrated as an assessment project within the BSc (Hons) Architectural Technology program.

The schedule for implementation will begin when the module is completed. There are several stakeholders that will need to have input, including external examiners and the civil engineering industrial advisory board. Once these have been approved, the relevant paperwork and quality checks will need to be made and then approved by faculty level quality control before it can be formally housed within the course.

### 3.4. Häme University of Applied Sciences

In the moment HAMK Construction Engineering degree programme students focus on structural engineering, especially on steel construction. Steel Constructions studies include lots of mechanics, mathematics, technical drawings and CAD. Understanding of the structures, and 3-D visualization skills will develop during the studies. A degree completed in English provides construction engineers with good language skills and international know-how, making it possible to work anywhere in the world.

During the studies (Steel Constructions/Timber Construction) it is possible to achieve credits required by demanding structural engineer qualifications:

- *Structural mechanics – 16 credits*
- *Concrete construction and technology – 8 credits*
- *Concrete structure engineering – 8 credits*
- *Steel structure engineering – 8 credits*
- *Timber structure engineering – 12 credits*
- *Construction physics – 5 credits*

New module/elective element will partly replace and will deepen today's timber structure studies and give wider view to the use of modern designing and construction methods and give international aspect to studies. More importantly e-studies are in demand and this project benefits significantly our degree programme.

### 3.5. Riga Technical University

The study course "Design, Construction and Management of Wooden Public Buildings " will be integrated as an e-learning course in the Professional Bachelor's study program "Real Estate Management" as B1 (compulsory choice course), which is common to the entire study program.

The planned volume of the study course is 6 ECTS.

Procedure for Approval of Study Course at Riga Technical University is following:

- 1) The study course is approved at the department level;
- 2) The study course is approved by the study committee "Management, Administration and Real Estate";
- 3) The study course is approved by Study Department of Riga Technical University;



4) The study course is included in the Riga Technical University Study Course Register.

Any changes in the study program are confirmed in similar way, - the RTU Vice-Rector for Studies issues an order for changes in the study program and steps 1-4 are implemented in an analogous manner.

## CONCLUSION

1. Pub-Wood consortium includes five high quality education institutions in terms of national and international rankings, internationalisation, and cooperation with business partners.
2. Pub-Wood project fits into general strategies of the universities as part of the international, academic development and research activities.
3. Each university has a clear strategy how to integrate a new module into existing study programmes.
4. Each country and each university has specific education system and requirements for development of BSc programmes and modules, therefore the new module has to be adapted in each university.