



Riga Technical University

Course list 2016/2017

Please note that this is a preliminary Course List for the study year 2016/2017 and changes may occur

Autumn

FACULTY OF CIVIL ENGINEERING

Bachelor Courses

BBK381 Reinforced Concrete Structures (Part 1)

2.00 CP (3.00 ECTS)

Properties of materials for reinforced concrete and masonry . Design codes and limit state calculation principles. Classification of reinforced concrete and masonry structures, typical cross sections, detailing and behaviour. Behavior, design and detailing of prestressed reinforced concrete elements.

BBM210 Structural Analysis (general course) (Part 1)

2.00 CP (3.00 ECTS)

Mechanics of bars and statically determinable bar systems. Theory of displacements. Method of forces. Method of displacements. Finite element method. Continuous beams, calculation of statically indeterminate frames, arches, trusses. Influence diagrams.

BBR223 Construction Technology and Safety (Part 2) (can be selected ONLY if Part I studied within Spring semester 2015/2016)

2.00 CP (3.00 ECTS)

General conception of building technology. Preparation of the building site. Transportation, earth moving, drilling, blasting, piling and grooved piling works. Masonry, reinforcing, concreting, assembling and carpenters works. Finishing, flooring and suspended ceiling works. Special industrial safety.

BKA402 CAD in Civil Engineering

2.00 CP (3.00 ECTS)

This course introduces students to CAD software applications for design and analysis in civil engineering. Throughout the course, diverse computation tools Lira, AxisVM, StaadPro will be demonstrated and instructor-led training will be given. The course covers the principles of basic 3D software environments, object creation and manipulation, loading and stiffness assemblies, as well as post processing of the results of the analysis.

BSG330 Heating, Ventilation and air Conditioning

2.00 CP (3.00 ECTS)

Building heating systems, heating elements, heat loss, pollutants, air exchange rate, calculation, emergency ventilation, I-d diagram, air processing, moisturing, drying, upheating, AC schemes, energy saving during air processing inlet-anlet air equipment.

BRC303 Basic Course of Geotechnics (Part 1)

2.00 CP (3.00 ECTS)

1.d.) Basic physical properties and classification parameters of different soils. Deformative and permeability properties of soils. Laboratory test methods of soils. Stress distribution in soil massifs below the different loads. Deformation calculations of forend foundation bases.

2.d.) General positions in design of soil bases and foundations. Technical and economical parameters for choice the type of foundations. Calculations of shallow foundation bases with using the criterion of limit deformation state. Calculations of ultimate bearing capacity of foundation bases. Pile and deep foundations. Reconstruction of foundations.

BBMT363 Concrete Science (Part 1)

2.00 CP (3.00 ECTS)

The structure of concrete (definitions, complexities, structure of the aggregate phase, structure of hydrated cement paste, transition zone in concrete). Strength. Dimensional stability. Elastic behavior of concrete. Thermal shrinkage. Drying shrinkage and creep. Durability. Permeability. Factors influencing on the deterioration. Hydraulic and nonhydraulic cements. Portland cement. Hydration of portland cement. Aggregates. Aggregates from recycled concrete and municipal wastes. Admixtures. Proportioning normal-weight concrete mixtures. Segregation and bleeding. Early volume changes. Setting time. Testing and control of concrete quality. Progress in concrete technology.

BRC396 Basic Course of Architectural Design (Part 1)

2.00 CP (3.00 ECTS)

The course provides the students with the basic knowledge of architectural design of buildings, and develops their basic skills in this field. The students also get a thorough insight into the functions and interdependence of the functions of all the building elements. Special attention is paid to enclosure building elements and their functions are viewed from the point of view of building

BGE296 Geodesy, basic course

3.00 CP (4.50 ECTS)

The course "Geodesy" is based on the science of the Earth's size, shape parameters, Earth-related coordinate system formation, Earth cartographic imaging in small and large scales. Geodesy covers a wide range of practical applications - construction, mapping, geophysics, photogrammetry, remote sensing etc. sciences industries. Surveying the practical side includes technical and high-precision measurements, the analytical processing and analysis of the results.

BBR344 Construction Technology and Safety (study project)

2.00 CP (3.00 ECTS)

1. Introduction. 2. Architectural part. 3. Structural part . 4. Description of the technological processes. 5. The construction processes are illustrated: 5.1. In the sproce it is the loy out of the building site; 5.2. In the time it is the time - schedule calendar. 6. For new and complicated construction works the technological charts are prepared.

BTG131 Descriptive Geometry and Engineering Graphics

2.00 CP (3.00 ECTS)

Theoretical basis of representation of spatial objects on the plane. Projection methods. Point, line and plane. Drawing transformation methods. Metric exercises. Intersection problems. Isometric views. Complex drawing. Formats, scale, line code. Views, sectional views and sections. Dimensioning. Screw threads. Threaded fastenings and joint representation. Sketches and working drawings. Detail assemblies. Computer aided geometric modeling of engineering objects.

BBR745 Construction Technology

3.00 CP (4.5 ECTS)

The course of lectures covers all the stages of construction, from the planning of material and technical resources to the optimal selection of devices and mechanisms for the main construction work. Storage, temporary buildings, energy solutions, construction machinery rational layout on site are the issues that are covered in the course as well. The knowledge of appropriate construction

technology choices based on rational construction machinery technical and economical feasibility is acquired during the study process. It is explained how to apply theoretical knowledge to decide certain construction industry issues.

DIM203 Supplementary Mathematics (for construction engineering)

4.00 CP (6.00 ECTS)

Fourier series. Elements of partial differential equations. Line and surface integrals. Elements of the theory of vector fields. Probability theory: algebra of events, discrete and continuous random variables. Normal, exponential, and Poisson distribution. Elements of mathematical statistics. Conjecture testing. Two-dimensional random variables.

BBK210 Metal Structures (Part 2) (can be selected ONLY if Part I studied within Spring semester 2015/2016)

1.0 CP (1.5 ECTS)

Materials for metal structures and its properties. Assortment of steel products. Structural design codes. Basis of analysis of load - bearing capacity of structures and joints. Design of steel beams, columns and trusses. Framework of one-storey industrial buildings, design of its units. Special steel structures (frameworks of multistorey, suspended and sheet-type structures, high-rise structures), structural solutions and design principles.

BBK380 Metal Structures (study project)

2.00 CP (3.00 ECTS)

Formation of framework and bracing schemes for one-storey industrial building. Design in details of framework's main load-bearing units (columns, crane girders, roof trusses); determination of cross-sections, check of load-bearing capacity. Development of drawings of frameworks, bracing system and design structures - from 1 to 1.5 sheets of A1 format.