

Faculty of Architecture

IMPORTANT NOTES

If for one subject you can find several different types (lecture, practice, laboratory) of courses then please choose one and only one course from each type in order to be able to perform the subject's requirements successfully. Civil Engineering courses are on the website separately. Courses chosen from the offer of Faculty of Civil Engineering will be checked and arranged individually by the departmental coordinator.

Subject code	Subject name		Requirement	ECTS credit
BMEEPAG0236	CAAD and Architects Informatics F		Mid-semester mark	3
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
This course aims to expand the existing CAD knowledge of students to be able to create and modify complex CAD models easily. During the course, we use Archicad, so a basic knowledge of the program is expected.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPAG0246	Constructive CAAD F		Mid-semester mark	3
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
Design and documentation with Revit Architecture - Introductory course. Design and basic CAD knowledge is recommended. (Architectural informatics 2)				
Subject code	Subject name		Requirement	ECTS credit
BMEEPAG0249	Constructive CAAD CE		Mid-semester mark	3
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
Advanced CAD modelling course for students who are familiar with AutoCAD. The course deals with modeling concepts and techniques, texture, lighting and rendering. In the second part of the semester students work more or less autonomously (with occasional one-on-one consultations) on a model of their choice. See: http://www.epab.bme.hu/en/?ccce/				
Subject code	Subject name		Requirement	ECTS credit
BMEEPAGA501	Architectural Informatics 3 - CAD for Architects		Mid-semester mark	3
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		
Use of state-of-the-art CAAD software to develop professional architectural solutions. Extensive use of 3-D computer model development. Architectural documentation with computers. Computer animation and fly-through pictures for architectural space analysis.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPEG0995	Architectural Research for Exchange Students - EG		Mid-semester mark	6
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
Architectural Research for Exchange Students on the topics of the Department's competency. The aim of the subject is to carry out a research on a special topic. The research contains specifying and processing the related international literature, summing up the findings in a study and finally a presentation. The language of the research depends on the consultant - the available topics are listed on the department's homepage.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPEGA301	Building physics		Mid-semester mark	2
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
One dimensional steady state heat transfer of composite slabs Thermal condition for a room, balance temperature of a nonheated space, energy conservation approaches. Conduction: Fourier's equation, Concept of thermal conductivity, Range of thermal conductance of building materials, One-dimensional steady state conduction through a plane slab. Convection. Steady state heat transfer of composite slabs, overall heat transfer coefficient, temperature gradient. Modified conduction of insulations. Air gaps. Reverse tasks: Maximizing inner temperature different.				

fulfilling new U-value requirement for existing wall. Examples. Linear heat transmission Introduction to Thermal Bridges, Definition of Self-Scale Temperature, two applications of SST, Definition of Apparent Thickness, Generalized model of wall corner, generalized model of wall corner temperature, Example: estimation of wall corner temperature. Moisture transfer Definition of Moist air, Dalton's Law, Moisture content, Saturation vapour pressure, Relative humidity, dew point, dry and wet bulb temperatures, Specific Enthalpy, Moisture balance, Mechanism of vapour transfer, Scope of calculation, Vapour conductivity and resistance, Overall vapour resistance of multilayer wall, Overall vapour transfer, Design consideration, example. Introduction to Solar Architecture Indirect Solar collecting walls. Mass walls: principles, surface, shading, energetic operation, delaying, losses, operation in summer, irradiated solar energy, examples, simplified thermal model. Example: calculation of thermal balance of a mass wall Solar Design Strategies Sustainable future (global impact of buildings, energy crises, the 2030 challenge, sustainable future). Energy Conscious Design (historical overview - traditional and modern architecture, international style, energy conscious architecture and refurbishment). Energy Conscious Refurbishment. Building Energy Standards (building energy regulation, certifications, standards). Energy Consumption of Buildings (Low and Passive and "zero" energy buildings). Autonom buildings. Energy Conscious Architecture, Passive Solar Systems (smart conceptual design, building volumes, thermal mass, mass wall, Trombe wall, transparent insulation, sun space, green roofs). Active Solar Systems (pv-panels, solar collectors, heat pump, wind turbine) Acoustics. The acoustical quality of the built up environment

Subject code	Subject name	Requirement	ECTS credit
BMEEPEGA501	Building Service Engineering 1	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Lecture	EN0-ER	English	

Water supply The physical and chemical properties of water. Obtaining of water from the nature. Mechanical, chemical and biological treatment of water. Water treatment process of swimming pools. Transport of water. Characteristics of water pumps. Fresh water demand and production, hydrofoms and hydroglobes. Cold water distribution network in a building. Metering of water consumption. Pipe materials and appliances: valves and taps, safety equipments. Fire protection networks. Domestic hot water demand and production. Domestic hot water networks in a building. Boiler types. Circulation. Appliances: toilets, baths, showers, washing machines, etc. Legionella. Waste water systems Requirements of waste water networks. Traps and syphons. Sanitary rooms for disabled people. Waste water networks. Rain water networks. Pipe materials and fittings. Gas supply Physical properties of natural and PB gas. Dangers of gas supply. Safety requirements. Gas supply networks outside and inside the building. Gas meters. Materials and fittings of gas networks. Gas appliances: boilers, stoves, ovens. Categorisation and safety requirements of appliances. Chimneys: types and requirements. Parameters of drought. Drought diverter. Artificial lighting Visual environment and its components. Characteristics of the human vision. Essential ideas of lighting technique: luminous flux, luminous intensity, illuminance, luminance. Characterisation of surfaces: reflection and transmission, spreading of light, colour. Requirements concerning the lighting. Average illuminance and its uniformity. Colour rendering. Modelling ndash; shadows effect. Limitation of glare. Colour appearance. Balanced ratio of luminance. Cost efficiency. Artificial light-sources. Incandescent lamps. Fluorescent tubes. Compact tubes. HID lamps: mercury lamps, metal halide lamps and sodium lamps. Meeting of requirements. Efficiency-method. Proposed setting of luminaries. Electric network of buildings Parts of the network. Characteristics of the network: form, nominal voltage. Typical installations: lighting, building services and technology. Connection of building to public network. Transformers and its placing. Required areas of switchboards and transformers. Indirect contact.

Subject code	Subject name	Requirement	ECTS credit
BMEEPEK0995	Architectural Research for Exchange Students - EK	Mid-semester mark	6

Course type	Course code	Course language	Timetable information
Practice	EN1-ER	English	

Architectural Research for Exchange Students on the topics of construction technology and management. The aim of the subject is to carry out a research on a special topic. The research contains specifying and processing the related international literature, summing up the findings in a study and finally a presentation. The language of the research depends on the consultant - the available topics are listed on the department's homepage.

Subject code	Subject name	Requirement	ECTS credit
BMEEPEKA501	Construction Management 1 - Basics of Construction	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Lecture	EN0-ER	English	

The goal of the subject is to present basic information on the technologies and organization of construction work, with special respect on construction activities of sub and superstructures. Considering the character of the subject both theoretical and practical knowledge is essential, therefore besides the lectures the site visits play emphasized role as well. Main topics: The construction process. Phases and participants of the construction process (roles, responsibilities, connections, etc.). Technical preparation and controlling of the construction. Handover ndash; take-over of the building (reviewing the constructions ndash; quality and quantity ndash; and the plans) Introduction to construction technologies, conditions, requirements. Aspects of selecting the technology. Sequence of construction works (the follow-up of processes). Main equipment of construction (earthwork, foundation work, construction of

loadbearing structures, etc.) Material supply on site ndash; to the site. Informations about the construction site. Construction site planning. Time scheduling. Types, realations. List of operations, survey for quantities, labour schedule, plant schedule, material schedule.

Subject code	Subject name	Requirement	ECTS credit
BMEEPEKA701	Construction Management 3 - Planning of Construction Technology	Exam	4

Course type	Course code	Course language	Timetable information
Lecture	EN0-ER	English	
Practice	EN1-ER	English	

The goal of the subject is to present information on the planning of elementary construction technologies related to superstructures and finishing work. The subject introduces how to apply recent innovations of building technologies during design and realisation. It gives a basic knowledge to evaluate construction options and make appropriate decisions about technology. There are case studies of building technologies used in construction of loadbearing structures, finishing and cladding works. The practical part contains workshops on planning of construction technologies: connection of structures and technologies, volume calculation, resource estimation, scheduling and construction site planning.

Subject code	Subject name	Requirement	ECTS credit
BMEEPEKAT41	Construction Management	Mid-semester mark	3

Course type	Course code	Course language	Timetable information
Lecture	EN0	English	TUE:12:15-14:00(K376);
Practice	EN1	English	WED:08:15-10:00(K376);

Curricula, themes, individual projects, tests, subjects of lectures and seminars of the Course are embracing managerial and organizational learnings useful and necessary for all civil engineers, such as: - jobs and organizational structure of Contracting Construction Trade; - jobs and relations of parties collaborating in executing construction projects;- time and resource needs of executing construction projects (basic methods and terms of time -, resource- and cost estimates);- basics of mechanizing Construction, construction equipments and auxiliary plants, typical applications;- organizing construction site (site layout designs).Individual project: Organizational plans (time estimates, resources calculations and site layout designs) of building a simple linear structure (reinforced concrete retaining wall) well known in practice of all civil engineers.

Subject code	Subject name	Requirement	ECTS credit
BMEEPEKMST4	Decision Support Methods	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Lecture	EN0	English	TUE:08:15-10:00(KM78);

Subject code	Subject name	Requirement	ECTS credit
BMEEPEKS901	Construction Management 5. - Special construction projects	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Lecture	EN1-ER	English	

The course's aim is to give up-to-date information on different special fields of construction in three blocks. In the first block the construction technologies of special, sub- and superstructures are shown, involving topics like metro tunnels, metro stations, special slurry walls, special reinforced concrete superstructures and formwork systems. In the second block traditional and modern materials and technologies are presented regarding to eco- and green architecture, like construction technologies of the passive buildings, or green facades. In the third block students get information on the application of traditional construction technologies, restoration methods and the maintenance of monuments and historic buildings. Besides the theoretical lectures many site visits are organized to present the practical aspects of the subject as well.

Subject code	Subject name	Requirement	ECTS credit
BMEEPESA101	Introduction to Building Constructions	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Lecture	EN0-ER	English	
Practice	EN1-ER	English	

This subject introduces all major building construction components (walls, foundations, floors, roofs, skeleton frames, stairs, ramps, doors and windows) and primary building engineering service systems. During lectures, the building is considered as a composition of spaces with different functions, separated by special surfaces. The course aims to introduce and explain the grammar of architectural design through practical tasks, such as the survey of one's own flat. Concurrently, the basic dependant factors of the creative design process are described. Students are acquainted with technical terminology as well as the role and use of various construction solutions including their classifications. The above shall assist students with both starting independent design exercise work and the continuing of building construction studies in greater detail.

Subject code	Subject name		Requirement	ECTS credit
BMEEPESA301	Building Constructions 2		Exam	4
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		
The subject deals mainly with pitched roof constructions, roof coverings and different types of foundations – the latter with consideration to waterproofing solutions. During seminar lectures the principles and details of shallow and deep foundations are introduced, according to functional and load bearing requirements of various building constructions as well as subsurface water and soil type effects. Also introduced are the functions and primary principles of different pitched roof constructions such as: traditional roof, rafter type (modern) roof, purlin and truss type roof as well as contemporary methods of carpentry. Further explanation is provided on occupied (built-in) attic constructions with focus on principles, layers, ventilation, windows and lighting. The main types of roof coverings are shown, such as concrete and clay tiles, flashings and metal roof coverings with special attention to principles and details.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPESA501	Building Construction 4		Mid-semester mark	4
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		
Flat roofs. Classification, general design aspects, basic construction principles (inclination and geometry of the water collecting areas) according to the impacts on the roofs. Arrangement of roofing layers. Requirements concerning to the different constructions, layers, materials, building physics. Waterproofing (membranes, coatings), applied materials and their features. Technologies and details. Tracking type and terrace roofs, green roofs. Flooring. Effects and requirements. Layers, subsystems, acoustical evaluation. Substructures of floor coverings and their technical features. Classification according to the materials, specifications. Waterproofing against domestic and industrial wet effects. Drywalls, suspended ceilings, internal wall coverings. Labelling systems, design aspects, effects, requirements, basic structural principles. Internal separating structures of residential buildings satisfying acoustical requirements, connecting details of slabs, floorings and stairs. Principles of primary building engineering service systems and building constructions of sanitary block.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPET0407	History of Theory of Architecture 1		Exam	2
Course type	Course code	Course language	Timetable information	
Lecture	EN1-ER	English		
The subject History of Theory of Architecture I. follows the structure of preliminary architectural history courses focusing on the determinant theories of architecture of different periods. The exploration of the most important tendencies and notions of theory of architecture is based on the preliminary history of architecture studies in an essentially chronological structure, evaluating them in critical analysis and searching their role in the history of ideas. Lecture topics include: Categories and concepts of theory in the history of architecture from antiquity to the raise of modernism in the beginning of the 20th century. Vitruvius and his interpretations. Architectural theory in the Middle Ages from early Christianity to late Gothic period. Humanism and the revival of antique architecture in the 15th. The column orders and commentaries on Vitruvius; the theory of the ideal city. Baroque in the reform of the catholic church. Academic movement in France and Classicism in Italy in the 17th . Theory of architecture in France in the 18th century. Enlightenment and revolutionary architecture. 19th century theories in England, France and Germany; the interpretation of medieval and classical heritage. The dilemma of eclecticism. Pioneers of modernism and their manifests. The pluralism in the interpretation of architectural space; architecture and philosophy.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPET0995	Architectural Research for Exchange Students - ET		Mid-semester mark	6
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
Similarly to the international practice the course aims primarily research activity in architecture and its documentation. The possible horizon of the research topics is determined by the course lists of the departments and the personal interest of the students. Beside the architectural topics the course will give an appreciation of interdisciplinary and special fields in international environment too. The project work will demonstrate generic and specific skills and understanding of the open and synthetic character of the research. The objective of this course is to hone the skills of analysis and abstraction in order to develop a framework for research. The student should be able to draw from precedent in the art, architecture and engineering in the development of this framework, which will act as scaffolding for the theoretical, experimental and creative decisions. This course will consist of a series of consultations to the teachers, but the essay should write by the student. The available topics are given by the Departments of the Faculty. The student can propose also a special topic for research during the course, but the teacher has to be agreeing with the proposal. Course list 2014/2015/fall semester teacher post course language				

students theme Dr. VUKOSZACUTE;VLYEV, Zoraacute;n Associate professor English max. 2 Contemporary architecture Dr. KRAuml;HLING, Jaacute;nos Associate professor English max. 1 Architectural analysis of sacral buildings DARAGOacute;, Laacute;szloacute; DLA Associate professor English max. 1 Architectural analysis of historic ensembles PAZAacute;R, Beacute;la DLA Assistant professor English, Deutsch max. 2 Contemporary architecture Zeitgenouml;ssische Architektur Dr. GY. BALOGH, Aacute;gnes Assistant professor English max. 1 19th century architecture

Subject code	Subject name		Requirement	ECTS credit
BMEEPETA101	The Beginning of Architecture, Vernacular Architecture		Exam	3
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		

The course gives an overview of the architecture in the first period of the evolution of human culture. The classes follow chronology – mainly in the first part of the course – with focusing on the development of building constructions and the development of settlements. Prehistory: Palaeolithic human claim to space, from the cave to the hut. Building activity of Neolithic peasants, one-celled houses and fortified settlements. Introduction to building construction in the Near East and Europe. In the second part the course gives an overview of the vernacular architecture of the world. Native architecture: comparative outline of the architecture of hunting, pastoral and farming peoples. Construction, building materials and decorations. Native American, African and European architecture. The practical lessons show details were delivered in the lecture before. The drawings drawn by students help them to understand the colourful world of common and rural architecture.

Subject code	Subject name		Requirement	ECTS credit
BMEEPETA301	History of Architecture 3 (Medieval)		Exam	3
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		

The architecture of the Late Roman Empire. The born of Christianity and its „Necessity architecture“. The born of the monumental Christian architecture – Early Christian architecture in Rome. – Early Christian architecture in the eastern Provinces: Palestine, North Africa, Syria – Late Roman and Oriental traditions. Early Byzantine architecture in Thessalonica and in Constantinople. Load bearing structures of the Early Christian period. Different types of barrel vaults, Roman-type cross vault. – Syrian influences in Armenia. The „Iconoclasm“ and the aftermath in Greece. Architecture in the radius of influence of Byzantium. The comparison of the basilicas in Rome and in Syria. – Ravenna. The penetration of Christian architecture into barbarian Europe – „Scattered monuments“. Byzantine vaulting systems. The main stream of the Romanesque architecture: the Carolingian architecture with the „evangelizer“ Benedictine movements, the three periods of the German-Roman Empire. The Langobard architecture in North-Italy. The Romanesque vaulting systems: Romanesque cross vault, Sexpartite vaulting, „groin-rib“ vaulting. Squire-bayed and free vaulting systems – the pointed arch. Basilica and „false basilica“ type space organization. – The retrospective interregional influences in Romanesque architecture. – Antique influences. Byzantine influences. The progressive interregional influences in Romanesque architecture – monastic movements: Benedictine and Cistercian, Norman „Imperial“ Romanesque architecture. Morphology of medieval detailing. The Early French Gothic cathedrals. – The flourishing period of the French cathedrals, and its influences in South-France, in England, in Germany and in Italy. Interregional influences in gothic architecture: Cistercian gothic formations, the Franciscan and Dominican movements. – The special characteristics of English and German gothic architecture. Late gothic vaulting systems: Cylindrical (or net vaults) and Spherical (or stellar) vaults. Halls and false-halls – Civic movements in Late Gothic in Germany and the proto-renaissance in Italy. Medieval secular architecture.

Subject code	Subject name		Requirement	ECTS credit
BMEEPETA501	History of Architecture 5 (19th century)		Mid-semester mark	3
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		

The period of this History of Architecture subject is the „long nineteenth century“; from the 1750s to the 1910s. In this era the architecture and the art turned to the past, to the previous styles using them in a new approach. The architects had discovered the history of art and artistic liberty at the same time. At the turn of the 20th century the art and also the architecture searched for new ways instead of using historical architectural elements or motifs. The changes led to the Modern Movement when buildings were being erected without decoration or ornaments in the first quarter of the 20th century. This period was divided into different eras, but these types of periodization were different in different countries and changed in the course of the 20th century. Beside the question of styles 19th century is important not only because of the appearing of new structures and materials in the architecture but because of the great development in the field of the functional planning. While following the timeline, the classes concentrate on the development of the styles in several areas of Europe (Great Britain, France, Germany, Russia) looking out to the United States of America too, because there the styles reflected the European ones.

Subject code	Subject name		Requirement	ECTS credit
BMEEPETO901	History of Hungarian Architecture 2.		Mid-semester mark	2
Course type	Course code	Course language	Timetable information	
Lecture	EN1-ER	English		
<p>The course gives an overview of Hungarian architecture from the end of the 18th century up to now. While following the timeline, the classes concentrate on the main problems of the investigated periods, like the question of historicism, international and national sources between the 2 Wars, socialist realism in the 1950s, technology and high-rise in the 1960s, built environment in the 1970s, post-modernism in the 1980s. As the problem of identity (national or regional architecture) is a recurrent theme through the whole period, the course pays a special attention to it.</p>				
Subject code	Subject name		Requirement	ECTS credit
BMEEPETO921	Theory of Architectural Design		Exam	2
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
<p>The course aims at awakening and strengthening the students' abilities, interest, to reflect on architectural design, in accordance with their own cultural background, in the original spirit of theorizing: thinking of, looking at, with freedom and criticism. Considering the special and unique position of this continuous reflective activity as an operative and constitutive part of the architectural design practice, the course not only picks up special themes of history and contemporary discourses, but also concentrates on mobilizing the students practical and theoretical skills, already acquired during their previous studies.</p>				
Subject code	Subject name		Requirement	ECTS credit
BMEEPETT721	History of Art		Exam	2
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
<p>Beginnings of the art: the pictures of the cavemen. ndash; Ancient art of the East: Egypt. ndash; Classical art of the Antiquity: Greek and Roman art. ndash; Early Christian and Medieval art. ndash; Renaissance and Baroque art. ndash; The art at the age of Enlightenment: Gothic revival, Classical revival, Classicism. ndash; Romanticism, Realism, Impressionism, Postimpressionism. Bibliography: Ernst H. Gombrich: The Story of Art, Phaidon, 1995; Michael Levey: A History of Western Art; and other (selected) books of WORLD OF ART series: Thames and Hudson, Oxford University Press; etc.</p>				
Subject code	Subject name		Requirement	ECTS credit
BMEEPIP0995	Architectural Research for Exchange Students - IP		Mid-semester mark	6
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
<p>Architectural Research for Exchange Students on the topics of the Department's competency. The aim of the subject is to carry out a research on a special topic. The research contains specifying and processing the related international literature, summing up the findings in a study and finally a presentation. The language of the research depends on the consultant - the available topics are listed on the department's homepage.</p>				
Subject code	Subject name		Requirement	ECTS credit
BMEEPKO0995	Architectural Research for Exchange Students - KO		Mid-semester mark	6
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
<p>Similar to the international practice aims the course primary research activity on architecture and its documentation. The possible horizon of the research topics is determined by the course lists of the departments and the personal interest of the students. Beside the architectural topics will give the course an appreciation of interdisciplinary and special fields in international environment too. The project work demonstrating generic and specific skills and understanding of the open and synthetic character of the research. The objective of this course is to hone the skills of analysis and abstraction in order to develop a framework for research. The student should be able to draw from precedent in both art, architecture and engineering in the development of this framework, which will act as scaffolding for the theoretical, experimental and creative decisions. This course will consist of a series of consultations to the teachers, but the essay should be written by the student. The available topics are given by the Departments of the Faculty. The student can propose also a special topic for research during the course, but the teacher has to be agree with the proposal.</p>				
Subject code	Subject name		Requirement	ECTS credit
BMEEPRAA301	Drawing and Composition 3		Mid-semester mark	4
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		

This subject introduces students to professional specific applications of the drawing skills they acquired so far. Classes present drawing methods for the representation of reality irrespective of the given point of view, from any other one. Students learn to consciously apply perspective in drawing small-scale models as tall buildings, and develop various graphic skills by practising the architectural graphic representation of masonry, stone, wooden and glass surfaces and those of materials. A creative modeling task assigned to students is building an autonomous construction, which focuses on the relations of materials and volume, internal space and the phenomenon of transparency. During model building, problems of space, form and structural arrangement are investigated; while at graphic elaboration, great emphasis is laid on the representation of materials, fluency in perspective drawing and abstraction.

Subject code	Subject name	Requirement	ECTS credit
BMEEPRAA501	Drawing and Composition 5	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Practice	EN1-ER	English	

In this semester students apply their previously acquired skills in the most complex architectural representation: in drawing after imagination. After practising the representation of reality and preparing creative perspective drawings (with the help of the real view, which could not be drawn from real points of view), students in this course prepare fully detailed, external and internal perspective views of buildings of various size, based on plans (e.g. ground plans, sections, elevations), using their experience and creative imagination, applying conventional graphic techniques. Students have to accomplish a modelling task during the semester, which improves creative thinking.

Subject code	Subject name	Requirement	ECTS credit
BMEEPRAG111	Design Skills 1	Mid-semester mark	0

Course type	Course code	Course language	Timetable information
Practice	EN1	English	TUE:18:15-20:00(K3R1);

Subject code	Subject name	Requirement	ECTS credit
BMEEPRAG121	Freehand Drawing for civil engineers	Mid-semester mark	0

Course type	Course code	Course language	Timetable information
Practice	EN1	English	TUE:16:15-18:00(K3R1);

Subject code	Subject name	Requirement	ECTS credit
BMEEPRAO702	Drawing 7.	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Practice	EN1-ER	English	

Lecturing and practising the architecture oriented use of colours. Introduction to the theory of colours. Effect of colours on human beings. Investigation of relation between architectural forms and colours. Principles of colour design of the built environment.

Subject code	Subject name	Requirement	ECTS credit
BMEEPRAT701	Department's Design 2.	Mid-semester mark	3

Course type	Course code	Course language	Timetable information
Practice	EN1-ER	English	

This subject based on interior design. The design process focuses on abstract formal approach. Students create different 3D possibilities in the first half of the semester, then they analyse them. The project becomes in this way interior design. The design project based on the fundamental decisions and 3D modelling, which are completed by manual works.

Subject code	Subject name	Requirement	ECTS credit
BMEEPST0655	Design of Reinforced Concrete Structures	Mid-semester mark	2

Course type	Course code	Course language	Timetable information
Lecture	EN1-ER	English	

The subject introduces students into the way of design of approximate dimensions, joints and structural solutions of reinforced concrete structures. Invited lecturers expose some of the most significant recent investments in reinforced concrete in Hungary. The aim of the course is to develop the ability of students - on the basis of EUROCODE 2 - to adopt architectural dimensions and to evaluate the effect of the chosen architectural lay-out onto the structural solution.

Subject code	Subject name		Requirement	ECTS credit
BMEEPSTA101	Introduction to structural design		Exam	2
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
The most important methods of analysis and design of engineering structures are presented, together with their modelling, and the applied approximations. It is shown how high school statics (and math) can be applied to engineering structures. The understanding of the behaviour of structures is emphasized.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPSTA301	Strength of Materials 1		Exam	4
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		
Basic concepts of strength of materials. Behavior of solid bodies. Material laws, constitutive equations: elasticity and plasticity. Central tension and compression. Design criterion. Pure shear. Steel and carpenter joints. Pure bending. Second moment of inertia. Bending in elastic stress state. Symmetric bending and skew bending. Eccentric tension and compression. Core of section. Materials not having tensile strength. Bending in plastic stress state. Bending combined with shear. Calculation of shear stresses. Design for bending. Normal force ndash; moment interaction curve. Torsion. Plane stress state. Possible failure conditions: rupture and yield. Elastic energy.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPSTA501	Design of Load-Bearing Structures		Exam	6
Course type	Course code	Course language	Timetable information	
Lecture	EN0-ER	English		
Practice	EN1-ER	English		
Basic conceptual and computational design methods of load-bearing structures are discussed for reinforced concrete-, steel-, timber and masonry buildings. The main goal is to gain knowledge about structural design problems and principles of structural design in order to understand how and why the load-bearing structure influences the work of an architect.				
Subject code	Subject name		Requirement	ECTS credit
BMEEPTCEP01	Interdisciplinary, Project based Design F		Mid-semester mark	16
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
Practice	EN2-ER	English		
The subject is based on the cooperation of the departments of the Faculty of Architecture. Students work in studios in groups with individual tasks as well instructed by teachers of the departments involved. There are two design tasks to be solved during the semester, that can be chosen freely from the offered opportunities. Each task is to solve in seven weeks. Some of the tasks are: sport hall for Olympic Games in Budapest, Dwelling Underground, Suspension in Architecture, The Green in the Metropolitan Area (green walls, green roofs) etc.				
Subject code	Subject name		Requirement	ECTS credit
BMEEUI0103	Phases of Urban Development, City of Budapest		Mid-semester mark	2
Course type	Course code	Course language	Timetable information	
Lecture	EN1-ER	English		
The goal of the course is to give foreign students coming to Budapest an overview of the current urban developments and at the same time help them to acquire a better understanding of the urban, architectural and cultural aspects of the city. The course starts with a short general overview of the historical development of Pest and Buda. Most in-class lectures nevertheless deal with current ongoing urban projects of the city, including urban renewal projects, housing estate renewals, new public spaces and new real estate developments. The lectures are followed by site visits, accompanied by specialists of various programmes. For fulfilling the requirements a small practical assignment has to be solved by the students individually.				
Subject code	Subject name		Requirement	ECTS credit
BMEEUI0893	Cities of the World		Mid-semester mark	2
Course type	Course code	Course language	Timetable information	
Lecture	EN1-ER	English		
Elective course of the Department of Urban Planning and Design dealing with current trend of Urbanisation around the world focusing on the topics:- Global cities and contemporary urbanisms – an introduction to the course;- De-industrialization and urban dynamics;- Politics and markets shaping the form of the global city;- Urban sprawl and the regeneration of the inner city;- Sustainable urban futures and the quality of life.				

Subject code	Subject name		Requirement	ECTS credit
BMEEPUI0995	Architectural Research for Exchange Students - UI		Mid-semester mark	6
Course type	Course code	Course language	Timetable information	
Practice	EN1-ER	English		
Practice	EN2-ER	English		
<p>Architectural research for exchange and international students: with the professional leadership of the tutors of the Department of Urban Planning and Design students work on individual research topics (eg.. Urban History, Urban Tipologies, Urban Morphologies, Housing estates etc.). The course is based on individual work, with a final output of an essay.</p>				