POLYTECHNICS AT UNIVERSITY OF DONJA GORICA - UDG

Faculty of Polytechnics is established in 2011.

The main idea of the Academic Program is to join together the most recent practical knowledge from the area of Architecture and Civil Engineering, with subjects of Economy, Finance and Project Management. Such scholastic arrangement enables immediate and direct positioning of this engineering profession in society and its efficient integration with all relevant public entities.

Academic Program for undergraduate studies (three years – six semesters) includes following the lectures, discussion sessions, and completing computer lab and design lab projects. Integral part of the Academic Program are internship and practical work programs, completed at the end of each academic year. Homework assignments, quizzes, midterms and final exams are adopted ways of examination.

By defending Diploma Thesis at the end of the sixth semester, student obtains degree BSc in Polytechnics.

Polytechnics at UDG has four accredited Master programs in the area of Architectural and Building Design.

Academic program of undergraduate studies at Polytechnics - UDG

	Course	ECTS	Topics	Class/ week
Semester 1	Engineering mathematics I	8	Introduction to linear algebra and analytic geometry.	3+3
	Technical physics I	6	Introduction to applied mechanics and physics of civil engineering and physics of green building design.	3+3
	Engineering graphics and space	6	Technical drawing, descriptive geometry and perspective. Free-hand and software approach (introduction to AutoCad and ArchiCad).	2+3
	Economy and development	6	Economic dimension of civil engineering and architectural projects.	2+2
	Informatics and visualization	4	Introduction to computer logic and programming.	2+2
Semester 2	Engineering mathematics II	6	Integral and differential calculus. Numerical methods.	2+2
	Applied mechanics	6	Statically determined structures: calculation of internal forces, drawing of diagrams. Basics of structural dynamics.	2+2
	Introduction to architecture and urban planning	8	Architecture and shape. Introduction to Urban Planning. Case study: Family house.	4+4
	Entrepreneurship and innovation	6	Business plan: methodology and implementation.	2+2
	Basics of accounting and management finance	4	Introduction to accounting and finance.	2+0
Semester 3	Mechanics of materials	8	Introduction to theory of elasticity; stresses and strains in loaded beam.	3+3
	Analysis of investment projects	8	Real investments; basic methods of traditional and contemporary investment analysis.	3+2
	Introduction to modern technologies	2	Topics of interest for civil engineering practice, intelligent buildings and cutting edge technology.	2+0
	Building elements	8	Structural systems and structural elements in buildings. Field-trips to building sites in different stages of building progress.	3+3
	Enviromental economy and sustanable developement for non economists	4	Policies of ecological planning and economy of energy efficient building design.	2+2
Semester 4	Materials in civil engineering and architecture	6	Mechanical characteristics of materials used in civil engineering and architecture. Testing and measuring material's mechanical characteristics. Stress- strain relationships. Laboratory practice.	2+2
	Engineering geodesy	4	Introduction to geodesy, geodetic measurements, GIS technology.	2+2
	Electrical engineering	4	Topics of electrical, of interest for civil engineering practice, intelligent buildings and cutting edge technology.	2+1
	Urban planning and design	6	Principles, examples and hands-on projects of urban planning and design. Urban planning of national parks, protected and heritage areas.	2+2
	Architectural design	8	Concepts of space design. Case study: business-residential building in the city center.	2+2
	Landscape architecture	2	Concepts of landscaping and fusion with architectural design.	2+0
Semester 5	Management of technological development and modern technology	6	Strategically overseeing the innovation, implementation, and utilization of new technologies to drive organizational growth and competitiveness.	2+2
	Architectural design II	8	Concepts and phylosophy of space design. Case studies: Multi-purpose and multi functional structures.	2+3
	Structural systems analysis I	8	Internal forces in statically determinate and statically undeterminate frames. Calculations of f rames s and trusses. Introduction to comercial softwares in analysis of statical systems SAP2000 .	3+3
	Interior design	4	Understanding the relationships between esthetic and functionality.	2+2
	Strategic management	4	Principles of strategic management in civil engineering and architecture.	2+2
Semester 6	Structural design I	6	Introduction to structural design, with examples of reinforced-concrete and steel elements: columns, beams and beam-column connections.	2+2
	Theory and philosophy of architecture	8	Theoretical background and philosophy of understanding architectural design.	2+0
	Construction menagement	6	Concepts of construction management, law in construction engineering.	3+3
	Diploma thesis	10	Synthesis of conceptual and design composition.	


UDG
Powered by
Arizona State University