Munzur University
International Relations Office
Civil Engineering Department
2018-2019 Academic Year
List of Course

Code/ Credits	Course	Semester Winter / Spring	Contents	Contact Details of Lecturer	Department
TBF101 /5	Physics-I	1.Semester Winter	Measurement and units. Vectors. Kinematics. Relative motion. Force and momentum. Equilibrium. Work and energy. Simple harmonic motion. Rotational kinematics of rigid bodies. (Service-course)	Assist. Prof. Dr. Deniz Yılmaz dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering
IMU105 /6	Technical Drawings	1.Semester Winter	The use of drawing instruments, lettering, Dimensioning and symbols. Orthographic, isometric, oblique projections. Sketching and sectioning. Introduction to descriptive geometry, conics, perspective drawing and applications in civil engineering: flat formwork and foundation plans of buildings; Reinforced concrete, timber and steel drawings; maps, transverse and longitudinal sections.	Assoc. Prof. Dr. Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering

TBM101 /5	Calculus I	1.Semester Winter	Real numbers, inequalities, algebra of sets, functions, graphs, limits, continuity, the derivative, maxima-minima and other applications, the differential, the definite integral, mean-value theorem, the indefinite integral, the Antiderivative, the fundamental theorem of calculus, techniques of integration, inverse functions.	Assist. Prof. Dr. İnan ÜNAL inanunal@munzur.edu.tr 428 213 17 94/2438	Computer Engineering
TBK101 /4	General Chemistry	1.Semester Winter	Stoichiometry of chemical reactions. Atomic structure and the periodic table. Chemical bonding and molecular structure. Thermochemistry Gases, solids and liquids. Properties of solutions.	Assist. Prof. Dr. Ersen Yılmaz ersenyilmaz@munzur.edu.tr 428 213 17 94/2465	Metallurgy and Materials Engineering
TRD101 /2	Turkish Language 1	1.Semester Winter	History and basic rules of Turkish language, reading exemplary literary and scientific texts.	Lecturer Cemile ŞEN 428 213 17 97/2147	
İMÜ103 /2	Introduction to Civil Engineering	1.Semester Winter	To provide information on the profession of civil engineering in order that the student will be able to have an overview of his/her future vocation before they embark on four year journey towards a degree in civil engineering; to stimulate them towards choosing a 'pet' subject among the five branches of civil engineering in order that he/she will decide on a field of	Assist. Prof. Dr. Selim CEMALGİL scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering

			specialization and perhaps even look forward to a graduate degree. Historical background, present status and future challenges of civil engineering profession. Written and oral communication. Invited speakers.		
YDI101 /3	Freshman English I	1.Semester Winter	This course is designed to consolidate the student's working knowledge of the English language through reinforcement of reading comprehension, listening and writing skills in academic English.	Randomly selected at each semester	Foreign Language Dept.
ENF101 /3	Basic Information Technology	1.Semester Winter	Word, Excel, Powerpoint Point, How to prepare a presentation, how to prepare a word document, settings and how to prepare a CV.	Assist. Prof. Dr. Hilal A. Işık h_arslanoglu@hotmail.com 428 213 17 94/2425	Civil Engineering
	Social Elective				
TBM102 /4	Calculus II	2.Semester Winter	Numerical integration, polar coordinates, vector algebra, arclenght. curvature, area of a surface of revolution, the plane, linear algebra, partial differentiation, the gradient, directional derivatives, normals to surfaces, maxima, minima, double and triple integrals with applications. Improper integrals. Taylor's Formula. Sequences, infinite series, power series, Taylor series.	Assist. Prof. Dr. İnan Ünal inanunal@munzur.edu.tr 428 213 17 94/2438	Computer Engineering

TBF102 /5	Physics-II	2.Semester Winter	The objective of this course is to engage the engineering students with the fundamental concept and principles of electric physics and to provide them with its theory and applications, in clear, understandable presentation. To help accomplish this aim, the concept of physics is introduced with familiar examples involving in engineering, chemistry, mathematics and medicine.	Assist. Prof. Dr. Handan Aydın haydın@munzur.edu.tr 428 213 17 94/2518	Metallurgy and Materials Engineering
İMÜ102 /6	Computer-Aided Design	2.Semester Winter	Introduction of Allplan program and interface, access to command, create a project and file and their modify, Basic modules; Draw, modify, object snaps and view commands, modification of objects, Layers, Library, Hatch, Object properties, Text, Dimension styles and dimension, File input from other computer programs, File transfer to other computer programs, Arcitectural Module; Drawing of walls, columns, beams, slabs, roofs, stairs and foundations, create surfaces, horizontal and vertical interfaces, top, front and profile views, Civil Engineering	Assist. Prof. Dr. Nihan Gülmez nihangulmez@munzur.edu.tr 428 213 17 94/2418	Civil Engineering

			Module; Reinforcing bars drawing and their modifications, quantity survey, 3D solids modelling, plot.		
İMÜ104 /6	Statics	2.Semester Winter	Introduction to the principles and problems of mechanics of rigid bodies; force and displacement. Force systems; concurrent/non-concurrent systems, moment, couple, resultant, equivalent force systems. Equilibrium of force systems (static equilibrium). Free-body diagrams. Simple structures; the concept of structural analysis, analysis of trusses, beams and frames, hinged systems, chains and cables. Distributed forces. Virtual work. Stability. Friction.	Assist. Prof. Dr. Deniz Yılmaz dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering
İMÜ106 /4	Geology for Civil Engineers	2.Semester Winter	Structure of the earth, geological cycles, minerals and rocks. Magmatic, sedimentary and metamorphic rocks. Geologic structure and its importance in civil engineering. Geologic maps and cross-sections. Dams and reservoir geology. Geological concepts in landslides, hydrogeology and tunnels. Quarries and dimension stone. External processes on land and in the sea. Internal processes including	Assist. Prof. Dr. Özlem Erdem osenerdem@munzur.edu.tr 428 213 17 94/2474	Civil Engineering

			deformation of rocks and earthquakes		
TRD102 /2	Turkish Language II	2.Semester Winter	Reading sample literary and contemporary texts. Oral and written expression	Lecturer Cemile ŞEN 428 213 17 97/2147	
YDI102 /3	Freshman English II	2.Semester Winter	Academic reading comprehension skills are further reinforced through and intensive reading of both scientific and academic texts and techniques of writing are further developed with emphasis on the usage of technical vocabulary	Randomly selected at each semester	Foreign Language Dept.
	Social Elective	2.Semester Winter			
TBM203 /3	Differential Equations	3.Semester Winter	What is differential equation? How do they arise? First order differential equations. Orthogonal trajectories. Linear differential equations of arbitrary order. Approximate methods of solution of D.E., Power series solutions of D.E., Laplace transforms. Systems of linear D.E. Introduction to partial differential equation.	Assist. Prof. Dr. İnan Ünal inanunal@munzur.edu.tr 428 213 17 94/2438	Computer Engineering
İMÜ201 /4	Material Science	3.Semester Winter	Structure of substances. Formation of materials, phase transformations. Properties of materials, electrical, mechanical, thermal and other properties of materials. Corrosion.	Assoc. Prof. Dr. Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering

			Engineering materials: metals, plastics, ceramics and composites in general. Mechanical and physical testing methods.		
İMÜ203/4	Strength of Materials I	3.Semester Winter	Introduction, Basic Principles/Internal Forces and State of Stress/State of Strain/ Kinematical Relations/Stress-Strain Relations (Hooke's Law)/Strain Energy/ Allowable Stresses/Fundamentals of Strength of Bars, Stress Resultants, Equivalence Relations/Axial Normal Force/Shear Force/Bending/Torsion/ Theories of Failure.	Assoc. Prof. Dr. Burak Yön burakyon@munzur.edu.tr 428 213 17 94/2509	Civil Engineering
İMÜ205/4	Dynamics	3.Semester Winter	Kinematics of particles and rigid bodies; absolute motion, relative motion. Kinetics of particles; equation of motion, work-energy and impulse-momentum. Systems of particles. Kinetics of rigid bodies: Euler\'s equations; plane motion of rigid bodies. Kinetic energy of rigid bodies. Introduction to the dynamics of vibrating systems.	Assist. Prof. Dr. Deniz Yılmaz dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering
İMÜ207/4	Concrete Technology	3.Semester Winter	Principles of mix design. Statistical concepts for quality control. Inspection and testing of materials. Special concreting methods. Cold and hot weather concreting, pumped	Assist. Prof. Dr. Selim Cemalgil scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering

			concrete, ready-mixed concrete, shotcrete. Fly-ash, silica fume; super-plasticizers. Special types of concrete: architectural concrete, mass concrete, rollcrete, high-density concrete, light-weight concrete, airport runway concrete		
İMÜ209 /4	Statistics for Civil Engineers	3.Semester Winter	Descriptive statistics, histograms, central tendency, dispersion, and correlation measures. Basic probability concepts, random variables, probability density function and mass function. Hypotheses testing, analysis of variance, confidence intervals. Law of large numbers and Central limit theorem. Regression analysis. Applications in civil engineering. Reliability and hazard functions. Structural and mechanical reliability.	Assoc. Prof. Dr. Erkan Çelik erkancelik@munzur.edu.tr 428 213 17 94/2470	Industry Engineering

İMÜ211 /3	Health and Safety	3.Semester Winter	Objectives and content of the course, outlines of the course, the aim of health and safety, Basic concepts of health and safety such as injuries at work, occupational disease, historical development of health and safety, health and safety applications in Turkey and all over the world, ,Health and safety legislations ,Occupational health and safety standard: Ohsas 1800 ,Organization of health and safety, duties and responsibilities of the ones who are responsible for health and safety ,Responsibilities of government, employers and workers ,types of Incident and accident , occupational disease, prevention methods of diseases and accidents	Assoc. Prof. Dr. Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering
İMÜ213 /4	Computation for Civil Engineers	3.Semester Winter	Introduction to organization and characteristic of computers. Number systems, algorithms and flow charts. Programming in FORTRAN, control statements and loops, arrays and variables, formatted input /output, subprograms. Applications to civil engineering problems. Introduction to	Assist. Prof. Dr. Deniz Yılmaz dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering

			computer capabilities and to some package programs		
	Social Elective	3.Semester Winter			
TBM204/4	Engineering Mathematics	4.Semester Winter	Real vector spaces, Linear transformations and matrices, Eigenvalues and eigenvectors. Quadratic forms. Euclidean spaces, orthogonality of functions, Fourier series, Orthogonal polynomials, boundary-value problems associated with partial differential equations.	Assist. Prof. Dr. İnan Ünal inanunal@munzur.edu.tr 428 213 17 94/2438	Computer Engineering
İMÜ204/4	Materials of Construction	4.Semester Winter	Production types used in construction, properties and related tests for the following materials are covered: Feorrous metals, bituminous materials, clay products, timber, building stones, mineral aggregates, lime gypsum, hydraulic cements and concrete. Constituents, theories of mix design, principals steps in production, physical and mechanical properties of concrete.	Assoc. Prof. Dr Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering
İMÜ206/4/	Structural Analysis I	4.Semester Winter	Introduction, classification of structural systems, loads, assumptions and idealizations, force systems, forces, reactions, internal forces, equilibrium	Assoc. Prof. Dr. Burak Yön burakyon@munzur.edu.tr 428 213 17 94/2509	Civil Engineering

			equations, analysis of plane systems under dead loads, statically determinate plane systems; beams, indirect systems, statically determinate plane trusses, analysis of plane systems under live loads, introduction to influence lines		
İMÜ208/5	Building and project information	4.Semester Winter	Structures and definitions related to building, construction terminology, structure characteristics, building design principles, design principles and implementation details of the constructions elements.	Assoc. Prof. Dr. Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering
İMÜ210/4	Strength of Materials II	4.Semester Winter	Combined Loading States, Normal Force with Bending/ Core, Materials not Resistant to Tension under the Effect of Eccentric Normal Force/ Determination of Stresses and Strains in the Case of Bending Moments with Shearing Force/ Design in the Case of Bending Moments and Shearing Force. Directions of Principal Stresses/ Study of Elastic Curve by Various Methods, Analysis of Statically Indeterminate Systems/ Bending with Torsion/	Assoc. Prof. Dr. Burak Yön burakyon@munzur.edu.tr 428 213 17 94/2509	Civil Engineering

			Energy Methods/ Elastic Stability.		
İMÜ212/4	Earth Structures	4.Semester Winter	Highway and railway fills, earth dams. General principles of design, the choice of type of dam. The circular arc method of stability analysis; the prediction of pore pressures during construction, steady seepage and rapid draw down. Special methods of analysis for puddle-core and rock-fill dams. Design in earthquakes areas	Assist. Prof. Dr. Selim Cemalgil scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering
İMÜ216/5	Land Surveying	4.Semester Winter	Description of the measure. Use ofthe geodetic measuring device. Distance measurement, problem-solving methods and sources of error in measuring distance Angle measurement tools and angle measurements. Coordinate and field measurement methods. Definition of height systems. Levelling principles and techniques.	Dr. Mustafa Akpolat mustafaakpolat@munzur.edu.tr 428 213 17 94/1644	Civil Engineering
	Social Elective	4.Semester Winter			
İMÜ301/4	Fluid Mechanics	5.Semester Winter	Definitions, physical properties, hydrostatics. Buoyancy. Rate of deformation. Steady and unsteady flows. Principles of conservation of mass and conservation of momentum. Bernoulli theorem and fluid energy. Application to pumps and turbines	Assist. Prof. Dr. Yusuf Doğan ydogan@munzur.edu.tr 428 213 17 94/2470	Civil Engineering

			hydraulics. Introduction to similarity laws. Incompressible flow regimes; viscous flow. The flow of viscous fluids in ducts		
İMÜ303/4	Structural Analysis II	5.Semester Winter	Concept of elastic strain, energy theorems, calculation of displacements and rotations using energy methods, analysis of statically indeterminate structures, force method, calculation of displacements in statically indeterminate structures, displacement method, cross-moment distribution method, influence lines and load combinations.	Assoc. Prof. Dr. Burak Yön burakyon@munzur.edu.tr 428 213 17 94/2509	Civil Engineering
İMÜ305/5	Soil Mechanics I	5.Semester Winter	Engineering problems involving soils. Index properties and classification of soils. Phase relationships. Compaction. Permeability. Seepage and flow nets. Total and effective stress, hydrostatic and excess pore pressures. Shear strength of soils. Stresses and displacements. Lateral earth pressure at rest, active and passive earth pressures; Rankine's theory and Coulomb's wedge theory. Earth-retaining structures.	Assist. Prof. Dr. Özlem Erdem osenerdem@munzur.edu.tr 428 213 17 94/2474	Civil Engineering

			Compressibility of soils. One-dimensional consolidation; determination of coefficients of compressibility and consolidation. Principles of foundation design; analysis of settlements, bearing capacity of foundations		
İMÜ307/4	Engineering Hydrology	5.Semester Winter	İntroduction: hydrologic cycle, engineering point of view. Weather and hydrology: dominant hydro meteorological factors. Precipitation: formation, measurement and analysis of data. Snowpack and snowmelt. Streamflow: watershed system, measurement. Evaporation and evapotranspiration. Surface water interactions. Hydrograph analysis and synthesis; Flood routing. Probability in hydrology; introduction to stochastic hydrology and simulation methods.	Assist. Prof. Dr. Hilal A. Işık h_arslanoglu@hotmail.com 428 213 17 94/2425	Civil Engineering
İMÜ309/4	Highway Engineering	5.Semester Winter	Elements of Highway, characteristics of road users, vehicle movements and general characteristics of road traffic, capacity of roads, highway classification and selection of geometric standards,	Assist. Prof. Dr. Selim Cemalgil scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering

			crossing and plan, Horizontal curves, longitudinal section and vertical curves, infrastructure, drainage of roads, pavement and hot mix asphalt, Drawing the zero polygon, drawing the route, calculation of horizontal curves, passing the red line, making the cross-section readings, making the supe relevation calculation, drawing of the cross sections, preparing the volume table, drawing the Brucner curve, the preparation of the footage of the infrastructure and superstructure works and the summary of the discovery		
İMÜ311 /3	Numerical Analysis	5.Semester Winter	Error Analysis, Solution Methods of Nonlinear Equations, Solution Methods of Linear Set of Equations, Interpolation and Curve Fitting, Numerical Derivation, Numerical Integration, Numerical Solution Methods of Ordinary Differential Equations	Assist. Prof. Dr Hilal A. Işık h_arslanoglu@hotmail.com 428 213 17 94/2425	Civil Engineering
İMÜ313 /3	Introductions to Earthquake Engineering	5.Semester Winter	Earthquake conceptions in seismological, geotechnical and structural aspects. Content includes: Earthquake characteristics and	Assist. Prof. Dr. Onur Onat onuronat@munzur.edu.tr 428 213 17 94/2424	Civil Engineering

			mechanism, soil properties under earthquakes, soil-structure interactions, earthquake damage, earthquake design codes, design principles under earthquake loadings		
İMÜ399 /3	Traineeship Practice I	5.Semester Winter	Internship presentation, investigation of the internship notebook	All academic staff	Civil Engineering
	Social Elective	5.Semester Winter			
İMÜ302 /5	Soil Mechanics II	6.Semester Winter	Formation and physical properties of soils. Ground improvement techniques. Elastic and plastic behaviour of soils. Correction of consolidation settlement for construction period. Numerical solution of consolidation equation. Vertical sand drains. Stability of natural slopes, fills and cuts; short-term and long-term analysis. Stability of earth dams	Assist. Prof Dr. Özlem Erdem osenerdem@munzur.edu.tr 428 213 17 94/2474	Civil Engineering
İMÜ304 /4	Steel Structures	6.Semester Winter	Behaviour of steel structures. Tension members and compression members. Beams. Combined bending and compression. Types and behaviour of connections : riveted, bolted, and welded.	Assist. Prof. Dr. Nihan Gülmez nihangulmez@munzur.edu.tr 428 213 17 94/2418	Civil Engineering
İMÜ306 /5	Highway Design	6.Semester Winter	Stopping and passing sight distances, zero line application simple horizontal curve, clothoids and their field application,	Dr. Mustafa Akpolat mustafaakpolat@munzur.edu.tr 428 213 17 94/1644	Civil Engineering

			compound and reverse curves, transition and super-elevation, surface and subsurface drainage, culvert design, retaining walls, types of pavements, material characteristics for subgrade, subbase, base, binder and wearing courses.		
İMÜ308 /4	Reinforced Concrete I	6.Semester Winter	Design of reinforced concrete members according to limit states. Adherence and development. Behavior of reinforced concrete and ultimate strength design. Analysis and design of beams under pure bending. Reinforced concrete members under shear. Analysis and design of columns subjected to axial loads. Analysis and design of columns subjected to combined axial load and bending. Analysis and design of biaxially loaded columns. Serviceability limit states of reinforced concrete members	Assist. Prof. Dr.Onur Onat onuronat@munzur.edu.tr 428 213 17 94/2424	Civil Engineering
İMÜ310 /5	Cost Est. and Management	6.Semester Winter	Construction machinery; engineering fundamentals. Description, types, selection criteria and output analysis of basic construction equipment. Contracting law; Bidding law	Assist. Prof. Dr. Selim Cemalgil scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering

			No.2886; general specifications for public works. Profile of the construction sector, company and site organisation, construction planning; stock control, quality assurance, cost control, value engineering, financing. Safety engineering. Human relationships. Quantitative methods.		
İMÜ312 /4	Hydraulics	6.Semester Winter	Units. Dimensions. Dimensional homogeneity. Dimensional analysis. Buckingham theorem. Interpretation of various dimensionless quantities in fluid flow; similitude, principle of modelling. Laminar flows. Poiseuille flow; turbulent flows. Reynolds frictional losses. Moody chart. Generalised Bernoulli theorem. Branching pipes. Open channel flow: definition and classification, pressure distribution, uniform flow computation. Normal, composite, compound cross-sections. Specific head Knock, parabola. Introduction to gradually varied flow and rapidly varied flow	Assist. Prof. Dr. Yusuf Doğan ydogan@munzur.edu.tr 428 213 17 94/2470	Civil Engineering

/3	Technical Elective I	6.Semester Winter			
	Social Elective	6.Semester Winter			
İMÜ401 /5	Reinforced Concrete II	7.Semester Winter	Slabs: introduction, types of Slabs, one-way slabs, two-way slabs, ribbed slabs, punching shear; footings: introduction, types of footings, wall footings, single-column footings, combined footings, continuous footings.	Assist. Prof. Dr. Onur ONAT onuronat@munzur.edu.tr 428 213 17 94/2424	Civil Engineering
İMÜ403 /4	Foundation Engineering I	7.Semester Winter	Subsurface exploration. Boring and sampling methods. Field load test. Types of loads on foundations. Allowable settlement of structures. Soil structure interaction. Open excavations. Bracing of open cuts. Spread foundations. Individual column footing. Wall footings. Cantilever footings. Combined footings and raft foundations. Rigid and elastic design methods. Introduction to pile foundations.	Assist. Prof. Dr. Özlem Erdem osenerdem@munzur.edu.tr 428 213 17 94/2474	Civil Engineering
İMÜ 405 /5	Hydraulics Structures	7.Semester Winter	River Morphology / Sediment transportation in rivers / Drop structures, diversion weirs, gated diversion weirs / Dams, types of dams/ Reservoir of dams / Water intakes structures from river / Outlet works of dam, spillways/ Energy dissipation basin/ River	Assist. Prof. Dr. Yusuf Doğan ydogan@munzur.edu.tr 428 213 17 94/2470	Civil Engineering

			improvements / Flood control structures		
İMÜ497 /3	Traineeship Practice II	7.Semester Winter	Internship presentation, investigation of the internship notebook		
/5	Technical Elective II				
/5	Technical Elective II				
AİT401 /2	Principles of Atatürk and History of Modern Turkey	7.Semester Winter	Basic political, economic, social and cultural facts of the historical period beginning by the classical age of the Ottoman Empire and ending by the signing of Lausanne Treaty in 1923 - the fundamental academic interpretations on them.	Lecturer Tahsin Hazırbulan tahsinhazirbulan@munzur.edu.tr 428 213 17 94/2469	
	Social Elective	7.Semester Winter			
İMÜ402 /3	Engineering Economy	8.Semester Winter	Introduction to engineering economics / Cost and its usage in decision making / Market conditions, supply-demand equilibrium / Economic systems, macro and micro economy concepts, income distribution / Interest and time value of money, cash flow / Methods of calculating interest: simple, compound, nominal and effective interest; effect of varying interest rate / Rational	Assoc. Prof. Dr. Muhammet Gül muhammetgul@munzur.edu.tr 428 213 17 94/2438	Industry Engineering

			comparison of economic alternatives with various methods / Depreciation concept and analysis methods / Investment amount, determination of revenue and costs / Inflation concept, its types and effect on economical parameters		
İMÜ404 /3	Labor Law	8.Semester Winter	Sources of the labor law, individual labor law and collective labor law	Lecturer Serkan Gündoğdu sgundogdu@munzur.edu.tr 428 213 17 94/2040	
İMÜ406 /6	Reinforced Concrete Structure Design	8.Semester Winter	Slab design, preliminary design of beams and columns, static analysis under vertical loads, analysis under earthquake load, superposition of the internal forces, design of the beams, design of the columns, design of the footings, drawings: floor plans, footings plans, column detailing, beam detailing, footing Detailing.	Assist. Prof. Dr. Onur Onat onuronat@munzur.edu.tr 428 213 17 94/2424	Civil Engineering
İMÜ408 /4	Water supply and Waste Water Disposal Design	8.Semester Winter	Design of water distribution network by dead point method/ Design of waste water sewer systems/ Design of storm water sewer systems	Assist. Prof. Dr. Hilal A. Işık h_arslanoglu@hotmail.com 428 213 17 94/2425	Civil Engineering
İMÜ499 /4	Graduation Project	8.Semester Winter	Each student will choose a project topic with his/her Advisor, will write a final report and will	All civil engineering academic staff	Civil Engineering

			defend it against a jury		
/5	Technical Elective IV	8.Semester Winter			
/3	Technical Elective V	8.Semester Winter			
AİT402 /2	Principles of Atatürk and History of Modern Turkey II	8.Semester Winter	Basic political, economic, social and cultural facts of the historical period beginning from 1923 to the present; fundamental academic interpretations on them	Lecturer Tahsin Hazırbulan tahsinhazirbulan@munzur.edu.tr 428 213 17 94/2469	
	Social Elective	8.Semester Winter			

Munzur University
International Relations Office
Civil Engineering Department
2018-2019 Academic Year
Bologna List of Course

Code/ Credits	Course	Semester Winter / Spring	Contents	Contact Details of Lecturer	Department
TBF101 /5	Physics-I	1.Semester Winter	Measurement and units. Vectors. Kinematics. Relative motion. Force and momentum. Equilibrium. Work and energy. Simple harmonic motion. Rotational kinematics of rigid bodies. (Service-course)	Assist. Prof. Dr. Deniz Yılmaz dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering
IMU105 /6	Technical Drawings	1.Semester Winter	The use of drawing instruments, lettering, Dimensioning and symbols. Orthographic, isometric, oblique projections. Sketching and sectioning. Introduction to descriptive geometry, conics, perspective drawing and applications in civil engineering: flat formwork and foundation plans of buildings; Reinforced concrete, timber and steel drawings; maps, transverse and longitudinal sections.	Assoc. Prof. Dr. Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering
TBM101 /5	Calculus I	1.Semester Winter	Real numbers, inequalities, algebra of sets, functions, graphs, limits, continuity, the derivative, maxima-minima and other applications, the differential, the definite integral, mean-value theorem, the indefinite integral, the Antiderivative, the fundamental theorem of calculus, techniques of	Assist. Prof. Dr. İnan ÜNAL inanunal@munzur.edu.tr 428 213 17 94/2438	Computer Engineering

			integration, inverse functions.		
TBK101 /4	General Chemistry	1.Semester Winter	Stoichiometry of chemical reactions. Atomic structure and the periodic table. Chemical bonding and molecular structure. Thermochemistry Gases, solids and liquids. Properties of solutions.	Assist. Prof. Dr. Ersen Yılmaz ersenyilmaz@munzur.edu.tr 428 213 17 94/2465	Metallurgy and Materials Engineering
TRD101 /2	Turkish Language 1	1.Semester Winter	History and basic rules of Turkish language, reading exemplary literary and scientific texts.	Lecturer Cemile ŞEN 428 213 17 97/2147	
İMÜ103 /2	Introduction to Civil Engineering	1.Semester Winter	To provide information on the profession of civil engineering in order that the student will be able to have an overview of his/her future vocation before they embark on four year journey towards a degree in civil engineering; to stimulate them towards choosing a 'pet' subject among the five branches of civil engineering in order that he/she will decide on a field of specialization and perhaps even look forward to a graduate degree. Historical background, present status and future challenges of civil engineering profession. Written and oral communication. Invited speakers.	Assist. Prof. Dr. Selim CEMALGİL scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering
YDI101 /3	Freshman English I	1.Semester Winter	This course is designed to consolidate the student's working knowledge of the English language through reinforcement of reading	Randomly selected at each semester	Foreign Language Dept.

			comprehension, listening and writing skills in academic English.		
ENF101 /3	Basic Information Technology	1.Semester Winter	Word, Excel, Powerpoint Point, How to prepare a presentation, how to prepare a word document, settings and how to prepare a CV.	Assist. Prof. Dr. Hilal A. Işık h_arslanoglu@hotmail.com 428 213 17 94/2425	Civil Engineering
DOY111/3	Digital Literacy	1.Semester Winter		Assoc. Prof. Dr. Burak Yön burakyon@munzur.edu.tr 428 213 17 94/2509	Civil Engineering
TBM102 /4	Calculus II	2.Semester Winter	Numerical integration, polar coordinates, vector algebra, arclenght. curvature, area of a surface of revolution, the plane, linear algebra, partial differentiation, the gradient, directional derivatives, normals to surfaces, maxima, minima, double and triple integrals with applications. Improper integrals. Taylor's Formula. Sequences, infinite series, power series, Taylor series.	Assist. Prof. Dr. İnan Ünal inanunal@munzur.edu.tr 428 213 17 94/2438	Computer Engineering
TBF102 /5	Physics-II	2.Semester Winter	The objective of this course is to engage the engineering students with the fundamental concept and principles of electric physics and to provide them with its theory and applications, in clear, understandable presentation. To help accomplish this aim, the concept of physics is introduced with familiar examples involving in engineering, chemistry, mathematics and medicine.	Assist. Prof. Dr. Handan Aydın haydın@munzur.edu.tr 428 213 17 94/2518	Metallurgy and Materials Engineering
İMÜ102	Computer-Aided			Assist. Prof. Dr. Nihan Gülmez	Civil

/6	Design	2.Semester Winter	Introduction of Allplan program and interface, access to command, create a project and file and their modify, Basic modules; Draw, modify, object snaps and view commands, modification of objects, Layers, Library, Hatch, Object properties, Text, Dimension styles and dimension, File input from other computer programs, File transfer to other computer programs, Arcitectural Module; Drawing of walls, columns, beams, slabs, roofs, stairs and foundations, create surfaces, horizontal and vertical interfaces, top, front and profile views, Civil Engineering Module; Reinforcing bars drawing and their modifications, quantity survey, 3D solids modelling, plot.	nihangulmez@munzur.edu.tr 428 213 17 94/2418	Engineering
İMÜ104 /6	Statics	2.Semester Winter	Introduction to the principles and problems of mechanics of rigid bodies; force and displacement. Force systems; concurrent/non-concurrent systems, moment, couple, resultant, equivalent force systems. Equilibrium of force systems (static equilibrium). Free-body diagrams. Simple structures; the concept of structural analysis, analysis of trusses, beams and frames, hinged systems, chains and cables. Distributed forces. Virtual work. Stability. Friction.	Assist. Prof. Dr. Deniz Yılmaz dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering

İMÜ106 /4	Engineering Geology	2.Semester Winter	Structure of the earth, geological cycles, minerals and rocks. Magmatic, sedimentary and metamorphic rocks. Geologic structure and its importance in civil engineering. Geologic maps and cross-sections. Dams and reservoir geology. Geological concepts in landslides, hydrogeology and tunnels. Quarries and dimension stone. External processes on land and in the sea. Internal processes including deformation of rocks and earthquakes	Assist. Prof. Dr. Özlem Erdem osenerdem@munzur.edu.tr 428 213 17 94/2474	Civil Engineering
TRD102 /2	Turkish Language II	2.Semester Winter	Reading sample literary and contemporary texts. Oral and written expression	Lecturer Cemile ŞEN 428 213 17 97/2147	
YDI102 /3	Freshman English II	2.Semester Winter	Academic reading comprehension skills are further reinforced through and intensive reading of both scientific and academic texts and techniques of writing are further developed with emphasis on the usage of technical vocabulary	Randomly selected at each semester	Foreign Language Dept.
TBM203/ 4	Linear Algebra	3.Semester Winter		Assoc. Prof. Dr. Hacı Mehmet Baskonuş 428 213 17 94/2476	Computer Engineering
İMÜ201 /4	Material Science	3.Semester Winter	Structure of substances. Formation of materials, phase transformations. Properties of materials, electrical, mechanical, thermal and other properties of materials. Corrosion. Engineering materials: metals, plastics, ceramics and composites in general. Mechanical and	Assoc. Prof. Dr. Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering

			physical testing methods.		
İMÜ203 /4	Solid Mechanics-I	3.Semester Winter	Introduction, Basic Principles/Internal Forces and State of Stress/State of Strain/ Kinematical Relations/Stress-Strain Relations (Hooke's Law)/Strain Energy/ Allowable Stresses/Fundamentals of Strength of Bars, Stress Resultants, Equivalence Relations/Axial Normal Force/Shear Force/Bending/Torsion/ Theories of Failure.	Assoc. Prof. Dr. Burak Yön burakyon@munzur.edu.tr 428 213 17 94/2509	Civil Engineering
İMÜ205 /4	Dynamics	3.Semester Winter	Kinematics of particles and rigid bodies; absolute motion, relative motion. Kinetics of particles; equation of motion, work-energy and impulse-momentum. Systems of particles. Kinetics of rigid bodies: Euler\'s equations; plane motion of rigid bodies. Kinetic energy of rigid bodies. Introduction to the dynamics of vibrating systems.	Assist. Prof. Dr. Deniz YILMAZ dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering
İMÜ207 /3	Structural Elements	3.Semester Winter	Principles of mix design. Statistical concepts for quality control. Inspection and testing of materials. Special concreting methods. Cold and hot weather concreting, pumped concrete, ready-mixed concrete, shotcrete. Fly-ash, silica fume; super-plasticizers. Special types of concrete: architectural concrete, mass concrete, rollcrete, high-density concrete, light-weight concrete, airport runway concrete	Assist. Prof. Dr. Selim CEMALGİL scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering

İMÜ209 /3	Probability and Statistics	3.Semester Winter	Descriptive statistics, histograms, central tendency, dispersion, and correlation measures. Basic probability concepts, random variables, probability density function and mass function. Hypotheses testing, analysis of variance, confidence intervals. Law of large numbers and Central limit theorem. Regression analysis. Applications in civil engineering. Reliability and hazard functions. Structural and mechanical reliability.	Assoc. Prof. Dr. Erkan Çelik erkancelik@munzur.edu.tr 428 213 17 94/2470	Industry Engineering
İMÜ211 /3	Computer Programming	3.Semester Winter	Introduction to organization and characteristic of computers. Number systems, algorithms and flow charts. Programming in FORTRAN, control statements and loops, arrays and variables, formatted input /output, subprograms. Applications to civil engineering problems. Introduction to computer capabilities and to some package programs	Assist. Prof. Dr. Deniz YILMAZ dyilmaz@munzur.edu.tr 428 213 17 94/2497	Civil Engineering
AİT201/2	Atatürk's Principle and	3.Semester Winter	Basic political, economic, social and		

	The History of the Turkish Renovation I		cultural facts of the historical period beginning by the classical age of the Ottoman Empire and ending by the signing of Lausanne Treaty in 1923 - the fundamental academic interpretations on them.	Lecturer Tahsin Hazırbulan tahsinhazirbulan@munzur.edu.tr 428 213 17 94/2469	
İMÜ213 /3	Intellectual and Industrial Property Rights	3.Semester Winter	The aim of this course is to teach the fundamentals of intellectual and industrial property rights. As a result of this course, students have knowledge about intellectual property rights system and Law of 5846 Intellectual and Artistic Works, industrial property rights system and 6769 Industrial Property Law, international agreements, copyright, software registration, patent registration, trademark registration, design registration and incentives in this field. It will be. Within the scope of the course, each student will prepare a report on their registration process and read at least one book on intellectual property rights and / or entrepreneurship.	Randomly selected at each semester	Civil Engineering
TBM204 /4	Differential Equations	4.Semester Winter	What is differential equation? How do they arise? First order differential equations. Orthogonal trajectories. Linear differential equations of arbitrary order. Approximate methods of solution of D.E., Power series solutions of D.E., Laplace transforms. Systems of linear D.E.	Assist. Prof. Dr. İnan Ünal inanunal@munzur.edu.tr 428 213 17 94/2438	Computer Engineering

			Introduction to partial differential equation.		
İMÜ202 /3	Health and Safety	4.Semester Winter	Objectives and content of the course, outlines of the course, the aim of health and safety, Basic concepts of health and safety such as injuries at work, occupational disease, historical development of health and safety, health and safety applications in Turkey and all over the world, ,Health and safety legislations ,Occupational health and safety standard: Ohsas 1800 ,Organization of health and safety, duties and responsibilities of the ones who are responsible for health and safety ,Responsibilities of government, employers and workers ,types of Incident and accident , occupational disease, prevention methods of diseases and accidents	Assoc. Prof. Dr. Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering
İMÜ204 /4	Construction Material	4.Semester Winter	Production types used in construction, properties and related tests for the following materials are covered: Feorrous metals, bituminous materials, clay products, timber, building stones, mineral aggregates, lime gypsum, hydraulic cements and concrete. Constituents, theories of mix design, principals steps in production, physical and mechanical properties of concrete.	Assoc. Prof. Dr Murat Dal muratdal@munzur.edu.tr 428 213 17 94/2423	Civil Engineering
İMÜ206 4/	Structural Analysis I	4.Semester Winter	Introduction, classification of	Assoc. Prof. Dr. Burak Yön	Civil Engineering

			structural systems, loads, assumptions and idealizations, force systems, forces, reactions, internal forces, equilibrium equations, analysis of plane systems under dead loads, statically determinate plane systems; beams, indirect systems, statically determinate plane trusses, analysis of plane systems under live loads, introduction to influence lines	burakyon@munzur.edu.tr 428 213 17 94/2509	
İMÜ208/5	Solid Mechanics-II	4.Semester Winter	Combined Loading States, Normal Force with Bending/ Core, Materials not Resistant to Tension under the Effect of Eccentric Normal Force/ Determination of Stresses and Strains in the Case of Bending Moments with Shearing Force/ Design in the Case of Bending Moments and Shearing Force. Directions of Principal Stresses/ Study of Elastic Curve by Various Methods, Analysis of Statically Indeterminate Systems/ Bending with Torsion/ Energy Methods/ Elastic Stability.	Assoc. Prof. Dr. Burak Yön burakyon@munzur.edu.tr 428 213 17 94/2509	Civil Engineering
İMÜ210 /4	Railway and Earthwork	4.Semester Winter	General information, types and properties of soils, structure of soils, highway preparation of cross-sections, retaining walls, splitting and filling volumes, Diagram of masses and optimum soil distribution, platform creation, excavation methods, excavation vehicles, dampers, compression and compression tools,	Assist. Prof. Dr. Selim CEMALGİL scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering

			Introduction to railway engineering, gravity, geometric and physical standards, manufacture of slopes, curves, transition curves, routes, superstructures, superstructures		
İMÜ212 /4	Land Survey	4.Semester Winter	Description of the measure. Use ofthe geodetic measuring device. Distance measurement, problem-solving methods and sources of error in measuring distance Angle measurement tools and angle measurements. Coordinate and field measurement methods. Definition of height systems.Levelling principles and techniques.	Dr. Mustafa Akpolat mustafaakpolat@munzur.edu.tr 428 213 17 94/1644	Civil Engineering
AİT202/2	Atatürk's Principle and The History of the Turkish Renovation II	4.Semester Winter	Basic political, economic, social and cultural facts of the historical period beginning from 1923 to the present; fundamental academic interpretations on them	Lecturer Tahsin Hazırbulan tahsinhazirbulan@munzur.edu.tr 428 213 17 94/2469	
İMÜ301 /5	Fluid Mechanics	5.Semester Winter	Definitions, physical properties, hydrostatics. Buoyancy. Rate of deformation. Steady and unsteady flows. Principles of conservation of mass and conservation of momentum. Bernoulli theorem and fluid energy. Application to pumps and turbines hydraulics. Introduction to similarity laws. Incompressible flow regimes; viscous flow. The flow of viscous fluids in ducts	Assist. Prof. Dr. Yusuf Doğan ydogan@munzur.edu.tr 428 213 17 94/2470	Civil Engineering
İMÜ303 /5	Structural Analysis II	5.Semester Winter	Concept of elastic strain, energy theorems,	Assoc. Prof. Dr. Burak Yön	Civil Engineering

			calculation of displacements and rotations using energy methods, analysis of statically indeterminate structures, force method, calculation of displacements in statically indeterminate structures, displacement method, cross-moment distribution method, influence lines and load combinations.	burakyon@munzur.edu.tr 428 213 17 94/2509	
İMÜ305 /5	Soil Mechanics	5.Semester Winter	Engineering problems involving soils. Index properties and classification of soils. Phase relationships. Compaction. Permeability. Seepage and flow nets. Total and effective stress, hydrostatic and excess pore pressures. Shear strength of soils. Stresses and displacements. Lateral earth pressure at rest, active and passive earth pressures; Rankine's theory and Coulomb's wedge theory. Earth-retaining structures. Compressibility of soils. One-dimensional consolidation; determination of coefficients of compressibility and consolidation. Principles of foundation design; analysis of settlements, bearing capacity of foundations	Assist. Prof. Dr. Özlem ERDEM osenerdem@munzur.edu.tr 428 213 17 94/2474	Civil Engineering
İMÜ307 /5	Engineering Hydrology	5.Semester Winter	İntroduction: hydrologic cycle,	Assist. Prof. Dr. Hilal ARSLANOĞLU IŞIK	Civil Engineering

			engineering point of view. Weather and hydrology: dominant hydro meteorological factors. Precipitation: formation, measurement and analysis of data. Snowpack and snowmelt. Streamflow: watershed system, measurement. Evaporation and evapotranspiration. Surface water interactions. Hydrograph analysis and synthesis; Flood routing. Probability in hydrology; introduction to stochastic hydrology and simulation methods.	h_arslanoglu@hotmail.com 428 213 17 94/2425	
İMÜ309 /5	Highway Engineering and Design	5.Semester Winter	Elements of Highway, characteristics of road users, vehicle movements and general characteristics of road traffic, capacity of roads, highway classification and selection of geometric standards, crossing and plan, Horizontal curves, longitudinal section and vertical curves, infrastructure, drainage of roads, pavement and hot mix asphalt, Drawing the zero polygon, drawing the route, calculation of horizontal curves, passing the red line, making the cross-section readings, making the superelevation calculation, drawing of the cross sections, preparing the volume table, drawing the Brucner curve, the preparation of the footage of the	Dr. Mustafa Akpolat mustafaakpolat@munzur.edu.tr 428 213 17 94/1644	Civil Engineering

			infrastructure and superstructure works and the summary of the discovery		
İMÜ311/3	Numerical Analysis	5.Semester Winter	Error Analysis, Solution Methods of Nonlinear Equations, Solution Methods of Linear Set of Equations, Interpolation and Curve Fitting, Numerical Derivation, Numerical Integration, Numerical Solution Methods of Ordinary Differential Equations	Assist. Prof. Dr. Hilal ARSLANOĞLU IŞIK h_arslanoglu@hotmail.com 428 213 17 94/2425	Civil Engineering
İMÜ399 /2	Professional Practice-I (Internship)	5.Semester Winter	Internship presentation, investigation of the internship notebook	All academic staff	Civil Engineering
İMÜ302 /5	Steel Structures	6.Semester Winter	Behaviour of steel structures. Tension members and compression members. Beams. Combined bending and compression. Types and behaviour of connections : riveted, bolted, and welded.	Assist. Prof. Dr. Nihan Gülmez nihangulmez@munzur.edu.tr 428 213 17 94/2418	Civil Engineering
İMÜ304 /5	Reinforced Concrete I	6.Semester Winter	Design of reinforced concrete members according to limit states. Adherence and development. Behavior of reinforced concrete and ultimate strength design. Analysis and design of beams under pure bending. Reinforced concrete members under shear. Analysis and design of columns subjected to axial loads. Analysis and design of columns subjected to combined axial load and bending. Analysis and design of biaxially loaded columns. Serviceability limit states of	Assist. Prof. Dr.Onur Onat onuronat@munzur.edu.tr 428 213 17 94/2424	Civil Engineering

			reinforced concrete members		
İMÜ306 /5	Construction Management	6.Semester Winter	Construction machinery; engineering fundamentals. Description, types, selection criteria and output analysis of basic construction equipment. Contracting law; Bidding law No.2886; general specifications for public works. Profile of the construction sector, company and site organisation, construction planning; stock control, quality assurance, cost control, value engineering, financing. Safety engineering. Human relationships. Quantitative methods.	Assist. Prof. Dr. Selim Cemalgil scemalgil@munzur.edu.tr 428 213 17 94/2434	Civil Engineering
İMÜ308 /5	Engineering Hydraulics	6.Semester Winter	Units. Dimensions. Dimensional homogeneity. Dimensional analysis. Buckingham theorem. Interpretation of various dimensionless quantities in fluid flow; similitude, principle of modelling. Laminar flows. Poiseuille flow; turbulent flows. Reynolds frictional losses. Moody chart. Generalised Bernoulli theorem. Branching pipes. Open channel flow: definition and classification, pressure distribution, uniform flow computation. Normal, composite, compound cross-sections. Specific head Knock, parabola. Introduction to gradually varied flow and rapidly varied flow	Assist. Prof. Dr. Yusuf Doğan ydogan@munzur.edu.tr 428 213 17 94/2470	Civil Engineering
/3	Technical Elective I	6.Semester Winter			

İMÜ310 /5	Foundation Engineering	6.Semester Winter	Subsurface exploration. Boring and sampling methods. Field load test. Types of loads on foundations. Allowable settlement of structures. Soil structure interaction. Open excavations. Bracing of open cuts. Spread foundations. Individual column footing. Wall footings. Cantilever footings. Combined footings and raft foundations. Rigid and elastic design methods. Introduction to pile foundations.	Assist. Prof. Dr. Özlem Erdem osenerdem@munzur.edu.tr 428 213 17 94/2474	Civil Engineering
İMÜ312 /2	Engineering Economy	6.Semester Winter	Introduction to engineering economics / Cost and its usage in decision making / Market conditions, supply-demand equilibrium / Economic systems, macro and micro economy concepts, income distribution / Interest and time value of money, cash flow / Methods of calculating interest: simple, compound, nominal and effective interest; effect of varying interest rate / Rational comparison of economic alternatives with various methods / Depreciation concept and analysis methods / Investment amount, determination of revenue and costs / Inflation concept, its types and effect on economical parameters	Assoc. Prof. Dr. Muhammet Gül muhammetgul@munzur.edu.tr 428 213 17 94/2438	Industry Engineering
İMÜ401 /6	Reinforced Concrete II	7.Semester Winter	Slabs: introduction, types of Slabs, one-way	Assist. Prof. Dr. Onur ONAT	Civil Engineering

			slabs, two-way slabs, ribbed slabs, punching shear; footings: introduction, types of footings, wall footings, single-column footings, combined footings, continuous footings.	onuronat@munzur.edu.tr 428 213 17 94/2424	
İMÜ405/3	Entrepreneurship	7.Semester Winter	Introduction of the basic issues in entrepreneurship and management of small enterprises. The course "Entrepreneurship" will be conducted mainly in the form of lectures, discussions with guest managers from the sector and presentation of business plans. Within the scope of the course, students are obliged to prepare and present their business plans for the passing of a new business idea to the end of the semester.	Assist. Prof. Dr. Süleyman METE suleymanmete@munzur.edu.tr 428 213 17 94/2519	Industry Engineering
İMÜ 403 /5	Water Resources	7.Semester Winter	River Morphology / Sediment transportation in rivers / Drop structures, diversion weirs, gated diversion weirs / Dams, types of dams/ Reservoir of dams / Water intakes structures from river / Outlet works of dam, spillways/ Energy dissipation basin/ River improvements / Flood control structures	Assist. Prof. Dr. Yusuf Doğan ydogan@munzur.edu.tr 428 213 17 94/2470	Civil Engineering
İMÜ497 /3	Professional Practice-II (Internship)	7.Semester Winter	Internship presentation, investigation of the internship notebook		
/5	Technical Elective II	7.Semester Winter			
/5	Technical Elective II	7.Semester Winter			
İMÜ407/3	Project Management	7.Semester Winter		Assoc. Prof. Dr. Muhammet Gül	Industry Engineering

			Introduction to project and project management Knowledge fields in project management Starting the project Project planning, I - time management, project team building Project planning II- Estimation of costs, budgeting and planning of risk management Implementation of the project-CPM and PERT Project monitoring and control Project closure	muhammetgul@munzur.edu.tr 428 213 17 94/2438	
	Social Elective	7.Semester Winter			
İMÜ402/4	Water Supply and Environmental Health	8.Semester Winter	Design of water distribution network by dead point method/ Design of waste water sewer systems/ Design of storm water sewer systems	Assist. Prof. Dr. Hilal A. Işık h_arslanoglu@hotmail.com 428 213 17 94/2425	Civil Engineering
İMÜ404 /4	Introductions to Earthquake Engineering	8. Semester Winter	Earthquake conceptions in seismological, geotechnical and structural aspects. Content includes: Earthquake characteristics and mechanism, soil properties under earthquakes, soil-structure interactions, earthquake damage, earthquake design codes, design principles under earthquake loadings	Assist. Prof. Dr. Onur Onat onuronat@munzur.edu.tr 428 213 17 94/2424	Civil Engineering
İMÜ406 /6	Reinforced Concrete Structure Design	8.Semester Winter	Slab design, preliminary design of beams and columns, static analysis under vertical loads, analysis under earthquake load, superposition of the internal forces, design of the beams, design of	Assist. Prof. Dr. Onur Onat onuronat@munzur.edu.tr 428 213 17 94/2424	Civil Engineering

			the columns, design of the footings, drawings: floor plans, footings plans, column detailing, beam detailing, footing Detailing.		
İMÜ499 /6	Graduation Study	8.Semester Winter	Each student will choose a project topic with his/her Advisor, will write a final report and will defend it against a jury	All civil engineering academic staff	Civil Engineering
/5	Technical Elective IV	8.Semester Winter			
/3	Technical Elective V	8.Semester Winter			
	Social Elective	8.Semester Winter			