****

**ERASMUS+ COURSE LIST  
2019-2020 ACADEMIC YEAR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FACULTY OF ARCHITECTURE AND DESIGN**  **DEPARTMENT OF ARCHITECTURE** | | | | |
| **CODE** | **COURSE** | **DESCRIPTION** | **CREDIT** | **PROFESSOR** |
|  | Building Materials | Explaining the general characteristics. Production and application techniques of building materials; such as timber, stone, earth (ceramics), glass, plastics and metal which are known as main building materials used in building production. | 3 | **-** |
|  | Building Elements | To develop the problem solving ability of students. To make students understand primer performence requirements of building elements and components, to determine the limits and priorities, to cognize building element design methods and improve knowledge. | 7 | **-** |
|  | Gesehichtedes Ersten Alters Undder Antiken Architektur | Die entwicklung und veranderung und veranderung in der architektur von ersten bis zum indüstriellen seitalter su erklarin. | 3 | **-** |
|  | Studio-V (Architectural Design) | To be able to identify, discuss and interpret prominent cases from word literature on relevant works of pioneering features. | 10 | **-** |
|  | Modern Architecture in European Cities | In this course, it's aimed to show the students the landmark buildings in European Cities. Students learn the architectural culture of different countries from the Professor's personal experiences. | 3 | **-** |
|  | Cultural Heritage Documentation Techniques | There is always need for reliable and accurate data for documentation of cultural heritage. | 3 | **-** |
|  | Construction Project | Subsystem development in accordance with building function, Impartment of the skill for finding architectural solutions with consideration to technical and legislative factors as well as aesthetical, in the process of integration establishment between subsystems. Teaching how to select building materials | 11 | **-** |
|  | Campus Planning Principles | Get information about university buildings and campus settlements. Get informaiton about the design principles of education buildings. | 3 | **-** |
|  | Architectural Survey and Restoration Project | The building itself is the main source of historical information. A proper documentation of the building is the main an essential thing for a successful restoration project. |  |  |
|  | Building Materials | Explaining the general characteristics. Production and application techniques of building materials; such as timber, stone, earth (ceramics), glass, plastics and metal which are known as main building materials used in building production. |  |  |
|  | | | | |
| **FACULTY OF ARCHITECTURE AND DESIGN**  **DEPARTMENT OF URBAN AND REGIONAL PLANNING** | | | | |
| **CODE** | **COURSE** | **DESCRIPTION** | **CREDIT** | **PROFESSOR** |
|  | Spatial Configuration in Faculty Buildings | Get information about spatial configuration. Get information about campus and faculty buildings. Donate basic information and skills about designing faculty buildings. | 3 | **-** |
|  | Architecture Bioclimatique | Les parametres de conception a l’echelle du batiment et urbaine pour une conception bioclimatique. | 3 | **-** |
|  | Projet Architectural 4 | Realisation d’une conception architecturale dans un contexte specifiwque. Analyser le site et de decrire les priorites caracteristiques du site: les contraintes et opportunites. | 10 | **-** |
|  | Die Turkiseh Architekur Vor Undu Nach Dem İslam | Die entwicklung und veranderung und veranderung in der geschichte der Türkish Kunts | 3 | **-** |
|  | Architecture and Timber Material | Understanding the importance of natural timber material through historical periods in the architectural profession. | 3 | **-** |
|  | Studio-VI (Architectural Design) | Get information about multifunctional buildings. Get information about vertical and horizontal circulation. Donate basic information and skills about designing buildings like hotels, shopping malls, etc. | 12 | **-** |
|  | Solar Architecture | Get information about the relation of architecture and energy.. Get information about the usage of renewable energy surces in architecture.  Donate basic information and skills about the consideration of solar energy on building design. | 3 | **-** |
|  | Architectural Readings in Cinema | Architecture comprises not only technical but also fine art fields. As an art issue architecture has common language with the other brunch of art. | 3 | **-** |
|  | | | | |
| **FACULTY OF ENGINEERING AND NATURAL SCIENCES**  **DEPARTMENT OF CIVIL ENGINEERING** | | | | |
| **CODE** | **COURSE** | **DESCRIPTION** | **CREDIT** | **PROFESSOR** |
|  | Application of Hydraulic Engineering Design | This course that the basis of computation and sizing of Ogee Spilway, physical and numerical modelling of this structure and evaluation of the results. | 12 | Dr. Alpaslan YARAR |
|  | Application ofStructural Engineering Design | This course that the basis of analysis and design of Reinforced Concrete Structures and modelling of this structure and evaluation of the results. | 12 | Prof. Dr. S.  Bahadır  YÜKSEL |
|  | Non-Linear Analysis of Structures | This course covers the calculation of member forces at collapse and Non- linear analysis of structures | 4 | Prof. Dr. S.  Bahadır  YÜKSEL |
|  | Seismic Assessment of Reinforced Concrete Buildings | This course covers the methods used for the seismic assessment of reinforced concrete buildings | 4 | Prof. Dr. S.  Bahadır  YÜKSEL |
|  | | | | |
| **FACULTY OF ENGINEERING AND NATURAL SCIENCES**  **DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING** | | | | |
| **CODE** | **COURSE** | **SEMESTER** | **CREDIT** | **PROFESSOR** |
|  | Electrotechnics | AUTUMN (1st Semester) | 5 | - |
|  | Electrical and Electronics Measurements | SPRING (2nd Semester) | 5 | - |
|  | Computer Programming-I | SPRING (2nd Semester) | 5 | - |
|  | Circuit Analysis-I | AUTUMN (3rd Semester) | 5 | - |
|  | Electronics-I | AUTUMN (3rd Semester) | 5 | - |
|  | Logic Circuits | AUTUMN (3rd Semester) | 5 | - |
|  | Differantial Equations | AUTUMN (3rd Semester) | 5 | - |
|  | Computer Programming-ll | AUTUMN (3rd Semester) | 3 | - |
|  | Circuit Analysis-ll | SPRING (4th Semester) | 5 | - |
|  | Electronics-ll | SPRING (4th Semester) | 5 | - |
|  | Logic Circuit Design | SPRING (4th Semester) | 5 | - |
|  | Probability and Statistics | SPRING (4th Semester) | 5 | - |
|  | Electrical Machinery I | AUTUMN (5th Semester) | 5 | - |
|  | Automatic Control I | AUTUMN (5th Semester) | 5 | - |
|  | Mikrocontrollers | AUTUMN (5th Semester) | 5 | - |
|  | Electronics Circuit Design | AUTUMN (5th Semester) | 5 | - |
|  | | | | |
| **FACULTY OF ENGINEERING AND NATURAL SCIENCES**  **DEPARTMENT OF GEOLOGY** | | | | |
| **CODE** | **COURSE** | **COURSE PLAN** | **CREDIT** | **PROFESSOR** |
|  | Stratigraphy and Sedimantology | Introduction, Sedimentary particules, Sedimentary processes, Sedimentary structure, Paleocurrent analysis, Sedimentary environments, Sedimentary tectonics, Fundamental laws of geology, Stratigraphical contacts, Lithostratigraphy, Biostratigraphy, Chronostratigraphy, Magnetic Stratigraphy, methods of dating rocks, Seicmic startigraphy, Sequence stratigraphy | 5 | Prof. Dr. Hükmü ORHAN |
|  | Optical Mineralogy | Introduction, properties of light, Interference , optic retardation, Light and polarized light, Uniaxial and biaxial indicatrix, Optic activity, polarised light microscopy, Accessory plates, Form, shape, colour, pleochroism, The Becke lines, relief, Measurement of length and surface in minerals, Isotropy, anisotropy, Extinction angles, elengation, Conoscopic studies, Conoscopic studies, Optical orientation, relatıonship of optical propertıes to crystal chemıstry. | 3 | Prof. Dr. Kerim KOÇAK |
|  | Igneous Petrography | Introduction igneous rocks and magmas,petrography of plutonic, subvolcanic and volcanic rocks,Appearance and distribution of igneous rocks,Chemical and mineralogical properties of igneous rocks,Igneous textures,Classification of igneous rocks,Diagramatic representation of mineral parageneses,Magmatic crystallization and differentiation,Granite and granitic rocks, general emplacement, modal compositions, geochemical and petrogenetic acteristics,Andesite and andesitic rocks, their emplacement, modal compositions, and geochemical and petrogenetic acteristics,Basalt and related rocks, their emplacement, modal compositions, and geochemical and petrogenetic acteristics,Trachyte-syenite and associated rocks, their emplacement, modal compositions, geochemical and petrogenetic acteristics,Dacite-rhyolite and associated rocks, overall emplacement, modal compositions, geochemical and petrogenetic acteristics,Ultramafic, kimberlites and carbonatites, | 5 | Prof. Dr. Kerim KOÇAK |
|  | Tufa and Travertine Sedimentology | Introduction,Travertine and Tufa,Factors controling the precipitation of tufa and travertine,Characteristics of travertine and tufa,Travertine and tufa fabrics,Depositional environments of tufa and travertine,Facies types in travertine and tufa,Mineralogy and element composition of travertine and tufa,Chemistry of travertine and tufa formation water,interpretation of Stable isotop content of tufa and travertine,The role of organism in formation of travertine and tufa,The methods of dating travertine,Estimating paleoclimate with travertine and tufa, General overview | 5 | Prof. Dr. Hükmü ORHAN |
|  | Environmental Geology | Introduction, Philosophy and fundamental principals, Earth material and processes,Earth material and processes,Minerals and rocks,Minerals and rocks,earthquake and environment,energy and environment,water pollution,waste disposal,landslides and their effects on the environment,Decision of land use and decison making for city planning,Air pollution,General Review | 5 | Prof. Dr. Kerim KOÇAK |
|  | Facies Determination and Interpretation | Introduction, definition of sedimentary basin, sedimentary environment and sedimentary facies, criteria for facies description, rules for coding facies, rules for describing facies associations, correlation and interpretation of facies and facies associations | 5 | Prof. Dr. Hükmü ORHAN |
|  | Sedimentary Rocks |  | 4 | Prof. Dr. Hükmü ORHAN |
|  | Petrography of Metamorphic Rocks | Introduction, the principal factors in metamorfism,Describibng and naming metamorphic rocks,Metamorphic textures and microscopic structures,Metamorohic crystallisation,Mineral orientations,Metamorphic reactions,Diagramatic representation of mineral parageneses,Metamorphic facies,Contact metamorphism,Dynamic metamorphism,Regional Metamorphism,Regional Metamorphism,Metasomatism and anatexi,Global tectonic and metamorphism | 4 | Prof. Dr. Kerim KOÇAK |
|  | Seminary | Inroduction,The topic selection,To learn Endnote software for Literature research,Literature research,Literature research,To learn how to choose, read understand papers,To prepare a project and a report,To learn Endnote software for reference in the report,To use Endnote software for reference in the report,In Microsoftword, to learn Heading style,In Microsoftword, to learn Table and Figure Captions and cross-application,In Microsoftword, to prepare Contents and index,Preperation of a presentation by Powerpoint software,Preperation of a presentation by Powerpoint software. | 4 | Prof. Dr. H. KURT Prof. Dr. Hükmü ORHAN Prof. Dr. Kerim KOÇAK |
|  | Design in Geological Engineering-1 | Preperation of a geological map of an area by Corel-Draw software,Preperation of a geologic stratigraphic columnar section of an area by Corel-Draw software,Preperation of a geologic cross-section from a geologic map by Corel-Draw software,Evaluation of joints and strike, and dip of beddings in a region by Fieldmoveclino software, Results of the bulk-rock chemical analyses, assumed to be belong to an area, are going to be evaluated by "Gcdkit " software, Therefore, the nomenclature and geotectonic setting of the samples are going to be determined, and some geochemical diagrams with contours and 3D (three-sized) diagrams are going to be plotted, Results of the bulk-rock chemical analyses, assumed to be belong to an area, are going to be evaluated by "Gcdkit " software. Therefore, the nomenclature and geotectonic setting of the samples are going to be determined, and some geochemical diagrams with contours and 3D (three-sized) diagrams are going to be plotted.Results of the bulk-rock chemical analyses, assumed to be belong to an area, are going to be evaluated by "Gcdkit " software.Therefore, the nomenclature and geotectonic setting of the samples are going to be determined, and some geochemical diagrams with contours and 3D (three-sized) diagrams are going to be plotted, google scetchup and pictures obtained by Fieldmoveclino software into the Google earth. Drawing a cross section on Google Earth, Preperation of a poster in the light of the knowledge obtained so far by Powerpoint software, Preperation of a presentation in the light of the knowledge obtained so far by Powerpoint software  By application of all softwares tought, preperation of a poster for various geological problems of an area to improve design capabilities/features of the students | 3 | Prof. Dr. Kerim KOÇAK |
|  | Low Temperature Geochemistry | Basic terms in chemistry, Chemical bonds, ionic ratio and crystals, Goldschmidt's rules of substitution, Chemical reactions and equilibria, Law's of Termodynamics, Mineral stability diagrams, Solubility diagrams, Eh-Ph diagrams, Rate of chemical reactions, Stability limits of geological materias, Applications of geochemistry to the geological problems | 5 | Prof. Dr. Hükmü ORHAN |
|  | Design in Geological Engineering-2 | Inroduction and chosen the field for mapping, Literature survey, Making a Geological map of the land, Laboratory work, Office to study and prepare a report, Office to study and prepare a report | 6 | Prof. Dr. H Prof. Dr. H. KURT Prof. Dr. Hükmü ORHAN Prof. Dr. Kerim KOÇAK |
|  | | | | |
| **FACULTY OF ENGINEERING AND NATURAL SCIENCES**  **DEPARTMENT OF GEOMATICS** | | | | |
| **CODE** | **COURSE** | **SEMESTER** | **CREDIT** | **PROFESSOR** |
|  | Coordinate Systems |  | 3 | Prof. Dr. Ekrem TUŞAT |
|  | Satellite Geodesy |  |  | Prof. Dr. Ekrem TUŞAT |
|  | Geographic Information System Application for Geomatics Engineering |  |  | Prof. Dr. Fatih İŞCAN |
|  | Remote Sensing |  |  | Prof. Dr. Hakan KARABÖRK |
|  | Remote Sensing Applications in Spatial Analysis |  |  | Prof. Dr. Hakan KARABÖRK |
|  | The C Programming |  |  | Prof. Dr. İ. Öztuğ BİLDİRİCİ |
|  | Statistics |  |  | Prof. Dr. İ. Öztuğ BİLDİRİCİ |
|  | DNSS and RTK CORS Networks |  |  | Prof. Dr. Muzaffer KAHVECİ |
|  | Navigation by Satellites |  |  | Prof. Dr. Muzaffer KAHVECİ |
|  | Numerical Analysis for Geomatics Engineering |  |  | Doç. Dr. Serkan DOĞANALP |
|  | | | | |
| **FACULTY OF ENGINEERING AND NATURAL SCIENCES**  **DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING** | | | | |
| **CODE** | **COURSE** | **CONTENT** | **CREDIT** | **PROFESSOR** |
|  | Failure of Materials | The aim of this course is to teach students about failure mechanism of materials | 4 |  |
|  | Mechanical Metallurgy | Basic concepts related to mechanical properties of materials, and Standard test method for determinina the mechanical properties of materials teach. | 3 |  |
|  | Materials Science 1 | Explain the importance of material science in terms of engineering applications. Teach the basic structure of enaineerina materials | 6 |  |
|  | Materials Science 2 | Explain the importance of material science in terms of engineering applications. Teach the basic structure of engineering materials | 6 |  |
|  | Kinetics of Materials | The objective of this course is to unify phenomenological and atomistic kinetic processes in materials | 4 |  |
|  | Phase Equilibria | Explain the importance of material science in terms of engineering applications. Teach the basic structure of engineering materials | 5 |  |
|  | Dev. of Reading & Writing Skills | The aim of this course is to provide students a better understanding of the knowledge, science, philosophy of science, methods of the scientific research. | 4 |  |
|  | Fundamentals of Nanotechnology | Teaching of the new era materials, nano concept and introduction future nano scale devices, robot and systems are aimed | 4 |  |
|  | Cristallography | To learn theorics and applications of crystallography for engineering application | 4 |  |
|  | Mechanical Properties of Materials  (Graduate Studies) | In design, it is very important to know the mechanical behavior of the material under mechanical loading. Especially loading that causes failure and deformation and the fracture properties of the material are prerequisites in proper design. It is aimed that detailed knowledge of structure-property relationships will be gained by the students. | 7.5 |  |
|  | Degradation of Engineerin Materials  (Graduate Studies) | Recognize engineering materials with the degradation of engineering materials, To give functional information to the material surface and to protection, Having knowledge about new technologies and protection methods about degradation of engineering materials, | 7.5 |  |
|  | Advanced Phase Equilibria  (Graduate Studies) | The objective of this course is to develop an understanding of the thermodynamic driving force for phase transformations. The course attempts to indicate the important role of free energy vs. temperature relationships in unary and multi-component phase diagrams. | 7.5 |  |
|  | Principles of Scientific Research and Academic Skills  (Graduate Studies) | This course includes researching and publishing different approaches in research methods, commonly used research techniques, research steps, data collection and analysis, interpretation, principles of writing a report / thesis, bibliography and footnote displaying techniques. The aim of this course is to provide students with the ability to design and report a high quality scientific research and gain the ability to produce original information in this way. | 7.5 |  |
|  | Materials Microprocessing and Colloidal Chemistry  (Graduate Studies) | To learn theorics and applications of production of engineering colloidal systems | 7.5 |  |
|  | | | | |
| **FACULTY OF ENGINEERING AND NATURAL SCIENCES**  **DEPARTMENT OF MINING ENGINEERING** | | | | |
| **CODE** | **COURSE** |  | **CREDIT** | **PROFESSOR** |
|  | Underground Mining Methods | Introduction  mining methods classification  Long wall mining methods  Shortwall mining methods  Mining methods pillars (pillar methods)  Room and pillar type methods (room methods)  Block extraction methods  Mid term examination  Block extraction methods (block caving)  Block extraction methods (block caving)  Sublevel caving mining methods  Sublevel stoping methods  Mining methods which are not used anymore  Deep of the mine (decisionabout) to continue underground activity  Hydroulic mining methods and its evaluation | 5 |  |
|  | | | | |
| **FACULTY OF ENGINEERING AND NATURAL SCIENCES**  **DEPARTMENT OF MECHANICAL ENGINEERING** | | | | |
| **CODE** | **COURSE** |  | **CREDIT** | **PROFESSOR** |
|  |  |  |  |  |