

**FIRAT UNIVERSITY**  
**ELAZIG ORGANIZED INDUSTRIAL ZONE VOCATIONAL SCHOOL**  
**CONSTRUCTION TECHNOLOGY PROGRAM**  
**(2018-2019 Curriculum)**

**1<sup>ST</sup> CLASS 1<sup>ST</sup> SEMESTER**

<b>D.CODE</b>	<b>COURSE NAME</b>	<b>T</b>	<b>P</b>	<b>Cr</b>	<b>C/E</b>	<b>ECTS</b>
AIT101	Ataturk's Principles and Revolution History -I	2	0	2	C	2
TRD109	Turkish Language-I	2	0	2	C	2
YDI107	Foreign Language -I	2	0	2	C	2
MAT101	Mathematics -I	3	0	3	C	4
OIN101	Static -I	3	0	3	C	4
OIN103	Technical Drawing	2	2	3	C	4
OIN105	Building Materials	3	0	3	C	3
OIN107	Occupational Health and Safety	2	0	2	C	2
OIN109	Building Technology	2	1	3	C	3
	Elective	2	0	2	E	2
	Elective	2	0	2	E	2
	<b>TOTAL</b>	<b>25</b>	<b>3</b>	<b>27</b>		<b>30</b>
OIN111	Information Communication Technologies	2	0	2	E	2
OIN113	Building Installations	2	0	2	E	2
OIN115	Masonry and Prefabricated Buildings	2	0	2	E	2
OIN117	Environmental Protection	2	0	2	E	2
OIN119	Entrepreneurship	2	0	2	E	2

**Abbreviations:** T = Theoretical Course Hours; P = Practice Course Hours; Cr = Course Credit; C = Compulsory Course; E = Elective Course; ECTS = European Credit Transfer System

**1<sup>ST</sup> CLASS 2<sup>ND</sup> SEMESTER**

<b>D.CODE</b>	<b>COURSE NAME</b>	<b>T</b>	<b>P</b>	<b>Cr</b>	<b>C/E</b>	<b>ECTS</b>
AIT102	Ataturk's Principles and Revolution History -I I	2	0	2	C	2
TRD110	Turkish Language-II	2	0	2	C	2
YDI108	Foreign Language-II	2	0	2	C	2
MAT102	Mathematics -II	3	0	3	C	4
OIN102	Concrete Technology and Experiments	3	1	4	C	5
OIN104	Occupation Official	2	2	3	C	4
OIN106	Resistance	2	0	2	C	3
OIN108	Static-II	3	0	3	C	4
	Elective	2	0	2	E	2
	Elective	2	0	2	E	2
	<b>TOTAL</b>	<b>23</b>	<b>3</b>	<b>25</b>		<b>30</b>
OIN110	Research Methods and Techniques	2	0	2	E	2
OIN112	Quality Assurance System	2	0	2	E	2
OIN114	Building Elements	2	0	2	E	2
OIN116	Local Governments	2	0	2	E	2
OIN118	Construction Accounting	2	0	2	E	2

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## 2<sup>ND</sup> CLASS 3<sup>RD</sup> SEMESTER

D.CODE	COURSE NAME	T	P	Cr	C/E	ECTS
OIN201	Reinforced concrete	2	1	3	C	4
OIN203	Building Repair and Reinforcement	2	1	3	C	3
OIN205	Soil Mechanics	2	0	2	C	2
OIN207	Water Transmission and Sewerage	3	0	3	C	3
OIN209	Internship Evaluation	0	2	1	C	6
OIN211	Professional Practice Training-I	0	16	8	C	8
	Elective	2	0	2	E	2
	Elective	2	0	2	E	2
	<b>TOTAL</b>	<b>13</b>	<b>20</b>	<b>24</b>		<b>30</b>
OIN213	Highway Construction	2	0	2	E	2
OIN215	Construction Site Organization	2	0	2	E	2
OIN217	Scaffolding Formwork Works	2	0	2	E	2
OIN219	Urban Conservation and Renewal	2	0	2	E	2
OIN221	Professional Foreign Language	2	0	2	E	2

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## 2<sup>ND</sup> CLASS 4<sup>TH</sup> SEMESTER

D.CODE	COURSE NAME	T	P	Cr	C/E	ECTS
OIN202	Measurement Information	2	1	3	C	3
OIN204	Waste Water	2	0	2	C	2
OIN206	Computer Aided Drawing and Design	2	1	3	C	3
OIN208	Building Quantity and Cost	2	1	3	C	4
OIN210	Foundation Construction	2	0	2	C	2
OIN212	Steel Structures	2	1	3	C	4
OIN214	Professional Practice Training-II	0	16	8	C	8
	Elective	2	0	2	C	2
	Elective	2	0	2	C	2
	<b>TOTAL</b>	<b>16</b>	<b>20</b>	<b>28</b>		<b>30</b>
OIN216	Project Study and Implementation	2	0	2	E	2
OIN218	Business Management	2	0	2	E	2
OIN220	Insulation in Buildings	2	0	2	E	2
OIN222	Earthquake Resistant Building Design	2	0	2	E	2
OIN224	Project Reading	2	0	2	E	2

**Abbreviations:** T = Theoretical Course Hours; P = Practice Course Hours; Cr = Course Credit; C = Compulsory Course; E = Elective Course; ECTS = European Credit Transfer System

## Content of All Courses in the Program

		T	P	Cr	C/E	ECTS
<b>AIT101</b>	<b>Ataturk's Principles and Revolution History-I</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
The purpose of studying the Atatürk principles and the History of Revolution course and the concept of revolution, a general look at the reasons that prepared the collapse of the Ottoman Empire and the Turkish Revolution; the disintegration of the Ottoman Empire, the Armistice of Mondros, the situation of the country against the occupations and Mustafa Kemal Pasha's arrival in Samsun, the first step for the national struggle, organization through congresses, the National Forces and the National Pact, the opening of the Turkish Grand National Assembly, the Turkish Grand National Assembly taking over the management of the War of Independence, the national struggle until the Sakarya Victory, the Sakarya War and the Great Offensive, from Mudanya to Lausanne, the national struggle in the field of education and culture, the national struggle in the social and economic fields.						
<b>TRD109</b>	<b>Turkish Language-I</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
To be able to comprehend that language is a product of the human mind, to comprehend the structural features and richness of the Turkish language, to comprehend the ways to be successful in written expression, to develop the skills of research, reading and information.						
<b>YDI107</b>	<b>English-I</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
Determiners; prepositions: place, time, movement; singular and plural nouns, countable and uncountable nouns, tenses, present tense, present tense, past tense structures, modals, will , should , should not, must , must not, can, comparative structures, pronouns, personal pronouns, possessive pronouns, adjectives, positive sentences, negative sentences and questions, conjunctions.						
<b>MAT101</b>	<b>Mathematics-I</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>C</b>	<b>4</b>
Sets, numbers, modular arithmetic, algebra concept, polynomial concept and operations with polynomials , ratio and proportion concepts and applications, equations, inequalities, basic operations on functions, types of functions, parabola and its graph, piecewise linear function and its graph, absolute value function and its graph, exponential functions, logarithm.						
<b>OIN101</b>	<b>Static-I</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>C</b>	<b>4</b>
Units of measurement, scalar and vector quantities, component and resultant operations on forces, moment at a point, support reactions.						
<b>OIN103</b>	<b>Technical Drawing</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>C</b>	<b>4</b>
Fundamentals of technical drawing, Scale drawing, Dimensioning, Geometric drawings, Projection of the plane, Projection of geometric objects, Intersection of planes, Perspective of simple parts, Basic view drawings.						
<b>OIN105</b>	<b>Building Materials</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>C</b>	<b>3</b>
Definition and classification of building materials and sampling methods, methods for determining physical, mechanical and chemical properties, concrete components and properties, metal and wood materials and properties, wall components, flooring and roofing materials; heat, sound, water and fire insulation materials and their classification.						

<b>OIN107</b>	<b>Occupational Health and Safety</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
First aid training, first aid supplies, ensuring personal safety, ensuring employee safety, ensuring workplace safety						
<b>OIN109</b>	<b>Building Technology</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>C</b>	<b>3</b>
Classification of buildings and structures, underground works, above ground works, coating works.						
<b>OIN111</b>	<b>Information Communication Technologies</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>2</b>
Internet and internet browser, e-mail management, news groups/forums, web-based learning, preparing a personal website, e-commerce, CV in word processing program, internet and career, preparing for a job interview, spreadsheet, formulas and functions, graphics, preparing presentations, preparing promotional materials.						
<b>OIN113</b>	<b>Building Installations</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>2</b>
Waste water installations and used materials, clean water installations and used materials, building electrical installation materials, building central system heating installation materials.						
<b>OIN115</b>	<b>Masonry and Prefabricated Buildings</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>2</b>
Masonry and prefabricated construction, methods for determining structural safety, basic principles used in determining the level of settlement damage, basic principles for determining the level of earthquake damage, preparing a table showing the current status and safety of the structure.						
<b>OIN117</b>	<b>Environmental Protection</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>2</b>
Environmental regulation information, risk analysis, waste storage, personal protection measures, international health and safety warnings, occupational health and safety regulations						
<b>OIN119</b>	<b>Entrepreneurship</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>2</b>
Concepts of Enterprise and Entrepreneurship, Feasibility Analysis, Planning, Implementation.						
<b>AIT102</b>	<b>Ataturk's Principles and Revolution History-II</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
The war of independence, the Sakarya war, the Great Offensive, Republicanism and the Caliphate from Mudanya to Lausanne, the period of calm and democracy, nationalism, the principle of secularism, Turkey's agenda.						
<b>TRD110</b>	<b>Turkish Language-II</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
To be able to recognize the types of written expression in daily life, to understand the importance of punctuation in written expression, to understand the importance of correct expression in personal and social communication, to be able to apply research, reading and information skills.						
<b>YDI108</b>	<b>English-II</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
Tenses, present, present tense, past tense, future tense structures, modals; might , could , can, must , may ; adverbs, place, direction, purpose, adverbs of manner; adjectives, order of adjectives, comparison, structures indicating superlatives; passive structure, passive structure in present, present.						

present, past, future tenses, conditional clauses, adjective phrases, transfer sentences, verb structures, to , - ing , noun phrases, adverbial phrases, comparative structures.

**MAT102      Mathematics-II**

3 0 3 C 4

Integral, area and volume calculations with the help of integral, center of gravity calculations with the help of integral, differential equations, solutions of differential equations, errors and types of errors, solutions of linear equation systems, curve fitting methods, interpolation techniques.

## OIN102 Concrete Technology and Experiments

**3 1 4 C 5**

Consistency, setting, volume stability, specific gravity, strength and related tests of cement, unit volume of aggregate, specific gravity, sieve analysis, water absorption rate, abrasion loss and related tests, fine matter ratio in fine aggregate, unit volume weight test of concrete, concrete consistency tests, concrete pressure test, concrete core test, use of mineral admixtures in concrete.

**OIN104      Occupation Official**

2 1 3 C 4

Drawing of signs and symbols used in plans, sections, details and views, scanning, dimensioning, detail drawing, floor plan drawing, view drawing, section drawing, plan and detail drawing of BA elements.

## OIN106 Resistance

**2 0 2 C 3**

Center of gravity, moment of inertia, tensile stress, compressive stress, shear stress, uniaxial bending.

**OIN108      Static-II**

**3 0 3 C 4**

Isostatic beams, isostatic plane frames, isostatic plane truss systems, three-hinged systems, hydrostatic pressure, hydrostatic force, point of action of hydrostatic force.

**OIN110      Research Methods and Techniques**

**2 0 2 E 2**

Selection of research topics, conducting source research, evaluating research results, converting research results into a report, preparing for presentation and presentation.

## OIN112      Quality Assurance System

**2 0 2 E 2**

The concept of quality, standard and standardization , the importance of standards in production and service sectors, management quality and standards, environmental standards, quality management system models, strategic management, participation in management, process management system, resource management system, Efqm excellence model, quality control in production, inspection and sampling, total quality control, control diagrams, statistical distributions.

## OIN114 Building Elements

**2 0 2 E 2**

Definition of building structural elements. Foundation, column, curtain, beam, floor concepts, types, functions. Information on which element should be preferred under which conditions.

**OIN116      Local Governments**

**2 0 2 E 2**

The concept of local governments, the nature of local governments, their importance, their relations

<b>OIN118</b>	<b>Construction Accounting</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>2</b>
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<b>OIN201</b>	<b>Reinforced concrete</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>C</b>	<b>4</b>
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<b>OIN203</b>	<b>Building Repair and Reinforcement</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>C</b>	<b>3</b>
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<b>OIN205</b>	<b>Soil Mechanics</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>C</b>	<b>2</b>
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<b>OIN207</b>	<b>Water Transmission and Sewerage</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>C</b>	<b>3</b>
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<b>OIN209</b>	<b>Internship Evaluation</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>C</b>	<b>6</b>
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<b>OIN211 Professional Practice Training-I</b>	<b>0</b>	<b>16</b>	<b>8</b>	<b>C</b>	<b>8</b>
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<b>OIN213</b>	<b>Highway Construction</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>2</b>
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Transportation systems, highway standards, highway routes, horizontal curves , vertical curves , cross-section extraction and superelevation , map and terrain observations, filling and cutting works, engineering structures , route earthworks, road superstructure materials, asphalt coatings, concrete coating.

**OIN215 Construction Site Organization**

Site setup, work schedule, site production preparation, production teams, application work, excavation work, site books, office work, production control, progress payment preparation, provisional and final acceptance.

## OIN217 Scaffolding Formwork Works

### Types of scaffolding and formwork used.

**OIN219      Urban Conservation and Renewal**

The concept of urban protection, definition and legislation of conservation development plan. Examination of urban protection examples. Law on the protection of cultural and natural assets in Turkey, Examination of the structures of relevant institutions.

**OIN221 Professional Foreign Language**

Being able to understand what one listens to on topics related to the profession. Being able to speak a foreign language in business life using the right words and expressions, with correct pronunciation, emphasis and intonation.

**OIN202 Measurement Information**

Land surveying techniques, leveling works, electronic land surveying instruments, longitudinal sectioning, cross sectioning, plan drawing measurements.

## OIN204 Waste Water

Determining the sources that pollute the environment, removing wastewater, and having storage and treatment facilities built.

**OIN206      Computer Aided Drawing and Design**

Design topic, package program installation, running the package program, data collection, data entry, analysis, program outputs.

**OIN208 Building Quantity and Cost**

Calculation of quantities, calculation of unit prices, approximate cost calculations, tender commissions, general, technical and special specifications, tender files, KİK (Public Procurement Law) offer files, KİK correspondence documents, tender contract .

## OIN210 Foundation construction

Soil investigation. Investigation methods. Shallow foundations, Single foundations, and other types of foundations. Settlements of foundations. Reinforced concrete, static calculations and drawings of foundations.

Zoning preparations and plan studies, Architectural project review, Application criteria in architectural designs, Application processes of architectural projects, Reinforced concrete project review, Foundation applications, Column application projects, Column beam connection details, Formwork application projects, Column beam connection details, Reinforced concrete details review, Projects, application site review.