İZMİR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
DEPARTMENT OF CONSERVATION AND RESTORATION OF CULTURAL HERITAGE
CURRICULUM OF THE Ph.D. PROGRAM IN ARCHITECTURAL RESTORATION

Fall Semester		**Credit**	**ECTS Credits**
Core Courses (for all students)			
RES 599	Seminar in Architectural Conservation	(0+2) NC	18
RES 601	Research Methods	(2+2)3	18
RES 600	Ph.D. Thesis	(0+1) NC	26
RES 8XX	Special Studies	(8+0) NC	4

Additional Core Courses * **(only for students with B.S or M.S degree in architecture)**

RES 507	Design in Architectural Restoration (for architects)	(4+8)8	15
RES 521	Theory and History of Architectural Restoration	(3+0)3	5
RES 551	Deterioration and Conservation of Historical Building Materials	(3+0)3	5

Additional Core Courses ** **(only for students with B.S or M.S degree in city and regional planning)**

RES 509	Conservation Planning I (for city and regional planner)	(4+8)8	15
RES 510	Conservation Planning II (for city and regional planner)	(4+8)8	15
RES 521	Theory and History of Architectural Restoration	(3+0)3	5
RES 551	Deterioration and Conservation of Historical Building Materials	(3+0)3	5

Total credit (min.) : 21 (for students with MS degree in Architectural Restoration)
Total credit (min.) : 26 (for students with MS degree Architecture, and City and Regional Planning)
Number of courses with credit (min.) : 7 (for students with MS degree)
Total credit (min.) : 55 (for students with BS degree)
Number of courses with credit (min.) : 14 (for students with BS degree)

* **for students with BS or MS degree in architecture:**

RES 521 and RES 551 should be taken in the first semester, when they are available.

RES 507 should be selected. RES 521 and RES 551 should be taken together with RES 507. If this is not possible, then RES 521 and RES 551 should be taken before RES 507.

** **for students with BS or MS degree in city and regional planning:**

RES 521 and RES 551 should be taken in the first semester, when they are available.

Either RES 509 or RES 510 should be selected. RES 521 and RES 551 should be taken together with RES 509 or 510. If this is not possible, then RES 521 and RES 551 should be taken before RES 509 or 510.

Graduate students with MS degree who took RES 595 Research Methods and Ethics in Architectural Conservation, will have to take RES 601 Research Methods in PhD programme as a core course.

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Elective Courses		**Credi**	**ECTS Credits**
RES 522	History of Architecture in Anatolia	(3+0)3	4
RES 523	Design Approaches in Conservation	(3+0)3	4
RES 524	Conservation Approaches for Archaeological Sites	(3+0)3	4
RES 525	Vernacular Buildings in Anatolia	(3+0)3	4
RES 526	Historical and Philosophical Issues in the Conservation of Architectural Heritage	(3+0)3	4
RES 527	Historical Research Methods in Conservation	(3+0)3	4
RES 531	Historical Structural Systems	(3+0)3	4
RES 532	Structural Assessment and Intervention Techniques for Historic Buildings	(3+0)3	4
RES 541	Documentation Techniques of Historical Buildings	(3+0)3	4
RES 542	Advanced Documentation Techniques of Historical Buildings	(3+0)3	4
RES 543	Advanced Surveying Techniques for Historical Sites	(3+0)3	4
RES 552	Laboratory Research Techniques of Historical Building Materials	(3+2)4	6
RES 554	Management in Restoration Project	(3+0)3	4
RES 557	Construction Techniques in Roman Period	(3+0)3	4
RES 558	Natural Stones as Building Materials	(3+0)3	4
RES 556	Characteristics of Lime Mortars and Plasters used in Historical Buildings	(3+0)3	4
RES 561	Management of Cultural Heritage Sites	(3+0)3	4
RES 562	Legal and Administrative Aspects of Conservation	(3+0)3	4
RES 563	Holistic Conservation	(3+0)3	4
RES 570	Special Topics in Architectural Restoration	(3+0)3	4

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COURSE DESCRIPTIONS	**Credit**	**ECTS Credits**

RES 507 Design in Architectural Restoration (for architects) (4+8)8 15
Fundamentals of architectural restoration project, field studies for measured drawings through survey of a historical building, analysis of the building to determine its construction technique, alterations, structural and material problems, and examination of historical documents related to the building. Restitution studies and architectural restoration project scheme at the end. Presentation with both drawings and report.

RES 509 Conservation Planning I (for city and regional planners) **(4+8)8 15**
Studies of survey, analysis and evaluation in historical tissues including building scale. Determination of heritage values. Development of intervention decisions such as restoration, rebuilding, revitalization and recycling at site and building scales. Preparation of a project and a design guideline regarding implementation possibilities.

RES 510 Conservation Planning II (for city and regional planners) **(4+8)8 15**
Analysis of urban conservation concept; analysis of historical areas within the context of urban growth, and social, demographic, spatial and political changes. Evaluation of the succession, invasion processes in the historical core areas of the cities and their changing functions and new roles under the global restructuring. To comprehend and conceptualize the focus of all these wider proplematiques; analysis of work in the world and in our country; to offer new approaches and a new implementation model

RES 521 Theory and History of Architectural Restoration (3+0)3 5
The practice of architectural restoration is inseparable from the theory of architectural restoration. This is equally valid for understanding the values of the architectural artifact studied. In order to understand contemporary conservation theory, it is indispensable to grasp the historical developments in the field starting with the ancient civilizations around the Mediterranean and continuing through the developments in Enlightenment Europe. Thus this course consists of the reading of significant texts on architectural conservation with an eye to the documentation techniques, research methods, conservation approaches, intervention types, and organization manners considering different cultures and periods. Related theoretical terminology also will be discussed.

RES 522 History of Architecture in Anatolia (3+0)3 4
Methods of reading and evaluating texts on the architectural history of Anatolia will be investigated. The building types and settlement patterns belonging to different periods and cultures will be discussed within a conceptual framework necessary for an architect-restorer. A series of selected readings will be undertaken in addition to the presentation of fundamental knowledge and methodology of the field. Students are also expected to prepare a term paper evaluating one selected building type. Both oral and written presentations are mandatory.
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RES 523 Design Approaches in Conservation (3+0)3 4

Selected themes concerning architectural design trends in historical buildings of different cases in various countries are examined and discussed within the context of conservation philosophy. Examination of conceptual ideas adopted in different approaches for conservation.

RES 524 Conservation Approaches for Archaeological Sites (3+0)3 4

Documentation of antique elements, structures and ensembles, and archaeological sites for assessment of cultural heritage characteristics. Focus on the role of interdiciplinary studies in archaeological heritage conservation. Examples and exercises based on various conservation issues. Practice with related tools both at the field and in the laboratory. Some of the issues to be covered: visual analysis of archaeological areas, interdiciplinary applications for archaeological areas, designing an archaeological site conservation project.

RES 525 Vernacular Buildings in Anatolia (3+0)3 4

This course provides a general framework of vernacular architecture. It gives an overview of differentiated Anatolian residential architecture in historical perspective. The study focuses on the ways of understanding vernacular form with case studies including buildings, settlements, and scattered groups.

RES 526 Historical and Philosophical Issues in the Conservation of Architectural Heritage (3+0)3 4

The course will be conducted by readings on thematic subjects and lectures. It covers theoretical discussions on the new and evolving aspects of architectural conservation as well as the practical reflections of these aspects. Some of the themes to be discussed are authenticity, intangible heritage, site presentation, cultural tourism and integrated conservation.

RES 527 Historical Research Methods in Conservation (3+0)3 4

This course covers information on different types of primary and secondary sources, written and visual documents and research methods utilized for the study of the architectural heritage.

RES 531 Historical Structural Systems (3+0)3 4

Basic properties of historic structural materials; masonry types and their structural components such as foundations, walls, columns, arches, vaults and domes; timber structures; properties of soils in relation to behaviour of foundation.

RES 532 Structural Assessment and Intervention Techniques for Historic Buildings (3+0)3 4

The properties of soil types, structural systems used in historic buildings, their structural behaviors and mechanical properties of materials, damage types, diagnosis and intervention techniques.

RES 541 Documentation Techniques of Historical Buildings (3+0)3 4

Introduction of architectural components of historical buildings, conventional presentation methods and documentation techniques. Practice in a historical building. Sketching and simple measurement techniques, simple conventional drawings, graphical presentation of material types and deterioration.

RES 542 Advanced Documentation Techniques of Historical Buildings (3+0)3 4
Introduction of advanced surveying techniques and instruments for recording historic architectural objects; practicing with electronic instruments and related softwares at the site and in the laboratory. Presentation techniques to facilitate analysis, evaluation and proposal phases of conservation projects; preparation of posters, 3D models and internet shows. Development of conservation databases; formation of digital archives.

RES 543 Advanced Surveying Techniques for Historical Sites (3+0)3 4
Focus on the role of GIS (Geographic Information Systems) in conservation. Examples and exercises based on conservation issues. Practice with related tools both at the field and in the laboratory. Some of the issues to be covered: spatial analysis of historical environment, GIS technology and applications for historical environment, designing a GIS project, gathering and analysing conservation data, and creating thematic maps.

RES 551 Deterioration and Conservation of Historical Building Materials (3+0)3 5
Properties of historical building materials and the causes of their deterioration processes. Philosophy of material conservation on historical buildings. Modern analysis and remedial techniques of conservation interventions. Discussion of examples related with material conservation.

RES 552 Laboratory Research Techniques of Historical Building Materials (3+2)4 6

Presentation of laboratory research techniques in the analysis of the historical building materials. Diagnosis of material deterioration, treatment and conservation techniques. Laboratory research related with the materials of the building studied in the restoration project.

RES 554 Management in Restoration Project (3+0)3 4
Managing of both project and implementation phases in restoration process. Execution of an interdisciplinary work program and budget. Establishment of an comprehensive organization covering all the phases starting with the definition of the problem and ending with an effective guideline for carrying out the implementation phase.

RES 556 Characteristics of Lime Mortars and Plasters Used in Historical Buildings (3+0)3 4
In this course, characteristics of lime mortars and plasters are introduced. Technical and scientific equipment will be used in the laboratory to analyze lime mortars and plasters found in historic buildings.

RES 557 Construction Techniques in Roman Period (3+0)3 4
Starting with a brief chronology of the period, introduction of the strategies for building site selection, earliest structures, the use of materials such as brick and concrete first emerged in the period, construction tools and equipments, walls, arches and domes; following this fundamental information about construction techniques and materials, evaluation of infrastructures, such as pavements, bridges, waterways and aqueducts, and architectural examples from modest scale to monumental ones.

RES 558 Natural Stones as Building Materials (3+0)3 4

The topic includes physical properties of natural stone, physical, chemical and mechanical tests for their hand specimen identification. Elementary description of rocks with general classification and nomenclature of common igneous, metamorphic and sedimentary rocks. Practical studies on hand specimens of rocks with emphasis on the most commonly used architectural materials. Effects of geological and natural processes on stone.

RES 561 Management of Cultural Heritage Sites (3+0)3 4

Key concepts related to cultural heritage. Rescue and urban archaeology. Cultural heritage legislation and administration. Disciplinary perspectives in cultural heritage management. Social context of cultural heritage sites. Cultural heritage values. Cultural heritage ownership rights and public benefit. Cultural heritage management policies and strategies. Long and short term intervention and action plans in cultural heritage sites. Public participation in cultural heritage management. Presentation of cultural heritage sites. Sustainable tourism in cultural heritage sites. Financial possibilities for cultural heritage management.

RES 562 Legal and Administrative Aspects of Conservation (3+0)3 4

Review of legal and administrative aspects in conservation. Examination of international regulations, charters, declarations and conventions. Governmental and nongovernmental organizations in Turkey and in the world.

RES 563 Holistic Conservation (3+0)3 4

The historical and natural environment with its social, economical and cultural dimensions will be discussed in the frame of the contemporary conservation concepts. Alternative approaches stemming from different disciplines that will possibly affect the area also be studied. Thus this course consists of the presentation of case studies and reading texts.

RES 570 Special Topics in Architectural Restoration (3+0)3 4

International documents and principles that provide a universal language in the field of conservation; conservation issues and problems specific to our country; evaluation of national laws and regulations within the frame of scientific principles.

RES 599 Seminar in Architectural Conservation (0+2)NC 18

Selection of thesis subject, preparation of preliminary outline of the thesis, oral and written presentation. The course is organised to provide students with the theoretical and practical support needed to write their final dissertation. For that purpose the course will start with a review of the relevant research tools and will follow through with specific individual tutorials related to each individual dissertation.

RES 600 Ph.D. Thesis (0+1) NC 26

The content of the course varies according to chosen thesis topic. The program of study is determined by student in conference with thesis advisor. The student must progress with thesis work.

RES 601 Research Methods (2+2) 3 18

Introduction of research methods regarding the field of architectural conservation. Principles of ethics in research. Analysis of research design examples on various conservation issues.

RES 8XX Special Studies (8+0)NC 4

Graduate students supervised by the same faculty member study advanced topics under the guidance of their advisor.