

### COURSE IDENTIFICATION FORM

**Course Code and Name:** IM5010 ROAD MATERIALS

**Department of :** CIVIL ENGINEERING / MASTER PROGRAMME

Semester	Theoretic Hour	Practice Hour	Total Hour	Credits	ECTS	Education Language	Type: Compulsory Elective
Autumn/Spring	3	0	3	3	5	Turkish	Optional

**Prerequisite (s)**

**Instructor**

Assoc. Prof. Dr. Mustafa AKPOLAT

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**Course Assistant**

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**Groups / Classes**

**Course Aim**

1. To give theoretical and practical knowledge about aggregates used in pavements. 2. To give theoretical and practical knowledge about bituminous binders used in pavements. 3. To teach the theoretical calculations of bituminous mixtures 4. To give information about the methods related to bituminous mixture design. 5. To give information about sustainable pavement construction.

**Course Goals**

Aggregates used in pavements, types, properties, classification, aggregate tests. Bituminous binders used in pavement layers, properties, classification, modification, bitumen tests. Volumetric and mechanical properties of bituminous mixtures. Bituminous mixture design methods. Recycling design and geotextiles.

**Course Learning Outcomes and Proficiencies**

1. Understanding the properties of aggregates used in road pavement.  
 2. Understanding the properties of bituminous binders used in pavements.  
 3. To be able to make bituminous mixture calculations.  
 4. Gaining the ability to build a sustainable pavement.

**Course Basic and Auxiliary Contexts**

Highways Maintenance Manual  
 Highways Project Design Guide  
 Prof. Dr. Baha Vural KÖK - Flexible Pavements Lecture Notes Yol malzemeleri- Argun TUNÇ

**Methods of Give a Lecture**

Face to Face

Assessment Criteria		If Available, to Sign (x)	General Average Percentage (%) Rate
	Midterm Exam	X	40
	1. Quiz		
	2. Quiz		
	3. Quiz		
	4. Quiz		
	Oral Examination		
	Practice Examination (Laboratory, Project etc.)		
	Final Exam	X	60
Semester Course Plan			
Week	Subjects		
1	Introduction and general information		
2	Aggregates used in road pavement		
3	Aggregates used in road pavement and aggregate tests		
4	Binders used in road pavement		
5	Classification of binders and modified binders, binder tests		
6	Volumetric and mechanical properties of bituminous hot mix		
7	Volumetric and mechanical properties of bituminous hot mix		
8	Superstructure design method		
9	MIDTERM EXAM		
10	New design methods		
11	Bituminous mixture design method		
12	Bituminous mixture design method and laboratory study		
13	New mix design methods		
14	Bituminous mixtures recycling mix design and geotextiles		