



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Physical Textile Testing							
Course Code		TTİ224		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	6	Workload	154 (<i>Hours</i>)	Theory	3	Practice	1	Laboratory	0
Objectives of the Course		To examine the physical test methods applied to textile materials in the form of fiber, yarn and fabric, the sampling methods to be applied for each test method, the methods of determining the fiber type and to evaluate the test results by statistical evaluation.							
Course Content		Classification of textile materials, standard atmospheric conditions and their importance in textiles, sampling methods for fiber tests, fiber fineness and measurement methods, fiber recognition in microprojection, fineness and evaluation, fiber length measurement and measurement, staple diagram drawing, tensile strength and elongation measurement of fibers, bundle fiber strength, fineness, maturity, foreign matter content and other physical properties of cotton fiber, test by HVI system, number determination in yarns, determination of twist direction and number in yarns, tensile strength and elongation in yarn. The number of fine places in the yarn, the number of thick places, the amount of neps and the unevenness measurement. Causes of irregularity in yarn and determination of these sources. Yarn hairiness measurement, friction test on yarns. Determination of dimensional and structural properties of fabrics, tensile strength and elongation of fabrics, tear strength, stitch strength, seam drift, pilling test, friction resistance, measurement of weft and warp yarn frequencies. Detonation strength of knitted fabrics, determination of row-column frequencies. Measurement of thickness and weights of fabrics, water repellency and strength flammability test in fabrics.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Prof.Dr.Mehmet AKALIN, Physical Tests in Textile Lecture Notes - P.B. Saville, 'Physical Testing of Textiles', Woodhead Publishing, 1999
---	--

Week	Weekly Detailed Course Contents	
1	Theoretical	Standard atmospheric conditions, sampling methods, SI units
2	Theoretical	Determination of fiber types by heat and flame effect test
3	Theoretical	Examination of longitudinal appearance and cross-section of fibers by microscope
4	Theoretical	Determination of fiber types by simple dyeing test
5	Theoretical	Cotton and wool fiber length measurement, staple diagram preparation
6	Theoretical	Measuring the diameter of wool fiber by microscope
7	Theoretical	Measurement of the strength, length, foreign matter content, color value and fineness of cotton fiber in HVI device
8	Theoretical	Midterm
9	Theoretical	Determination of yarn count and the number of twists on the yarn
10	Theoretical	Measurement of yarn breaking strength and elongation
11	Theoretical	Determination of the number of fine places, thick places and neps on the yarn, measurement of yarn unevenness and hairiness



12	Theoretical	Measurement of fabric thickness, weight, weft and warp frequency
13	Theoretical	Measure the tensile strength and elongation of the fabric, tear strength and blast strength
14	Theoretical	Measure the tensile strength and elongation of the fabric, tear strength and blast strength

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	3	56
Lecture - Practice	14	1	1	28
Assignment	8	2	4	48
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
Total Workload (Hours)				154
[Total Workload (Hours) / 25*] = ECTS				6
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To determine the types of textile fibers
2	Measure the physical properties of fibers
3	To be able to measure physical and mechanical properties of yarns
4	To be able to determine the properties of fabrics by applying physical testing methods
5	To be able to evaluate the physical test results obtained from textile materials

Programme Outcomes (Textile Technology)

1	Distinguishing textile fibers
2	Obtaining a sample thread
3	Obtaining a sample woven fabric
4	Obtaining a knitted fabric (Jersey)
5	Carring out overall discipline operations
6	Garment-making operations
7	Obtaining cotton thread
8	Obtaining cotton thread
9	Obtaining cotton thread
10	Obtaining wool thread
11	Obtaining filament thread
12	Obtaining staple thread
13	Obtaining fancy thread
14	Obtaining thread by means of new apining techniques
15	Performing fibre tests
16	Performing thread tests
17	Implementing Quality Assurance System
18	Making statistical calculations
19	Making projects
20	Practicing in a spinning mill

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	2	4			
P2	2				
P3	2			3	
P4	2				
P5	2				
P6	1				



P7	3	3	3	2	
P8	3	3	3	2	
P9	3	3	3	2	
P14	4	4	4	4	
P15	4	4	4	4	
P16	5	5	5	5	5
P17	4	4	4	4	
P18	3	3	3	3	
P19	5	5	5	5	5
P20	5	5	5	5	5

