AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Yarn Irregularity Calculations						
Course Code	TTİ222		Couse Level	Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	76 *(Hours)*	Theory	2	Practice	0	Laboratory	0

Objectives of the Course	To understand the definition and importance of irregularity. To teach the interaction of fiber properties and yarn properties. To comprehend theoretical inequality equations. Comprehend the use of limit unevenness and irregularity index. To teach methods of unevenness measurement. To comprehend the interpretation of data obtained from unevenness measurement systems. To understand the reasons of periodic mass changes. Diagram and spectrogram to teach evaluation. To understand the methods of finding periodic sources of mass change. To provide recognition of various mechanical error sources in digram and spectrogram.
Course Content	Definition and importance of irregularity. Relationships between fiber and yarn properties. Theoretically descending of irregularity. Limit unevenness. Uniformity index value. liimite Separation of irregularity into components. Uniformity measurement methods. Investigation of capacitive and optical irregularity measurement methods. Information provided by devices of irregularity. Diagram and its importance. Spectrogram and its importance. Faultless and incorrect spectrogram analysis. Error sources and error detection. Mechanical errors and calculation methods. Shooting fluctuations and calculation methods. Investigation of the effects of periodic mass changes on the diagram and spectroscopy. Investigation of rare irregularities.
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	USTA, Ismail; Uniformity Calculations, Lecture Notes, Marmara University, Faculty of Technology, Textile Engineering Department, Istanbul, 2012

Week	Weekly Detailed Course Contents	
1	Theoretical	General introduction. Definition and importance of irregularity. % U and% CV calculations
2	Theoretical	Causes of irregularity in yarns. Raw material properties. Yarn Properties. Machine parameters. - Raw material properties - Yarn properties - Machine properties
3	Theoretical	Theoretical irregularity analysis. Fiber fineness irregularity. Fiber length unevenness relationship. Yarn number irregularity.
4	Theoretical	Properties of% U and% CV. Additional irregularities.
5	Theoretical	Theoretical explanation and calculation of limit unevenness. Number and importance of fiber in cross section of yarns.
6	Theoretical	Uniformity index and its use. unevenness and theoretical calculation of blended yarns
7	Theoretical	Analysis of irregularity in components. Statistical analysis methods of measurement values
8	Theoretical	Midterm
9	Theoretical	Uniformity measurement methods. Capacitive methods and applications. Information provided by devices of irregularity.
10	Theoretical	Periodic irregularities and their causes. Ideal spectrograms. incorrect spectrograms.

11	Theoretical	
		Types of thread error. Mechanical errors. Shooting fluctuations.
12	Theoretical	
		Calculation of periodic mass changes. Calculation methods. Tachometer method. Sample calculations.
13	Theoretical	
		Machine kinematic schema using and calculations. Sample calculations.
14	Theoretical	Analysis of yarn periodic error sources in diagrams and spectrograms. error groupings

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Assignment	4	1	2	12
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
			Total Workload (Hours)	76
		[Total Workload (Hours) / 25*] = **ECTS**		3

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To comprehend the importance and importance of the uniform.
2	To be able to use theoretical uniformity equations.
3	To know the methods of unevenness measurement and to grasp the differences between them.
4	To analyze the data received from unevenness devices.
5	To determine the reasons and sources of periodic mass changes.

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	3				
P7	3	3		3	3
P8	3	3		3	3
P9	3	3		3	3
P10	3	3		3	3
P14	3				

P15	3				
P16	5	5	5	5	5
P17	4	4	4	4	4
P18	4	4	4	4	
P19	5	5	5	5	5
P20	5	5	5	5	4