Course Specification
(Bachelor)

Course Title:	**Fiber Chemistry**
Course Code:	**224 AAD**
Program:	**Bachelor in Applied Arts**
Department:	**Applied Arts**
College:	**Architecture and Design**
Institution:	**Jazan University**
Version:	Developer
Last Revision Date:2023	

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A. General information about the course:

Course Identification					
1. Credit hours:	2 (2-0)				
2. Course type					
a.	University ☐	College ☐	Department☒	Track☐	Others☐
b.	Required ☐	Elective☐			
3. Level/year at which this course is offered:	2^{nd} year/ 5^{th}level				
4. **Course general Description:** This course determines and exam an exploration role of the course centered on introduction of Chemistry of Textile fibers and its processing. Topics to be covered include: Physical Chemistry of textile fibers- length, strength density, moisture etc.; Chemistry of Natural and Synthetic fibers (Cotton, Wool, Silk. Polyamides, etc.); Principles of fabric manufacture processes both natural and synthetics (starting from fiber to yarn and to fabric constructions) – cotton, polyester and nylon; Textile preparatory processes.					
5. Pre-requirements for this course (if any): -CHEM 101					
6. Co- requirements for this course (if any): non					
7. Course Main Objective(s) The aim of this course introduces students to the principles of fiber chemistry and technology. An important part of this knowledge includes the principles of chemical structure of fibers. It contains selected some fibers and aims to help students to learn the molecular logic of plant fibers. Therefore, this course studies fibers production, the type of reagents, chemical penetration, the type of chemical reaction and the technology methods used to separate cellulose from plant fibers. At the same time, the success of these technologies depends on the properties of the fiber surface, auxiliary materials.					

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	36	%100
2.	E-learning	0	0
3.	Hybrid • Traditional classroom • E-learning	0	0
4.	Distance learning	0	0

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	12

2.	Laboratory/Studio	24
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	0
	Total	24

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Understand the main abstract concepts related to the fibers structure	K1	-Lectures -Seminars -Workshops -Brainstorming - Cooperative learning -Dialogue and discussion	-Objective test to measure knowledge base. -Performance Test - Classroom assignment.
1.2	Classification and Lab recognize of fibers. Name different theories and philosophies	K2		
2.0	Skills			
2.1	Analyze through careful argument how fibers production fits within wider philosophical, historical, social and economic discourses. regulations, and sustainability standards.	S1	Simulation -Case Studies -Production -Critical Thinking -group negotiation -peer review -reflection	-Classroom assignment. -Projects evaluation -Product Reviews
2.2	Research issues in fibers theory and to critically reflect upon them. Compare different fibers theories based on specified factors.	S2		
3.0	Values, autonomy, and responsibility			
3.1	Develop self-directed learning skills through reading and research. Participate effectively in group work and presentation towards a common goal. Engage in debates and class discussion to enrich knowledge.	V1	-Lectures -Small group discussion e-learning Self-learning - Cooperative learning	-Research assignment. -Online activities -Projects evaluation. -Oral presentations. - Evaluation Of Field Activities -Graphic test.

C. Course Content

No	List of Topics	Contact Hours
1	Definition of objectives, study plan and introduction for fibers chemistry	3
2	Classification of fibers.	3
3	Studies effective and non-effective groups.	3
4	Studies chemical structure of cellulosic and protein fibers.	3
5	Studies the properties of cellulosic and protein fibers.	3
6	Studies chemical structure of polyester fibers.	3
7	Studies the preparation of rayon fibres.	3
8	The ratio of cellulose in plants.	3
9	Theories of fibers structure.	3
10	Comparison between fibers.	3
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.			
2.			
3.	mid-term exam		20 %
4	class work and practical		20 %
5	Quizzes and homework		10 %
6	Final exam: .		50 %

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	K. Chawla, ***Fibrous Materials***, Cambridge University Press, 1998.
Supportive References	Salvendy, G. (2006). Hand book of Human Factors and ergonomics, 3rd edition, Wiley. Lang, Pheasant, S. & Haslegrave, C. (2005) Body space: Anthropometry, Ergonomics and the Design of Work, 3rd edition, CRC P. Mishra, ***A Textbook of Fibre Science and Technology***, New Age International, 2000.
Electronic Materials	, https://***Fibre Science and Technology***
Other Learning Materials	M. G. Cowie, ***Polymers: Chemistry and Physics of Modern Materials***, nd J Edition, Blackie Academic and Professional

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classrooms
Technology equipment (projector, smart board, software)	smart board, software
Other equipment (depending on the nature of the specialty)	Laboratory

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student	Indirect through surveys
Effectiveness of student's assessment	Peer Reviewer or Head of Department	
Quality of learning resources	Student and faculty	Indirect through surveys
The extent to which CLOs have been achieved	Students	Course LO survey
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	