Course Specification
(Bachelor)

Course Title:	**Glass Production**
Course Code:	**422- AAD-3**
Program:	**Bachelor in Applied Arts**
Department:	**Applied Arts**
College:	**Faculty of Architecture & Design**
Institution:	**Jazan University**
Version:	Developer
Last Revision Date:	**2023**

Table of Contents

A. General information about the course:

Course Identification					
1. Credit hours:3					
2. Course type					
a.	University ☐	College ☐	Department☒	Track☐	Others☐
b.	Required ☒	Elective☐			
3. Level/year at which this course is offered:					
4. Course general Description - This course aims to familiarize students with scientific foundations and practical experiences with different techniques for glass production, as it aims to familiarize students with scientific basis concerning ways of burning glass and learn about the different types of incinerators and their advantages and disadvantages					
5. Pre-requirements for this course (if any): None					
6. Co- requirements for this course (if any): None					
7. Course Main Objective(s) - Students learn about different ways to produce stained glass in a variety of ways. It also learns about different cutting methods and cutting machines in glass, as well as the necessary precautions that must be met and followed up for safety and safety when using furnaces. This is in addition to the ability to expand the knowledge of the nature of the use of glass furnaces as well as the student's recognition of the importance of the process of manual configuration and the tools used in it and its advantages. As well as the ability to practice the skills of communication with others, and interaction in the debate and dialogue and the collective and accept criticism and opinion of the other.					

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	5 hours	100 %
2.	E-learning	-	0 %
3.	Hybrid • Traditional classroom • E-learning	-	0 %
4.	Distance learning	-	0 %

2. Contact Hours **(based on the academic semester)**

No	Activity	Contact Hours
1.	Lectures	**2 x 15 = 30**
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	**3 x 15 = 45**
	Total	75

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	Demonstrate knowledge of the different ways of producing stained glass with different types and mosaics, and methods of cutting and digging glass.	K1		
1.2	Defined the differences between the techniques used in glass production and their relation to economic, environmental and technological standards.	K2		
2.0	Skills			
2.1	Demonstrate various technical for produce of glass	S1		
2.2	Interpret the problems and solutions to different glass forming methods using appropriate technological methods.	S2		
2.3	Apply creative skills of the individual and collective level in the production of stained glass and mosaics and the use of melting furnaces and refrigeration.	S3		
3.0	Values, autonomy, and responsibility			
3.1	Analyze the nature of the operational capabilities of the glass product to match the different stages and methods of production technology and functions	V1		
3.2	Illustrate professional values and ethical behaviors needed for leadership,	V2		

C. Course Content

No	List of Topics	Contact Hours
1.	- Mosaic (opaque - transparent) (flat - stereogram)	10
2.	- Stained glass with Gypsum	5
3.	- Stained Glass (Leaded - Copper - Cement - Iron)	10

4.	- Mechanical drilling on glass using Stones of carburendum and copper discs	7
5.	- Mechanical drilling on glass using sand spray or carburendum powder	8
6.	- Chemical drilling on glass (hydrofluoric acid)	7
7.	- Chemical drilling on glass (with ammonium fluoride salt) (Scratching glue)	8
8.	- Hot forming for melted glass (manual)	5
9.	- forming Semi-automatic and automatic for glass	5
10.	- Melting kilns - Cooling kilns	10
11.		
Total		75

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Continuous evaluation	**15**	**20%**
2.	Mid Term	**8**	**20%**
3.	Practical Exercises	**Periodically**	**20%**
...	Final exam	**16**	**40%**

*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	- روؤف نحاس: صناعة الزجاج ، دار النهضة العربية ـ القاهرة ـ 1998. - محمد زينهم: تكنولوجيا فن الزجاج ـ الهيئة المصرية العامة للكتاب ـ 1995م.
Supportive References	- Laurel Skye, Mosaics Renaissance: Millefiori in Mosaics Paperback - November: Glass Design, Andy McConnell Swedish, 13, 2009 - A. O. ALEXANDROV : Glass Processing Days- Materials Sci
Electronic Materials	- http://www.mosaicartsupply.com - http://www.corning.com/ - http://www.glassart.org/
Other Learning Materials	- Presentation

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	* Classrooms with 40 circular tables. * Lab porcelain and glass with 25 students and equipped
Technology equipment (projector, smart board, software)	- Computer, Projectors - Electronic board
Other equipment (depending on the nature of the specialty)	- Technical materials and tools such as mud and water and wooden utensils for sculpture - Basins and sinks for washing and cleaning tools

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods	
		indirect method	**direct method**
Effectiveness of teaching	Students	On line system course survey	
	Peer Reviewer or **Head of Department**		**Peer OR Head of Department observation**
Effectiveness of students assessment	Students	On line system course survey	

Assessment Areas/Issues	Assessor	Assessment Methods	
	Peer Reviewer or **Head of Department**		**Peer OR Head of Department observation**
Quality of learning resources	Students	On line system course survey	
	Peer Reviewer or **Head of Department**		**Peer OR Head of Department observation**
The extent to which CLOs have been achieved	Students	Course LO survey	
	Program Assessment Committee		**Theoretical and practical tests According to Test specification table**
Other	--------	-----	----

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

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	