Form: Course Syllabus	Form Number	EXC-01-02-02A
	Issue Number and Date	2963/2022/24/3/2 5/12/2022
	Number and Date of Revision or Modification	2/(10/12/2023)
	Deans Council Approval Decision Number	50/2023
	The Date of the Deans Council Approval Decision	26/12/2023
	Number of Pages	06

1.	Course Title	Nanotechnology in chemical engineering
2.	Course Number	0905763
3.	Credit Hours (Theory, Practical)	(3,0)
	Contact Hours (Theory, Practical)	(3,0)
4.	Prerequisites/ Corequisites	
5.	Program Title	M.Sc. in Chemical Engineering
6.	Program Code	050
7.	School/ Center	School of Engineering
8.	Department	Department of Chemical Engineering
9.	Course Level	Master
10.	Year of Study and Semester (s)	
11.	Other Department(s) Involved in Teaching the Course	
12.	Main Learning Language	English
13.	Learning Types	✓Face to face learning ☐Blended ☐Fully online
14.	Online Platforms(s)	☐Moodle ☐Microsoft Teams
15.	Issuing Date	
16.	Revision Date	

17. Course Coordinator:

Name:	Contact hours:
Office number:	Phone number:
Email:	

18. Other Instructors:

Name:
Office number:
Phone number:
Email:
Contact hours:
Name:
Office number:
Phone number:
Email:
Contact hours:

19. Course Description:

As stated in the approved study plan. This course introduces the fundamentals of nanotechnology and its transformative applications in chemical engineering. Topics include the synthesis and characterization of nanomaterials, such as nanoparticles, nanofibers, and thin films, quantum and surface effects at the nanoscale, and the engineering of nanoscale systems for catalysis, energy storage, separations, and biomedical applications. The course examines how nanostructures govern thermal, electrical, and chemical properties, and how these can be leveraged to optimize process efficiency and innovate material design. Students will gain practical experience through laboratory experiments and explore cutting-edge research and industrial advancements in areas like nano-catalysis, battery technology, and Nano medicine, equipping them to tackle challenges in chemical engineering with nanotechnology-driven solutions.

20. Program Intended Learning Outcomes: (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

1.

2.

3.

4.

21. Course Intended Learning Outcomes: (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

1.

2.

3.

4.

Course ILOs	The learning levels to be achieved					
	Remembering	**Understanding**	**Applying**	**Analysing**	**evaluating**	**Creating**

22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program:

~~Program ILOs~~ / ~~Course ILOs~~	ILO (1)	ILO (2)	ILO (3)	ILO (4)	ILO (5)
1					
2					
3					
4					

5					
6					
7					
8					

23. Topic Outline and Schedule:

Week	Lecture	Topic	ILO/s Linked to the Topic	Learning Types (Face to Face/ Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous Lecturing	Evaluation Methods	Learning Resources
1	1.1							
	1.2							
	1.3							
2	2.1							
	2.2							
	2.3							
3	3.1							
	3.2							
	3.3							
4	4.1							
	4.2							
	4.3							
5	5.1							
	5.2							
	5.3							
6	6.1							
	6.2							
	6.3							
7	7.1							
	7.2							
	7.3							
8	8.1							
	8.2							

	8.3							
9	9.1							
	9.2							
	9.3							
10	10.1							
	10.2							
	10.3							
11	11.1							
	11.2							
	11.3							
12	12.1							
	12.2							
	12.3							
13	13.1							
	13.2							
	13.3							
14	14.1							
	14.2							
	14.3							
15	15.1							
	15.2							
	15.3							

24. Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	ILO/s Linked to the Evaluation activity	Period (Week)	Platform

25. Course Requirements:

(e.g.: students should have a computer, internet connection, webcam, account on a specific software/platform…etc.):

26. Course Policies:

A- Attendance policies: B- Absences from exams and submitting assignments on time: C- Health and safety procedures: D- Honesty policy regarding cheating, plagiarism, misbehavior: E- Grading policy: F- Available university services that support achievement in the course:

27. References:

A- Required book(s), assigned reading and audio-visuals: B- Recommended books, materials, and media:

28. Additional information:

Name of the Instructor or the Course Coordinator:	Signature:	Date:
……	……..……	……..……
Name of the Head of Quality Assurance Committee/ Department	Signature:	Date:
…….	……..……	……..……
Name of the Head of Department	Signature:	Date:
…….	……..……	……..……
Name of the Head of Quality Assurance Committee/ School or Center	Signature:	Date:
…….	……..……	……..……
Name of the Dean or the Director	Signature:	Date:
…….	……..……	……..……