

## Course Description Form

1. Course Name:	
biosensor	
2. Course Code:	
WBM-52-08	
3. Semester /	
Year: second \ fifth year	
4. Description Preparation Date:	
19/3/2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Assistant Lecturer :Mustafa Habib Email: <a href="mailto:mustafa.ha@uowa.edu.iq">mustafa.ha@uowa.edu.iq</a>	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"><li>• 1- Identify the basic parts of the medical sensor and how to manufacture</li><li>• 2- How medical allergens develop over time</li><li>• 3- Knowing the types of medical allergens</li><li>• 4- Classification of medical allergens according to use</li><li>• 5- The purpose of using medical sensors with the human body</li></ul>
9. Teaching and Learning Strategies	
Strategy	<ol style="list-style-type: none"><li>1- Theoretical lectures. Using the whiteboard and data sheet</li><li>2- Discussion lectures Tutorials.</li><li>3- Practical experiments in laboratories.</li><li>4- Homework assignments.</li></ol>
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method
First	3	Definition, characteristics, principles, and requirements.	Definition, characteristics, principles, and requirements.	theory
Second	3	Electrodes and definition	Electrodes and definition	theory
Third	3	electronic CCT and types.	electronic CCT and types.	theory
Fourth	3	Surface electrodes	Surface electrodes	theory
Fifth	3	Needle electrodes	Needle electrodes	theory
Sixth	3	Transducers and properties.	Transducers and properties.	theory
Seventh	3			theory
Eighth	3	Resistive transducers and thermometric transducers.	Resistive transducers and thermometric transducers.	theory
ninth	3	Medical applications	Medical applications	theory
tenth	3	Piezoelectric	Piezoelectric	theory
eleventh	3	ultrasound transducers	ultrasound transducers	theory
twelveth	3	Mechanical transducers, and medical applications.	Mechanical transducers, and medical applications.	theory
Thirteenth	3			theory
fourteenth	3	Chemical transducers and medical applications	Chemical transducers and medical applications	theory
fifteenth	3	pressure measurement transducers.	pressure measurement transducers.	theory

## 11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation etc

## 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Wang, P., & Liu, Q. (2017). Bio & Business Media.
Main references (sources)	1- Wang, P., & Liu, Q. (2017). Bio & Business Media. 2- Introduction to Biomedical Engineering
Recommended books and references (scientific journals, reports...)	Standard handbook of biomedical sensors
Electronic References, Websites	<a href="https://books.google.iq/books/about/Ha">https://books.google.iq/books/about/Ha</a> dbook