

مقارنة ما يقدمه البرنامج من نتائج تعليمية مستهدفة مع المعايير المرجعية لبرنامج
الماجستير في الكيمياء الحيوية الطبية و البيولوجية الجزيئية.

أ - المعرفة والفهم:

المقررات التي تحقق المعايير الأكاديمية للبرامج	مخرجات التعلم المستهدفة ILOs	(ARS) Benchmark المعايير الأكاديمية لجامعة Michigan	(NARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا (درجة الماجستير في الكيمياء الحيوية الطبية و البيولوجية الجزيئية)
<p>Medical Biochemistry & Molecular Biology (Basic level I)</p>	<p>AI.1, AI.2, AI.4</p> <p>AI.3</p> <p>AI.4, AI.5</p> <p>AI.14</p> <p>AI.16</p> <p>AIII.1</p> <p>AIV.1&AII.12</p>	<p>Fundamentals of Biochemistry Macromolecular Structure and Function</p> <p>Physical Chemistry</p> <p>Protein Structure and Function</p> <p>Molecular Biology Post-transcriptional Gene Regulation Mechanisms of Eukaryotic Gene Expression</p> <p>Cell Biology</p> <p>Introduction of Immunology</p> <p>Cytokines & Signal transduction</p>	<p>1- Theories, concepts and specialized knowledge of the learning area and also sciences appropriate to the professional practice.</p>
<p>Medical Biochemistry & Molecular Biology (Basic level II)</p>	<p>AII.1, AII.4, AII.8, AII.14</p>	<p>Introduction to Biochemical Research Techniques: Laboratory</p>	<p>2- Mutual influence between professional practice and its impacts on the environment.</p>

Medical Biochemistry & Molecular Biology (Basic level II)	AII.2, AII.3, AII.5, AII.6 AII.6 AII.10 AII.11 AII.12 AII.13 AII.15	Macromolecular Structure and Function Protein Structure and Function Advanced Topics in Protein Trafficking and Localization Endocrinology Signal transduction Immunochemistry & tissue chemistry Enzyme: Mechanisms Ligand Binding, Enzyme Kinetics	3- Scientific developments in the field of specialization.
Advanced Medical Biochemistry & Molecular Biology Elective course (2nd part)	AII.21, AII.22 AVI.1	Molecular Biology Cellular and Molecular Neurobiology	
Medical Biochemistry & Molecular Biology (Basic level II)	AII.22	Introduction to Biochemical Research Techniques: Laboratory	4- Moral and legal ethics of the professional practice in the area of specialization.
Medical Biochemistry & Molecular Biology (Basic level II)	AI.1, AI.2, AI.3, AII.2, AII.4, AII.20	Introduction to Biochemical Research Techniques: Laboratory	5- The concepts and principles of quality of the professional practice in the area of specialization.
Medical Biochemistry & Molecular Biology (Basic level II)	AII.22	Introduction to Biochemical Research Techniques: Laboratory	6- The basics and ethics of scientific res

ب - القدرات الذهنية :

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Medical Biochemistry & Molecular Biology (Basic level I) Medical Biochemistry & Molecular Biology (Basic level II) Elective courses	BI.1 BII.1, BII.2 BIII.1	Introduction to Biochemical Research Techniques: Laboratory	1- Analyze and evaluate of information in the field of specialization and make full use of such information to solve problems.
Medical Biochemistry & Molecular Biology (Basic level I) Medical Biochemistry & Molecular Biology (Basic level II)	BI.2, BI.4 BII.1	Structure and Reactivity	2- Solve specific problems on the basis of limited and contradictory information.

Elective courses	BIII.2		
Medical Biochemistry & Molecular Biology (Basic level I)	BI.4	Introduction to Biochemical Research Techniques: Laboratory	3- Demonstrate a high level of competence in the coordination of different sources of knowledge to solve professional problems.
Medical Biochemistry & Molecular Biology (Basic level II)	BII.4	Structure and Reactivity	
Elective courses	BIII.1		
*Thesis	BIII.2	Introduction to Biochemical Research Techniques: Laboratory Structure and Reactivity	4- Carry out a research study and / or writing a scientific methodology study on research problem.
* Thesis	BIII.2	Introduction to Biochemical Research Techniques: Laboratory Structure and Reactivity	5- Assess and analyze risks of the professional practice in the field of specialization.
* Thesis	BI.3, BIII.2	Introduction to Biochemical Research Techniques: Laboratory Structure and Reactivity	6- Plan to improve performance in the field of specialization.
Medical Biochemistry & Molecular Biology (Basic level I)	BI.1, BI.4	Introduction to Biochemical Research Techniques: Laboratory	7- Make career decisions in different professional aspects.
Medical Biochemistry & Molecular Biology (Basic level II)	BII.1, BII.2	Structure and Reactivity	
Elective courses	BIII.1, BIII.2		

ج - المهارات العملية:

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Medical Biochemistry & Molecular Biology (Basic level I)	CI.1, CI.2, CI.3, CI.4, CI.5, CI.7,	Introduction to Biochemical Research Techniques: Laboratory	1- Apply modern and principle professional skills in the area of specialization.
Medical Biochemistry & Molecular Biology (Basic level II)	CII.1, CII.2, CII.3, CII.4	Laboratory in Cell and Molecular Biology Chemical analysis	
Medical Biochemistry & Molecular Biology (Basic level I)	CI.2, CI.3	Introduction to Biochemical Research Techniques: Laboratory	2- Write and evaluate technical reports.

Medical Biochemistry & Molecular Biology (Basic level II)	CII.1, CII.3	Laboratory in Cell and Molecular Biology Chemical analysis	
Medical Biochemistry & Molecular Biology (Basic level I)	CI.6	Introduction to Biochemical Research Techniques: Laboratory Laboratory in Cell and Molecular Biology Chemical analysis	3- Adopt assessment methods and tools existing in the area of specialization.

د- مهارات الاتصال:

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Medical Biochemistry & Molecular Biology (Basic level I) Medical Biochemistry & Molecular Biology (Basic level II)	DI.1, DI.2 DII.1, DII.2	Introduction to Biochemical Research Techniques: Laboratory	1- Communicate effectively in different aspects.
Medical Biochemistry & Molecular Biology (Basic level I) Medical Biochemistry & Molecular Biology (Basic level II)	DI.3 DII.3	Introduction to Biochemical Research Techniques: Laboratory	2- Demonstrate efficient IT capabilities in such a way that serves in the development of the professional practice
Thesis	DI.4	Introduction to Biochemical Research Techniques: Laboratory	3- Adopt self-assessment and specify his needs of personal learning.
Medical Biochemistry & Molecular Biology (Basic level I) Medical Biochemistry & Molecular Biology (Basic level II) *Thesis	DI.1, DI.3 DII.1, DII.3	Introduction to Biochemical Research Techniques: Laboratory	4- Use different resources for information and knowledge.
* Thesis	DI.4	Introduction to	5- Establish rules and indicators for

		Biochemical Research Techniques: Laboratory	assessing the performance of others.
Medical Biochemistry & Molecular Biology (Basic level I)	DI.1, DI.2	Introduction to Biochemical Research Techniques: Laboratory	6- Collaborate effectively within multidisciplinary team and lead teams in different professional contexts.
Medical Biochemistry & Molecular Biology (Basic level II) * Thesis	DII.1, DII.2		
* Thesis	DI.4	Introduction to Biochemical Research Techniques: Laboratory	7- Demonstrate a high level of competence in the time management.
Medical Biochemistry & Molecular Biology (Basic level I)	DI.3	Introduction to Biochemical Research Techniques: Laboratory	8- Continuous self-education.
Medical Biochemistry & Molecular Biology (Basic level II) * Thesis	DII.3		