 MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

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| **Module Information**  **معلومات المادة الدراسية** | | | | | | | |
| **Module Title** | Human Cytology | | | | | **Module Delivery** | |
| **Module Type** | CORE | | | | | * **☒ Theory** * **☒ Lecture** * **☒ Lab** * **☒ Tutorial** * **☐ Practical** * **☐ Seminar** | |
| **Module Code** | CLA1103 | | | | |
| **ECTS Credits** | 7 | | | | |
| **SWL (hr/sem)** | 175 | | | | |
| **Module Level** | | UGx11 1 | **Semester of Delivery** | | | | 1 |
| **Administering Department** | | Type Dept. Code | **College** | Type College Code | | | |
| **Module Leader** | **Dhifaf Jabbar Shamran** | | **e-mail** | dhifaf15@mu.edu.iq | | | |
| **Module Leader’s Acad. Title** | | Prof. Assist. | **Module Leader’s Qualification** | | | | Ph.D. |
| **Module Tutor** |  | | **e-mail** |  | | | |
| **Peer Reviewer Name** | | Name | **e-mail** | E-mail | | | |
| **Scientific Committee Approval Date** | | 020/10/2024 | **Version Number** | | 1.0 | | |

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| **Relation with other Modules**  **العلاقة مع المواد الدراسية الأخرى** | | | |
| **Prerequisite module** | The module is designed to teach students the basic information about the human cells their structures and functions. | **Semester** |  |
| **Co-requisites module** | None | **Semester** |  |

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| **Module Aims, Learning Outcomes and Indicative Contents**  **أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية** | |
| **Module Aims**  **أهداف المادة الدراسية** | 1-to understand the structures of the cell in human ,animals and plants.  2-this course deals with the basic concept of the cells .  3- to understand the biochemical reactions in the human cells .  4- to understand the different between the human ,animal and plants cells.  5- to comprehend repair , damage process in the cells.  6- to know the stage of cell division |
| **Module Learning Outcomes**  **مخرجات التعلم للمادة الدراسية** | 1-identify the cell .  2- Describe contains of the human cells .  3- Recognize between the structures of human ,animal and plants cells.  4- Discuss the biochemical reaction that happen in cells.  5- Define ( Necrosis).  6- Explain the type of cell damage .  7- Describe the ways of the repair in the cells.  8- Discuss the cell division stages .  9- Recognize between the anabolism and catabolism process .   1. 10- Describe the human cells types |
| **Indicative Contents**  **المحتويات الإرشادية** | Indicative content includes the following:  Part A – Theory :  Week 1:  Lec 1 : Define the Cell , Recognize between the Eukaryotic and prokaryotic  cells . (2hr).  Discussion: What is the different between Animals cells and Ameba cells. (1hr)  Lec 2: Discuss the Subcellular components 1 , Diffusion across the plasma  membrane and genetic material.(2hr)  Discussion: What is the function of (cytoskeleton) ? (1hr)  Lec 3: Discuss the Subcellular components 2.(2hr)  Discussion: What is the function of plasmids ? (1hr)  Lec 4 : Discuss cell metabolism .(2hr)  Discussion: protein synthesis .(1hr)  Lec 5 : Explain the Cell division mitosis .(2hr)  Discussion: cell division in prokaryotic cell .(1hr)  Lec 6 : Discuss meiosis. (2hr)  Discussion: Metaphase and cytokinesis . (2hr)  Lec 7 : Explain Cell damage.(2hr)  Discussion: reversible cell damage .(1hr)  Lec 8 : Explain Biochemical changes in cellular injury. (2hr)  Discussion: DNA damages .(1hr)  Lec 9 : Define Repair, Regeneration.(2hr)  Discussion: Stromal cells (1hr)  Lec 10 : Describe Types of Cells in the Human Body & their Functions(2hr)  Discussion: Adipose cells .(1hr)  Lec 11 : introduction of Cytogenetic. (2hr)  Discussion: cytogenetic disease . (1hr)  Lec 12 : introduction of Biotechnology . (2hr)  Discussion: types of biotechnology .(1hr)  Lec 13 : introduction of Nanotechnology. (2hr)  Discussion: importance of nanotechnology .(1hr)  Lec 14 : Nanotechnology and biology.(2hr)  Discussion: the relationships between Nanotechnology and biology.(1hr)  Lec 15 :cancer cells(Introduction) .(2hr)  Discussion: etiology and treatment of cancer cell. (1hr)  …………………………………………………………………….  Part B ,Lab : (2hr/weekly) , (30 hr).  …………………………………………………………………..  USSWL :  Quizzes (3hr/weekly), (18hr) ( 6 week)  Power point ( 5hr/weekly) (10 hr) ( 2 week)  Project (1 hr/ weekly) (10 hr ) (10 week)  Homework (3 hr / weekly) (45 hr) (15 week)  Mid exam (5hr/weekly) (5hr) ( 1week)  Final exam (12hr/weekly) (12hr) (1week) |

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| **Learning and Teaching Strategies**  **Learning and teaching strategies**  **استراتيجيات التعلم والتعليم** | |
| **Strategies** | A1-Giving students opportunities to think and talk about cytology.  2- Encouraging , demanding and actively managing the participation of all  students.  3- building an inclusive and fair classroom community for all students .  4- Monitoring behavior to cultivate divergent cytology thinking .  5- Think- pair- share.  6- hand raising  7- Monitor student participation |

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| **Student Workload (SWL)**  **الحمل الدراسي للطالب** | | | |
| **Structured SWL (h/sem)**  **الحمل الدراسي المنتظم للطالب خلال الفصل** | 76 | **Structured SWL (h/w)**  **الحمل الدراسي المنتظم للطالب أسبوعيا** | 5 |
| **Unstructured SWL (h/sem)**  **الحمل الدراسي غير المنتظم للطالب خلال الفصل** | 99 | **Unstructured SWL (h/w)**  **الحمل الدراسي غير المنتظم للطالب أسبوعيا** | 6.5 |
| **Total SWL (h/sem)**  **الحمل الدراسي الكلي للطالب خلال الفصل** | 175 | | |

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| **Module Evaluation**  **تقييم المادة الدراسية** | | | | | |
| **As** | | **Time/Number** | **Weight (Marks)** | **Week Due** | **Relevant Learning Outcome** |
| **Formative assessment** | **Quizzes** | 5 | 7% (10) | 3,5,8,10,13 | LO #1, 2, 4 ,5 and 6 |
| **Assignments** | 5 | 6% (10) | 15 | LO # 3, 4, 5, 6,7,and 9 |
| **Projects / Lab.** | 6 | 6% (10) | 15 |  |
| **Report** | 1 | 6% (10) | 12 | LO # 5, 8 and 9 |
| **Summative assessment** | **Midterm Exam** | 8 | 15% (10) | 8 | LO # 1-8 |
| **Final Exam** | 14 | 50% (50) | 16 | All |
| **Total assessment** | | | 100% (100 Marks) |  |  |

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| **Delivery Plan (Weekly Syllabus)**  **المنهاج الاسبوعي النظري** | |
| **Week** | **Material Covered** |
| **Week 1** | The Cell |
| **Week 2** | Subcellular components 1 |
| **Week 3** | Subcellular components 2 |
| **Week 4** | Cell Metabolism |
| **Week 5** | cell division mitosis |
| **Week 6** | meiosis |
| **Week 7** | Cell damage |
| **Week 8** | Biochemical changes in cellular injury |
| **Week 9** | Repair |
| **Week 10** | Types of Cells in the Human Body & their Functions |
| **Week 11** | Cytogenetic |
| **Week 12** | Biotechnology |
| **Week 13** | nanotechnology |
| **Week 14** | Nanotechnology and biology |
| **Week 15** | cancer cells(Introduction , etiology and treatment) |
| **Week 16** | Preparatory week before the final exam |

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| **Delivery Plan (Weekly Lab. Syllabus)**  **المنهاج الاسبوعي للمختبر** | |
| **Week** | **Material Covered** |
| **Week 1** | Introduction of microscopes |
| **Week 2** | Type of human cell |
| **Week 3** | Osmosis |
| **Week 4** | Cell division (Mitosis) |
| **Week 5** | Meiosis |
| **Week 6** | Cell Damage Types of damage |
| **Week 7** | DNA damage |
| **Week 8** | Repair |
| **Week 10** | Type of blood cells |
| **Week 11** | cancer cells(Introduction) |
| **Week 12** | Cytogenetic |
| **Week 13** | Biotechnology |
| **Week14** | nanotechnology |
| **Week 15** | Nanotechnology and biology |

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| **Learning and Teaching Resources**  **مصادر التعلم والتدريس** | | |
|  | **Text** | **Available in the Library?** |
| **Required Texts** | Cell Movements and the Shaping of the Vertebrate Body  in Chapter 21 of Molecular Biology of the Cell fourth  edition, edited by Bruce Alberts (2002) published by  Garland Science.  The Alberts text discusses how the "cellular building  blocks" move to shape developing embryos. It is also  common to describe small molecules such as amino acids  as "molecular building blocks". |  |
| **Recommended Texts** | Campbell, Neil A.; Brad Williamson; Robin J. Heyden  (2006). Biology: Exploring Life. Boston, Massachusetts:  Pearson Prentice Hall. ISBN 978-0-13-250882-7 |  |
| **Websites** | http://www.nature.com/scitable/ebooks/essentials-of-cell-biology14749010/1 | |

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| **Grading Scheme**  **مخطط الدرجات** | | | | |
| **Group** | **Grade** | التقدير | **Marks (%)** | **Definition** |
| **Success Group**  **(50 - 100)** | **A -** Excellent | **امتياز** | 90 - 100 | Outstanding Performance |
| **B -** Very Good | **جيد جدا** | 80 - 89 | Above average with some errors |
| **C -** Good | **جيد** | 70 - 79 | Sound work with notable errors |
| **D -** Satisfactory | **متوسط** | 60 - 69 | Fair but with major shortcomings |
| **E -** Sufficient | **مقبول** | 50 - 59 | Work meets minimum criteria |
| **Fail Group**  **(0 – 49)** | **FX –** Fail | **راسب (قيد المعالجة)** | (45-49) | More work required but credit awarded |
| **F –** Fail | **راسب** | (0-44) | Considerable amount of work required |
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| **Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above. | | | | |