

**University: Al-qadesiayh**

**College: biotechnology**

**Department:Agri.**

 **biotechnology**

**Stage: second**

**Lecturer name:** **Heba shehab ahmed**

**Academic Status:**

**Qualification:**

**Place of work:**

**Republic of Iraq**

 **The Ministry of Higher Education**

 **& Scientific Research**

**Course Weekly Outline**

|  |  |
| --- | --- |
| **Course Instructor** | Heba shehab ahmed |
| **E\_mail** | muslemakel@Gmail |
| **Title** | Lab. microbiology |
| **Course Coordinator** |  |
| **Course Objective** | Study of microorganisem |
| **Course Description** |  |
| **Textbook** |  |
| **References** | Atlas of microbiology |
| **Course Assessment** | Term Tests | Laboratory | Quizzes | Project | Final Exam |
| As (35%) | As (15%) | As (10%) | ---- | As (40%) |
| **General Notes** |  |

**University:**

**College:**

**Department:**

**Stage:**

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**& Scientific Research**

**Course weekly Outline**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **week** | **Date** | **Topics Covered** | **Lab. Experiment Assignments** | **Notes** |
| **1** |  |  | **Introduce students to the laboratory equipment and tools** |  |
| **2** |  |  | **Sterilization and disinfection** |  |
| **3** |  |  | **Preparation of culture media part 1**  |  |
| **4** |  |  | **2** |  |
| **5** |  |  | **Pure culture** |  |
| **6** |  |  | **Motion test** |  |
| **7** |  |  | **Biochemical tests part 1,2.3** |  |
| **8** |  |  | **Forms of bacteria under the microscope** |  |
| **9** |  |  | **Staining** |  |
| **10** |  |  | **Colony morphology**  |  |
| **11** |  |  |  |  |
| **12** |  |  |  |  |
| **13** |  |  |  |  |
| **14** |  |  |  |  |
| **15** |  |  |  |  |
| **Half- year Break** |

**Instructor Signature: Dean Signature:**



**University: Al-qadesiayh**

**College: biotechnology**

**Department:Agrecalture Biotechnology**

**Stage: second stage**

**Lecturer name:Heba Shehab Ahmed**

**Academic Status:**

**Qualification:**

**Place of work:** **Alqadisiya University**

**Republic of Iraq**

 **The Ministry of Higher Education**

 **& Scientific Research**

**Course Weekly Outline**

|  |  |
| --- | --- |
| **Course Instructor** | Heba Shehab Ahmed |
| **E\_mail** | Muslemakel@gmial |
| **Title** | Practical immunity |
| **Course Coordinator** | Study immunity .lab. Instrument and equipment & immunity tests in the laboratory.  |
| **Course Objective** |  |
| **Course Description** |  |
| **Textbook** | Immunology & Evolution of infection diseaseSteven A.Frank (Author) |
| **References** | Super Immunity Paperback – December 31, 2013by Joel Fuhrman (Author) |
| **Course Assessment** | Term Tests | Laboratory | Quizzes | Project | Final Exam |
| As (35%) | As (15%) | As (10%) | ---- | As (40%) |
| **General Notes** |  |



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**Stage: second stage**

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**Course weekly Outline**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **week** | **Date** | **Topics Covered** | **Lab. Experiment Assignments** | **Notes** |
| **1** |  |  | Laboratory animals part 1 & 2 |  |
| **2** |  |  | Differentiation of blood cells (blood smear) |  |
| **3** |  |  | W.B.C count |  |
| **4** |  |  | R.B.C count |  |
| **5** |  |  | Serological test |  |
| **6** |  |  | Agglutination reactions |  |
| **7** |  |  | Neutralization reactions |  |
| **8** |  |  | Complement – fixation reaction |  |
| **9** |  |  | Phagocytosis  |  |
| **10** |  |  | Fluorescent- antibody technique |  |
| **11** |  |  | Enzyme-Linked Immune Sorbent Assay (ELISA) part 1 |  |
| **12** |  |  | ELISA part 2 |  |
| **13** |  |  | Preparation of serum |  |
| **14** |  |  |  |  |
| **15** |  |  |  |  |
| **Half- year Break** |

**Instructor Signature: Dean Signature:**