|  |  |
| --- | --- |
| **Course Title:**  | **Principles of** **General Zoology** |
| **Course Code:** | **(**ZOO **103)** |
| **Program:** | **Zoology** |
| **Department:**  | **Zoology** |
| **College:** | **science** |
| **Institution:** | **King Saud University** |

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# A. Course Identification

|  |  |
| --- | --- |
| **1. Credit hours:**  | **3 (2+0+2)** |
| **2. Course type** |
| **a.** | University |  | College |  | Department | **√** | Others |  |  |
| **b.** | Required |  | Elective |  |  |
| **3. Level/year at which this course is offered:** |  **Third level** |
| **4. Pre-requisites for this course** (if any)**: None** |
| **5. Co-requisites for this course** (if any)**: None** |
|  |

## 6. Mode of Instruction (mark all that apply)

| **No** | **Mode of Instruction** | **Contact Hours** | **Percentage**  |
| --- | --- | --- | --- |
| **1** | **Traditional classroom** | 22.4 | 80 |
| **2** | **Blended**  |  |  |
| **3** | **E-learning** | 5.6 | 20 |
| **4** | **Correspondence** |  |  |
| **5** | **Other**  |  |  |

**7. Actual Learning Hours** (based on academic semester)

|  |  |  |
| --- | --- | --- |
| **No** | **Activity** | **Learning Hours** |
| **Contact Hours** |
| **1** | **Lecture** | 28 |
| **2** | **Laboratory/Studio** | 28 |
| **3** | **Tutorial**  |  |
| **4** | **Others** (specify) |  |
|  | **Total** | 56 |
| **Other Learning Hours\*** |
| **1** | **Study**  |  |
| **2** | **Assignments** |  |
| **3** | **Library** |  |
| **4** | **Projects/Research Essays/Theses**  |  |
| **5** | **Others** (specify) |  |
|  | **Total** |  |

**\*** The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

# B. Course Objectives and Learning Outcomes

|  |
| --- |
| 1. Course Description: |
|  |
| 2. Course Main ObjectiveAt the end of this course, each student should be able to: |
| **Describe the functions of each organelle in animal cell.****Distinguish between mitosis and meiosis.****Compare between DNA and RNA.****Classify different organisms in different kingdoms.****Define the following terms, zoology, species, carnivores and genotype.****Compare between all animal tissues.****Explain the functions of respiratory and digestive systems for vertebrate and invertebrate organisms.****Examine cell organelles under the microscope.****Dissect mouse to study the body systems.****Compare between animal tissues under the microscope.** **Use microscope to compare between mitotic and meiotic stages in animal cells.** |

## 3. Course Learning Outcomes

| **CLOs** | **Aligned****PLOs** |
| --- | --- |
| 1 | **Knowledge:** |  |
| 1.1 | **Study the types and chemical structure of organic molecules.** |  |
| 1.2 | **Study the properties and structure of animal cell.** |  |
| 1.3 | **Understand cell divisions.**  |  |
| 1.4 | **Investigate the differences between different animal tissues.** |  |
| 1.5 | **Classify of living organisms in different Kingdoms.** |  |
| 1.6 | **Study the functions of different organs in different organisms.** |  |
| 1.7 | **Understand the basic of the animal genetics.** |  |
| **2** | **Skills :** |  |
| 2.1 | **Describe the functions of each organelle in animal cell.** |  |
| 2.2 | **Distinguish between mitosis and meiosis.** |  |
| 2.3 | **Compare between DNA and RNA.** |  |
| 2.4 | **Classify different organisms in different kingdoms.** |  |
| 2.5 | **Define the following terms, zoology, species, carnivores and genotype.** |  |
| 2.6 | **Compare between all animal tissues.** |  |
| 2.7 | **Explain the functions of respiratory and digestive systems for vertebrate and invertebrate organisms.** |  |
| **3** | **Competence:** |  |
| 3.1 | **Work in a team to do a specific project.** |  |
| 3.2 | **Work independently to conduct a specific project.** |  |
| 3.3 | **Respect each other’s and their teacher.** |  |
| 3.4 | **Help each other in any homework.** |  |

# C. Course Content

|  |  |  |
| --- | --- | --- |
| **No** | **List of Topics** | **Contact Hours** |
| 1 | **Introduction (Importance and branches of Zoology)** | **1** |
| 2 | **Bio-molecules****\* Water, carbohydrates, lipids, proteins & Nucleic acids (DNA & RNA).** | **1** |
| 3 | **Cell Biology****\* Cell types, animal & plant cells****\* Animal cell: membrane, nucleus & cytoplasm****\* The other types of cell organelles and cell movement** | **4** |
| 4 | **Cell Division****\* Cell cycle & Mitosis****\* Cell cycle & Mitosis** | **2** |
| 5 | **Genetics****\* Mendel 1****\* Mendel 2****\* DNA** | **2** |
| 6 | **Histology****\* Animal tissues: Epithelial and connective tissues****\* Vascular, muscular and nervous tissues** | **2** |
| 7 | **First Exam** | **90 min** |
| 8 | **Classification** **\*** **Classification: General characters****\* Protista: selected examples****\* Animalia: selected examples****\* Other Phyla: selected examples (continuo)****\* Other Phyla: selected examples (continuo)****\* Other Phyla: selected examples (continuo)****\* Other Phyla: selected examples (continuo)** | **6** |
| 9 | **Anatomy** | **2** |
| 10 | **Second Exam** | **90 min** |
| 11 | **Physiology****\* Homeostasis****\* Nutrition****\* Digestion****\* Blood composition & function** | **10** |
| **Total** | 43 |

# D. Teaching and Assessment

## 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

| **Code** | **Course Learning Outcomes** | **Teaching Strategies** | **Assessment Methods** |
| --- | --- | --- | --- |
| **1.0** | **Knowledge** |
| 1.1 | **Study the types and chemical structure of organic molecules.** | **Brain storming.****Problem solving.****Demonstrations.****Lecture and discussion.****Practical training.** | **Final exams.****Lab reports and examinations.****Activities and homework.** |
| 1.2 | **Study the properties and structure of animal cell.** |
| 1.3 | **Understand cell divisions.**  |
| 1.4 | **Investigate the differences between different animal tissues.** |
| 1.5 | **Classify of living organisms in different Kingdoms.** |
| 1.6 | **Study the functions of different organs in different organisms.** |
| 1.7 | **Understand the basic of the animal genetics.** |
| **2.0** | **Skills** |
| 2.1 | **Describe the functions of each organelle in animal cell.** | **Brain storming.****Problem solving.****Demonstrations.****Lecture and discussion.** | **Midterm and Final exams.****Activities during the lecture and homework.** |
| 2.2 | **Distinguish between mitosis and meiosis.** |
| 2.3 | **Compare between DNA and RNA.** |
| 2.4 | **Classify different organisms in different kingdoms.** |
| 2.5 | **Define the following terms, zoology, species, carnivores and genotype.** |
| 2.6 | **Compare between all animal tissues.** |
| 2.7 | **Explain the functions of respiratory and digestive systems for vertebrate and invertebrate organisms.** |
| **3.0** | **Competence** |
| 3.1 | **Work in a team to do a specific project.** | **Demonstrations.****Small group work.** | **Presentation.****Group project.** |
| 3.2 | **Work independently to conduct a specific project.** |
| 3.3 | **Respect each other’s and their teacher.** |
| 3.4 | **Help each other in any homework.** |

## 2. Assessment Tasks for Students

| **#** | **Assessment task\***  | **Week Due** | **Percentage of Total Assessment Score** |
| --- | --- | --- | --- |
| **1** | **First lab exam** | **6** | **15%** |
| **2** | **Second lab Exam** | **12** | **15%** |
| **3** | **First theoretical exam** | **7** | **15%** |
| **4** | **second theoretical exam** | **15** | **15%** |
| **5** | **Final Exam** | **17** | **40%** |
| **6** |  |  |  |
| **7** |  |  |  |
| **8** |  |  |  |

**\*Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

# E. Student Academic Counseling and Support

|  |
| --- |
| **Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :** |
| **\* Direct supervision by staff member over lab. Sessions.****\* Office hours 7 hr/ week** |

# F. Learning Resources and Facilities

## 1.Learning Resources

|  |  |
| --- | --- |
| **Required Textbooks** | **\* Campbell, N. A. and Reece, J. B. (2002). Biology (6th edition). Pearson Education. Inc. USA****\* Brooker, R. J., Widmaier, E. P., Graham, L. E. and Stiling, P. D. (2008). Biology. McGraw-Hill International Edition.** |
| **Essential References Materials** | **\* Campbell, N. A. and Reece, J. B. (2002). Biology (6th edition). Pearson Education. Inc. USA****\* Brooker, R. J., Widmaier, E. P., Graham, L. E. and Stiling, P. D. (2008). Biology. McGraw-Hill International Edition.** |
| **Electronic Materials** | \* **Websites on the internet that are relevant to the topics of the course** |
| **Other Learning Materials** | **\* Microsoft office package and Josoor Program** |

## 2. Facilities Required

| **Item** | **Resources** |
| --- | --- |
| **Accommodation**(Classrooms, laboratories, demonstration rooms/labs, etc.) | \* **Optically and electronically facilitated lecture rooms.****\* Microscopically equipped laboratories.** |
| **Technology Resources** (AV, data show, Smart Board, software, etc.) | **\* Computer room containing at least 50 units** |
| **Other Resources** (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) | **\* Computer room containing at least 50 units**  |

# G. Course Quality Evaluation

| **Evaluation****Areas/Issues**  | **Evaluators**  | **Evaluation Methods** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
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**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

**Assessment Methods** (Direct, Indirect)

# H. Specification Approval Data

|  |  |
| --- | --- |
| **Council / Committee** |  |
| **Reference No.** |  |
| **Date** |  |