Kingdom of Saudi Arabia
The National Commission for Academic Accreditation & Assessment

COURSE SPECIFICATION
ZOO 145: General Zoology

Zoology Department College of Science
King Saud University

Revised Dhul-Qa'da, 1432H (October, 2011)

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Course Specification

For Guidance on the completion of this template, please refer to of Handbook 2 Internal Quality Assurance Arrangements

Institution King Saud University
College/Department College of Science / Zoology Department

A Course Identification and General Information

1. Course title and code: General Zoology (145 Zoo)
2. Credit hours **3.0 (2 + 1) /** week
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Zoology Department Program
4- Name of faculty member responsible for the course **Dr. Ashraf M. Ahmed**
5- Level/year at which this course is offered Pre-medical students
6- Pre-requisites for this course (if any) None
7. Co-requisites for this course (if any) None
8. Location if not on main campus

B Objectives:

1. Summary of the main learning outcomes for students enrolled in the course.

- Prokaryotes
  - Bacteria
  - Viruses
- Eukaryotes (Basics of cell Biology):
  - Cell types (Prokaryotes Eukaryotes).
  - Cell organelles
- Macromolecules:
  - Carbohydrates
  - Lipids
  - Proteins
- Enzymes and metabolic control
- Movement of materials into and out of the cell (cellular transport)
- Cellular respiration (production of energy)
- Cell division (cell cycle)
  - Mitotic division
  - Meiotic division (and sexual life cycle)
- Mendel and the gene idea:
  - The chromosomal bases of inheritance
  - First low of Mendel
  - Second low of Mendel
  - The genetic diseases, sex-linked disorders and mutations
- Molecular Biology (information codes and genes):
  - DNA and DNA-replication
  - RNA and RNA-transcription
  - From gene to protein (RNA translation)
- Chemical signals in animals (endocrine system and hormonal regulation).

2. Briefly describe any plans for developing and improving the course that are being implemented (eg increased use of IT or web based reference material, changes in content as a result of new research in the field)

• Annual review of course by departmental course planning committee.
• Updating the course with latest developments in the field.
• Annual review and updating practical sessions with new experiments, slides and new preparations.
• Updating course resources using internet materials.
• Comparison of course topics with equivalent local and international courses.

C. Course Description (Note: General description in the form to be used for the Bulletin or Handbook should be attached)

1 Topics to be Covered		
Topic	**No of Weeks**	**Contact hours**
Prokaryotes & Eukaryotes (Cell Biology, organelles and cell molecules)	3	6
Energy production (enzymes) and movement of materials and cellular respiration	3	6
Cell division, Mendel lows and genetic diseases	3	6
Molecular bases of DNA and RNA (and gene idea)	3	6
Endocrine system	2	4

2 Course components (total contact hours per semester):			
Lecture: **28**	Tutorial:	Practical/Fieldwork/Internship: **15**	Other: 2 major exams

3. Additional private study/learning hours expected for students per week. (This should be an average: for the semester not a specific requirement in each week)

None

4. Development of Learning Outcomes in Domains of Learning

For each of the domains of learning shown below indicate:

• A brief summary of the knowledge or skill the course is intended to develop;

• A description of the teaching strategies to be used in the course to develop that knowledge or skill.

• The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

a. Knowledge

(i) Description of the knowledge to be acquired

• Knowledge about the structure and properties of the living cell.
• Knowledge about enzymes and there mode of action.
• Knowledge about cellular respiration and energy production.
• Knowledge about macromolecules and their types and importance.
• Knowledge about DNA-RNA molecular bases and protein production
• Knowledge about Mendel's lows and genetic bases of inheritance
• Knowledge about human endocrine system.

(ii) Teaching strategies to be used to develop that knowledge

• In class lecturing (using PowerPoint and illustrations).

• Laboratory practice and microscopic examination. (Conducting experiments and writing reports).
• Activities and homework.

(iii) Methods of assessment of knowledge acquired

• Major and final exams
• Evaluation of lab reports and examinations
• Evaluation of activities and homework.

b. Cognitive Skills

(i) Cognitive skills to be developed

• Skills to examine and describe cells and cell organelles under the microscope.
• Skills how to examine mitotic and meiotic division.
• Skills of how to examine identify and distinguish between the human blood groups.
• Skills how to apply the genetic bases of Mendel's lows on some inherited disorders.
• Skill to dissect rat and identify its different body systems
• Skills of how to examine and identify the histological features of different mammalian organs

(ii) Teaching strategies to be used to develop these cognitive skills

• Using of the microscopic illustrations.
• Laboratory training.
• Activities, assignments and homework.

(iii) Methods of assessment of students cognitive skills

• Major and final exams
• Evaluation of lab reports and examinations
• Evaluation of activities and homework.

c. Interpersonal Skills and Responsibility

(i) Description of the interpersonal skills and capacity to carry responsibility to be developed

• Ability to work in a team to conduct a specific project.
• Ability to work independently to conduct a specific project.
• Ability to communicate results of work to others.

(ii) Teaching strategies to be used to develop these skills and abilities

• Work independently.
• Work as part of a team.
• Communicate results of work with others.

(iii) Methods of assessment of students interpersonal skills and capacity to carry responsibility

• Assessment of group projects.
• Assessment of projects conducted individually.

d. Communication, Information Technology and Numerical Skills

(i) Description of the skills to be developed in this domain.

• Ability to work in a team to conduct a specific project.
• Ability to solve problems.
• Ability to computers and internet.
• Ability to conduct searches and restore information.

(ii) Teaching strategies to be used to develop these skills

• Promoting students to submit activities, homework and writing reports.

(iii) Methods of assessment of students numerical and communication skills • Evaluation of the written reports. • Evaluating activities and homework.
e. Psychomotor Skills (if applicable)
(i) Description of the psychomotor skills to be developed and the level of performance required Not applicable
(ii) Teaching strategies to be used to develop these skills Not applicable
(iii) Methods of assessment of students psychomotor skills Not applicable

5. Schedule of Assessment Tasks for Students During the Semester

Assess-ment	Assessment task (eg. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	First lab exam	Week 6	15/100
2	Second lab Exam	Week 12	15/100
3	First theoretical exam	Week 7	15/100
4	second theoretical exam	Week 13-14	15/100
5	Final Exam	15	40/100

D. Student Support

1. Arrangements for availability of faculty for individual student consultations and academic advice. (include amount of time faculty are available each week) • Direct supervision by staff member over lab sessions. • Office hours 7 hr/ week

E Learning Resources

1. Required Text(s) Campbell, N. A. and Reece, J. B. (2005). Biology (6th edition). Pearson Education. Inc. USA.
2. Essential References Campbell, N. A. and Reece, J. B. (2006). Biology (7th edition). Pearson Education. Inc. USA.
3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List) Campbell, N. A. and Reece, J. B. (2005). Biology (8th edition). Pearson Education. Inc. USA.
4-.Electronic Materials, Web Sites etc • Websites on the internet that are relevant to the topics of the course
5- Other learning material such as computer-based programs/CD, professional standards/regulations • Microsoft office package

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Lecture rooms, laboratories, etc.) • Optically and electronically facilitated lecture rooms. • Microscopically equipped laboratories.
2. Computing resources • Computer room containing at least 30 units

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching • Distribution of questioners for course evaluation by students. • Students- faculty meetings.
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department • Peer consultation by departmental course committee. • Self-evaluation of the programme by the department.
3 Processes for Improvement of Teaching • Installation of modern microscopes, digital labs and maintenance. • Implementation of suggestions administration • Implementation of suggestions by departmental course committee. • Monitoring of teaching activates by administration.
4. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent faculty member of a sample of student work, periodic exchange and remarking of a sample of assignments with a faculty member in another institution) • Reviewing assessments by staff member/chairman/special committee when required and instructed by higher administration at the end of each semester.
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. • Comparison of course with equivalent courses. • Reviewing course topics annually by the department course committee. • Refreshment of teaching resources to ensure updating of knowledge. • Use of statistics of course evaluation by students to improve the course.