



Course Specifications

| | |
|----------------------|---|
| Course Title: | General Biology |
| Course Code: | 201102-3 |
| Program: | Bachelor in Computer Engineering |
| Department: | Department of Biology |
| College: | College of Science |
| Institution: | Taif University |

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A. Course Identification

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|--|
| 1. Credit hours: 3 |
| 2. Course type |
| a. University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department <input type="checkbox"/> Others <input type="checkbox"/> |
| b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/> |
| 3. Level/year at which this course is offered: 2/1 |
| 4. Pre-requisites for this course (if any): NON |
| 5. Co-requisites for this course (if any): NON |

6. Mode of Instruction (mark all that apply)

| No | Mode of Instruction | Contact Hours | Percentage |
|----|-----------------------|---------------|------------|
| 1 | Traditional classroom | 3 | 100% |
| 2 | Blended | 0 | 0 |
| 3 | E-learning | 0 | 0 |
| 4 | Distance learning | 0 | 0 |
| 5 | Other | 0 | 0 |

7. Contact Hours (based on academic semester)

| No | Activity | Contact Hours |
|----|-------------------|---------------|
| 1 | Lecture | 30 |
| 2 | Laboratory/Studio | 0 |
| 3 | Tutorial | 0 |
| 4 | Others (specify) | 0 |
| | Total | 30 |

B. Course Objectives and Learning Outcomes

1. Course Description

Studying the concepts of ecology and environmental pollution. Also this course discusses the principles and commercial applications of biotechnology to environmental problems. The course is structured to promote self-learning and students' development of Biotech solutions to real-life problems. Biotechnology is not just genes! Individual subject areas include the use of biotechnology to clean up or 'bioremediation' polluted environments as well as the economic recovery of important minerals and precious metals. Furthermore, the application of biological systems in preventing pollution by supporting our planet's sustainable development is also explored in subject areas such as biofuels. The controversial issues of agricultural biotechnology are also examined in this course

2. Course Main Objective

Studying the concepts of ecology and environmental pollution.



3. Course Learning Outcomes

| CLOs | | Aligned PLOs |
|----------|--|--------------|
| 1 | Knowledge and Understanding | |
| 1.1 | Define the mean of biology | K1 |
| 1.2 | Record different forms of cells and types of tissues | K1 |
| 1.3 | Define the Structure and Function of Biological Molecules | K1 |
| 1.4 | Define the mean of molecular biology | K1 |
| 1.5 | Define Nucleic acids, the flow of genetic information, cloning | K1 |
| 2 | Skills : | |
| 2.1 | Compare between different cell types | S1 |
| 2.2 | summarize topical biotechnological applications in | S1 |
| 3 | Values: | |
| 3.1 | Evaluate biological methods for mutation and cloning | V1 |
| 3.2 | Demonstrate personal organization | V1 |
| 3.3 | Show cooperation with others | V2 |
| 3.4 | Write reports effectively | V3 |

C. Course Content

| No | List of Topics | Contact Hours |
|--------------|--|---------------|
| 1 | Themes in the study of biology | 3 |
| 2 | Evolution, the core of biology, the Process of science | 6 |
| 3 | The Cell, plant tissues | 6 |
| 4 | Properties of water , Biological molecules | 3 |
| 5 | Molecular Biology , DNA structure | 3 |
| 6 | The flow of genetic information | 3 |
| 7 | Genetic code , Mutations | 3 |
| 8 | Cloning, Genetically modified organisms | 3 |
| Total | | 30 |

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 and Understanding | | |
| 1.1 | Define the mean of biology | Lecture | MID and Final |
| 1.2 | Record different forms of cells and types of tissues | Lecture | MID and Final |
| 1.3 | Define the Structure and Function of Biological Molecules | Lecture | MID and Final |
| 1.4 | Define the mean of molecular biology | Lecture | MID and Final |
| 1.5 | Define Nucleic acids, the flow of genetic information, cloning | Lecture | MID and Final |
| 2.0 | Skills | | |
| 2.1 | Compare between different cell types | Lecture LAB | practical |
| 2.2 | summarize topical biotechnological applications in | Lecture | practical |



| Code | Course Learning Outcomes | Teaching Strategies | Assessment Methods |
|------|--|---------------------|--------------------|
| 3.0 | Values | | |
| 3.1 | Evaluate biological methods for mutation and cloning | Practical | exercise |
| 3.2 | Demonstrate personal organization | Practical | exercise |
| 3.3 | Show cooperation with others | Practical | exercise |
| 3.4 | Write reports effectively | Practical | exercise |

2. Assessment Tasks for Students

| # | Assessment task* | Week Due | Percentage of Total Assessment Score |
|---|----------------------|---|--------------------------------------|
| 1 | Quizzes & Home works | 2 rd , 4 th , 6 th and 10 th week | 20% |
| 2 | 1 st Exam | 4 th week | 15% |
| 3 | 2 nd Exam | 9 th week | 15% |
| 4 | Final exam | 16 th week | 50% |

*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 :

Academic advising and counseling of students is an important component of teaching; student academic advising is a mandatory requirement of College of Computers and Information Technology (CCIT). Appropriate student advising provides support needed for the student during times of difficulty. In addition, it helps the student to build a close relationship with his/her advisor and to provide student motivation and involvement with the institution.

In addition, since faculty are usually the first to recognize that a student is having difficulty, faculty members play a key role in developing solutions for the students or referring them to appropriate services. Faculty members also participate in the formal student-mentoring program.

Additional counseling is provided by course directors, who provide students with academic reinforcement and assistance and refer “at risk” students to the Vice Dean for Academic Affairs and the Vice Dean for female section.

F. Learning Resources and Facilities

1. Learning Resources

| | |
|---------------------------|---|
| Required Textbooks | <p>Campbell, N. A., Reece, IB, Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V. and Jackson, R.B. 2008, Biology. 9th ed. Pearson Benjamin Cummings. U.S.A.</p> <p>Sheeler, P. and Bianchi, D.E. 1981. Cell and Molecular Biology. John Wiley & Sons, Ins., U.S.A.</p> <p>Hartl, D.L. and Jones E.W. 1998. Genetics. Jones and Bartlett Publishers, U.S.A.</p> |
|---------------------------|---|



| | |
|---------------------------------------|---|
| Essential References Materials | Papers in International Journals such as Biology – Biological Control – Biodiversity- molecular biology |
| Electronic Materials | http://www.course-notes.org/biology/slides/campbells_biology_8th_edition |
| Other Learning Materials | NON |

2. Facilities Required

| Item | Resources |
|--|------------------------|
| Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) | Traditional Classrooms |
| Technology Resources (AV, data show, Smart Board, software, etc.) | White Board, datashow |
| Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) | NON |

G. Course Quality Evaluation

| Evaluation Areas/Issues | Evaluators | Evaluation Methods |
|--|----------------------|--|
| Effectiveness of Teaching | Students | Students surveys and Students course evaluation |
| Improvement of Teaching | Course Coordinator | deficiencies based on the student Evaluation, faculty input, course file, and program assessment |
| Verifying Standards of Student Achievement | Curriculum Committee | <ul style="list-style-type: none"> Review CAF (Course assessment file) Alumni surveys. Periodic exchange and remarking of tests or a sample of assignments with staff at another |

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 | |

