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| **Course Name: Introductory Biology**  |
| **Course Code: BIOL 100** | **Course Type (elective)** | **Course Credits: 4** |
| **Class Timings:** **M-W-F 12:00 -12:50 (S313)****Lab Timings:****R 8:00-9:50 (S329)** | **Section: F** | **Student Meeting Hours/ Office Hours:**Monday (2:30-3:30 pm), Tuesday 11:00 am-12:00 pm), Wednesday (10:00-11:00 am) or by appointment |
| **Instructor Name: Dr Khurram Muaz** |
| **Instructor Contact Details**Email: khurrammuaz@fccollege.edu.pkOffice Hours (face to face and/ or online): Monday (2:30-3:30 pm), Tuesday 11:00 am-12:00 pm), Wednesday (10:00-11:00 am) or by appointment Guidelines for contacting instructor: For face to face and/ or online contact make an appointment before visiting via email. |
| **TA Name and Contact Details (if applicable):**N/A |
| **Course Description**:Pre-requisites if any: N/AMode of Instruction (Asynchronous/Synchronous): Synchronous[If applicable] Mode of peer-to-peer Contact Among Students: N/A |
| **Main Mode of Instruction:** *Whiteboard, Presentations***Technology Requirements** *Familiarize yourself with Moodle and Learn the basics of zoom*  |
| **Program Objectives Addressed** * Develop an understanding of how science is conducted.
* Understand the structure organization and the functional aspects of living things
* Acquire fundamental knowledge of genetics and relate them to current issues.
* To give an appreciation of diversity of living things and their relevance to our lives.
* To become aware of different systems of human body and their functions and some common health problems.
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| **Course Objectives or** [**Student Learning Outcomes**](https://docs.google.com/document/d/1me9vpl8iKR_zNX9gIODm7gkVFY9VkuSKpUJe1VyI57M/edit) **(SLOs)**1. Understand and appreciate the role of biology in everyday life
2. Know the structure and function of cellular organelles
3. Know how molecules are synthesized and utilized for inheritance and cell functions and the basics of modern technologies that are changing medicine and agriculture.
4. Understand the importance of biodiversity and application of biology to our life.
5. To become familiar with various systems of human body and common health problems
6. Be better prepared to think rationally and analyze issues on scientific basis.
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**ANNEXURE – A**

**Syllabus / Course Outline**

**Course Content, Learning Material & Activities Schedule**

The schedule is tentative because it is not possible to anticipate exactly how much time each topic will require.

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| --- | --- |
| **Week** | **Topic** |
| 1 | IntroductionScientific method  |
| Characteristics of living things |
| 2 | Bio-molecules |
| 3 | Cells: the basic units of life  |
| 4 | Organelles  |
| 5 | The cell in action |
| 6 | Genes and DNA+ Heredity |
| **Assignment due** |
| 7 | Classification of bacteria  |
| 8 | Nervous system + Skin system + Endocrine system  |
| 9 | Classification of fungi + Classification of plants  |
| 10 | Classification of animals (Invertebrates) |
| Classification of animals (Vertebrates) |
| 11 | Human body organization |
| Digestive system |
| 12 | Skeletal system  |
| Muscular system |
| 13 | Respiratory system  |
| Urinary system |
| 14 | Cardiovascular System |
| Nervous System |
| 15 | Reproductive System |
| **Revision + Assignment Due** |

**Come prepared** to participate. Questions will be posed to stimulate discussion. Diagrams or illustrations will simplify difficult concepts when possible. To get the most out of this course, spend time thinking about the information presented in lectures, readings, and discussions.

### Textbooks, Materials, Supplies, and other Resources

Texts and reference materials will be provided to students on an ongoing basis:

### Life Science – Holt Science & Technology by Katy Z. Allen, Linda R. Berg, Barbra Christopher Jennie Dusheck & Mark F. Tylor. 2007. Holt Rinehart & Winston, NY.

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| --- | --- |
| **Week** | **Laboratory** |
| 1 | Lab safety, notebook discussion, lab coat + lab working ethics |
| 2 | Campus tour to study living things and a visit to Zoology Museum |
| 3 | A visit to a botanical garden |
| 4 | How to use a microscope |
| 5 | Plant cell slide preparation (onion epidermis, and leaf epidermis) +  |
| 6 | BMI calculation  |
| 7 | Classification of bacteria |
| 8 | Classification of protist |
| 9 | Classification of fungi |
| 10 | Classification of plants (moss, fern, gymnosperm, angiosperm) |
| 11 | Classification of animals |
| 12 | Human skeleton (model) |
| 13 | Human cardiovascular system (model heart)  |
| 14 | Study of model frog or rabbit for organs systems |
| 15 |
| 16 | **Lab exam** |

**Course Requirements:**

**Class Participation**

Participation in the class will be gauged only by the attendance. This will be worth 10% of the total marks

### Assignment

Assignments (worth 10% of the total marks) will be given.

The late submission of the assignment will result in deduction of marks. After the expiry of 1st deadline, a second deadline will be given which will result in deduction of 25% of the marks of assignment, upon expiry of the 2nd deadline a 3rd deadline will be give failure to submit by the 3rd deadline will result in deduction of 50% of the marks of assignment.

### Tests & Quizzes

Quizzes, Midterm and Final exams will be MCQs and short question based and will be conducted in class.

The breakup is as follows:

**Class Participation** 10%

**Assignments:** 10%

**Quizzes:**  15%

**Midterm exam**: 20%

**Lab exam:** 10%

**Final term exam:**  35%

**TOTAL 100%**

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### [OPTIONAL] Missed Assignments/ Make-Ups/ Extra Credit

Missed exam can only be retaken in case of genuine reason*.* However, makeup exam will be result in deduction of 5% of the total marks of the missed exam.

The late submission of the assignment will result in deduction of marks. After the expiry of 1st deadline, a second deadline will be given which will result in deduction of 25% of the marks of assignment, upon expiry of the 2nd deadline a 3rd deadline will be give failure to submit by the 3rd deadline will result in deduction of 50% of the marks of assignment.

Students can receive extra credit of up to 0.5 points if their grade improves. This will only be added when the final grade is calculated.

**Attendance Policy:**

**If a student fails to attend 80% of the lectures and of the laboratory work, s(he) will not be allowed to appear in the Final Examination.** Excused absence on account of family emergency and/or participation in university activities will not count towards class attendance. The weightage of the attendance will be 10% of the total grade if the attendance of the student will be **80% or above.** For less than **80% attendance there will be no score for attendance**.

**Classroom Participation:**

**Come prepared** to participate. Questions will be posed to stimulate discussion. Diagrams or illustrations will simplify difficult concepts when possible. To get the most out of this course, spend time thinking about the information presented in lectures, readings, and discussions.

**Grade Determination & Course Assessment as per FCC Policy:**

*- Total grade will be compiled by the merger of student participation, comprehensive understanding of the subject and exams.*

**Grading Legend**

Below is the grading legend of FCCU (published in all catalogues and available on the FCCU website) as approved by the Academic Council

|  |  |  |  |
| --- | --- | --- | --- |
| **Grade** | **Point Value** | **Numerical Value** | **Meaning** |
| A | 4.00 | 93-100 | Superior |
| A- | 3.70 | 90-92 |
| B+ | 3.30 | 87-89 | Good |
| B | 3.00 | 83-86 |
| B- | 2.70 | 80-82 |
| C+ | 2.30 | 77-79 | Satisfactory |
| C | 2.00 | 73-76 |
| C- | 1.70 | 70-72 |
| D+ | 1.30 | 67-69 | Passing |
| D | 1.00 | 60-66 |
| F | 0.00 | 59 or below | Failing |

**Changes to the Syllabus:**

This syllabus was designed to convey course information and requirements as accurately as possible. It is important to note however that it **may** be subject to change during the course depending on the needs of the class and other situational factors. Such changes would be for your benefit and you will be notified of them as soon as possible.