



Course Descriptors
2019 - 2020
Semester 2

Biology
Mathayom 4



EIP Mathayom Biology Course Description First Year

Subject: Core Biology
Grade: Mathayom 4
Periods: 4

Department: Science
Course Code: SC31243
Credit: 1.5

Course Material:

Modern Biology, *Holt, Rinehart and Winston*

Course Description:

The second semester will continue to lay roots in the foundation of biological themes. Students will explore cellular reproduction, the basics of genetics as well as DNA and genetic expression. A unit on the basic understanding of plant tissues, nutrition and transport, as well as plant reproduction and development will be included. By doing course labs, projects and assignments, the learners will gain a deeper understanding of the topics studied. Students will also be introduced to the topic of Ecology in order to provide a deeper understanding of how all life is interrelated.

Course Objectives:

1. Understand how cells reproduce in order to maintain healthy organ systems.
2. Explore genetics and investigate what connects each organism as well as makes them unique.
3. Understand the structure of DNA and RNA as well as the replication process.
4. Understand the role of DNA and RNA to synthesize proteins.
5. Understand the biological structures and processes of plant life.
6. Connect the role of humans with all other living things in the world.



EIP Mathayom Course Outline
Second Semester

Unit 2

Chapter 8 – Cell reproduction

- Chromosomes p 151
- Cell division p 154
- Meiosis p 161

Unit 3

Chapter 9 – Fundamentals of Genetics

- Mendel's Legacy p 173
- Genetic Crosses p 180
- Genetic Disorders

Chapter 10 – DNA, RNA, and Protein Synthesis

- Discovery of DNA p 193
- DNA Structure p 196
- DNA Replication p 200
- Protein Synthesis p 204

Unit 5

Chapter 29 – Plant Structure and Functions

- Plant Cells and Tissues p 583
- Roots p 587
- Stems p 592
- Leaves p 599

Chapter 6 – Photosynthesis

- The Light Reactions p 113
- The Calvin Cycle p 120

Chapter 22 – Humans and the Environment

- An Interconnected Planet p 435
- Environmental Issues p 440
- Environmental Solutions p 446



EIP Mathayom Evaluation and Grading
Second Semester

Breakdown of Grades

Criteria	3 rd quarter	4 th quarter	Total
Homework	5%	5%	10%
Participation	5%	5%	10%
Behavior	5%	5%	10%
Labs/Group Work	5%	5%	10%
Tests/Quizzes	20%	20%	40%
Final Examination		20%	20%
Total	40%	60%	100%