

Senior Cycle – Biology



Biology remains one of the most popular subject choice with 31,500 students sitting last year's Leaving Cert. The syllabus requires a lot of memory work.

If your chosen subject is biology you will gain an understanding of yourself and the natural world in which you live. The course uses practical activity and investigation to develop your skills and knowledge. The scope of biology is wide and varied and covers not only the traditional study of plants and animals but also areas such as molecular biology and biotechnology which have clear relevance to modern society.

What is Biology?

Biology is the study of life. Through the study of biology students employ the processes of science to explore the diversity of life and the inter-relationships between organisms and their environment. They become aware of the use of living organisms and their products to enhance human, plant and animal health, and the environment.

The syllabus consists of approximately 70% biological knowledge, understanding and skills; the remaining 30% deals with the technological, political, social and economic aspects of biology.

The syllabus introduced in 2002 has been developed in response to current knowledge and application of biology. Account has been taken of the need to include contemporary biological technologies such as DNA profiling and genetic screening. It aims to create in students an awareness of the application of biological knowledge to modern society and to develop an ability to make informed evaluations about contemporary biological issues.

The course covers a wide range of topics, including cell structure and diversity, metabolism, genetics and human and flowering plant anatomy and physiology. The general principles of ecology are studied, and one particular ecosystem is examined in detail. An ecology field trip is arranged in the 5th Year. Particular emphasis is placed on the practical aspects of biology, and there are mandatory activities that each student must carry out for themselves.

What type of student might Biology suit?

Students who enjoyed science in the Junior Certificate might wish to consider studying biology at Senior Cycle. The course is a continuation of what was studied at Junior Cycle but in more detail.

Career possibilities

The types of courses and careers where the study of Biology at second level might be helpful would include the following;

Medicine, Veterinary, Dentistry, Nursing and associated careers.

Agriculture, Applied Biology, Biochemistry, Biotechnology, Botany, Ecology, Earth Science and Environmental Science, Genetics, Marine Science and Aquaculture, Microbiology and Zoology, Psychologist, Astronomer, Teacher and Researcher.

Subject Content

The course is divided into three units

- Unit 1 The study of life (the Scientific method).
- Unit 2 The Cell (structure and metabolism)
- Unit 3 The organism (a study of body systems, plant biology and microbiology)

There are 22 mandatory practical activities. Three questions on the practical work are asked each year, two of which have to be answered. A laboratory record of these activities has to be kept and available for inspection by The Department of Education and Science. An ecology portfolio has also to be completed. As of yet no marks are awarded for the laboratory notebook or the portfolio. There is a strong emphasis on social and applied aspects e.g. when studying the breathing system a breathing disorder is studied.

Exam Structure

The examination at higher and ordinary level is three hours duration. The exam paper is divided into three units.

- Section A - Six short questions (answer five) 100 marks.
- Section B - Three questions on practical activities (answer two) 60 marks.
- Section C - Six long questions (answer four) 240 marks.