

Minor Title	Minor in Molecular Biology & Biotechnology
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Offered to students admitted to Year 1 in	<b>2012</b>
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**Objectives:**

The Molecular Biology & Biotechnology Minor is aimed to provide students a fundamental understanding of molecular biology and biotechnology which are relevant to many other disciplines of study and our daily life. Students will learn the principles underlying current molecular and cell biology advances, and biotechnological applications and will become literate in biotechnology business and advancements.

**Learning Outcomes:**

Students should be able to:

- a. develop and apply basic technical and knowledge-based skills in molecular and cell biology, and biotechnology; (by means of coursework and laboratory-based learning in the curriculum)
- b. develop and apply skills of critical inquiry, teamwork, and effective communication; (by means of group projects, tutorial classes and presentation opportunities in the curriculum)
- c. understand and describe the issues and concerns fundamental to the field. (by means of coursework and laboratory-based learning in the curriculum)

**Impermissible Combination:**

Major in Molecular Biology & Biotechnology

**Required courses (36 credits)****1. Introductory level courses (12 credits)**

At least 12 credits selected from the following courses:

- BIOL1110 From molecules to cells (6)
- BIOL1309 Ecology and evolution (6)
- BIOL2102 Biostatistics (6)
- BIOL2103 Biological sciences laboratory course (6)
- BIOL2220 Introduction to biochemistry (6) or BIOC2600 Basic biochemistry (6)

**2. Advanced level courses (24 credits)**

BIOL3401 Molecular biology (6)

Plus at least 18 credits of the following courses:

- BIOL3402 Cell biology & cell technology (6)
- BIOL3403 Immunology (6)
- BIOL3407 Fermentation technology (6)
- BIOL3409 Business aspects of biotechnology (6)
- BIOL4401 Medical microbiology & applied immunology (6)
- BIOL4402 Microbial biotechnology (6)
- BIOL4411 Plant and food biotechnology (6)
- BIOL4415 Healthcare biotechnology (6)
- BIOL4416 Stem cells & regenerative biology (6)
- BIOL4417 'Omics' & systems biology (6)
- ENVS4110 Environmental remediation (6)

**Notes:**

1. A course may appear as required course in two or more Science majors/minors. Each course can only be considered to satisfy the requirement of one major or one minor, even if that appears in the curriculum of two majors/minors. Students have to select another course to replace the course in the second major/minor.
2. Courses at the advanced level are subject to change.

**Remarks:**

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the selected primary science major in order to satisfy the degree graduation requirements.