



FACULTY OF AGRICULTURAL, FOOD AND ENVIRONMENTAL SCIENCES – UNDERGRADUATE  
DEGREE COURSE IN

- FOOD PRODUCTION MANAGEMENT

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**INTRODUCTORY COURSES IN CHEMISTRY,  
BIOLOGY (PLANT PHYSIOLOGY AND GENETICS) AND  
APPLIED STATISTICS AND PHYSICS**

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The Faculty of Agricultural, Food and Environmental Sciences invites 2024/25 first year students to the introductory courses in CHEMISTRY, BIOLOGY and APPLIED STATISTICS AND PHYSICS:

1. to integrate and to consolidate basic knowledge which is a prerequisite of the main courses
2. to complete knowledge of and revise those topics that are prerequisites for the main courses.

Introductory courses are provided by the University for the revision of basics needed to pass the entry test, understand the course lessons and tackle written exams. For this reason, attendance at the introductory courses is strongly recommended for all new students.



▪ **INTRODUCTORY COUSES: TIMETABLE**

The lessons will begin on **Friday 06th September 2024** in **room 5** as follows:

Day	Date	Time	Subject
Friday	06th September 2024	13.30-15.30	BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Monday	09th September 2024	10.30-12.30	APPLIED STATISTICS AND PHYSICS
Tuesday	10th September 2024	10.30-12.30 13.30-15.30	APPLIED STATISTICS AND PHYSICS BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Wednesday	11th September 2024	10.30-12.30 13.30-15.30	APPLIED STATISTICS AND PHYSICS BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Thursday	12th September 2024	10.30-12.30 13.30-15.30	APPLIED STATISTICS AND PHYSICS CHEMISTRY BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Friday	13th September 2024	10.30-12.30 13.30-15.30	APPLIED STATISTICS AND PHYSICS BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Monday	16th September 2024	10.30-13.30	CHEMISTRY
Tuesday	17th September 2024	10.30-13.30	CHEMISTRY
Wednesday	18th September 2024	10.30-12.30	CHEMISTRY
Thursday	18th September 2024	10.30-12.30	CHEMISTRY



■ **INTRODUCTORY COURSE OF CHEMISTRY**

**LECTURER**

Dott.ssa Hajar Salehi

**SYLLABUS**

**1. Lesson 1:**

States of matter

Physical and chemical properties

Pure Substance and Mixture

Atom: protons, neutrons and electrons

Atomic and mass number

Symbolic representation of elements

**2. Lesson 2:**

Elements and periodic table

Electrons and energy levels

Electronic configuration

Electron-dot symbols and octet rule

**3. Lesson 3:**

Ions

Chemical bonding

Lewis structures

Oxidation state

Electronegativity

**4. Lesson 4:**

Acids and bases

Salts

**5. Lesson 5:**

Naming compounds

Organic chemistry: alkanes, alkenes, alkynes and functional groups



■ **INTRODUCTORY COURSE OF APPLIED STATISTICS AND PHYSICS**

**LECTURER**

Prof. Umberto Catellani

**SYLLABUS**

- a. **Physic quantities: scalar, vectors and their units in the S.I. system.**
- b. **Fundamental unidimensional and bidimensional motion: qualitative description.**
- c. **Contact and non contact forces: main characteristics and qualitative description.**
- d. **Vector algebra.**
- e. **Basic trigonometry and applications for vectors in cartesian coordinates system.**



■ **INTRODUCTORY COURSE OF BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)**

**LECTURER**

Dott.ssa Maria Cristina Bertonazzi

**SYLLABUS**

1. The organization of living beings: concept of cell, tissue, organ.
2. Prokaryotic and eukaryotic (plant and animal) cells: differences and similarities
3. Fundamentals of molecules and processes underlying life.
4. Cell organelles and their functions.
5. Structure of biological membranes Substances enter and leave the cell.
6. The nucleus and nucleic acids. DNA duplication.
7. Mitosis, meiosis. Genetic, chromosomal, genomic mutations.
8. Mendel's laws and transmission of genetic information.
9. Basic concepts of evolution. The classification of living organisms.
10. The relationships between living organisms