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

- FOOD PRODUCTION MANAGEMENT

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

The Faculty of Agricultural, Food and Environmental Sciences invites 2025/26 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 **Wednesday 03rd September 2025** in **room 3** as follows:

Date	**Time**	**OFA Courses**
Wednesday 03rd september 2025	14.30-16.30	MATHEMATICS
Thursday 04th september 2025	10.30-12.30 14.30-16.30	CHEMISTRY MATHEMATICS
Friday 05th september 2025	10.30-12.30 14.30-16.30	CHEMISTRY MATHEMATICS
Monday 08th september 2025	09.30-12.30 14.30-16.30	BIOLOGY ((PLANT PHYSIOLOGY AND GENETICS) MATHEMATICS
Tuesday 09th september 2025	09.30-12.30 14.30-16.30	BIOLOGY ((PLANT PHYSIOLOGY AND GENETICS) MATHEMATICS
Wednesday 10th september 2025	10.30-12.30 14.30-16.30	BIOLOGY ((PLANT PHYSIOLOGY AND GENETICS) CHEMISTRY
Thursday 11th september 2025	10.30-12.30	CHEMISTRY
Friday 12th september 2025	08.30-10.30 10.30-12.30	CHEMISTRY BIOLOGY ((PLANT PHYSIOLOGY AND GENETICS)
Monday 15th september 2025	13.30-15.30	PHYSICS
Tuesday 16th september 2025	13.30-15.30	PHYSICS
Wednesday 17th september 2025	13.30-15.30	PHYSICS
Thursday 18th september 2025	13.30-15.30	PHYSICS
Friday 19th september 2025	13.30-15.30	PHYSICS

▪ INTRODUCTORY COURSE OF CHEMISTRY

LECTURER

Dott.ssa Rita Criscuolo

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 descriprion.**
d. **Vector algebra.**
e. **Basic trigonometry and applications for vectors in cartesian coordinates system.**

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

LECTURER

Prof.ssa Ilaria Negri

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 and passages through them.**
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**

- **INTRODUCTORY COURSE OF MATHEMATICS**

LECTURER

Prof.ssa Elena Bianco

SYLLABUS

1. **Number**
    a. **Number and language. Integer, fractions, decimals and percentages. Ratio and proportion. Indices and standard form. Set notation and Venn diagrams.**
2. **Algebra**
    a. **Algebraic rapresentation and manipulation. Equations and inequalities. Functions.**
3. **Coordinate geometry**
    a. **Cartesian coordinates system. The lenght of a line segment. The midpoint of a line segment. Straight-line graphs. Gradient. Parallel lines. Perpendicular lines.**
4. **Graphs of function**
    a. **Linear function and graph. Quadratic function and graph. Reciprocal function and graph. Cubic function and graph. Exponential and logarithmic function. Graphs in practical situations.**