



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

- FOOD PRODUCTION MANAGEMENT

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

The Faculty of Agricultural, Food and Environmental Sciences invites 2022/23 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 **Thursday 08th September 2022** in **room 5** as follows:

Day	Date	Time	Subject
Thursday	08th September 2022	13.30-15.30	BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Friday	09th September 2022	10.30-12.30 13.30-15.30	CHEMISTRY BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Monday	12th September 2022	08.30-10.30 10.30-12.30	APPLIED STATISTICS AND PHYSICS CHEMISTRY
Tuesday	13th September 2022	08.30-10.30 10.30-12.30 13.30-15.30	APPLIED STATISTICS AND PHYSICS CHEMISTRY BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Wednesday	14th September 2022	08.30-10.30 10.30-12.30 13.30-15.30	APPLIED STATISTICS AND PHYSICS CHEMISTRY BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)



Thursday	15th September 2022	08.30-10.30 10.30-12.30 13.30-15.30	APPLIED STATISTICS AND PHYSICS CHEMISTRY BIOLOGY (PLANT PHYSIOLOGY AND GENETICS)
Friday	16th September 2022	08.30-10.30	APPLIED STATISTICS AND PHYSICS



■ **INTRODUCTORY COURSE OF CHEMISTRY**

LECTURER

Dott.ssa Leilei Zhang

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

1. Equations and inequalities

1st, 2nd and higher degree equations

Integer and rational inequalities

2. Exponential and logarithmic functions

Power and its properties

Exponential and logarithmic functions: use and properties

3. Analytic geometry

Lines, parabolas and hyperbolas: definitions and basic properties

4. Trigonometry

Unit circle and angle measurements Sine,

cosine and tangent functions

Trigonometry

Sine and cosine rules

5. Measurements and maths tools for physics

Physical quantities and standard units (SI) Scalars
and vectors

Vector algebra Frames

of reference

Problem solving steps in physics



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

LECTURER

Dott.ssa Maria Cristina Bertonazzi

SYLLABUS

1. The organization of a living organism: the concepts of cell, tissue, organ
2. Prokaryotic and eukaryotic (plant and animal) cells: differences and similarities
3. The nucleus and nucleic acids
4. Mitosis, meiosis and the transmission of genetic information
5. Cell organs and their functions
6. Fundamentals of molecules and processes underlying life
7. Key concepts on evolution
8. The classification of living organisms
9. Living organisms and environment
10. Relationships between living organisms