# Entry Requirements: Expected Knowledge and Competencies for AGRIFOM

Applicants are expected to have completed a **bachelor's degree or equivalent qualification** from a recognized university in a relevant field of study, corresponding to **EQF Level 6**. A foundational understanding in the following areas is required:

## 1. Academic background

### Biology and Life Sciences

- **Cell and molecular biology**: cell structure and function, membrane dynamics, gene expression, replication, mutation, and DNA repair.
- **Biochemistry**: enzyme activity, metabolic pathways (e.g., glycolysis, Krebs cycle, oxidative phosphorylation), and macromolecule function.
- **Genetics and genomics**: inheritance patterns, molecular markers, population genetics, gene regulation, and genome-wide approaches.
- **Plant physiology and anatomy**: nutrient uptake, photosynthesis, water and solute transport, hormonal signaling, and stress responses.
- **Animal physiology**: basic systems (e.g., circulatory, digestive, reproductive), homeostasis, and energy balance.
- **Ecology and environmental biology**: ecosystems, species interactions, biogeochemical cycles, climate influences, biodiversity, and sustainability.

### Chemistry

- **General and inorganic chemistry**: atomic and molecular structure, periodic trends, bonding types, reaction equations, acid–base chemistry, redox processes.
- **Organic chemistry**: structure, nomenclature, and reactivity of key functional groups; basic reaction mechanisms.
- **Analytical chemistry**: spectroscopic and chromatographic methods, sample preparation, and quantitative analysis.
- **Environmental and soil chemistry**: nutrient dynamics, pH, salinity, cation exchange, and chemical constraints in agroecosystems.

### Agricultural and Environmental Sciences

Prior knowledge of agricultural systems is expected, especially for programmes related to crop production, agroecology, or food systems. Relevant topics include:

- **Agronomy**: principles of crop production, phenology, nutrient management, crop rotation, and tillage systems.
- **Soil science**: physical, chemical, and biological soil properties; soil classification and fertility management.
- **Plant protection**: introduction to pests, disease, and weed control; integrated pest management (IPM).
- **Animal science** (if relevant): principles of livestock nutrition, health, welfare, and breeding.
- **Agricultural ecology**: ecological interactions in managed systems, agroecosystem services, and biodiversity.
- **Sustainable agriculture**: low-input systems, organic farming principles, adaptation to climate variability.

## 2. English Language Proficiency



Applicants must be able to:

- Follow academic lectures and read scientific texts in English.
- Communicate in English during seminars, discussions, and group work.
- Write structured academic texts such as short reports, summaries, and essays.

This corresponds to **CEFR Level B2 minimum**, with **C1 preferred**. No certificate is mandatory, but proficiency may be assessed via interview or placement test.