SynBio
GRADUATE PROGRAM IN SYNTHETIC BIOLOGY

UNIVERSITY OF THESSALY

McGill UNIVERSITY

Dual MSc in Synthetic Biology

University of Thessaly × McGill University

Biology is reshaping humanity.
Want to guide the journey?

A high-impact, research-driven Dual Master's program at the intersection of **biology**, **engineering**, **computation**, and **ethics**, integrating the European and North American innovation ecosystems.

PROGRAM SNAPSHOT

Degree Awarded:
Dual MSc (Two Diplomas)

Institutions:
- Department of Biochemistry and Biotechnology: – University of Thessaly (120 ECTS)
- Bioengineering Department: – McGill University (45 credits)

Duration:
2 Years (4 Semesters)

Location:
Larissa, Greece + Montreal, Canada

Language:
English

Tuition: **EU citizens:** €3,500 per year
Non-EU citizens: €7,000 per year

Intake:
15–20 students

PROGRAM SNAPSHOT

Synthetic Biology: A Trillion-Dollar Platform Technology
Projected socioeconomic impact: **$3.6T annually** (2030–2040)

What Makes This Program Distinct
- Dual-continent academic integration
- EU strategic priority field
- Engineering-driven SynBio training
- Research-intensive + publication-oriented
- "SynBio with Responsibility" positioning
- Geographic arbitrage: prestige + affordability
- Pipeline to PhD & global biotech careers

LABORATORY & RESEARCH INFRASTRUCTURE

Training includes access to:
- Precision molecular and genetic engineering techniques
- Automated platforms
- Microbial system design and optimization
- Rigorous experimental design and data interpretation
- Bioinformatics and data-driven biological research

Students graduate with both **experimental depth** and **computational fluency**.

IDEAL CANDIDATE PROFILE

You are:
- Driven by curiosity and purpose
- Comfortable in interdisciplinary environments
- Ready to work at the edge of science & society
- Motivated by real-world impact
- Academically strong in life sciences or engineering

CAREER TRAJECTORIES

Academic & Research
PhD programs, research institutes, scientific leadership

Industry & Innovation
Biotech • Pharma • Diagnostics • MedTech • AgriTech • Bioeconomy

Healthcare & Public Sector
Clinical innovation • Regulatory science • Science communication

Graduates build sustainable, research-informed global careers.

CURRICULUM ARCHITECTURE

Year 1 – Structured Foundations (60 ECTS)

Semester 1
- Foundations of Synthetic Biology
- Genome & DNA Engineering
- Experimental Design Laboratory
- Responsible Innovation & Biosafety
- Computational & Quantitative SynBio

Semester 2
- Protein & RNA Engineering
- Metabolic & Microbial Engineering
- Modeling & Machine Learning for SynBio
- Specialized Electives

(green/blue/white/yellow biotech, genome engineering, protein design, RNA therapeutics, SynComs etc)

Year 2 – Research Thesis (60 ECTS)
- Co-supervised thesis
- Advanced laboratory & computational research
- Publication-oriented thesis pathway
- Preparation for PhD or industry leadership

Engineering Life Responsibly

STUDENT EXPERIENCE & LIFE

- Based in Larissa (145,000 residents)
- Affordable living (~€850/month estimate)
- On-campus housing options
- Mediterranean climate
- Strong academic community (12,000+ students)
- EU + Canadian research mobility

ADMISSIONS

Eligible Backgrounds:
Biology, Biochemistry, Biotechnology, Chemistry, Molecular Biology, Engineering, Medical Schools

Selection Criteria:
Academic performance • Research activity • Recommendations • English (min B2) • Oral scientific interview

Application Deadline:
Expressions of interest will open in June 2026

Online application portal available.

Greece 2.0 NATIONAL RECOVERY AND RESILIENCE PLAN

Funded by the European Union
NextGenerationEU

CONTACT

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