14.2.1. Freshwater Ecosystems (Community Outreach)

2024/2025

Aquaculture Program (Undergrad)

The College of Fisheries and Aquaculture Technology (CFAT) at AASTMT supports education and capacity building in aquatic resource management through its undergraduate Aquaculture Program. The program aims to provide education, applied scientific knowledge, practical training, and outreach relevant to the aquaculture sector and society.

Aligned with the program's academic framework and the National Academic Reference Standards (NARS) developed under the Egyptian Supreme Council of Universities (SCU), the program develops students' knowledge and practical competencies in aquaculture production systems, aquatic environments, water quality management, and responsible aquaculture practices.

The program supports SDG 14.2.1 by building a foundation in freshwater and brackish-water ecosystems and their sustainable management. Relevant educational topics include freshwater ecosystem characteristics, water quality assessment, responsible aquaculture practices, pollution prevention, water conservation, and the relationship between aquaculture activities and the health of surrounding aquatic environments.

The AASTMT Aquaculture Program webpage identifies the Supreme Council of Egyptian Universities (SCU) as its accrediting or recognizing authority and states that the program's curriculum is designed with reference to the National Academic Reference Standards (NARS) for graduates of faculties of fish resources.

Aquaculture program (Undergrad) | AASTMT

Fisheries Technology Program (Undergrad)

The Fisheries Technology Program at the College of Fisheries and Aquaculture Technology (CFAT), Arab Academy for Science, Technology and Maritime Transport (AASTMT), specializes in fishing vessel navigation, fishing gear design and technology, fisheries science, and sustainable fisheries management.

The program prepares graduates for professional roles as officers responsible for navigational watch on fishing vessels (subject to applicable ministerial requirements), fisheries observers, and fisheries managers in fishing ports and related institutions. It is aligned with the requirements of the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995, and relevant International Maritime Organization (IMO) standards.

In support of SDG 14.2.1, the program also addresses the sustainable management and conservation of aquatic ecosystems, including freshwater, brackish-water, and marine environments. Relevant academic components include ichthyology, aquatic ecology, fisheries science, ecosystem conservation, marine pollution, and fisheries management. These subjects provide a scientific foundation for understanding aquatic biodiversity, water quality,

fish population dynamics, pollution prevention, and the sustainable use of inland and coastal fisheries resources.

The program's freshwater relevance is further reflected in fisheries management and conservation, including assessing and responsibly exploiting inland fish stocks and examining the relationship between fisheries, aquaculture, and aquatic ecosystem health. These areas can support educational outreach and knowledge transfer to fishers, fish farmers, fisheries authorities, and other community stakeholders when accompanied by documented outreach activities.

Students receive marine uniforms and undertake practical and navigational training, including marine exercises in regional and international waters. The program combines scientific education, technical competencies, and practical experience to support sustainable fisheries, aquatic resource conservation, and responsible management of aquatic ecosystems.

Accreditation and recognition: The Fisheries Technology Program is recognized by the Supreme Council of Egyptian Universities (SCU), with additional accreditation and maritime approval as specified in the official AASTMT program documentation.

College of Fisheries Technology & Aquaculture Technology (aast.edu)

Master of Science (MSc) in Sustainable Management of Fisheries and Aquaculture (SMFA), funded by the EU (Erasmus+ project) (Postgrad)

Master of Science in Sustainable Management of Fisheries and Aquaculture (SMFA), funded by the EU (Erasmus+). M.Sc. students participated in the student mobility and exchange program as part of the EU-funded FishAqu project under Erasmus+. They visited the University of Aveiro and the University of Palermo from May 8 to 17, 2022.

During the first admission year, 2023–2024, many candidates enrolled in the program and began their postgraduate studies, including the initial thesis stage (Thesis I). Since then, the students have progressed through their research and dissertation requirements. To date, six candidates have successfully completed their final thesis defenses and obtained the M.Sc. degree, demonstrating progress in postgraduate research and academic capacity building within the program.

Several other candidates remain enrolled and continue their Thesis II research, working towards completing and defending their dissertations. The program continues to support these candidates through academic supervision, research activities, and the development of expertise in sustainable fisheries and aquaculture management.

These achievements reflect the program's contribution to advanced education, research capacity development, international academic cooperation, and the preparation of qualified graduates capable of addressing sustainability challenges in fisheries and aquaculture.

Master of Science (MSc) in Sustainable Management of Fisheries and Aquaculture (SMFA), funded by the EU (Erasmus+ project) (Postgrad)
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College of Fisheries and Aquaculture Technology organized a scientific visit to the unique Basa Fish Farm and Hatchery in the 21st-Kilometer Area

College of Fisheries and Aquaculture Technology, in coordination with Dr. Khaled Kamoun, an expert in aquaculture and fish wealth, organized a scientific visit to the unique Basa fish farm and hatchery in the 21st-kilometer area, managed by Engineer Hesham Mohamed, a pioneer in Basa fish farming in Egypt. This was followed by a visit to the intensive fish farm in Borg El Arab. This took place on Thursday, 28/11/2024



College of Fisheries and Aquaculture Technology-Alexandria | AASTMT

Master of Science Degree in Sustainable Blue Economy and Management of Coastal Resources (MSc SBEM)

The MSc SBEM equips graduates and professionals with scientific knowledge, analytical skills and practical capabilities required to address current and emerging challenges affecting oceans and coastal areas. The program covers oceanography and climate change, fisheries and aquaculture, marine ecology and biotechnology, GIS and remote sensing, marine resources, ocean governance, coastal tourism, innovation and sustainable blue-economy development. The program is delivered over 2 years / 4 semesters, comprising 40 Credit Hours / 120 ECTS, including compulsory and elective coursework and a research-based Master's thesis. Developed within the BLUE-ERA Erasmus+ project, the program benefits from international academic cooperation and contemporary approaches to sustainable marine and coastal development.

Learning Outcomes

Upon successful completion of the MSc SBEM, graduates will be able to:

- Analyze sustainable blue-economy principles and complex marine and coastal systems.

- Assess living and non-living marine resources from environmental, economic and governance perspectives.
- Apply GIS, remote sensing, environmental monitoring, data analysis and scientific research methods.
- Develop sustainable solutions for coastal management, climate-change adaptation, marine pollution, biodiversity, fisheries, aquaculture and other blue-economy sectors.
- Evaluate marine and coastal projects considering sustainability, feasibility and stakeholder needs.
- Conduct independent scientific research and communicate effectively to academic, professional, governmental and community stakeholders. These outcomes reflect the program's intended development of scientific, analytical, practical, research, communication, and transferable competencies.

Master of Science Degree in Sustainable Blue Economy and Management of Coastal Resources (MSc SBEM) AASTMT