Τίτλος (Ελλ.)	Τίτλος (Αγγλ.)	Υπεύθυνος	Διδάσκοντες
Βελτιστοποίηση Ενεργειακής Απόδοσης (και Ευφυής Ενεργειακή Διαχείριση) στις Γεωργικές Εκμεταλλεύσεις	Optimization of Energy Efficiency Technologies (and Smart Energy Management) in Agricultural Enterprises	ΜΑΝΩΛΑΚΟΣ	ΜΑΝΩΛΑΚΟΣ ΜΠΑΛΑΦΟΥΤΗΣ

Περιγραφή

This module is dedicated in demonstrating state of the art technologies, strategies and best practices on towards improving energy efficiency of agribusinesses to ensure their sustainable development and increase the competitiveness of agricultural products. The module will cover three (3) main pillars of agricultural production systems, namely:

1. *Open-field agriculture:* Arable crops, Vegetables, Orchards, Vineyards
2. *Greenhouses:* Plastic, Glass
3. *Livestock facilities:* Swine, Poultry. Bovine

The module will contain the following lecture groups:

1. Introduction to energy consuming technologies/practices of all production systems and current/future growing needs for energy resources (**2 lectures**)
2. Energy audits and balance of agricultural production systems (**1 lecture**)
3. Smart Energy Management (monitoring, accounting, and decision making) of agricultural production systems (**1 lecture**)
4. Technologies and strategies for direct and indirect energy saving/efficiency in Open-field agriculture (**2 lecture including lab/pilot visit**)
    - Energy efficient field operation timing/methods
    - Smart Agriculture as an energy use reduction tool
    - Conservation Agriculture as an energy use reduction tool
5. Technologies and strategies for direct and indirect energy saving/efficiency in Greenhouses and Livestock Facilities (**6 lecture including lab/pilot visit**)
    - Microclimate optimization technologies and strategies:
        - Heat pumps
        - Cogeneration with RES
        - Design principles
        - Control strategies
6. Technical and socioeconomic assessment of cases studies (**1 lecture**)