

## **LM7 BIOTECNOLOGIE PER LA SICUREZZA E LA QUALITA' AGRO-ALIMENTARE**

### **Adaptation and mitigation of agriculture and forestry systems to climate changes**

Insegnamento di 12 CFU – II SEMESTRE

#### **Modulo Prof. Dono (3 cfu - 24 h) – Bioeconomy**

1. Management and decision-making processes of farms and climate change
2. Expectations on agro-meteorological conditions and planning of farm activities
3. Climate change and the change in the probability distribution of agro-meteorological phenomena
4. Economic problems of the process of adaptation to climate change
5. Examples of the impact of climate change on Mediterranean agriculture and problems of adaptation to new climate scenarios.

#### **Modulo Prof. Bernabucci e Prof. Lacetera (3 cfu - 24 h) - Livestock systems**

1. Bioclimate indices for animal welfare (NL)
2. Impact of climate on animal welfare and health (NL)
3. Impact of climate on animal production (yield and quality) (UB)
4. Adaptation strategies (UB)
5. Impact of livestock on climate (NL)
6. Mitigation strategies (NL).

#### **Modulo Prof. Casa (3 cfu - 24 h) - Cropping systems**

1. Monitoring climate change occurrence and impact on cropping systems: agrometeorological and remote sensing indicators and approaches
2. Climatic scenarios: focus on observed and foreseen impact on Mediterranean cropping systems
3. Crop models: tools for climate change adaptation and mitigation studies
4. Agronomic options for the adaptation to climate change
5. Agronomic options for the mitigation of climate change

#### **Modulo Prof. Di Filippo (3 cfu - 24 h) - Forest ecology and management under Global Change**

1. The natural and anthropogenic drivers of Global Change. The main biogeochemical cycles and their role in tree and forest dynamics.
2. Trees and Forests as open systems. Basics of tree biology and potential impacts of changing environmental conditions on their functioning. The forest ecosystems: its structure, trophic webs and energy flux.
3. Basics of forest management approaches. Managing forests for adapting to climate change. Forest management approach to contribute to global change mitigation.