

001-2-2077

2.5 credits

Course title: Grape and Wine Science

The course will last two weeks (10 days), including **one full day touring the nearby wineries**

Every day we will have 2 hours of frontal lectures and 2 of lab

The final course grade is given by a seminar each of the student should present at the end of the course and the participation of the student to the course

References:

- The Science of Grapevines (Keller 2010)
- Articles that will be distributed to the students during the course

Syllabus

The course will cover the following topics:

- History and classification of the vine
- The scope of the Viticulture industry both locally and worldwide,
- Grapevine structure and physiology
- Growth cycles and berry development
- Rootstocks, hybrids and grapevines of the future
- Introduction to vineyard management practices,
- Grape sampling, yield estimation and data handling
- Ways to improve grapevine berry quality for better wine
- Introduction to wine production and wine styles
- Red, white, fortified and sparkling wine production
- Chemistry of winemaking, Fermentation and microorganisms
- Winemaking control aspects
- Phenolic compounds

Learning Outcomes

Upon successful completion of this course, students be able to:

- describe historical and geographical factors that affect the Wine Industries,
- identify phenological stages of the grapevine and describe the vegetative and reproductive structures of a grapevine
- discuss grapevine physiology, the use of rootstocks and the concept of grapevines of the future,
- explain common vineyard management practices
- describe the essential differences and outline basic production steps of the wine making process to produce the major wine types
- accurately explain the scientific principles involved with winemaking
- safely perform and report on quality control analysis procedures and apply the results