**Texas Tech University**

**Winemaking Certificate**

**Essential Wine Analysis and Sensory Evaluation for Wine Production Combined Course**

**Instructor:** Maureen Qualia

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# Office Hours: TBA

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**Credit:** 4 CEU

# Texts/ Readings:

Readings will be posted in Blackboard with corresponding units.

**Course Description**

This course will combine the Essential Wine Analysis course with the Sensory Evaluation for Wine production course. This course is designed for small commercial winemakers, winery lab techs, and advanced home winemakers. The course will provide students with a hands-on learning opportunity in both chemical and sensorial analysis of wine necessary for commercial wine production.

Students will begin the course with a one-week online learning module that will cover the theory of the wine analysis methods.

During the face-to-face sessions, students will gain hands on experience in performing a number of chemical analysis including: Ebulliometry, free and total SO2 by aeration oxidation and the Ripper method, volatile acidity by distillation, pH, titratable acidity, brix and reagent standardization. The scope and limits of each method will be tested and results obtained will be compared to results obtained from other technologies such the Oenofoss wine analyzer. Students will also be introduced to a number of sensory analysis methods that are useful tools during wine production. Students will learn to identify to common wine aromas of both red and white wines. An emphasis will also be placed on detection of wine flaws as well as individual threshold levels for specific aromatic compounds.

There are no prerequisites for this course, however it is preferred that Wine Production 1 or 2 have been previously completed.

**Due to COVID guidelines and limited space the face-to-face sessions will be limited to 12 students.**

# Course Learning Objectives

* Upon successful completion of this course students should be able to:
* Successfully operate and trouble shoot equipment methods taught in lab
* Identify if results produced are accurate within the limits of each method
* Know when and why the different analyses are performed in a winery
* Understand different methods of wine sensory analysis and appropriateness of their use.
* Identify common varietal aromas.
* Identify common aromatic wine faults.
* Differentiate between bitterness and astringency.
* Understand taste and aroma thresholds.
* Understand the effect of oak on aroma and mouthfeel of wine.

**Assessment of Learning Outcomes**

*Participation:* Participation includes attendance of and contribution to discussion during live sessions.

*Pre-course quiz*

**Laboratory Safety**

This is a laboratory class. Safety is of utmost importance. Closed toed, comfortable shoes, long pants, and preferably a long-sleeved shirt should be worn. Additional personal protective equipment will be provided by TTU. No food or drinks will be allowed in the laboratory at any time.

# Subject to Change

This syllabus and schedule are subject to change. Please check email and BB regularly for updates.

# Tentative Schedule: Subject to change

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| **Topics** |
| Introduction to Lab and Lab Safety |
| Winery Laboratory Basics |
| Brix by Hydrometry and Refractometry |
| Ethanol by Ebulliometry |
| Reagent Standardization |
| pH and meter calibration |
| Titratable acidity |
| Volatile acidity |
| Free Sulfur Dioxide AO |
| Free and Total Sulfur Dioxide Ripper |
| Hanna SO2 Autotitrator |
| Introduction to Sensory Evaluation |
| Methods in Sensory Evaluation/ Sweetness Scaling |
| Sensory Evaluation in the Winery |
| Bitterness/ Astringency |
| Carry-over and Time Intensity Activity |
| Wine Acids |
| Oak |
| Varietal Tasting |
| Wine Faults |
| Brettanomyces |
| “Oxidation” Characteristics |
| Methoxypyrazine |
| Sulfides |
| TCA |
| Aroma Standards |
| Blind identification |