Name of the Programme: M. Sc. (Botany)
Course Code: BOT-629
Title of the Course: Lab in Oenology
Number of Credits: 1 (30 hours)
Effective from AY: 2022-23

Prerequisites for the course:	Basic knowledge of Biology. Students should opt for BOTG-506.	
Objective(s):	To make students employable as oenologists.	
Content:	1. Identification of different winemaking equipment. 2. Culture and examination of different yeast strains used for winemaking. 3. Microscale production of grape wine. 4. Monitoring of fermentation parameters of grape wine using a refractometer and hydrometer. 5. The organization of wine evaluation: the space, equipment, temperature, order of serving the wines. 6. Benchtop production and monitoring of wines from fruits, spices, and condiments. 7. Organosensory evaluation of grape and other fruit wines. 8. Analysis of alcohol content in wine. 9. Analytical testing in winemaking (Reducing sugars, pH, Acidity, Ammonia nitrogen, Sulphur dioxide, Turbidity, Dissolved oxygen). 10. Report on wine brands and wine marketing.	**1 hours** **2 hours** **4 hours** **4 hours** **2 hours** **8 hours** **2 hours** **2 hours** **3 hours** **2 hours**
Pedagogy:	Lab exercises/Demos/Field visits/Industrial visits/Expert Lectures/Videos.	
References/ Readings:	**Boulton, R. B., Singleton, V. L., Bisson, L. F. and Kunkee, R. E.** (1996). Principles and Practices of Winemaking. Chapman and Hall, New York. **Fleet, G. H.** (1993). Wine Microbiology and Biotechnology. Harwood Academic Publishers, Chur. **Fugelsang, K. C.** (1997). Wine Microbiology. Chapman and Hall, New York. **Iland, P, Ewart, A. and Sitters, J.** (1993). Techniques For Chemical Analysis and Stability Tests of Grape Juice and Wine. Patrick Iland Wine Promotions, P.O. Box 131, Campbelltown, South Australia 5074. **Iland, P.** (1991). An Introduction to Wine: A Guide to the Making, Tasting, and Appreciation of Wine. Patrick Iland Wine Promotions, P.O. Box 131, Campbelltown, South Australia 5074. **Pougnet, S., Martin-Rios, C., and Pasamar, S.** (2022). Keg wine technology as a service innovation for sustainability in the	

	food service industry. Journal of Cleaner Production, 132145. **Tsegay, Z. T., Sathyanarayana, C. B., and Lemma, S. M.** (2018). Optimization of cactus pear fruit fermentation process for wine production. Foods, 7(8), 121. **Tsegay, Z. T., and Gebremedhin, K. M.** (2019). Physicochemical and sensory properties of wine produced from blended Cactus Pear (*Opuntia ficus-indica*) and *Lantana camara* Fruits. Journal of Food Quality. **Velchev** (2017) Wine Informatics: A quantitative analysis of wine reviewers https://uca.edu/cse/files/2020/02/Wineinformatics-A-Quantitative-Analysis-of-Wine-Reviewers.pdf	
Learning Outcomes:	Will provide the ability to produce fruit wines on a small scale; develop expertise to carry out the sensory evaluation of wines; work as a trainee oenologist, wine journalist, or columnist; join the hospitality sector as an expert on elite brands of wines.	

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