

The Microbiology and Culture of Cheese and Wine

RUTGERS

School of Environmental
and Biological Sciences

Offered in Burgundy, France, Summer 2020
Rutgers Study Abroad: <http://studyabroad.rutgers.edu/>

Explore the microbiology and culture of cheese and wine in France. This intensive two-week course, worth 3 credits, is structured through lectures, group projects, wine and cheese tasting, and field trips to explore the microbiology as well as the socioeconomic and cultural history of cheese and wine in southern Burgundy. You will discover how bacteria and fungi are central in processing milk into cheese, and savor the complex tastes and aromas of the diverse cheese varieties of the region. You will also learn about the history of viticulture, how yeast ferments sugars to ethanol, and the complexity of the chemical and biological reactions during maturation which give wine their character. We also visit Louis Pasteur's home and laboratory in Arbois, where we can trace back his steps to the early discoveries in fermentation that laid the foundation for the science of microbiology. The course melds a comprehensive appreciation of the science, history and culture of cheese and wine.

Course Instructors:

Prof. Max Häggblom

Rutgers University, Dept. of Biochemistry and Microbiology

Dr. Catherine Healey



The Program

- At the intersection of applied sciences and French cultural studies, this dynamic program investigates the microbiology of wine and cheese production, and its central role in French *patrimoine* (cultural heritage).
- Study the complex chemical and biological processes that create diverse varieties of cheese and wine, with techniques that blend modern scientific knowledge with traditional values and practices.
- Learn to appreciate *terroir*, the set of special characteristics that the geography, geology and climate of the region are expressed in wine and cheese.
- Explore the role of cheese and wine in the history, economy, culture, cuisine, art, and architecture of Burgundy, and of France as a whole.



Academics

You can earn credit for 11:680:410 (*Microbiology and Culture of Cheese and Wine*, an upper-level microbiology elective) or 11:680:102 (*Science and Culture of Cheese and Wine*, a science course for non-majors, no pre-requisites). Assignments and report requirements will differ. See the Rutgers Study Abroad course website for more information.



Course Syllabus

- Day 1. Joint departure from Paris, Welcome to Cluny.
- Day 2. Review of microbiology and biochemistry of food fermentations.
Discovering medieval and modern Cluny.
- Day 3. Making Cheese: fermentation, curdling and aging. Introduction to different cheese varieties.
- Day 4. Excursion to farms, cheese manufacturers and wineries in the Maconnais.
- Day 5. Making wine. Microbiology and biochemistry of alcoholic fermentations.
- Day 6. Excursion to vineyards & dairies of the Côte d'Or.
- Day 7. The Farmer's Market in Cluny.
- Day 8. Sunday - Free
- Day 9. Viticulture and cheese making – History and trade patterns.
- Day 10. Excursion to Beaune, the historic capital of the Burgundy wine region.
- Day 11. History of microbiology: from applications to fundamentals.
- Day 12. Excursion to Jura: Arbois, Pasteur's house and laboratory.
- Day 13. Excursion to Jura: Jurassic cheese and wine.
- Day 14. Wrap up - Presentation of student projects.
- Day 15. Departure.

Student Projects & Reports

1. Cheese. Research paper and class presentation on a French cheese variety – discussion of characteristics, source of milk, production process, history, taste & aroma, and trade.
2. Wine. Research paper and class presentation on a French wine – discussion of its characteristics, production, history, and trade.
3. Daily Log - Course Report .
4. Research Paper.

