



FOUR COURSES FOR CERTIFICATE:

AFE 118: Intro to Fermentation & Distillation Science
Identify the crops used as the raw ingredients of beer, wine, and distilled spirits and understand the molecular transformations of brewing and distilling. Field trips will include Glens Creek Distilling, Sig Luscher Brewery, Rising Sons Winery.

AFE 130/CHE 108: Fermentation & Spirits Chemistry
Chemical processes and reactions that are necessary in the process of fermentation and distillation. Specific chemical bonding and reactions that are necessary for successful brewing and distillation as well as acid/base chemistry will be covered.

AFE 359: Fermentation of Food & Food Safety
Issues and concerns related to food safety and microbiology focusing on fermented foods. This course includes hands on/practical approaches in microbial food processes, general food safety, public health and epidemiology.

AFE 459: Directed Studies in Fermentation & Distillation Science
Course with a mentor on or off campus with a project involving the creation of fermented foods or beverages or distillation of spirits. This project could include areas such as food safety, flavor, business aspects, marketing, or other similar topic.

FERMENTATION & DISTILLATION SCIENCE

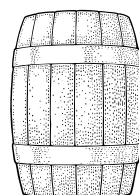


The **Certificate in Fermentation and Distillation Science** prepares students to work in the distillation, brewing and fermentation industries by providing real-world, hands-on experience in the chemistry, food safety, and marketing and management required in these growing fields.

The bourbon industry, based in the heart of central Kentucky near Kentucky State University's Frankfort campus, has a \$8.6 billion economic impact on the state and provides more than 20,100 jobs to Kentuckians. The craft beer industry, which has grown 600% over the past five years, contributes \$657 million and provides 18,000 jobs in Kentucky. The state's wine and specialty food industries as well as its value-added markets are also growing at a steady pace.

Students who earn their certificate in this area will receive hands-on training in unique product development research in areas such as kimchi, soy sauce, ginger beer, fermented vinegar, hemp biomass, beer, bourbon, wine, and more. They will also have the opportunity to work with Kentucky State University Land Grant Program partners such as Three Boys Farm Distillery, Glens Creek Distilling, Sig Luscher Brewery and Rising Sons Winery and use state-of-the-art equipment at the Atwood Research Facility and the Harold R. Benson Research and Demonstration Farm fermentation facility.

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ECONOMIC IMPACT
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- Potential jobs:
- Brewer
 - Distiller
 - Vineyard manager
 - Cellar manager
 - Sommelier
 - Chemist/Engineer
 - Marketing/Sales Specialist

To learn more, contact: kysuag@gmail.com
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