
SECTION HEADING

RNEW 1101: Ethanol Process Fundamentals

Description

Ethanol Process Fundamentals covers the history, rationale, and overall fundamental process of ethanol production. A Process Flow Diagram (PFD) of a typical dry mill ethanol plant will be used to examine the sequence of operation, including residence time, pressures, and temperatures seen in various stages of production. This course will explain the rationale for feedstock and additives used in ethanol processing as well as product and co-product production and use.

Credits

2

Prerequisite

None

Corequisite

None

Topics to be Covered

1. Introduction to the ethanol industry
2. Milling and mixing
3. Cook and liquefaction
4. Fermentation
5. Distillation
6. Dehydration
7. Evaporation
8. Drying
9. Thermal oxidation
10. Alternative feedstock

Learning Outcomes

1. Explain the dry mill ethanol process
2. Discuss the history of ethanol and the social, economic and environmental benefits of ethanol production
3. Describe the sequence of operation, including residence time, pressures and temperatures in various stages of production.
4. Explain the rationale for feedstock and additives used in ethanol processing
5. Describe product and co-product production and use.

Credit Details

Lecture: 2

Lab: 0

OJT: 0

MnTC Goal Area(s): None