

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. RNEW

COURSE NUMBER: 1195

NUMBER OF CREDITS: 2

Lecture: 2 Lab: 0 OJT: 0

Course Title:

Biodiesel Technologies and Regulatory Issues

Catalog Description:

Biodiesel Technologies and Regulatory Issues investigates the underlying research and reaction processes that are used to produce biodiesel. Studying feedstock options coupled with past and present technologies provides foundational knowledge about the industry. The course includes an in-depth review of the ASTM Standard for biodiesel and the regulatory issues that can arise from non-compliance.

Prerequisites or Necessary Entry Skills/Knowledge:

None

FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered

The legal definition of biodiesel that is recognized by the United States versus other countries.

Past, present, and emerging technologies associated with the biodiesel industry.

ASTM D6751, The Standard for Biodiesel.

The role of the National Biodiesel Board.

The social, economic, and environmental impact of off-specification biodiesel in the marketplace.

National trends and outlook for the biodiesel industry.

Global trends and outlook for the biodiesel industry.

Current and historical events regarding the biodiesel industry.

Student Learning Outcomes

Discuss past, present and emerging technologies for biodiesel production.

Discuss ASTM D6751 and all of the associated standards that are used to qualify fuel specifications.

Advocate for the quality control of biodiesel in a positive manner.

Describe the chemical reactions that support successful biodiesel processing.

Identify feedstock, production and storage issues that can relate to production quality.

Is this course part of a transfer pathway: Yes No

***If yes, please list the competencies below**

Revised Date: 3/29/2022