Faculty members are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

**DEPT. RNEW**

**COURSE NUMBER:** 1195

**NUMBER OF CREDITS:** 2

**Lecture:** 2  **Lab:** 0  **OJT** 0

<table>
<thead>
<tr>
<th>Course Title:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiesel Technologies and Regulatory Issues</td>
</tr>
</tbody>
</table>

**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)**
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

1. Discuss past, present and emerging technologies for biodiesel production.
2. Discuss ASTM D6751 and all of the associated standards that are used to qualify fuel specifications.
3. Advocate for the quality control of biodiesel in a positive manner.
4. Describe the chemical reactions that support successful biodiesel processing.
5. Identify feedstock, production and storage issues that can relate to production quality.

Is this course part of a transfer pathway: Yes ☐ No ☒

Revised Date: January 2021