



Disciplina: IQ263-Tópicos em Engenharia Química II

Responsável: Prof. Adriano Pinto Mariano (Dúvidas entrar em contato com adpm@unicamp.br)

Período: 2 semestre de 2021.

Estrutura: Aulas teóricas remotas ministradas pelo Prof. Lee Lynd em conjunto com disciplina da pós-graduação do Dartmouth College (EUA). **As aulas serão duas por semana concentradas em setembro e novembro, às terças e quintas das 11:20 às 13:10**

Avaliação: Seminários e trabalhos

Programa:

Instructor: Prof. Lee Lynd (Dartmouth College)

Course title: *Biofuels and Bioenergy*

Description:

Bioenergy technologies will be surveyed, including feedstocks, bioelectricity production, biofuel production, and conversion technologies. Fermentation-derived biofuels will then be considered in more detail, including first and second-generation biofuels as well as the fundamentals of microbial cellulose utilization. Consolidated bioprocessing will be examined with respect to feedstock solubilization, metabolic engineering, techno-economic analysis, and research frontiers. Sustainability tools will be introduced and assessments discussed. The course will feature readings from the literature, guest lectures by field leaders, and student projects.

Bioenergy Technologies

- *Feedstock overview*
- *Biomass power overview*
- *Biofuel overview*
- *Conversion technology overview*

Fermentation-Derived Biofuels

- *First generation*
- *Second generation*
- *Fundamentals of microbial cellulose utilization*

Consolidated Bioprocessing

- *Feedstock solubilization*
- *Metabolic engineering*
- *Technoeconomic analysis*
- *Research frontiers*

Sustainability

- *Tools and assessment*
- *Future paths*

Referências:

Serão indicadas no início do aulas.