

# BIEN 590. CELL CULTURE ENGINEERING.

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Credits: 3

Offered by: Bioengineering (Faculty of Engineering)

Terms offered: Fall 2025, Winter 2026

View offerings for Fall 2025 or Winter 2026 in Visual Schedule Builder.

## Description

Basic principles of cell culture engineering, cell line development and cell culture products# genomics, proteomics and post-translational modifications# elements of cell physiology for medium design and bioprocessing# bioreactor design, scale-up for animal cell culture and single use equipment# challenges in downstream processing of cell-culture derived products# process intensification: fed-batch, feeding strategies and continuous manufacturing# scale-down and process modeling# Process Analytical technologies and Quality by Design (QbD) concept.

- (3-0-6)
- Prerequisite: Permission of instructor.

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