

# BIEN 675. PROCESS ANALYTICAL TECHNOLOGIES AND DATA SCIENCES

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Credits: 3

Offered by: Bioengineering (Graduate Studies)

Terms offered: Fall 2025

[View offerings for Fall 2025 in Visual Schedule Builder.](#)

## Description

Introduction to Process Analytical Technologies (PAT) and Quality by Design (QbD) in the area of manufacturing biologics. Critical Process Parameters (CPP) and Design Space. Analytical Technologies for Biologics and Biologic Medicines and determination of Critical Quality Attributes of products. Case studies. At-line, On-line and Off-line monitoring tools, data acquisition and advanced process control strategies as applied to current industrial biomanufacturing. PAT data processing and modeling to design advanced biomanufacturing processes.

- Prerequisites: BIEN 590 or permission of the instructor.

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