

BIOLOGICS MANUFACTURING (GR. CERT.) (15 CREDITS)

Offered by: Bioengineering (Faculty of Engineering)
Program credit weight: 15-16

Program Description

The Graduate Certificate in Biologics Manufacturing focuses on the life sciences, the physical sciences, engineering, industrial practices and process sciences, regulatory requirements for biologics and data science for application in the sector of biologics manufacturing driven by the concept manufacturing 4.0.

Required Courses (12 credits)

Expand allContract all

Course	Title	Credits
BIEN 590	Cell Culture Engineering.	3
BIEN 601	cGMP and Regulation in Biomanufacturing.	3
BIEN 670	Downstream Processing .	3
BIEN 675	Process Analytical Technologies and Data Sciences .	3

Complementary Courses (3-4 credits)

3 or 4 credits from the following:

Expand allContract all

Course	Title	Credits
BIEN 602	Biomanufacturing for RNA Biologics .	3
BIEN 680	Bioprocessing of Vaccines.	4
BIEN 685	Gene and Cell Therapy Viral Vectors Biomanufacturing.	3
CHEE 512	Stem Cell Bioprocess Engineering.	3
CHEE 651	Advanced Biochemical Engineering.	4