

**Biotechnological Plant Projects**

Code: 100964  
ECTS Credits: 6

Degree	Type	Year	Semester
2500253 Biotechnology	OT	4	0

**Contact**

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**Use of languages**

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

**Prerequisites**

It is necessary to choose the option of bioprocess in the bachellor.

**Objectives and Contextualisation**

Learning the methodology to make a design project of an industrial biotechnological plant. Planning and organization of a project. Structure and material included in a project report. To know the use of a design and plant analysis simulator applied to a bioprocess plant.

**Content**

1. Project Management
  1. Project definition. Project Life cycle. Engineering, construction, Operation.
  2. Planning fundamentals. Objectives, product definition, market, reports, economical analysis.
  3. Project planning, Planning tools.
  4. Design variable analysis.
  5. Planning batch operation
  6. Flux diagrams. Simulation programs
  7. Process economics
  8. Optimization of bioprocesses.
  9. GMP, PAT i QbD.
  10. Project plant design.
    1. Basic information, specifications, other information.
    2. Graphic information. Process, Engineering (P&I), Layout, services.
    3. Plant services: water, air, heating and cooling, CIP, SIP.
    4. Sizing of equipments: Equipment list, Control schemes.
    5. Layout.
    6. Safety, Environmental, Operational and procedures.