

# Syllabus for ABT 770

## Product Development

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**NOTE:** This syllabus document contains the basic information of this course. The most current syllabus is available in the full course.

### Course Description

Explores strategies in evaluating and implementing new technologies or products in the context of different bioindustries. Identifies considerations in product valuation, feasibility of production, scalability, and supply chain management. Models the process of business growth and innovation through integration of emerging technologies.

### Prerequisite(s)

ABT 700, ABT 715

### Course Outcomes

Upon completing this course, you will be able to do the following:

- Outline the factors that inform valuation and assessment of a new technology and the potential for product development.
- Discuss the seven steps of general product development and how they relate to biotechnology products in particular.
- Compare business models that may be used in biotechnology product development.
- Discuss considerations in the process design of different bioindustry production platforms.
- Describe the purpose of Good Practice (GMP, GCP, GLP, etc.) standards in production and different modes through which these standards can be achieved.
- Evaluate the pertinent regulatory standards and appropriate product quality assessments in bioindustry production pipelines.
- Propose and defend a process design for production of a new biotechnology product in an existing or startup bioindustry model.

### Course Requirements/Components

#### Team Written Assignments

These types of assignments involve team members working together to generate a cohesive paper that addresses the topics and questions for the particular assignment. This may involve choices or examples that the team has to make or select to address the goal of the assignment. The work should be split evenly

between team members and each team member should have an understanding of the assignment and what the finished product should be and how their parts contribute to the whole.

### **Team Oral Assignments**

These types of assignments involve team members working together to generate a cohesive narrated presentation using PowerPoint that addresses the topics and questions for the particular assignment. This may involve choices or examples that the team has to make or select to address the goal of the assignment. The work should be split evenly between team members and each team member should have an understanding of the assignment and what the finished product should be and how their parts contribute to the whole.

### **Individual Oral Assignments**

These types of assignments require the individual student to prepare an narrated presentation using PowerPoint that addresses the topics and questions for the particular assignment. The student is responsible for all work in the assignment, including any figures or tables generated, and must meet the goal of the assignment.

### **Individual Written Assignments**

These types of assignments require the individual student to prepare a written paper that addresses the topics and questions for the particular assignment. The student is responsible for all work in the assignment, including any figures or tables generated, and must meet the goal of the assignment.

### **Discussions**

Discussion posting assignments require the student to respond to the initial post with thoughtful comments, which might require outside research. Once the students has responded to the initial post, you will also be required to respond to at least one other student's comments that are insightful and respectful, and extend the topic of discussion, again with your opinions or researched information.

### **Final Team Project**

Students will identify a new technology and develop a complete product development plan for their chosen biotechnology product. The presentation will be expected to address valuation of the new technology, biomanufacturing of the product, means of assessing quality, and scalability of production, as well as the regulations and guidances it must follow. The presentation will be shared with an audience of peers and peer evaluated in draft form. The final version will be evaluated by the course faculty..

## **Grading**

The following grading scale will be used to evaluate all course requirements and to determine your final grade:

Grade	Percentage Range
A	94% - 100%
A-	91% - 93%
B+	87% - 90%
B	81% - 86%
B-	78% - 80%
C+	75% - 77%
C	70% - 74%
C-	66% - 69%
F	<66%

Assignment	Percentage of Final Grade
Team Written Assignments	9
Team Oral Assignments	9
Individual Oral Assignments	14
Individual Written Assignments	30
Discussions	18
Final Team Project	20