



## **ACADEMIC CATALOG**

### **AGROINDUSTRIAL ENGINEERING**

#### **DEGREE PROFILE**

The Agroindustrial Engineer from Universidad de Las Américas is a competent, entrepreneurial professional with a global international vision, who has a solid background to manage agro-productive chains based on technical and economic analysis, and focused on the pursuit of excellence, innovation and social commitment.

The Agroindustrial Engineer is expected to be able to create, improve and enrich their knowledge through research; so as to perform their work with professional ethics, to be critical, creative, enterprising, innovative and capable of solving complex problems within the agro-productive field.

#### **LEARNING OUTCOMES**

- 1.- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- 2.- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- 3.- An ability to communicate effectively with a range of audiences within the field.
- 4.- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- 5.- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- 6.- An ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
- 7.- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

#### **FIRST SEMESTER**



- 1.- MATZ0339 INTRODUCTION TO CALCULUS
- 2.- IAGI1103 GENERAL BIOLOGY
- 3.- IAGI1108 GENERAL CHEMISTRY
- 4.- IAGI1301 INTRODUCTION TO AGROINDUSTRIAL ENGINEERING
- 5.- FGLZ0192 LANGUAGE AND DIGITAL COMMUNICATION

## **SECOND SEMESTER**

- 1.- MATZ0341 CALCULUS I

**Prerequisites :**

MATZ0339 INTRODUCTION TO CALCULUS

- 2.- FISZ0121 GENERAL PHYSICS

- 3.- IAGI2108 ORGANIC CHEMISTRY

**Prerequisites :**

IAGI1108 GENERAL CHEMISTRY

- 4.- IAGI2215 BOTANY AND PLANT PHYSIOLOGY

**Prerequisites :**

IAGI1103 GENERAL BIOLOGY

- 5.- FGLZ0180 RESEARCH AND ACADEMIC WRITING

**Prerequisites :**

FGLZ0192 LANGUAGE AND DIGITAL COMMUNICATION

## **THIRD SEMESTER**

- 1.- MATZ0342 CALCULUS II

**Prerequisites :**

MATZ0341 CALCULUS I

- 2.- IAGI3112 GENERAL MICROBIOLOGY

**Prerequisites :**

IAGI2215 BOTANY AND PLANT PHYSIOLOGY

- 3.- IAGI2121 BIOCHEMISTRY

**Prerequisites :**

IAGI2108 ORGANIC CHEMISTRY



#### **4.- IAGI3422 THERMODYNAMICS**

**Prerequisites :**

FISZ0121 GENERAL PHYSICS

#### **5.- FGHZ0932 CITIZENSHIP, CULTURE AND HISTORY**

### **FOURTH SEMESTER**

#### **1.- IAGI3410 MASS BALANCE**

**Prerequisites :**

IAGI3422 THERMODYNAMICS

#### **2.- IAGI3424 TRANSPORTATION PHENOMENA**

**Prerequisites :**

IAGI3422 THERMODYNAMICS

#### **3.- IAGI3218 FOOD MICROBIOLOGY**

**Prerequisites :**

IAGI3112 GENERAL MICROBIOLOGY

#### **4.- IAGI2324 FOOD CHEMISTRY**

**Prerequisites :**

IAGI2121 BIOCHEMISTRY

#### **5.- FGHZ0943 ART, HUMAN EXPRESSION AND COMMUNITY**

### **FIFTH SEMESTER**

#### **1.- IAGI3428 UNITARY OPERATIONS**

**Prerequisites :**

IAGI3410 MASS BALANCE

IAGI3424 TRANSPORTATION PHENOMENA

#### **2.- IAGI2227 FOOD SAFETY**

**Prerequisites :**

IAGI3218 FOOD MICROBIOLOGY

#### **3.- IAGI3329 FOOD AND ORGANIC SUBSTANCES LABORATORY**

**Prerequisites :**

IAGI2324 FOOD CHEMISTRY



#### **4.- IAGI2229 VEGETABLE PRODUCTION**

**Prerequisites :**

IAGI2215 BOTANY AND PLANT PHYSIOLOGY

IAGI2324 FOOD CHEMISTRY

#### **5.- IAGI2228 ANIMAL PRODUCTION**

**Prerequisites :**

IAGI1103 GENERAL BIOLOGY

IAGI2324 FOOD CHEMISTRY

### **SIXTH SEMESTER**

#### **1.- IAGI3234 STATISTICS FOR ENGINEERS**

**Prerequisites :**

MATZ0342 CALCULUS II

#### **2.- IAGI2433 AGROINDUSTRIAL MACHINERY AND CONSTRUCTION**

**Prerequisites :**

IAGI3428 UNITARY OPERATIONS

#### **3.- IAGI2230 POSTHARVEST AND CONSERVATION**

**Prerequisites :**

IAGI2229 VEGETABLE PRODUCTION

#### **4.- IAGI3531 PROCESS MANAGEMENT**

**Prerequisites :**

IAGI3428 UNITARY OPERATIONS

#### **5.- IAGI3557 AGROINDUSTRIAL PRODUCT DESIGN AND DEVELOPMENT**

#### **6.- IAGI2336 NON-FOOD PRODUCTS TECHNOLOGY**

**Prerequisites :**

IAGI3329 FOOD AND ORGANIC SUBSTANCES LABORATORY

### **SEVENTH SEMESTER**

#### **1.- IAGI2541 AGROINDUSTRIAL COST ACCOUNTING**

**Prerequisites :**

IAGI3234 STATISTICS FOR ENGINEERS

#### **2.- IAGI2339 DAIRY INDUSTRY**



**Prerequisites :**

IAGI3329 FOOD AND ORGANIC SUBSTANCES LABORATORY

**3.- IAGI2347 FRUIT AND VEGETABLE INDUSTRY**

**Prerequisites :**

IAGI2229 VEGETABLE PRODUCTION

IAGI2230 POSTHARVEST AND CONSERVATION

**4.- IAGI3539 OPERATIONS RESEARCH AND PROCESS SIMULATION**

**Prerequisites :**

IAGI3531 PROCESS MANAGEMENT

**5.- IAGI3248 RESEARCH MODELS AND EXPERIMENT DESIGN**

**Prerequisites :**

IAGI3234 STATISTICS FOR ENGINEERS

**EIGHTH SEMESTER**

**1.- IAGI2349 GRAIN AND OILSEED INDUSTRY**

**Prerequisites :**

IAGI2347 FRUIT AND VEGETABLE INDUSTRY

**2.- IAGI2345 MEAT INDUSTRY**

**Prerequisites :**

IAGI2228 ANIMAL PRODUCTION

**3.- IAGI2544 OPERATIONS MANAGEMENT I**

**Prerequisites :**

IAGI3539 OPERATIONS RESEARCH AND PROCESS SIMULATION

**4.- IAGI3545 QUALITY MANAGEMENT SYSTEM**

**Prerequisites :**

IAGI3531 PROCESS MANAGEMENT

**5.- IAGI3552 AGRIBUSINESS**

**Prerequisites :**

IAGI2541 AGROINDUSTRIAL COST ACCOUNTING

**6.- TITA4441 AGROINDUSTRIAL PROJECT MANAGEMENT**

**Prerequisites :**



IAGI3539 OPERATIONS RESEARCH AND PROCESS SIMULATION

**NINTH SEMESTER**

**1.- IAGI3556 PRE-PROFESSIONAL INTERNSHIP**

**2.- IAGI2550 OPERATIONS MANAGEMENT II**

**Prerequisites :**

IAGI2544 OPERATIONS MANAGEMENT I

**3.- IAGI2249 FOOD AND NUTRITION SECURITY**

**Prerequisites :**

IAGI3329 FOOD AND ORGANIC SUBSTANCES LABORATORY

**4.- IAGI3452 PLANT DESIGN AND INDUSTRIAL SAFETY**

**Prerequisites :**

IAGI2433 AGROINDUSTRIAL MACHINERY AND CONSTRUCTION

**5.- TITA4442 FOOD BIOENGINEERING PROJECT**

**Prerequisites :**

TITA4441 AGROINDUSTRIAL PROJECT MANAGEMENT