

BACHELOR IN AGRICULTURAL SCIENCE IN AGRICULTURAL AND ENVIRONMENTAL SYSTEMS

UPR CODE 0109 – V 2024



First Year

First Semester			Second Semester		
Code	Title	Num. of Credits	Code	Title	Num. of Credits
INGL 3***	First year course in English	3	INGL 3***	First year course in English	3
ESPA 3101	Basic course in Spanish I	3	ESPA 3102	Basic course in Spanish II	3
MATE 3171	Pre-Calculus I	3	MATE 3172	Pre-Calculus II	3
BIOL 3061	General Biology I	3	BIOL 3062	General Biology II	3
BIOL 3063	Laboratory of General Biology I	1	BIOL 3064	Laboratory of General Biology II	1
INGE 3011	Engineering Graphics I	2	SAGA 3016	Computing and Communication in Agricultural and Environmental Systems	3
EDAG 3005	Agricultural Orientation	1			
Total for Semester:		16	Total for Semester:		16

Second Year

First Semester			Second Semester		
Code	Title	Num. of Credits	Code	Code	Title
INGL 3***	Second year course in English	3	INGL 3***		Second year course in English
QUIM 3131	General Chemistry I	3	QUIM 3132		General Chemistry II
QUIM 3133	General Chemistry Laboratory I	1	QUIM 3134		General Chemistry Laboratory II
MATE 3049 or	Mathematical Analysis for Management Sciences or	3 - 4	FISI 3091 or		Elements of Physics or
MATE 3031	Calculus I		FISI 3151 or		Modern College Physics or
ECON 3021 or	Principles of Economics: Microeconomics, or	3	FISI 3171		Physics I
ECAG 3005	Principles of Agricultural Economic Analysis		FISI 3092 or		Elements of Physics Laboratory or
CFIT 3005	Fundamentals of Crop Production	4	FISI 3153 or		Lab of Modern College Physics or
			FISI 3173		Laboratory of Physics I
			SAGA 4048		Farm Buildings
			ELEC RECO		Elective in Agricultural Economy and Management Sciences
Total for Semester:		17-18	Total for Semester:		17-18

Third Year

First Semester			Second Semester		
Code	Title	Num. of Credits	Code	Code	Title
AGRO 3011	Fundamentals of Soil Science	2	INCI 4005		Agricultural Surveying
AGRO 3013	Soil Science Laboratory	1	SAGA 4041		Agricultural Tractors and Machinery
SAGA 4129	Agricultural Products Processing	3	SAGA 4319		Farm Drainage and Irrigation
ELEC CSOC or SOHA	Elective in Social Sciences or Elective in Humanities	3	SAGA 4505		Electrotechnology
CIAN 3011	Fundamentals of Animal Science	3	ELEC LIBR		Free Elective
CIAN 3012	Laboratory of Practices in Animal Science	1			
CFIT 4005	Physiological Principles of Crop Production	3			
EDFI 3***	Physical Education Elective	1			
Total for Semester:		17	Total for Semester:		16

Summer

Code	Title	Num. of Credits
SAGA 4008	Agricultural and Environmental Systems Practicum	3
Total for Summer:		3

Fourth Year

First Semester			Second Semester		
Code	Title	Num. of Credits	Code	Code	Title
SAGA 4335	Soil and Water Management	4	ELEC SOHA		Elective course in Humanities
SAGA 4036	Seminar in Agricultural and Environmental Systems	1	ELEC LIBR		Free Elective
ELEC LIBR	Free Elective	3	ELEC LIBR		Free Elective
ELEC RECO	Elective in Agricultural Economy and Management Sciences	3	ELEC RECO		Elective in Agricultural Economy and Management Sciences
ELEC PROF	Professional Elective	3	ELEC PROF		Professional Elective
EDFI 3***	Physical Education Elective	1			
Total for Semester:		15	Total for Semester:		15

Total Credits Required in the Program: 132-134

English Sequence:

The 12-credit requirement in English can be completed with one of the following sequences established by the [English Department](#).

	Basic English Sequence	Intermediate English Sequence	Advanced English Sequence
Requirement	CEEB: 200 to 559 SAT: 399 or less	CEEB: 560 to 800 SAT: 400 or more Advanced Exam: 3	CEEB Advanced Exam: 4 or 5
First Year	INGL 3101 and INGL 3102	INGL 3103 and INGL 3104	INGL 3201 and INGL 3202
Second Year	INGL 3201 and (INGL 3202, INGL 3209, INGL 3289 or INGL 3295)	2 intermediate sequence courses	-

For information on the courses in each sequence, visit the following [link](#).

Electives:

To provide the flexibility necessary for students to achieve their academic and professional goals, the curriculum allows them to select specific courses from approved lists. It is recommended to visit the academic advisor prior to enrolling in courses.

1. **Calculus and Physics Sequences (7 to 9 credits):** These are general education courses in quantitative and scientific reasoning. Students will select one of three available streams based on their interests and career goals.

	Sequence 1	Sequence 2	Sequence 3
Focus	Management sciences and agricultural sciences.	Engineering and graduate studies.	Food science and natural sciences.
Calculus	MATE 3049 Mathematical Analysis for Management Sciences (3 cr.)	MATE 3031 Calculus I (4 cr.)	MATE 3031 Calculus I (4 cr.)
Physics	FISI 3091 Elements of Physics (3 cr.)	FISI 3171 Physics (4 cr.)	FISI 3151 Modern College Physics (3 cr.)
Physics Lab	FISI 3092 Lab. Elements of Physics (1cr.)	FISI 3173 Lab. Physics I (1 cr.)	FISI 3153 Lab. Modern College Physics (1 cr.)
Total	7 credits	9 credits	8 credits

- **Electives in Social Sciences and Humanities (9 credits):** Will be selected by the student, with the advisor's approval, from a list of recommended courses of 3000 level or above as follows:
 - 3 credits in ECON 3021: Microeconomics or ECAG 3005: Principles of Agricultural Economic Analysis. (Only one of the two courses will be counted toward the degree)
 - 3 credits in Humanities (ALEM, ARTE, CHIN, FILO, FRAN, GRIE, HUMA, ITAL, JAPO, LATI, LITE, MUSI, RUSO or TEAT)
 - 3 credits in Humanities (see above) or Social Sciences (ANTR, CIPO, CISO, ECAG 3015, ECAG 4006, ECAG 4015, ECAG 4026, ECAG 4027, ECON 3022, ECON 3091, ECON 3092, ECON 4037, ECON 4056, GEOG, HIST, PSIC or SOCI)

- **Electives in Agricultural Economy and Management Sciences (9 credits):** The student, with the help of the advisor, will choose three (3) of the following courses:
 - ECAG 4006 – Introduction to Consumer Economics (3 cr.)
 - ECAG 4007 – Marketing of Agricultural Products (3 cr.)
 - ECAG 4015 – Introduction to Resource Economics (3 cr.)
 - ECAG 4019 – Farm Management and Accounting (3 cr.)
 - ECAG 4028 – Agricultural Finance (3 cr.)
 - ECAG 4029 – Agribusiness Management (3 cr.)
 - ECAG 5006 – Feasibility Studies Agricultural Enterprises (3 cr.)
 - ADMI 3009 – Introduction to Business, Management and Ethics (4 cr.)
 - ADMI 3100 – New Business Development (3 cr.)
 - ADMI 3155 – Creativity and Entrepreneurial Innovation (3 cr.)
 - ADMI 4001 – Introduction to Law (3 cr.)
 - ADMI 4085 – Fundamentals of Project Management (3 cr.)
 - CONT 3011 – Financial Accounting Principles I (3 cr.)
 - MERC 3115 – Principles of Marketing (3 cr.)

Note: It is recommended to include at least one Agricultural Economics (ECAG) course among the electives in this group. In order to enroll in any ECAG course, the student must have previously approved ECON 3021 or ECAG 3005. Similarly, if you are interested in enrolling in the ECAG 5006 course, you will need to have passed ECAG 4019 as a prerequisite.

- **Professional Electives (6 credits):** These are courses of specialization in agricultural and environmental systems. Must be SAGA or INAG courses of 4000 level or above.

- **Physical Education (2 credits):** The student will choose 1 or 2 courses in EDFI at 3000 level or above.

- **Free Electives (12 credits):** The student will choose, with the advisor's help, twelve (12) credit hours in 3000 to 6000 level courses that are not equivalent to, similar to, or of lesser difficulty than other courses in the curriculum. Free electives may be used to take courses in curricular sequences, minor concentrations, complete requirements for graduate studies, or that serve the student's professional goals and interests.

Practicum in Agricultural and Environmental Systems:

This practical experience in the areas of the academic program is carried out under the supervision of the department, in collaboration with public and private entities. It is carried out during the summer prior to the student's graduation, who will dedicate at least 30 hours per week for a minimum period of six consecutive weeks. The place for the internship, chosen by the student, must receive the approval of both the professor in charge of the course and the director of the Department.