

## SYLLABUS

Course information					
Code:	Not applicable	Course:	Andean Nutrition		
Coordinating area / program:	International Programs			Mode:	Classroom teaching
Credits:	3	Contact hours:	48	Autonomous study hours:	32
Period:					
Career:	Not applicable				

Contact hours					
Sum:	48	Theory:	46	Practice:	0
				Laboratory:	0
				Evaluation hours:	2

Course pre-requisites		
Code	Course	Career
Not applicable	Not applicable	Not applicable

Course coordinators			
Surname and first name	Email	Contact hours	Contact site
Ruelas, Abdí	aruelas@usil.edu.pe	8 a.m. – 6 p.m.	USIL Cusco Center

Instructors
Oscar R. Ortega

Course overview
The purpose of this course is to reveal to students the remarkable nutritional qualities of Andean crops, their role in the diet of local populations, and their value within the context of local culture, comparing them with other crops of foreign origin and tracing their influence on the global food supply. Students will learn about the most widely practiced local agricultural methods and techniques, as well about the culinary products derived from native plant species.

Course competencies	
Professional competency	Not applicable
Level of professional competency	Not applicable
USIL general competencies	Not applicable

Course learning outcomes		
General learning outcome	N°	Specific learning outcomes
Examine, describe and understand nutrition in Peru by analyzing the nutritional wealth of Andean crops and their use in the Peruvian and international cuisine.	1.	Students identify nutrition terminology and products where nutrients are found.
	2.	Students recognize the nutritional status of Peru through the years and the main crops utilized and cultivated in ancient and modern Peru.
	3.	Students define nutritional properties and value of Andean crops and their influence in nutrition, with an emphasis on the improvement of the nutrition and quality of life of people at different stages of life
	4.	Students observe directly and participate in preparation of dishes based on Andean and introduced crops.
	5.	Students recognize the importance of Andean crops in Peru and compare it with other crops from other countries, analyzing how their export benefits for Peruvian economy.

Contents and study activity scheduling						
Session	Week	(hrs)	Type	Contents	Study outcomes and study activities	Resources
Unit	1:	Introduction.				
Specific result:		[1]				
1	1	1	AP	Reading of the syllabus. Explanation of the methodology and evaluation system. Classroom norms.	Professor discusses the syllabus with the students, explains the contents, methodology and evaluation criteria.	Syllabus.
1	1	2	AP	Basic concepts of nutrition.	Students name and understand basic concepts of nutrition.	Ppt, reading.
	1	2	AA	Review information about the basic concepts of nutrition.	Students review information about the topic covered in class.	Textbooks, class notes.
2	2	2	AP	Geography of Peru.	Students discuss a video and powerpoint presentation on why	Textbooks, ppt.

					Peru has a high diversity of ecosystems, species and cultures; analyze the three main geographical regions and eight natural regions.	
	2	2	AA	Review information about Peruvian geography.	Students review information about the topic covered in class.	Textbooks, class notes.
3	3	1	AP	Peru: Center of origin of cultivated plants.	Students analyze the value of crop biodiversity and the origin of the main crops in the world; discuss why Peru is one of these centers according to Vavilov.	Textbooks, ppt.
3	3	1	AP		Students review and understand the theory of Centers and Non-Centers proposed by Harlan.	Textbooks, ppt.
	3	2	AA	Review information about centers of origin of cultivated plants.	Students review information about the topic covered in class.	Textbooks, class notes.
Basic and supplemental mandatory reading:					(2), (5), (9)	
<b>Unit</b>	<b>2:</b>	Nutritional Wealth of Andean Crops.				
Specific result:		[2]				
4	4	1	AP	Food in ancient Peru.	Students trace how agriculture began in Peru, name the crops gathered and cultivated by the Pre-Inca cultures, their technology and legacy.	Textbooks, ppt.
4	4	1	AP		Students identify the characteristics of the Inca Empire in terms of economy and agriculture, main crops cultivated and technology utilized.	Textbooks, ppt.
4	4	1	AP		Students research and prepare summaries of product characteristics for each product, their nutrient content and cultivar distribution.	Reading and students' research.
	4	2	AA	Review information about nutrition in the Andean cultures.	Students review information about the topic covered in class.	Textbooks, class notes.
5	5	2	AP	Nutritional properties of cereals: <i>quinua</i> , <i>cañihua</i> , <i>kiwicha</i> and maize/corn.	Students research and prepare summaries of product characteristics for each product, their nutrient content and cultivar distribution.	Textbooks, ppt, students' research.
	5	1	AA	Review information about the nutritional value of Andean cereals.	Students review information about the topic covered in class.	Textbooks, class notes.
	5	2	AP	Nutritional properties of tubers: potato, <i>oca</i> , <i>ulluco</i> , and <i>mashua</i> .	Students research and prepare summaries of product characteristics for each product, their nutrient content and cultivar distribution.	Textbooks, ppt, students' research.
	5	1	AA	Review information about the nutritional value of Andean tubers.	Students review information about the topic covered in class.	Textbooks, class notes.
6	6	2	AP	Nutritional properties of roots: <i>achira</i> , <i>arracacha</i> , <i>maca</i> and <i>yacon</i> .	Students research and prepare summaries of product characteristics for each product, their nutrient content and cultivar distribution.	Textbooks, ppt, students' research.
6	6	1	AP	Nutritional properties of legumes: <i>tarwi</i> and <i>nuña</i> .	Students research and prepare summaries of product characteristics for each product, their nutrient content and cultivar distribution.	Textbooks, ppt, students' research.
	6	2	AA	Review information about the nutritional value of Andean roots and legumes.	Students review information about the topics covered in class.	Textbooks, class notes.
7	7	2	AP	Nutritional properties of fruit: <i>lucuma</i> /eggfruit, <i>chirimoya</i> , <i>saucó</i> , <i>aguaymanto</i> /goldenberries, <i>sachatomate</i> , <i>tumbo serrano</i> , etc.	Students research and prepare summaries of product characteristics for each product, their nutrient content and cultivar	Textbooks, ppt, students' research.

					distribution.	
7	7	1	AP	Pre-exam review.	Professor and students review all information covered in the first half of the course.	Class notes, ppts, readings.
	7	2	AA	Review information about the nutritional value of Andean fruit.	Students review information about the topics covered in class.	Textbooks, class notes.
8	8	4	AP	Andean and introduced crops biodiversity. Transformed Andean cereals. Field trip to San Pedro and Ccascaparo Markets.	Students observe Andean and introduced crops discussing their importance.	Direct observation and field trip notes.
	8	1	AA	Write field trip report.	Personal reflections on the field trip.	Field trip notes.
	8	1	AA	Review the content of the course for the midterm exam.	Students review their notes and other materials to prepare for the exam.	Class notes, ppts, readings.
9	9	1	AP	MIDTERM EXAM.	Students take the test individually. The test has theoretical questions and essay tasks.	Test.
Basic and supplemental mandatory reading:				(1), (3), (7), (10)		
Unit	3:	Contribution of Andean Crops to Human Nutrition.				
Specific result:		[3]				
9	9	2	AP	Population Growth and Food Security	Students analyze how population growth and food availability are connected and discuss the Malthusian Theory and the Demographic Transition Model. DEBATE: Malthus vs. Boserup on food security and the carrying capacity.	Textbooks, ppt, debate in class.
	9	2	AA	Review information about population growth theories.	Students review information about the topic covered in class.	Textbooks, class notes.
10	10	2	AP	Andean crops and food security.	Students summarize important ideas about the status of Andean crops and the importance on food security in Peru.	Textbooks, class notes.
10	10	2	AP	The presence of native potatoes in a modern society: case study.	Students analyze through a case study the role of potato in Peru and the world.	Textbooks, ppt.
	10	2	AA	Review information about Andean crops and food security.	Students review information about the topic covered in class.	Textbooks, class notes.
11	11	1	AP	Peruvian projects in nutrition and food security.	Students analyze Peruvian projects related to nutrition and food security.	Textbooks, ppt.
11	11	2	AP	Cultivation of Andean crops. Presence of main crops on the local markets and their importance in community diet. Field trip to Vinocanchon Market + <i>Universidad Nacional San Antonio Abad del Cusco</i> , Department of Agronomy and Zootechnics.	Students observe cultivated fields with Andean crops; identify Andean and introduced crops biodiversity sold at the market; try dishes based on Andean products at the Gastronomical fair.	Direct observation, food degustation, field trip notes.
	11	2	AA	Review information about the nutrition programs in Peru.	Students review information about nutrition programs.	Textbooks.
12	12	1	AP	Comparison of the nutritional value of Andean crops with other types of crops worldwide.	Students classify, compare and contrast information using charts for analysis provided by the professor.	Textbooks, ppt, analysis charts.
12	12	1	AP	Nutritional contribution of Andean crops in children and adults.	Students review the problem of cognitive development of the population and draw conclusions on its influence on people´s quality of life.	Textbooks, ppt.
	12	2	AA	Review information about the nutritional value of Andean crops.	Students review information about the topic covered in class.	Textbooks, class notes.
Basic and supplemental mandatory reading:				(6), (7), (12), (13)		
Unit	4:	Preparation of Healthy Recipes Based on Andean Products.				
Specific result:		[4]				
13	13	1	AP	Healthy dishes prepared with	Students discuss consumption of	Textbooks, ppt.

				Andean crops for the population at large.	Andean agricultural products and create nutritious recipes.	
13	13	3	AP	Dish preparation based on Andean crops. Field trip to "El Batan" Traditional Restaurant. Cooking Lesson.	Students observe and prepare dishes based on Andean and introduced crops.	Direct observation, cooking tools, ingredients and recipes.
13	13	1	AP	Organic vs. non-organic food.	DEBATE: Benefits and low points of eating organic food.	Readings and debate in class.
	13	2	AA	Review information about dishes prepared with Andean crops and the value of organic food.	Students review information about the topic covered in class.	Textbooks, class notes.
Basic and supplemental mandatory reading:				(4), (8), (11)		
Unit	5:	Exportation of Andean Crops.				
Specific result:		[5]				
14	14	1	AP	World positioning.	Students analyze the demand for Andean crops from other countries.	Textbooks, ppt.
14	14	1	AP	Exports.	Students name and classify the types of crops grown in the last years, their destination and contribution to the generation of foreign currency.	Textbooks, ppt.
	14	2	AA	Review information about world positioning and export of Andean crops.	Students review information about the topics covered in class.	Textbooks, class notes.
15	15	2	AP	Local demand and availability of Andean crops. Field trip: Plaza Tupac Amaru and Plaza Vea Mall.	Students observe how Andean crops are positioned in Cusco, check their prices and availability.	Direct observation, field trip notes.
	15	2	AA	Preparation of final paper presentations.	Students review their final papers and prepare presentations for the next session.	Students' research, ppt presentations.
16	16	1	AP	FINAL PAPER PRESENTATIONS.	Students present their final papers.	Students' research and presentations.
16	16	1	AP	Pre-final review.	Professor and students review all information covered in the course.	Class notes, readings, textbooks, ppts.
	16	2	AA	Review for final exam.	Students review all the information covered in the course.	Class notes, readings, textbooks.
16	16	1	AP	FINAL EXAM.	Students take the test individually. The test has theoretical questions and essay tasks.	Test.
Basic and supplemental mandatory reading:				(7), (8), (12), (13)		

AA: autonomous learning

AP: contact learning

#### Methodology

The methodology to be used includes a combination of tools in order to facilitate the enhancement of knowledge, promote debate in class and increase students' ability to formulate proposals, such as presentation-debate classes and case studies.

#### Evaluation system

Grades for each type of evaluation and the final grade for the course are rounded to whole numbers. The final grade is the average of the continuous assessment, mid-term exam and final exam grades.

Nº	Type of evaluation	Weight
1	Continuous assessment	60%
2	Mid-term exam	20%
3	Final exam	20%

#### Continuous assessment (\*)

Type of evaluation	Percentages	Description of disaggregated components of the evaluation			Week	Make-up evaluation
		Nº	Description	%		
Type 1: Assignments.	90%	1	Report 1	5%	6	NO
		2	Report 2	5%	7	NO
		3	Report 3	5%	10	NO
		4	Cooking class	5%	12	NO
		5	Report 4	25%	14	NO

		6	Reading sessions and presentations	25%	14	NO
		7	Final paper	30%	15	NO
		TOTAL			100%	
		Comments:				
Type 2: Participation in class.	10%	1	Participation in class	60%	15	NO
		2	Attendance	40%	15	NO
		TOTAL			100%	
		Comments:				

(\*) Continuous assessment includes independent study activities.

General guidelines	
1.	Students who arrive more than 10 minutes late will be counted as absent.
2.	No food is allowed in class.

Course specific rules	
1.	The use of computers in class is allowed and encouraged.
2.	The use of Internet in class is allowed if related to the content of the course.
3.	The order of field trips can be changed according to the schedule of each specific term.
4.	The duration of the final seminar can vary according to the number of students in the group. The duration of the lectures will be adjusted to the number of hours of the final seminar.
5.	Written assignments should be presented in by students in digital (not printed) form.

Attendance policy	
<b>Total percentage of permitted absences in language courses:</b>	<b>20%</b>
<b>Total percentage of permitted absences in other courses:</b>	<b>30%</b>

Basic and supplemental mandatory reading	
<b>Basic and Supplemental mandatory reading:</b>	
<ol style="list-style-type: none"> <li>1. ANTUNEZ DE MAYOLO, Santiago. 1989). <i>La Nutrición en el Antiguo Peru</i>. Lima: Banco central de reserva del Peru.</li> <li>2. BRACK EGG, A. 1999. <i>Diccionario de Plantas Útiles del Peru</i>. Lima: PNUD.</li> <li>3. BUKASOV, S. 1981. <i>Las plantas Cultivadas de México, Guatemala y Colombia</i>. Turrialba: Centro Agronómico Tropical de Investigación y Enseñanza.</li> <li>4. CALDERON, F. 1999. <i>Cocina en las Naciones Conferderadas del Tahuantisuyo</i>. Huancayo.</li> <li>5. CDPH. 2009. <i>Network for Healthy California: Nutrition Glossary</i>.</li> <li>6. ESCOBAL, J. and TORERO, M. 2006. <i>Access to Dynamic Markets for Small Commercial Farmers: The case of Potato Production in the Peruvian Andes</i>. International Association of Agricultural Economists Conference, Gold Coast, Australia.</li> <li>7. FAO. 2011. <i>Quinoa: An Ancient rop to contribute to world food security</i>. Regional Office for Latin America and the Caribbean</li> <li>8. GODOMAR, R. 1990. <i>Multimixes of foods based on andean crops for children of 6 to 24 months</i>. Convenio Peru-Alemania.</li> <li>9. HARLAN, J.R. 1992. <i>Crops and Man</i>. American Society of Agronomy / Crop Science Society of America.</li> <li>10. KRENMAYR, I. et al. 2000. <i>Plantas en la Cultura Andina</i>. Huancayo: CEDEPAS.</li> <li>11. PMA. 2012. <i>Quinua: Y otros productos nativos del Peru – 28 Recetas Nutritivas para su Mesa</i>. Programa Conjunto Ifancia, Nutrición y Seguridad Alimentaria.</li> <li>12. RIVERA, R. 2000. <i>Cultivos Andinos en el Peru</i>. Lima: Edit. Minerva.</li> <li>13. TAPIA, M. 1990. <i>Cultivos Andinos Subexplotados y Su Aporte a la Alimentación</i>. Santiago de Chile: FAO.</li> </ol>	

Supplemental optional reading	

<b>Approved by:</b>	<b>Validated by:</b>
	Office of Curriculum Development
Date:	Date: