UNIVERSITE
Abdelhamid Ibn Badis
MOSTAGANEM

Periodical Report
18 Months of project implementation

CUPAGIS

New Curricula in Precision Agriculture Using GIS Technologies and Sensing Data

ABDELHAMID IBN BADIS UNIVERSITY, Mostaganem, ALGERIA

Co-funded by the Erasmus+ Programme of the European Union

Joint Project: Capacity Building in the Field of Higher Education ERASMUS+ 2018

Dr Meriem MOKHTAR
Quality Assurance Responsible

1. PROJECT ACTIVITIES – FROM NOVEMBER 2019 TILL MAY 2020

Table 1. ACTIVITIES IMPLEMENTED THAT ARE NOT MENTIONED IN REPORT 12M (From November 2019 till May 2020)

	Question	Answer
1	**Please, name activities and short description of their deliverables your university implemented so far according to the project work plan.** **Please, describe activities and their results specifically for each of the Work Packages (WP1-WP5)**	**The university has implemented the following activities (+ short description of their deliverables)according to the work plan:** **WP1: Preparation** -Review of the current curricula for BA/MSc in target area in PC HEIs. -Agreement and guidelines on instructional strategies BA/MSc curricula design including the use of new Educational Technologies **(Already done and completed during the first 12 months)** **WP2: Development** **WP2.1 Teaching materials** -Development of new curricula/ modules ' Specialized Post Graduate Studies in Precision Agriculture using GIS technologies and sensing Data'. -Designated academic teachers for each course.

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2. New Courses development process

Course №	Title of the course	Number of ECTS	Name of the person(s) responsible for development + email	Teachers have completed trainings regarding the course (yes or no/ in EU or at home university)	Estimate the percentage of course description development	Estimate the percentage of lecture notes/ presentations development	Estimate the percentage of course work methodology development	Estimate the percentage of practical/ laboratory work methodology development (if applicable)	Estimate the percentage of content, that is planned to be delivered in English (if applicable)
01	Geographic Information Systems (GIS)	04	Dr Ferah Tahar/ Email:ferahtahar@yahoo.fr	No	100	100	80	30	30
02	Yield sensors for precision agriculture	05	DrMansour ABED / Dr Mostefa MERAH Email: mansour.abed@univ-mosta.dz	No	100	80	80	30	30
03	Remote Sensing	04	Dr Ferah Tahar/ Email: ferahtahar@yahoo.fr	No	100	80	80	30	30
04	Soil physical properties and its measurement	04	Dr ABBOU Mohamed/ E-mail:abbou.mohamed27@yahoo.fr	No	100	50	50	25	25
05	Global Navigation Satellite System (GNSS) overview	05	Prof Hadjira Benoudnine/ Dr Mansour ABED E-mail: hbenoudnine@gmail.com	No	100	40	80	60	50
06	Plant and Crop Stresses	04	Dr Mahiout Djamel djamel.mahiout@univ-mosta.dz	YES	100	40	50	50	40
07	Economy for Precision Agriculture	01	Labdaoui Djamel E-mail: labdadjam@yahoo.fr	No	100	50	50	25	25
08	English for Advanced Academic Purposes	03	Dr Mokhtar Meriem E-mail: mokhtar.meriem@yahoo.fr	No	100	60	60	-	100

3. Curricula description

Title of the course	Name of the person(s) responsible	Course description
English for Advanced Academic Purposes	**Dr Meriem Mokhtar**	English for specific purposes is an approach to the education of English orientated for specific purposes (scientific, technological, economic and academic areas). The ESP is based on the design of specific courses to give response to the needs of students who, beyond the learning of the common language, require a practice regarding certain professional areas.The course aims to develop students reading, writing, speaking and listening skills within their chosen area of specific English needs. The program is designed to strengthen scholarly skills in a discipline-oriented context (terminology, concepts, themes, topics), increase confidence in subject-specific areas (Precision Agriculture). In this course, you will explore some of the most innovative areas of precision agricultural (satellite and aerial imagery, weather prediction, variable rate fertilizer application, and crop health indicators…), while expanding your vocabulary and the language skills needed to share scientific information within your community.

3. Curricula description

Title of the course	Name of the person(s) responsible	Courses descriptions
Geographic Information Systems (GIS)	Dr Ferah Tahar	This course this course will allow students understand, locate and accurately monitor the dynamics of agricultural cropping systems.
Yield sensors for precision agriculture	Dr Mansour ABED / Dr Mostéfa MERAH	This course covers information about yield sensing technologies for precision agriculture (PA) applications and their use in this field. The acquired knowledge is necessary to understand, utilize and exploit yield sensors as input agricultural data to precision agriculture development. At the end of this course, the learner must be able to design a yield sensor-based monitoring system, read information from the different sensors, fix problems related to measurements, collect data and provide useful information for the evaluation phase of the PA cycle.
Remote Sensing	Dr Ferah Tahar	Detection, localization and precise supply of thematic solutions.
Soil physical properties and its measurement	Dr ABBOU Mohamed/	The main aim of this course is to familiar the students with the problematic of soil physics. Soil physics plays important role in Precision Agriculture with regards to proper machinery utilization and soil protection. The information about most important soil physical properties and its relationship is provided together with the principles of its measurement. Different methods of soil compaction, soil moisture content or soil infiltration rate measurements are studied.

3. Curricula descriptions

Title of the course	Name of the person(s) responsible	Courses descriptions
Global Navigation Satellite System (GNSS) overview	Professor Hadjira Benoudnine/ Dr Mansour ABED	The proposed course provides basic understanding for mobile positioning based on the Global Navigation Satellite System (GNSS). Further, different practical works will be presented using GPS sensors.
Economy for Precision Agriculture	Dr Labdaoui Djamel	This course aims to present the economic model related to the agronomy field in Algeria and to provide an overview of Precision Agriculture (characteristics, technologies and practices). It will focus on the economic efficiency of the precision farming in terms of agricultural production system and practices. The Precision Farming Economic theories and methodologies will be presented through lectures, seminars and practical demonstrations and economic data analysis.
Plant and Crop Stresses	Dr Mahiout Djamel	The goal of this course is to introduce students to the sensor-based methods for detection, identification, and quantification of plant diseases. These sensors assess the optical properties of plants within different regions of the electromagnetic spectrum and are able to utilize information beyond the visible range. They enable the detection of early changes in plant physiology due to biotic and abiotic stresses, because disease modification in tissue color, leaf shape, transpiration rate, canopy morphology etc…Currently the most promising techniques are sensors that measure reflectance, temperature, or fluorescence.

4. TEACHING MATERIALS

№	Title of the materials	Type (manuals/text books/methodological recommendations)	Short description	Estimated date of the development of the digital versions-drafts (.doc files)
1	Precision Agriculture using GIS technologies and sensing Data	**Methodological recommendations**	A details program of the Specialized Post Graduate Studies in Precision Agriculture Using GIS technologies and Sensing Data.	**4th April 2020**
2	Contribution à la mise en place d'un système d'informations géographiques (sig) dédie au suivi de la biodiversité de la région saharienne algérienne,	**Text book**	Describe the adequate methodology for integrating pluri-thematic and multi-source data into a Geographic Information System (GIS).	**September 2020**
3	Utilisation de la télédétection dans l'étude de la dégradation des agrosystèmes dans le bassin versant de l'oued - chéliff	**Text book**	Describe a methodology for mapping the urban extension of agricultural land and vegetation cover.	**September 2020**
4	Intégration des données multi-sources dans un système d'informations géographiques (sig) pour le diagnostic du milieu et l'aménagement hydro-agricole de la région steppique ouest-algérienne.	**Text book**	Using remote sensing and GIS to shows the degraded state of the steppe, due to climatic, soil and human factors.	**September 2020**

5. QUALITY ASSURANCE OF THE NEW COURSES

QUALITY ASSURANCE – Courses		
Course №	**Course title**	**Peer reviewers (Name, position, organization)**
01	Geographic Information Systems (GIS)	1-Dr Bachir Gourine (Algerian space agency) 2-Professor Kahouche Salem (Algerian space agency)
02	Yield sensors for precision agriculture	1-Dr Mohamed Bentoumi (Faculty of sciences and technology, U-Mostaganem) 2-Professor Abdelhamid Benachenhou (faculty of Mathematics and computer sciences, U-Mostaganem)
03	Remote Sensing	1- Dr Bachir Gourine (Algerian space agency) 2-Professor Kahouche Salem (Algerian space agency)
04	Soil physical properties and its measurement	1-Professor Larid Mohamed (Faculty of natural science and life, U-Mostaganem) 2- Dr Saci Belgat ((Faculty of natural science and life, U-Mostaganem)
05	Global Navigation Satellite System (GNSS) overview	1-Professor Sidi Mohamed Arezki (Algerian space agency) 2-Dr Abdelmadjid Boudjemai (Algerian space agency)
06	Plant and Crop Stresses	1- Professor Youcef Benkada Mokhtar ((Faculty of natural science and life, U-Mostaganem) 2- Professor Bendahmane Boubekeur Seddik ((Faculty of natural science and life, U-Mostaganem)
07	Economy for Precision Agriculture	1-Professor Abedelkader Brainis (Faculty of Management and economic sciences, U-Mostagnem) 2-Dr Abderrazak Boutaghane (Faculty of Management and economic scienc Mostagnem)

6. IMPACT AND SUSTAINABILITY

DISSEMINATION EVENTS-1 (THAT ARE NOT MENTIONED IN REPORT 12M/ FROM NOVEMBER 2019 TILL MAY 2020)		
№	**Question**	**Answer**
1	**How many dissemination events were conducted?**	**5**
2	**How much and which new dissemination materials were produced (leaflets, brochures, flyers etc)?**	➔ Send us prepared/published E-layouts or drafts of brochures and leaflets; **A banner for presentation of Cupagis project was prepared** ➔ Inform us about the dates of approximate printing, publishing and distribution of brochures and leaflets. - **September 2020: printing and distribution of brochures related to the new curricula**
3	**Report on the dissemination of the information about the project in mass media**	➔ Send us links or scans/files of **publications** about the project in mass media: magazines, newspapers, TV, the Internet, etc., with the date of their publications. ❑ (https://www.reflexiondz.net/UNIVERSITE-DE-MOSTAGANEM-Rencontre-expert-de-l-Union-europeenne-et-universitaires_a58966.html) ❑ https://www.univ-mosta.dz/projet-cupagis/ ❑ https://www.youtube.com/watch?time_continue=1286&v=C6E84U_WuC4&feature=emb_logo (Cupagis presentation (21.30 -22.40) ➔ If they are not published yet, inform us when you are planning to publish them.

6. IMPACT AND SUSTAINABILITY

DISSEMINATION EVENTS-1 (THAT ARE NOT MENTIONED IN REPORT 12M/ FROM NOVEMBER 2019 TILL MAY 2020)		
№	**Question**	**Answer**
4	**Planned dissemination activities**	Please, send us the plan of future dissemination activities until November 2020 **July 2020** ➔ A dissemination meeting with different stakeholders interested by the PGS program Press papers related to the meeting ➔ Local radio meeting ➔ Web Tv Presentation ➔ https://www.univ-mosta.dz/projet-cupagis/ ➔ Prepare banner and brochures related to the CUPAGIS project and the PGS program **October 2020** ➔ Launching ceremony of the new PGS program ➔ Press papers ➔ Local radio meeting ➔ Web TV presentation **November 2020** ➔ Press papers related to the CUPAGIS Equipment reception

NON-ACADEMIC PARTNERS (FOUND FROM NOVEMBER 2019 TILL MAY 2020)		
№	**Question**	**Answer**
1	**Please, provide a list of non-academic partners and organizations outside the project, with which you maintain communication and which could be interested in hiring your graduates**	List of non-academic partners and organizations: • Algerian Space techniques center • Agricultural Chamber of Mostaganem Wilaya (Farmers Database) • Agricultural Services Branch • Association of Oleiculture • Viticulture Association • Potato Association • Plasticulture Association • ArbOleiculture Association • Association of beekeepers • Forest Service
2	**Please, provide information regarding the planned dissemination events for the interested in the project stakeholders, non-academic partners and organizations outside the project.**	➔ Inform us about the planned date of the next event. If the event has already taken place, send us its press release; **It depends on the situation of the confinement. The plan is as follow:**

NON-ACADEMIC PARTNERS (FOUND FROM NOVEMBER 2019 TILL MAY 2020)		
№	**Question**	**Answer**
2	**Please, provide information regarding the planned dissemination events for the interested in the project stakeholders, non-academic partners and organizations outside the project.**	**July 2020:** ➔ A dissemination meeting with different stakeholders interested by the PGS program Press papers related to the meeting ➔ Local radio meeting ➔ Web Tv Presentation ➔ https://www.univ-mosta.dz/projet-cupagis/ ➔ Prepare banner and brochures related to the CUPAGIS project and the PGS program **October 2020:** ➔ Launching ceremony of the new PGS program ➔ Press papers ➔ Local radio meeting ➔ Web TV presentation
3	**University – enterprise agreements**	➔ Scan the signed university – enterprise agreements **The signed university – enterprise agreements related to Cupagis project will be updated according to the template of the agreement of Cupagis project and upload to the platform** ➔ https://cupagis.eu/index.php/cupagis-plus

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Thank you for you attention!

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