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CUPAGIS

Periodical Report
36 Months of project implementation

New Curricula in Precision Agriculture Using GIS Technologies and Sensing Data

Abdelhamid Ibn Badis University, Mostaganem, Algeria

Reporting Time: From 15.11.2020 till 14.11.2021

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

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

Prof Meriem MOKHTAR
and Prof Hadjira BENOUDNINE

Title: 1.Curricula Professional Master in 'Advanced technologies for Precision Agriculture'

1.1. Updated and New Courses

Table 1.1.1. UPDATED COURSES

Course №	Title of the course and in which program it is taught (Bachelor, Master)	Its volume (in ECTS)	Number of students participating in the course	Name new elements in the course and estimate the percentage they represent in relation to the preexisting course	Link to the course on the university page	Accreditation and recognition*: Specify the date when the course was accredited/certified in the curriculum and when the pilot teaching started. Include a scan of the accreditation certificate to the presentation
Curricula	Professional Master in 'Advanced technologies for Precision Agriculture'	120	15	80%	(https://www.univ-mosta.dz/fsnv/offre-de-formation/) Or The access to the new Master Program is through the following link : chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.univ-mosta.dz/fsnv/wp-content/up	The proposed master program has been evaluated by experts from European partners, local and national experts and then by The Algerian Ministry of Higher Education and Scientific Research (Algeria). "Decision n°992 of 21st September 2021. (Ministerial decree)"

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					loads/sites/6/2022/03/Master_Pro_Technologies-Avancees-pour-lAgriculture-de-Precision-2.pdf	
Course 1	**English for Advanced Academic Purposes**	5 (over the three semesters)	15	**- Development of precision agriculture terminology 60%**	The access to each module is possible through the Moodle platform: https://e-fsnv.univ-mosta.dz/enrol/index.php?id=875	The pilot teaching is supposed to be started on the 15th November 2021
Course 2	Plant and Crop Stresses	4	15	**Sensor-based methods for detection, identification, and quantification of plant diseases (70%)**	The access to each module is possible through the Moodle platform: https://e-fsnv.univ-mosta.dz/enrol/index.php?id=874	The pilot teaching is supposed to be started on 15th November 2021
Course 3	**Robotics and Mechatronics for Precision Agriculture**	**5**	**15**	**Applications of Robotics and Mechatronics in Precision Agriculture (50%)**	The access to the courses is possible through the Moodle platform: https://e-fsnv.univ-mosta.dz/enrol/index.php?id=96	The pilot teaching is supposed to be started on the 15th November 2021

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					6	
Course 4	Soil physical properties and its measurement	4	15	Introduce new developed methods of soil compaction, soil moisture content or soil infiltration rate measurements (50%)	The access to the courses is possible through the Moodle platform: https://e-fsnv.univ-mosta.dz/enrol/index.php?id=969	The pilot teaching is supposed to be started on the 15th November 2021
Course 5	Monitoring Agricultural Machines	4	15	Technological devices for controlling, correcting input, and evaluating production in precision agriculture (40%)	The access to the courses is possible through the Moodle platform: https://e-fsnv.univ-mosta.dz/enrol/index.php?id=965	The pilot teaching is supposed to be started on the 15th November 2021
Course 6	Economy for Precision Agriculture	3	15	economic efficiency of the precision agriculture (50%)	The access to the courses is possible through the Moodle platform: https://e-fsnv.univ-mosta.dz/enrol/index.php?id=967	The pilot teaching is supposed to be started on the 15th November 2021
Course 7	Communication and Legislation for agriculture	1	15	Networking process with the various stakeholders and the legislation governing the agricultural		The pilot teaching is supposed to be started on the 15th November 2021

∑(Total number of updated courses) = ___7_____

∑(Total number of ECTS) = _____26_____

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Table 1.1.2.NEW COURSES					
Course №	**Title of the course and in which program it is taught (Bachelor, Master)**	**Its volume (in ECTS)**	**Number of students participating in the course**	**Link to the course on the university page**	**Accreditation and recognition: Specify the date when the course was accredited/certified in the curriculum and when the pilot teaching started. Include a scan of the accreditation certificate to the presentation**
Curricula	**Professional Master in 'Advanced technologies for Precision Agriculture'**	**120**	**15**	**https://www.univ-mosta.dz/fsnv/offre-de-formation/)** **Or** The access to the new Master Program is through the following link : chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.univ-mosta.dz/fsnv/wp-content/uploads/sites/6/2022/03/Master_Pro_Technologies-Avancees-pour-lAgriculture-de-Precision-2.pdf	The proposed master program has been evaluated by experts from European partners, local and national experts and then by The Algerian Ministry of Higher Education and Scientific Research (Algeria). Decision n°992 of 21st September 2021. (Ministerial decree)"
Course 1	**Geographic Information Systems (GIS) (S1 and S2)**	**8**	**15**	**https://e-fsnv.univ-mosta.dz/enrol/index.php?id=873**	The pilot teaching will start on the 15th November 2021 for S1 , and the second part is planned to start on 15 Mars 2022 for S2
Course	**Yield sensors for**	**5**	**15**	**https://e-**	The pilot teaching will start on

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2	precision agriculture			fsnv.univ-mosta.dz/enrol/index.php?id=871	the 15th November 2021
Course 3	Image Analysis and Machine Vision for Precision Agriculture	5	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=869	The pilot teaching will start on the 15th November 2021
Course 4	Remote sensing	4	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=870	The pilot teaching will start on the 15th November 2021
Course 5	Global Navigation Satellite System (GNSS) overview	5	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=872	The pilot teaching will start on the 15th November 2021
Course 6	Thematic application of remote sensing	4	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=971	The pilot teaching is planned to start on the 15th Mars 2022
Course 7	Precision farming	5	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=1011	The pilot teaching is planned to start on the 15th September 2022
Course 8	precision irrigation management	4	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=1012	The pilot teaching is planned to start on the 15th September 2022
Course 9	data processing technologies for precision agriculture	5	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=1007	The pilot teaching is planned to start on the 15th September 2022
Course 10	Web technologies and communication	4	15	https://e-fsnv.univ-mosta.dz/enrol/index.php?id=1009	The pilot teaching is planned to start on the 15th September 2022

∑(Total number of new courses) = _____10__
∑(Total number of ECTS) = _____49_____

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1.2. Curricula Description

1.3. TEACHING MATERIALS				
№	Title of the materials	Type (manuals/text books/methodological recommendations)	Short description	Location of the teaching material (place/ link in the internet)
1	Geographic Information Systems (GIS) 1	Text books, scientific papers and software	Learn the fundamental spatial concepts relating to topometry, geodesy and cartography. It defines GIS by explaining their functionality, flowcharts, utilities and applications. It presents the modes of acquisition and representation of topographic objects. It shows how to apply processing methods (acquisition, management and thematic analysis) using appropriate ArcGis software.	https://halshs.archives-ouvertes.fr/halshs-00264950/document http://www.paris-belleville.archi.fr/enseignants/hmo/Laurencin/BLaurencin_cours_SIG_VR.pdf https://hal.archives-ouvertes.fr/cel-01445409v2 https://www.academia.edu/5138784/cours_SIG_syst%C3%A8me_dinformation_g%C3%A9ographique https://www.researchgate.net/publication/324149696_Cours_de_systeme_d%27information_geographique
2	Yield sensors for precision agriculture	Manuals Text books	This course covers information about yield sensing technologies for precision agriculture (PA) applications	https://link.springer.com/chapter/10.1007/978-0-387-77253-0_89 http://www2.ca.uky.edu/agcomm/pubs/pa/

			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.	pa1/pa1.pdf http://koreascience.or.kr/article/JAKO201608259727825.page
3	Remote sensing 1	Text books, scientific papers and software	The basics of remote sensing which is a key toolin learning precision farming. In addition to the theoretical concepts taught in the courses, the student will become familiar with and be introduced to several software for processing satellite imagery through scheduled practical sessions	www.unoosa.org/documents/pdf/psa/activities/2017/SouthAfrica/slides/Presentation53.pdf http//www.researchgate.net/profile/Didi_Abdessamad/publication/322083852_SIMULATION_D'OPTIMISATION_DU_FLUX_NEUTRONIQUE_POUR_LA_PRODUCTION_DE_RADIO-ISOTOPES_PAR_LE_CODE_MCNP/links/5a43b1f0a6fdcce197189e2c/SIMULATION-DOPTIMISATION-DU-FLUX-NEUTRONIQUE-POUR-LA-PRODUCTION-DE-RADIO-ISOTOPES-PAR-LE-CODE-MCNP.pdf#page=88. < https://books.google.dz/books?id=2VyA1uCBraIC&printsec=frontcover&dq=inauthor

Title: 1.Curricula Professional Master in 'Advanced technologies for Precision Agriculture'

				:%22R%C3%A9gis+Caloz%22&hl=fr&sa=X&ved=0ahUKEwiZ5Y_DvpnYAhWDtBQKHV-nBE0Q6AEIJTAA#v=onepage&q&f=false>.
4	Image Analysis and Machine Vision for Precision Agriculture	Text books, scientific papers	This course, aims at offering a self-contained account of Image Analysis and Machine Vision for Precision Agriculture and its underlying concepts. The first major part of the course will cover fundamental concepts such as image formation, image filtering, edge detection, texture description, feature extraction and matching, and grouping and fitting. The second part will focus on visual recognition. We will study state of the art approaches to object recognition and detection, examine the interplays between vision and language. We will cover recently popular techniques such as convolutional and recurrent neural networks.	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8321169/ https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119792109.ch11 https://inis.iaea.org/search/search.aspx?orig_q=RN:52038074
5	Global Navigation Satellite System (GNSS) overview	Text books and scientific papers	. 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.	https://www.gsa.europa.eu/system/files/reports/gnss_user_tech_report_2018.pdf https://www.gps.gov/technical/ps/2008-SPS-performance-standard.pdf https://gssc.esa.int/navipedia/GNSS_Book/ESA_GNSS-Book_TM-

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				23_Vol_I.pdf
6	Plant and Crop stresses	Text books	The course deals with the management of weeds, pests and diseases in farming with a look towards agroecological and food systems. Students will learn about the ecological and epidemiological features of weeds, pests and pathogens, and how to apply innovative and smart tools in particular GIS technologies for diagnosis, monitoring and management.	https://www.routledge.com/Handbook-of-Plant-and-Crop-Stress-Fourth-Edition/Pessarakli/p/book/9781032090313 **https://www.frontiersin.org/articles/10.3389/fpls.2018.00393/full** **https://link.springer.com/book/10.1007/978-94-007-2220-0**
7	English for Advanced Academic Purposes		The course is focused on the crop of academic terminology in Precision Agriculture.	https://www.sciencedirect.com/science/article/abs/pii/S0021863400905778 https://link.springer.com/article/10.1007/s42360-021-00334-2 https://link.springer.com/article/10.1007/s11119-012-9274-5

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1.4 Pilot teaching

Please report on the pilot teaching of updated/new curricula/modules/courses:

- Number of the enrolled students : **15**
- Please, report on the gender balance of the enrolled students : **7 Females and 8 Males**
- Did you involve in the pilot teaching any people with fewer opportunities? **Yes, most students belong to low income families, and some of them are from rural and less serviced areas.**
- Amount of the courses with ECTS, involved in the pilot teaching :

  1st semester: 8 modules with (30 ECTS) ;

  2nd semester: 8 modules with 30 ECTS; 3rd semester: 7 Modules with 30 ECTS and in the 4th semester, the students will conduct a final project with 30 ECTS. For the Two semesters, the total ECTS is 180

- Number of teachers involved in the pilot teaching: **18 teachers for all modules during the two years of the master program**

Title: 2. Quality assurance

– Report on the new peer review procedures: which new modules were reviewed during the last 12 months?

✓ **All the modules of the Master program were reviewed firstly by the EU partners, then by the scientific committee of the department of Agronomy, followed by the peer review of the scientific council of the faculty of natural science and Life and then the regional and national commission.**

– Who were peer reviewers?

✓ ***Two form the EU partners reviewed the PGS program on august 2020***
***- Prof. Dr. Dimo Atanasov, DEAN of the Economic Faculty, Agricultural University – Plovdiv, Bulgaria and Local coordinator of the CUPAGIS project and Prof. Dr* Jan Chyba, CZA**

However, the classical PGS program needs the agreement with a companies and payment of the training. Consequently the CUPAGIS Team of UMAB decided to make extension of the PGS and to prepare a MASTER program for 2021. When the master program was updated, we send it for evaluation to the

✓ ***The scientific committee of the department of Agronomy followed by***
✓ ***The evaluation of the scientific council of the faculty of Natural science and Life and***
✓ ***The Regional Pedagogical committee and finaly***
✓ ***The National Higher education committee of Ministry of Higher Education***

– When did you conduct peer reviews?

Fist peer review was conducted on August 2020, the second peer review was conducted on February for department and faculty level, the in March for the regional evaluation and July 2021 the national peer review. The results of the National accreditation where published on September 2021

– Did you collect questionnaires from students, teachers, and employers during/after the pilot training? Please, report**.** Not yet, Pilot training didn't start yet

– If not, please, prepare the questionnaires and conduct a survey on new courses within the pilot teaching for different target groups: students, teachers and employers. **The courses are not yet started**

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Title: 3. Laboratories and equipment

- Titles of laboratory works that have been conducted and which equipment is used in these works (specify modules, in which these laboratory works are conducted and at which faculties.

  For this period, no courses are started and no equipment is received. We are at the end of the processing of receiving the equipment's

- Please, upload the inventory documents of the received equipment to the folder of your university google drive. No, Equipment is received yet.

- Please, upload the photos of the laboratories and the received equipment. Not yet received

- Be sure, that the computer classes and laboratories created in the framework of the project have the project logo, Erasmus+ logo, and Erasmus+ stickers on the equipment. **Yes, it will be done**

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Title: 4. Dissemination and Sustainability

Table 4.1.2. DISSEMINATION EVENTS

No	Date	Title	Target Audience	Number of participants	Is there a press-release of the event (YES/NO). If YES, provide it.
	17 October 2020	Erasmus days	Students, stakeholders and teachers a	>95 and < 100 + 805 view on web page	https://www.univ-mosta.dz/webinaire-de-disseminatio
1	November 2020	CUPAGIS Info days	Students of the faculty of Natural Sciences and Life	>200	No
2	December 2020	CUPAGIS Info days	Passenso networking - Framers and stakeholders working in the area of agriculture	20	No
...3	January 2021	Radio meeting with	All regional and national people	>10000	No, there are photos and recorded speech
4	February 2021	CUPAGIS Info days	Pesenso Networking	20	No
5	March 2021	Web site updating and social media	Students, teachers and stakeholders	Facebook page : 110 followers and 99 likes Website page : Post Views: 4 958	https://www.univ-mosta.dz/projet-cupagis/ https://web.facebook.com/profile.php?id=100063828076405
6	7 April 2021	Webinar women in Agriculture science and technology	Students, teachers and stakeholders	<100 and Post view : 547 on web page	https://www.univ-mosta.dz/webinaire-projet-cupagis-les-femmes-dans-les-sciences-agricoles-et-la-technologie/

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Title: 4. Dissemination and Sustainability

9	June 2021	Monitoring meeting	NEO Algeria and CUPAGIS partners	20 participants	Web site Neo Algeria and bulletin
10	September 2021	Website updating and social media	Students, teachers and stakeholders		https://www.univ-mosta.dz/projet-cupagis/
11	17 October 2021	ERASMUS + days	Teachers and students as well as stakeholders		https://www.univ-mosta.dz/webinaire-de-dissemination-du-projet-cupagis/

Add more rows if necessary

- How many dissemination events were conducted so far (from the beginning of the project)?

Σ(Total number of dissemination events) =

_____27_____

Possible model of press release on the events of the project in the target universities:

a) Name of the event, date and venue/online platform;

b) Short description of the event goals/objectives, outcomes of the event;

c) Number of participants;

d) Short description of the activity: goals/objectives, outcomes of the event;

e) Photos of the event (2-3 pictures)

f) In case you developed the dissemination materials for the event (flyers, etc.) add the scan as well.

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Title: 4. Dissemination and Sustainability

4.1. Dissemination

Table 4.1.1 DISSEMINATION		
	Question	**Answer**
1	**How many and which dissemination materials were produced (leaflets, brochures, flyers, publications etc.) in the last 12 months. Please, provide designs (scans) in the presentation.**	Leaflets, brochures, banners and for dissemination of the Cupagis project and the Master program. Dissemination material for webinar of Women in Sciences and technologies and Erasmus days
2	**Provide a link to the Internet sources where publications about the project/dissemination materials were posted**	**https://www.univ-mosta.dz/webinaire-de-dissemination-du-projet-cupagis/** **https://www.univ-mosta.dz/webinaire-projet-cupagis-les-femmes-dans-les-sciences-agricoles-et-la-technologie/**
3	**How many non-consortium organizations (for example, universities/teachers, students, administrative staff of universities) were informed about the project in the last 12 months?**	**9events** - **Radio and TV** - **SANIE 2021- Forum with start-ups** - **Stakeholders in the Area of Agricultural**

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CUPAGIS Info day – November 2020


Cupagis Info day for students and teachers and stakeholders – December 2020


Radio meeting for CUPAGIS Dissemination –January 2021

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Different Pasenso actions for Networking

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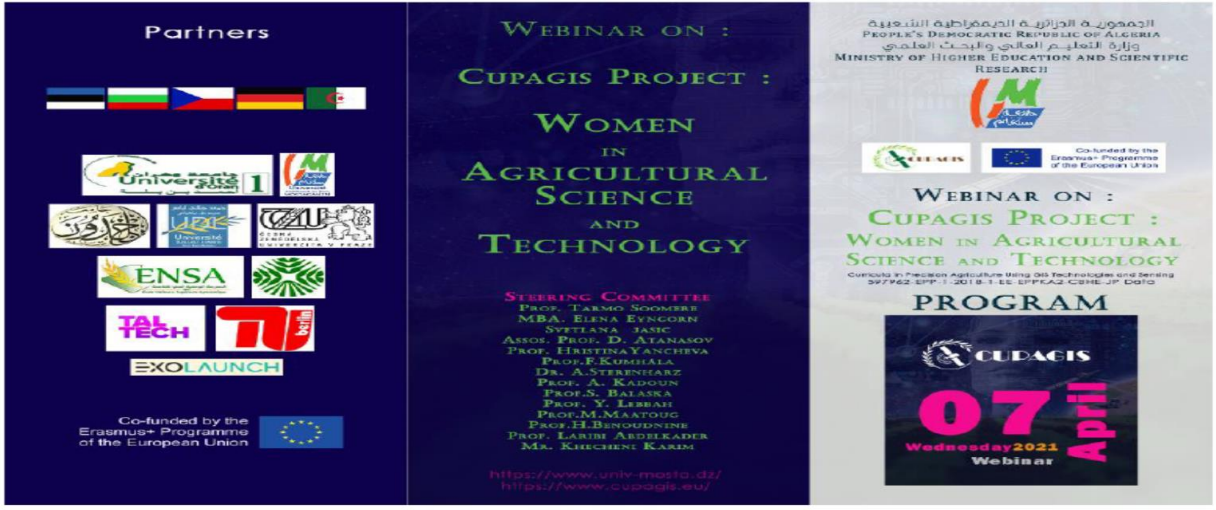

Mostaganem 7 April 2021

9h.00 - 9h.15
Welcome ceremony :
Professor Belhakem Mostéfa,
Rector of Abdelhamid Ibn Badis University,
Mostaganem, Algeria

9h.15 - 9h.30
CUPAGIS Project presentation
Pr. Tarmo Soomere,
Project coordinator,
Tallin University, Estonia.

9h.30 - 9h.45
Personal Experience Sharing and recommendations to the young researchers :
1. MBA. Elena Eyngorn, Technische Universität Berlin, Berlin, Germany.
2. Dr. Jitka Kumhálová, Czech University of life sciences Prague, Prague, the Czech Republic.

Session 1

Algerian Scientist Women and Agriculture Seiences
Moderator : Dr. Abdelkader LARIBI,
National School of Agronomics, Algiers

9h.45 - 10h.00
Conference 1.1 : *'The state of agricultural soils in Sidi Bel Abbes plain- A Synthesis'*
Dr. Fatiha FARAOUN,
University of Sidi Belabess, Algeria.

10h - 10h.15
Conference 1.2 : *'Women's action in agriculture and sustainable development'*
Dr. Malika Boualem,
University of Mostaganem, Algeria.

10h.15 - 10h.30
Conference 1.3 : *'Precision agriculture and cereal sector in the Wilaya of Tiaret'*
Dr. Maamar Benchohra,
University of Tiaret, Algeria.

10h.30 - 10h.45
Conference 1.4 : *'Mécanisme de tolérance des jeunes plants d'Acacia arabica (Lam.) willd au stress hydrique'*
Dr. Nassima LASSOUANE, ENSA, Algeria.

10h.45 - 11h.00
Conference 1.5: *'L'innovation numérique dans l'agriculture : Comment l'agriculture de précision va changer le travail dans notre ferme'*
Dr. Fatima Zohra HADDAD,
University of Oran1, Algeria.

11h.00 - 11h.15 : DEBATE
11h.15- 11h.20 : COFFEE BREAK

Session 2

Algerian Scientist Women and Applied Sciences and Technology in Agriculture
Moderator: Dr. Bachir Gourine,
CTS, Algerian Space Agency

11h.20 - 11h.35
Conference 2.1 : *'Difficultés face à l'adoption de l'agriculture de précision en Algérie Etude préliminaire Auprès des agriculteurs algériens'*
Dr. Abassia AYACHE,
University of sidi belabess, Algeria.

11h.35 - 11h.50
Conference 2.2 : *'Maladies émergentes et analyse des risques'*
Dr. Samia LAALA, ENSA, Algeria.

11h.50 - 12h.05
Conference 2.3: *'Le gombo (Abelmoschus esculentus L.) dans la perspective du développement agricole'*
Dr. Achor Asma, University of Oran 1, Algeria.

12h.05 - 12h.20
Conference 2.4: *'Agricultural Inventory & Statistics by Remote Sensing Tools'*
Dr. Farah BENHARRATS,
CTS, Algerian Space Agency

12h.20 - 12h.35 : DEBATE
12h.35 RECOMMENDATION AND CLOSING CEREMONY

Flyer for Women In Agriculture Science and Technology Webinar

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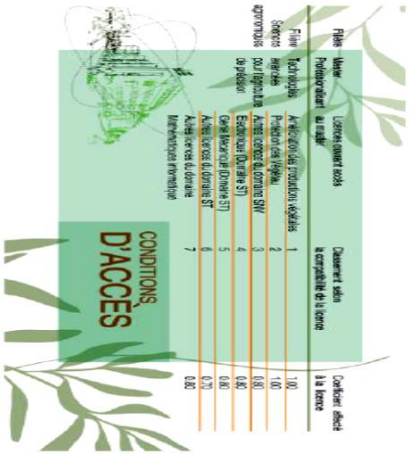

OBJECTIFS DE LA FORMATION

OBJECTIF GÉNÉRAL:

- Modernisation des pratiques agricoles et amélioration du rendement et de l'efficacité de la production agricole nationale en vue d'assurer la durabilité de la sécurité alimentaire en Algérie à travers la formation de spécialistes dans l'agriculture de précision.

OBJECTIFS SPÉCIFIQUES:

- Identification et maîtrise des technologies et équipements dédiés à l'agriculture de précision.
- Formation des spécialistes dans le domaine de l'agriculture de précision en l'occurrence les bases de la cartographie, la télédétection et des systèmes d'information géographique (SIG), les logiciels et le matériel (GPS, capteurs embarqués, applicateur à taux variable d'intrants, etc.),

Aider et orienter les agriculteurs dans les décisions concernant la gestion de leurs cultures en fonction du type de sol, du type et des doses d'engrais à apporter aux parcelles, du traitement préventif des maladies des cultures et de la gestion de cheptels

COMPÉTENCES VISÉES

Au terme de cette formation, l'étudiant sera capable de :

- Introduire aux concepts et outils de la géomatique agricole, à savoir les concepts de base d'un système d'information géographique multicapteurs et des systèmes de positionnement par satellites.
- familiariser à la manipulation d'un système d'information géographique (acquisition de données, systèmes de projection, topologie, gestion des attributs, métadonnées, fonctionnalités d'analyse élémentaire, représentation cartographique, etc.).
- Introduire aux fondements de la télédétection et de familiariser à la manipulation et l'interprétation visuelle de séries temporelles d'images satellites.
- introduire aux concepts pour exploiter les données de télédétection (drone, avion, satellite) pour suivre les cultures et les prairies dans le cadre de l'estimation des rendements et de l'agriculture de précision.
- identifier les situations dans lesquelles l'agriculture de précision a du sens.
- décrire le mode d'action des principaux outils de travail du sol et pouvoir justifier leur choix en fonction des objectifs poursuivis.
- décrire les composantes principales et le fonctionnement des semoirs, épandeurs d'engrais, pulvérisateurs et engins de récolte, ainsi que les évolutions techniques dans un contexte d'agriculture de précision.
- expliquer comment les innovations technologiques permettent de rencontrer les enjeux environnementaux d'une agriculture durable.

documenter et discuter les sources de variabilité au sein d'une parcelle.

Flyer for disseminating the Advanced technologies for Precision Agriculture Master Program

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4.2. Regional Cooperation

- Within the last 12 months of the project, were any employment events/fairs conducted and how many? 3 events
- How many CUPAGIS+ agreements with non-academic stakeholders/enterprises/other members of the consortium/ other non-consortium members were signed in the last 12 months or are planned to be signed in the future to maintain and develop the project results? ***6 agreements were signed in the context of CUPAGIS project***

4.3. Sustainability of PASENSO Offices

- Describe the implemented activities of the PASENSO Office in the last 12 months (include photos to the presentation)
  The Pesenso were focused on :
- ***the management of the layout and equipment,***
- ***the project dissemination within the university community (students, academic and administrative staff) as well as different stakeholders working in the area of agriculture***
- ***The preparing of supports letters for the new master program and the agreements with different stakeholders***

- Plan of present and future activities by PASENSO for 2022

The plan for 2022 is

- **Establish the Pasenso office – Equipment's and Layout**
- **Extend the network in the area of Precision agriculture and technology as well as all administration interested by the training**
- **Disseminate more the CUPAGIS project and the Master program in Media**

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Thank you for you attention!

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