

Periodical Report  
18 Months of project  
implementation

## New and Innovative Courses for Precision Agriculture

**S. SEIFULLIN KAZAKH  
AGROTECHNICAL UNIVERSITY**

**MSc/SARA KITAIBEKOVA**



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

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



# Activities completed between November 2019 and May 2020

## WP2 Development

**It is developed 12 courses within 10 Educational Programs (EP)**

**5 EPs for Bachelor Degree**

**5 EPs for Master's Degree**

**11 courses will be implemented in 2020-2021 academic year**

**1 course will be implemented in 2021-2022 academic year**

**Studying process is organized in 3 trimestrs (terms) lasting 10 weeks each**



# Activities completed between November 2019 and May 2020

## WP2 Development

**Educational program for Master's Degree 7M08701 "Precision farming" was developed within NICOPA project , included in the register of Educational Programs of the Ministry of Education and Science of the Republic of Kazakhstan and approved on July 8, 2019 and renewed in 2020**



# Activities completed between November 2019 and May 2020

## WP3 Quality control

1. The courses are accredited in accordance with the current university regulations.
2. Feedback and recommendations were received from universities of the Republic of Kazakhstan and employers: L.N. Gumilyov ENU, Astana IT University, M.Kozybayev NKSU, JSC "NC Kazakhstan Gharysh Sapary", LLP "Zharkyn SK" (SKO), NJSC "State Corporation" Government for Citizens "Nur-Sultan," Department of Survey, Monitoring of Lands and Lab. Research ", LLP" SHP Dulat ", Republican Chamber of Kazakhstan white-headed breed



# Activities completed between November 2019 and May 2020

## WP3 Quality Control

3. The study programs are approved in the following order: reviewed by the quality group of the EU Erasmus + NICOPA project; at a meeting of the department; at the Methodological Bureau of the Faculty; on August 26, 2020 it will be approved by the Scientific and Methodological Council of the University.

4. The accreditation process is carried out in accordance with ESG 2015 (Standards and Guidelines for Quality Assurance in the European Higher Education Area) 100%, because universities of Kazakhstan have been studying in the framework of the Bologna Process since March 2010.



# Activities completed between November 2019 and May 2020

## Questionnaires

It was conducted survey with employers where 30 organizations and farms took place who are located in Nur-Sultan and Akmola region: Ministry of Agriculture of the Republic of Kazakhstan, Information and Analytical Center for Environmental Protection of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan, "CAPITAL PROJECTS LTD" LLP, "CSI Reseach Lab" LLP, "Tribal Economy" LLP "Zerenda", "Zharkyn SK" LLP, Arai LLP 1 ", LLP" Ayyrtau Astyk ", etc.



# Activities completed between November 2019 and May 2020

## Questionnaires

To conduct monitoring studies for compliance the requirements of employers for the quality of the developed syllabuses and the quality of training of specialists, a questionnaire was developed containing next questions:

1. Does the list of knowledge and skills correspond to of the studied discipline?
2. Are the achievement of the objectives of the course consistent with the regulatory base of the Republic of Kazakhstan (if necessary)?
3. Is the principle of structuring the content of the syllabus preserved and specific training information?



# Activities completed between November 2019 and May 2020

## Questionnaires

4. Has the professional context been properly applied as a way to set professional development goals?
5. Are the expected results consistent with the learning objectives?
6. Has a comprehensive didactic goal of the discipline been formulated?
7. Has the goal of the discipline been achieved in accordance with the content of the topics?



# Activities completed between November 2019 and May 2020

## Questionnaires

8. Is the sequence and integrity of the presentation of the topics preserved, does each of the studied topics have logical completeness?
9. Is the problematic nature of this discipline revealed?
10. Is there a clear presentation of the topic (use visual materials)?
11. Are the known generalized scientific data, concepts, regularities on the studied problem?



# Activities completed between November 2019 and May 2020

## Questionnaires

12. Have the latest achievements in production, science and technology been taken into account?

13. Is the continuity and consistency of learning ensured, the logical connection between the disciplines of the specialty, taking into account modern technologies in teaching, whether duplication in the study of certain topics is excluded?



# Activities completed between November 2019 and May 2020

## Questionnaires

14. Is the correct distribution of the volume of each topic in credits, their distribution by type of training, a specific list practical and laboratory classes, seminars?

15. Is the recommended reading appropriate to meet the objectives discipline, while learning independently, in accordance with the themes of the Students' Self Study?

16. At what level would you rate the relevance of the course and presented organizational and methodological level?



# Activities completed between November 2019 and May 2020

## Questionnaires

17. The presence of original author's work in the content, the program and methods of studying the discipline, including adapted materials.

18. The level of the educational and laboratory base for the study of the discipline (if the study of the discipline requires a specialized audience or laboratory).

19. The level of provision of modern educational and methodological literature, including in a foreign language



# Activities completed between November 2019 and May 2020

## Questionnaires

As a result of the analysis of employers' questionnaires, the quality of developed courses using the following indicators:

- Compliance with the requirements of the State Standard of the Republic of Kazakhstan.
- The relevance of the course and its high organizational and methodological level.



# Activities completed between November 2019 and May 2020

## Questionnaires

- Compliance of the discipline description with learning outcomes educational program.
- Consistency of the expected learning outcomes with the learning objective.
- The presence of original author's developments in the content, the program and methods of studying the discipline, including adapted materials.
- The level of the educational and laboratory base for studying the discipline (if the study of the discipline requires a specialized audience or laboratory).



# Activities completed between November 2019 and May 2020

## Questionnaires

- Provision of modern educational and methodical literature, including number in a foreign language.
- Availability of assessment tools for the developed discipline.
- Assessment criteria - compliance with learning objectives.



# Activities completed between November 2019 and May 2020

## WP4 Dissemination

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



**DISSEMINATION**

No	Activities	Deadline
1	Development of information booklets, brochures, posters, newsletters, roll-ups	May-December, 2019/completed
2	Regional Seminar "Strategy curriculum design based on European good practice and Bologna principles"	May 2019/ completed
3	Training "GIS. Precision Agriculture. Remote sensing» at Berlin Technical University	August 2019/ completed
4	Information Day Erasmus Days "Erasmus for All"	October 2019/ completed
5	Dissemination of information after training in Berlin	October 2019/ completed
6	Participation at the International Conference "A new social dimension in mission and higher education" L.N. Gumenyev ENU	October 2019/completed
7	Re-training for faculty members after training in Berlin	December 2019/completed
8	Zoom, Skype conference with partner universities of Turkmenistan, Uzbekistan, Kazakhstan, EU	February 2020/completed



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# Activities completed between November 2019 and May 2020

## WP4 Dissemination



**ПРОГРАММА КОУРСОВ ВКЛЮЧАЕТ:**

1. Теоретическая подготовка
2. Практические занятия
3. Исследования и разработки
4. Экспертные семинары
5. Демонстрационные мероприятия

**POWER** **NICORA**

НАЦИОНАЛЬНЫЙ ЦЕНТР  
 ЭКСПЕРТНО-СОВЕЩАТЕЛЬСКИЕ  
 МАШИНЫ СЕРВИСОВ

№	Наименование	1 кв.	2 кв.	3 кв.	4 кв.	Итого
1	Теоретическая подготовка	10	10	10	10	40
2	Практические занятия	10	10	10	10	40
3	Исследования и разработки	10	10	10	10	40
4	Экспертные семинары	10	10	10	10	40
5	Демонстрационные мероприятия	10	10	10	10	40
6	Итого	50	50	50	50	200

**NEW AND INNOVATIVE COURSES IN PRECISION AGRICULTURE**  
 project No. 307985-EPF-1-2018-1-KZ-EPFKA2-CDE-IP NICORA

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# 11.10.2019 Global Event Erasmus Days “Erasmus for All” students and faculty members of S. Seifullin KATU (more than 120 participants)





**30.10. 2019 International  
Conference “A new social  
dimension in mission and higher  
education” at L.N. Guymilev  
ENU. Participants- S. Seifullin  
KATU, Sh. Ualikhanov KSU, M.  
Kozybayev NKSU,  
EXOLAUNCH**





## 29.10. 2019 State Secretary K. Kusherbayev visited S. Seifullin KATU



## Visit of the President of the Republic of Kazakhstan to S. Seifullin KATU

- Presentation of NICOPA project to Kasym-Zhomart Tokayev, the President of the RK, 23.12.2019



# Activities completed between November 2019 and May 2020





- ***From the period of December 3 till 30, 2019 it was conducted the first stage of retraining for faculty members for implementation received knowledge into the educational system in the field of precision agriculture***



**A. Bekbayeva “Spatial analysis” - 10 participants**

**F. Yermekov “Global Navigation Satellite System” – 30 participants**





**Sh. Mazhrenova “Remote sensing” 18-  
31.12.2019 - 24 participants**



**O. Alipbeki “ Precision Agriculture”-  
12 participants**





# Activities completed between November 2019 and May 2020

## WP4 Dissemination

### On-line forum "GIS introduces innovation in all spheres of life"



# Activities completed between November 2019 and May 2020

## **The list of potential experts:**

1. JSC «National Company Garysh Sapary» (Kazakhstan Space Trip);
2. Federal Scientific Agroengineering Center All-Russian Institute of Mechanization (AUIM), Moscow, Russia;
3. LLP “Naidarovskoye”, Asakarovka district, Karaganda region
4. LLP “Agrofirm TNK;
5. “North-Kazakhstan experimental farm station”;
6. National team of experts on higher education reform in Kazakhstan;



# Activities completed between November 2019 and May 2020

## The list of potential experts:

7. Department of Artificial Intelligence and Big Data of al-Farabi Kazakh National University;
- 8.LLP A.I. Barayev Research and Production Center of Grain Economy, Shortandy, Akmola region;
- 9.A. Bokeikhan Kazakh Scientific Research Institute of Forestry and Agomelioration, Shchuchinsk, Akmola region





Thank you for you attention!



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