Quality Assessment Report

Course: Science Methodology

**Outline:**

1. **General information**
2. **Assessment objectives**
3. **Questionnaire for students and its results**
4. **Questionnaire for a teacher and conclusions**

**1. General information**

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| Credits | 2 ECTS (compulsory course), 12 in-class hours |
| Level | PhD students |
| Host institution | Karazin Institute of Environmental Sciences, V.N. Karazin Kharkiv National University, Ukraine |
| E-link: | <https://dist.karazin.ua/><http://intense.network>, <http://ecology.karazin.ua/mizhnarodna-dijalnist/intense-integrated-doctora/> |
| Authors: | **Nadiya Maksymenko** (course coordinator)Mykola NazarukJakiv Tararoev |

The main task of the course is to give an overview of PhD programs, planning and accomplishment of individual PhD studies, of the relationships between the thesis supervisor(s) and colleagues, and of the scientific methods for planning and carrying out independent research. The course further provides basic information on science funding, evaluation of scientists and on science careers.

The doctoral student is able to make a realistic research plan for the entire course of PhD studies, in particular, posing realistic research hypotheses, plan individual experiments, and can assess the reliability of obtained experimental data. The doctoral student is familiar with the national and international science system, understands the role of science policy, science funding and evaluation and is able to make and review a grant proposal on the topic of own thesis. The doctoral student is able to make a presentation on her/his research topic, and can critically read and review scientific papers and reports.

**2. Assessment objectives**

The assessment was conducted in order to collect the students’ comments and feedback about the course, compare them to the students’ actual achievements, and carefully analyze obtained results to see if the pilot approbation of the course in 2019-2020 and 2020-2021 academic years was positive as well as to see some other changes should be made to the course content or teaching methodology.

Assessment was made by using Google forms as a tool.

**3. Questionnaire for students and its results**



The questionnaire for the students was posted on the web-site of the Karazin Institute of Environmental Sciences (<http://ecology.karazin.ua/mizhnarodna-dijalnist/intense-integrated-doctora/intense-opituvannja/>).

It consists of two sections:

Section A – Overall evaluation of the course.

Section B – Evaluation of the course content.

The questionnaire was anonymous.

Total number of questions – 13.

The assessment was made in February-March 2021.

Number of students – 6.

Below the analysis of the feed-back is presented:



**Sections A - – Overall evaluation of the course**

**1. I was provided with sufficient information about the aims and the content of the course:**

* Absolutely agree –60%
* Mostly agree – 40%
* Mostly disagree – 0%
* Absolutely disagree – 0%

**2. Assessment criteria were clear and were presented by teacher at the beginning of the course:**

* Absolutely agree –40%
* Mostly agree – 60%
* Mostly disagree – 0%
* Absolutely disagree – 0%

**3. Assess the level of complexity of this course:**

* The course was too complicated; my personal background knowledge was not sufficient to understand it – 0%
* The course was rather difficult, but well developed, allowing me to study it at the required level – 80%
* The course was quite easy, though some themes and the way they were taught aroused my interest – 20%
* The course was elementary; most information was familiar to me – 0%

**4. Various forms and methods of teaching were used in this course:**

* Absolutely agree – 60%
* Mostly agree – 40%
* Mostly disagree – 0%
* Absolutely disagree – 0%

**5. What competences does the course develop?**

* Common – 0 %
* Professional – 20 %
* Common and professional together – 80 %

**6. What is your overall assessment of the course?**

* Excellent – 40%
* Good – 60%
* Not good enough – 0%
* Satisfactory – 0%

**Section B – Evaluation of the course content**

**1. What topic was most interesting for you?**

## Methods of scientific knowledge used at the theoretical level – 17 %

## Methods of scientific knowledge used at the empirical level – 17 %

* The methodology of [organization](https://moodle.karazin.ua/mod/glossary/showentry.php?eid=72420&displayformat=dictionary) of the scientific research – 0 %
* All topics were interesting – 66 %



**2. What topic was most difficult for you?**

## Methods of scientific knowledge used at the theoretical level – 0 %

## Methods of scientific knowledge used at the empirical level – 33 %

* The methodology of [organization](https://moodle.karazin.ua/mod/glossary/showentry.php?eid=72420&displayformat=dictionary) of the scientific research – 67 %

**3. What practical works / seminars were the most interesting for you?**

* All tasks were interesting – 50 %
* Methods of scientific knowledge used at the theoretical and empirical level – 17 %
* [Scientific Publication](https://moodle.karazin.ua/mod/assign/view.php?id=100099) – 33 %

**4. Which tools and learning materials presented in the Moodle do you consider most useful for you in the process of blended learning (concerning this course)?**

* PowerPoint Presentations – 17 %
* Video lectures – 33 %
* Preparation materials for seminars and practical assignments – 33%
* Tests – 17%
* Reference materials (links to official normative documents and additional literature) – 0%
* Questions for self-control – 0%
* All of the above-mentioned – 33 %



**5. Does the Moodle platform help to improve the organization and control of the learning process?**

* Yes, it does – 83 %
* It does not affect the organization and control of the educational process – 17 %



**6. How effective do you think the use of video lectures in a blended learning model is as compared to traditional ones?**

* Very effective, as it allows listening to them at your own pace and several times (if necessary) – 67%
* Proved to be an effective substitute for traditional lectures –0%
* Do not exceed traditional lectures in their efficiency – 33%

**7. Does this course require improvement? If so, in what part?**

* Yes, it does – 17%
* No, it does not – 83%

**4. Questionnaire for a teacher and conclusions**

The questionnaire for the teacher/course developer (Nadiya Maksymenko) consisted of 9 questions and was filled out after receiving and analyzing student’s feedback.

**1. What is your overall assessment of the course?**

* Excellent
* **Good**
* Not good enough
* Satisfactory

**2. Was the course taught in 2019-2020 academic year?**

* **Yes**
* No

***If ‘yes”:***

1. What modifications were introduced into the course for 2020-2021 academic year?

***During the second year of this course approbation I have included included presentations and supplemented preparation materials for practical assignments.***

1. Does the revised course contribute to more efficient process of acquiring the competencies provided by the Curriculum?
* **Yes, it does**
* Yes, but not to a large extent
* Efficiency is the same

**3. How do you assess the impact of the online module for self-study on the process of teaching students this new course?**

* **There were significant advantages, including increased interest in the course and the quality of learning in general compared to traditional courses**
* Despite general interest in the course the students did not show due responsibility while studying online module
* The students studied online module with greater interest
* Had no impact (did not differ significantly from traditional courses)

**4. How do you assess the distribution of the number of hours: lectures / practice / seminars / self-study?**

* **Good balance**
* No balance

***If “no balance”, please, explain:***

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**5. What methodological aspects of the new course do you find most useful?**

* **Blended learning model**
* **Support for individual learning paths**
* Availability of feedback from students during the course
* **Possibilities of using Moodle tools**

**6. Which tools and learning materials presented in the Moodle were mostly demanded in the process of blended learning (concerning this course)?**

* **PowerPoint Presentations**
* Video lectures
* **Preparation materials for seminars and practical assignments**
* Examples of calculations
* **Tests**
* Reference materials (links to official normative documents and additional literature)

**7. Does the Moodle platform help to improve the organization and control of the learning process?**

* **Yes, it does**
* It does not affect the organization and control of the educational process

**8. How effective do you think the use of video lectures in a hybrid learning model is as compared to traditional ones?**

* Very effective, as it allowed students to listen to them at their own pace and several times (if necessary)
* Proved to be an effective substitute for traditional lectures
* **Do not exceed traditional lectures in their efficiency, but require special conditions and equipment to produce high quality videos**

**9. Does this course require improvement? If so, in what part?**

* **Yes, it does.**
* No, it does not**.**

***If “yes’, please, give details:***

**development of new PowerPoint Presentations, Video lectures, case-study**

**Conclusions:**

The course “Science Methodology” has received very positive feedbacks from students: overall evaluations: 67 % - Excellent, 33 % - Good; 83 % students liked all topics; and 33 % considered all used tools as learning materials as very useful; 83 % has indicated that the course was rather difficult, but well developed, allowing to study it at the required level.

The major part of the students (83%) specified that the course did not require any improvements and only 17 % of students recommended to improve the course, however they did not provide detailed comments what topics/methods/tools should be modified.