**Al-Farabi Kazakh National University**

**Faculty of Medicine and Social Healthcare**

**Higher School of Medicine**

**Department of Fundamental Medicine**

**Educational program by the specialty**

**"7M10117 - Pharmacy"**

The schedule of ISW

by the discipline “Omics technologies in medicine and pharmacy”

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| --- | --- | --- | --- |
| **Tasks for ISW** | **The form of implementation of ISW** | **Deadline of ISW (study week)** | **Points** |
| *Farmacogenomics and other “Omics” technologies used in the Drug Discovery and Development.* Create a case study in English about any pharmaceutical drug that has already passed through the pharmacogenomics investigations for the last five years. The following key aspects should be described in the case study: the chemical structure and action mechanism of the drug, the disease or group of diseases treated by this drug, preclinical and clinical pharmacogenomics investigations of this drug using different “Omics” technologies.  | Individual presentations (Microsoft Power Point). | 15 week | 10 points |

Independent Student Work (ISW) is study, educational-methodical and research activity of students, implementing by themselves in extra-curricular time in accordance with the educational program of the discipline. ISW does not only help to master by study material, but also assists to form the experience of study, creative and research activity. For implementation of ISW students can use study literature and scientific sources recommended in the course as well as found by themselves. The pass of ISW is strictly by the schedule. In the case of respectful reasons (by documental confirmation) ISW can be accepted out of the schedule.

Case study evaluation rubric

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Critical elements** | **Exemplary** | **Proficient** | **Needs improvement** | **Not evident** |
| **Main elements** | Includes all of the main elements and requirements and cites multiple examples to illustrate each element | Includes most of the main elements and requirements and cites many examples to illustrate each element | Includes some of the main elements  and requirements | Does not include any of the main elements  and requirements |
| **Inquiry and analysis** | Provides in depth analysis that demonstrates complete understanding of multiple concepts | Provides in depth analysis that demonstrates complete understanding of some concepts | Provides in depth analysis that demonstrates complete understanding of minimal concepts | Does not provide any in depth analysis  |
| **Integration and application** | All of the course concepts are correctly applied | Most of the course concepts are correctly applied | Some of the course concepts are correctly applied | Does not correctly apply any of the course concepts |
| **Critical thinking** | Draws insightful conclusions that are thoroughly defended with evidence and examples | Draws informed conclusions that are justified with evidence | Draws logical conclusions, but does not defend with evidence | Does not draw logical conclusions |
| **Problem solving** | Actively seeks and suggests new solutions of the problems | Improves on solutions suggested by other scientists | Does not offer solutions, but is willing to try solutions suggested by other scientists | Does not try to solve the problems  |
| **Research** | Incorporates many scholarly resources effectively that reflect depth and breadth of research | Incorporates some scholarly resources effectively that reflect depth and breadth of research | Incorporates very few scholarly resources that reflect depth and breadth of research | Does not incorporate scholarly resources that reflect depth and breadth of research |

The case should consist of:

1. Synopsis/Executive Summary

* Outline the purpose of the case study.
* Describe the field of research.
* Outline the issues and findings of the case study without the specific details.
* Identify the theory that will be used.

2. Findings

* Identify the problems found in the case by:
	+ analysing the problem, supporting your findings with facts given in the case, the relevant theory and course concepts.
	+ searching for the underlying problems

3. Discussion

* Summarise the major problem/s.
* Identify alternative solutions to this/these major problem/s.
* Briefly outline each alternative solution and evaluate its advantages and disadvantages.

4. Conclusion

* Sum up the main points from the findings and discussion.

5. Recommendations

* Choose which of the alternative solutions should be adopted.
* Briefly justify your choice explaining how it will solve the major problem/s.
* This should be written in a forceful style as this section is intended to be persuasive.
* Here integration of theory and coursework is appropriate.

6. Implementation

* Explain what should be done, by whom and by when.

7. References

* Make sure all references are cited correctly.

8. Appendices (if any)

* Attach any original data that relates to the study but which would have interrupted the flow of the main body