**Approved**

At Academic Council of Faculty

The Report № 1

24 of August 2018

The Dean of Faculty

Doctor of philosophy, Professor

Massalimova A.R.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Al-Farabi Kazakh National University**  **Syllabus**  **Autumn semester 2017-2018** | | | | | | | | | | |
| **Code of discipline** | | **Name of discipline** | **Type** | **Hours per week** | | **Credits** | | | **ECTS** | |
| **lecture** | **Practical** | **Lab** |  | | |  |
| SMSP 5301 | | Advanced Methods of Statistics in Psychology |  | 1 | 1 | 0 | 2 | | | 3 |
| **Lector** | | Candidate of psychological sciences,  Khussainova I.R. | | | | **Office hour** | | According schedule | | |
| **e-mail** | | ilmirax@mail.ru | | | |
| **Telephone** | | +77019990979 | | | | **Auditorium** | |  | | |
| **Academic presentation of the course** | | Subject of discipline is to analyze statistic processing of psychological data. This course is important for students because acquaint them with possible ways of statistical processing of psychological data by SPSS statistical program and MatLab, various modern problems of statistic processing of psychological data, analysis of various researches with different ways of statistic processing of psychological data.  The purpose of the course: to introduce students with current methods of statistic processing of psychological data, especially with SPSS and MatLab . | | | | | | | | |
| **Prerequisites** | | History, Condition, and Development Tendency of Modern Psychology (in English language) | | | | | | | | |
| **Postrequisites** | | IO 5302 Surveying Organizations (in English language) | | | | | | | | |
| **Informational resource** | | **Main Bibliography:**  1. Pallant, Julie. “SPSS Survival Manual.” 4th Ed, McGraw-Hill, 2010.  2. Cronk, Brian. “How to Use SPSS: A Step-By-Step Guide to Analysis and Interpretation.” 5th Ed, 2008  3. Field, Andy. “Discovering Statistics Using SPSS.” Sage Publishers, 2011  4. Development Core Team. (2011). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing: Vienna, Austria.  5. Morling, B. (2012). Research Methods in Psychology: Evaluating a World of Information.1st Edition. New York: W. W. Norton & Company  6. Gottsdanker R. Bases of psychological experiment. M: Academy. 2005. (in Russian)  7. Christopher R. Madan An Introduction to MATLAB for Behavioral Researchers  **Internet- resource**  <http://elprivod.nmu.org.ua/files/mathapps/Дьяконов_matlab_полный%20самоучитель.pdf>  <http://www.apmath.spbu.ru/ru/staff/smirnovama/files/oficialnoe_rukovodstvo_po_Matlab.pdf>  <http://mayankagr.in/images/matlab_tutorial.pdf> | | | | | | | | |
| **Structure of discipline** | | This is an introductory course that will be carried out a general acquaintance with a large amount of theoretical material. Homeworks (exercises) will give you an opportunity to get acquainted with the practical application of theoretical material. You can work together with another student with homework. | | | | | | | | |
| **Academic policy of the course in the context of university values** | | 1. For each class you have to prepare according to the schedule below. Each task should be completed by the class, where the topic is discussed.  2. Homework will be distributed throughout the semester, as shown in the graph of discipline.  3. Most homework will include a few questions.  4. During the semester, you will use the SPSS program.  5. You will need to complete the main project programming, providing for the development of database applications using the database structure provided by the lector. Specific requirements will be distributed in class.  When homework subject to the following rules:  • Homework should be carried out within a specified time. Later, homework will not be accepted.  • Homework should be done on one side of a sheet of A4 paper, and pages must be attached in order of numbering issues (problems). Questions (task) must be numbered, and definitive answers (if necessary) must be provided. (Homework, do not meet these standards will be returned with an unsatisfactory evaluation).  • You can work together with another student with homework. | | | | | | | | |
| **Evaluation and appraisal policy** | | Appropriate timing of homework may be extended in the event of extenuating circumstances (such as illness, emergencies, contingency, etc.) in accordance with the University's academic policies. Student participation in discussions and exercises during class will be taken into account in its overall assessment of the discipline. Design issues, dialogue and feedback on the subject of discipline are welcomed in classes, and the lector during final grade will take into account the participation of each student in the class. | | | | | | | | |
| **Summative estimation** | | | | | | | | |
| **Description of independent work** | | | | **Weight** | **Results of study** | | | |
| Homework  Self-work  SWML  Exams  **TOTAL** | | | | 35%  10%  15%  40%  100% | 1,2,34,5,6  2,3,4  4,5,6  1,2,3,4,5,6 | | | |
| Below are minimum estimates (in Percentage):  95% - 100%: А 90% - 94%: А-  85% - 89%: В+ 80% - 84%: В 75% - 79%: В-  70% - 74%: С+ 65% - 69%: С 60% - 64%: С-  55% - 59%: D+ 50% - 54%: D- 0% -49%: F | | | | | | | | |
| **Calendar for the implementation of the content of the training course:** | | | | | | | | | | |
| **Week** | **Name of topic** | | | | | **Hours** | | **Max. points** | | |
| 1 | Lecture 1 «Scientific research in Psychology and its’ features in Modern Psychology» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 1 «Measuring scales, their general characteristics and role in the selection criteria in SPSS for dealing with psychological data» | | | | | 1 | | 5 | | |
| 2 | Lecture 2 «Comparative analysis of parametric and nonparametric tests in SPSS» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 2 «Normal distribution and processing of psychological data » | | | | | 1 | | 5 | | |
| 3 | Lecture «Choose criteria of mathematical statistics and psychological test» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 3 «Classification of mathematical criteria in processing psychological data » | | | | | 1 | | 5 | | |
| 4 | Lecture 4 «History of SPSS. General characteristics of SPSS statistic software» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 4 «Principles of work with SPSS: design of experiment, data collecting etc.» | | | | | 1 | | 5 | | |
| Theme of Self-work Analyze scheme of experimental data analysis | | | | | 1 | | 12 | | |
| 5 | Lecture 5 «Data illustration in SPSS » | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 5 «Data Systematization in SPSS» | | | | | 1 | | 5 | | |
|  | Theme of Self-work Describe main concepts of SPSS | | | | | 1 | | 6 | | |
| 6 | Lecture 6 «Variables in SPSS. Depended and independed variables in SPSS» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 6 «Multivariate data in SPSS » | | | | | 1 | | 5 | | |
| Theme of Self-work Describe power of criteria | | | | | 1 | | 6 | | |
| 7 | Lecture 7 «Function of Syntax in SPSS» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 7 «Syntax formation in SPSS» | | | | | 1 | | 5 | | |
| RC 1 Presentation: main themes of the course | | | | | 1 | | 34 | | |
| 8 | MIDTERM EXAM | | | | |  | | 100 | | |
| Lecture 8 «Work with output data files» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 8 «Different ways of data saving in SPSS» | | | | |  | | 5 | | |
| 9 | Lecture 9 «Plots and data outputs» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 9 «Different types of Plots in SPSS» | | | | | 1 | | 5 | | |
| Theme of Self-work Give classification to different form of statistical programs in Psychology | | | | | 1 | | 4 | | |
| 10 | Lecture 10 « Analysis of Variance: One-Way ANOVA » | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 10 «One-Way ANOVA in psychological research » | | | | | 1 | | 5 | | |
| Theme of Self-work analyze statistics in several research articles in Psychology | | | | | 1 | | 6 | | |
| 11 | Lecture 11 «T-Test: different ways of using» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 11 «Significant levels in statistical criteria » | | | | | 1 | | 5 | | |
| Theme of Self-work Analyze of significant statistic parameters in psychological research papers | | | | | 1 | | 6 | | |
| 12 | Lecture 12 « Correlational Research Methods in Psychology» | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 12 «Correlation in SPSS» | | | | | 1 | | 5 | | |
| Theme of Self-work Describe Correlational Coefficient in SPSS | | | | | 1 | | 6 | | |
| 13 | Lecture 13 « MatLab and Psychological data » | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 13 « Research in Psychology and MatLab» | | | | | 1 | | 5 | | |
| Theme of Self-work Give several examples of MatLab in psychological research | | | | | 1 | | 6 | | |
| 14 | Lecture 14 « Features of research data design in MatLab » | | | | | 1 | | 1 | | |
| Practical (laboratory) occupation 14 «Scientific report and MatLab» | | | | | 1 | | 5 | | |
| 15 | Lecture 15 «Possibilities of Statistic programs in psychological research»  Practical (laboratory) occupation 15 «limitations of Statistic programs in psychological research»  RC 2 Presentation: Brief review of the course | | | | | 1 | | 1  5  24 | | |
| Exam | | | | | |  | | 100 | | |

Lecturer Khussainova I.R.

Head of the Chair of Madalieva Z.B.

General and Applied Psychology

Bureau of the Faculty Zhubanazarova N.S.

Philosophy and Political science