Наименование дисциплины и код: Scientific Research

Лектор	**Tiumonbaev Shaazadan**
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Количество кредитов:	2
Дата:	**04/01/2018**
Цель и задачи курса	This degree will allow students to see the interrelations between different science and technology courses, and shows employers that you have the ability to think laterally and utilise information and ideas from a range of different disciplines. It will also make you attractive to employers, as they will see that you have skills and knowledge gained from a variety of science courses rather than just one.
Описание курса	This course covers, with a focus on both theory and empirics, advanced topics in basics of scientific research. Research is about acquiring knowledge and developing understanding, collecting facts and interpreting them to build up a picture of the world around us, and even within us. It is fairly obvious then, that we should hold a view on what knowledge is and how we can make sense of our surroundings. These views will be based on the philosophical stance that we take.
Пре реквизиты	**Prerequisites:** for a deeper understanding of the problems of the scientific research is necessary to have knowledge in the field of science theory.
Пост реквизиты	**Postrequisites:** the acquired knowledge of the subject can be used to write academic thesis.
Компетенции	• analyze the data obtained during analysis; • take organizational and administrative decisions on received; • compile and synthesize scientific information; • apply basic methods of scientific research;
Политика курса	
Методы преподавания:	Lecture Visual aids Technical training facilities
Форма контроля знаний	Modul, Exam
Литература: **Основная** **Дополнительная**	Prof. Dr. med. Emilio Bossi, SAMS (Chairman) Dr. theol. Erwin Koller, SAHS Dipl. Ing. ETHZ Ulrich Lattmann, SATS. (2008). Integrity in scientific researchRichard J. Shavelson (2015). Scientific research in education Prof. Dr. med. Emilio Bossi, SAMS (Chairman) Dr. theol. Erwin Koller, SAHS Dipl. Ing. ETHZ Ulrich Lattmann, SATS. (2008). Integrity in scientific research Richard J. Shavelson (2015). Scientific research in education Shavelson, R.J., Phillips, D.C., Towne, L., Feuer, M.J. (2003). On the

	science of education design studies. Educational Researcher, 32(1), 25-28.
СРС	Exam
Примечание.	

Календарно-тематический план распределения часов с указанием недели, темы

No	Name of sections and topics	Number of hours
1.	**Basics of scientific research**	2
1.1.	The concept, stages of formation, scientific research. Classification of modern science.	
2.	**Theory of scientific research**	2
2.1.	Scientific research can be subdivided into different classifications according to their academic and application disciplines. Recall some classifications: Basic research. Applied research. Exploratory research. Constructive research. Empirical research Primary research. Secondary research. Generally, research is understood to follow a certain structural process	
3.	**Formation of the topic**	2
3.1.	Define the problem or research question to be tested by a scientific investigation	
4.	**Hypothesis**	2
4.1.	Formulate a hypothesis and explain it using logical scientific reasoning	
5.	**Conceptual definitions**	2
5.1.	Design scientific investigations that include variables and controls material/equipment needed, a method to be followed	
6.	**Operational definitions**	2
6.1.	In addition developing descriptions, researchers make predictions. Descriptions of events often provide a basis for prediction. Predictions are sometimes made in the form of hypotheses, which are tentative, testable predictions concerning the relationships between or among variables.	
7.	**Gathering of data** **Analysis of data**	2

7.1.	Data to be collected and suggestions for its analysis evaluate the method, commenting on its reliability and/or validity suggest improvements to the method	
8.	**Exploratory research**	2
8.1.	structures and identifies new problems	
9.	**Constructive research**	2
9.1	develops solutions to a problem	
10.	**Empirical research**	2
10.1	tests the feasibility of a solution using empirical evidence Research is often conducted using the hourglass model.	
11.	**Prediction**	2
11.1	In addition developing descriptions, researchers make predictions. Descriptions of events often provide a basis for prediction. Predictions are sometimes made in the form of hypotheses, which are tentative, testable predictions concerning the relationships between or among variables.	
12.	**Describing observations**	2
12.1	large groups of people does not take away from the fact that there are important differences among individuals. That is, researchers merely attempt to describe subjects or events on the basis of average performance (generally speaking).	
13.	**Place Factors**	2
13.1	Factors contributing to the character of places can be categorised into two groups - endogenous and exogenous. Endogenous factors are the local, internal characteristics which create a place's identity. Exogenous factors are external influences on a place's identity. They are caused by a place's relationship with other places.	
14.	**Time Factors**	2
14.1	Lead time, in this case referring to the amount of time between when an order is placed and when the castings are delivered, is more than just how long it takes to make a casting. A considerable portion of the lead time is affected by how busy the casting supplier is and how many jobs are ahead of yours in the plant. It may be frustrating, but this time fluctuates throughout the year.	
15.	**Statistics**	2

15.1	The science that deals with the collection, classification, analysis, and interpretation of numerical facts or data, and that, by use of mathematical theories of probability, imposes order and regularity on aggregates of more or less disparate elements.	
	ИТОГО: 30 **часов**	

График самостоятельной работы студентов

№	Недели Месяцы	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Суммы балов
		January				February						March						
1	Текущий контроль	15				15						10						40 баллов
2	Срок сдачи СРС*.																	

*СРС – самостоятельная работа студентов.

Примечание: График проведения рубежного и итогового контроля устанавливается Учебным отделом.