«СҮЛЕЙМАН ДЕМИРЕЛЬ АТЫНДАҒЫ УНИВЕРСИТЕТ» МЕКЕМЕСІ
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Course Syllabus

Name of Instructor	Lyazzat Atymtayeva

	Secondary/ Additional Instructors
1	Darkhan Kuanyshbay
2	Aigerim Bogyrbayeva

SDU Email Address	lyazzat.atymtayeva@sdu.edu.kz		
Contact Details	Office Phone		Room
Academic Year of Study	2021 - 2022 Fall	Semester	1
Course Dates			

	Days	Time of office hours	Place of office hours

Course Code	CSS 516	Degree Cycle (Level)	Master
Course Title	Research Tools and Methods	Faculty	Инженер және жаратылыстану ғылымдары факультеті
Credits / ECTS	5	Total Contact Hours	
		Department	Department of Computer Sciences
Course Type	Compulsory	Primary Language of Instruction	English
Collaborative Organization		Secondary Language of Instruction	Choose
Delivery Location (1)	Campus	Mode of Delivery	Online
Delivery Location (2)			

"Бекітемін "

Инженерлік және жаратылыстану ғылымдары факультетінің деканы

Богданчиков А.

Pre-Requisite Courses

	Course Code	Course Title

*Include the list of topics that students must know to gain an understanding of the course

	Additional topics

Co-Requisite Courses

*An academic course required to be taken in conjunction with this course, where relevant

	Course Title

Programes on which course is available

	Program Title	Degree
	Computer Science	Master

Course Description

In this course, students understand and master the research methodology used in computer science. The course will cover topics ranging from the principles of experiment design, statistics, to various aspects of reading, writing, evaluating papers(projects), and presenting research. There will be assignments during the semester allowing the students to practice different research skills and methodologies covered in the lectures. There will be a semester-long project in which students select, design, and execute research project and present the result at the end of the semester.

Skills and Competencies

	Academic Skills
1	Search academic paper in a field
2	Read academic paper
3	Write a paper in academic structure
4	Publish a paper
5	Review a paper
6	Present an academic work

	Subject-Specific Skills
1	Use of internet for searching a paper in datasets
2	Prepare a PPT presentation
3	Write in LaTeX platform

Course Learning Outcomes

	Active Verb	What will be done/produced	How this learning outcome will be achieved
1	Summarize	After reading the published papers, students will be able to summarize the problem	Students will find scientific works in search platforms
2	Criticize	Students will be able to criticize the works based on literature	Students will examine and compare the previous works
3	Determine	Students will be able to determine the research problem	Students will do research and find gaps in previous works
4	Demonstrate	Students will be able to demonstrate their contributions by providing review	Students will compare their works with previous works
5	Interpret	Students will be able to interpret the experiment results	Students will explain the limitations and delimitations in the work
6	Defend	Students will be able to defend their works before audiences as a presentation	Students will prepare a talk to explain the significance of the work

Methods of Assessment

The University's normative rules regarding assessment apply. See the Code of Practice on Assessments. These norms set the boundary conditions for all instructors of University.

Assessed Components

	Description	Number of Points (60/100)
1	Evaluation Submissions	10
2	Individual Presentations	20
3	the draft survey paper	30

Final Exam

	Description	Number of Points (total score / 40)
1	the final survey paper	40

Proposed system of assessment by MES RK

Grade			
In Percent	Alphabetic	In Points	Traditional
95 - 100	A	4	Excellent
90 - 94	A-	3.67	
85 - 89	B+	3.33	Good
80 - 84	B	3	
75 - 79	B-	2.67	
70 - 74	C+	2.33	
65 - 69	C	2	Satisfactory
60 - 64	C-	1.67	
55 - 59	D+	1.33	
50 - 54	D	1	
25 - 49	FX	0	Unsatisfactory
0 - 24	F	0	
0 - 24	FC	0	

Reading List

Required Reading List

	Type	Author	Year / ISBN	Title	Publisher/Web site
1	Published	Krishnan Nallaperumal	2017	Engineering Research Methodology	Researchgate

Recommended Resources (optional)

	Type	Author	Year / ISBN	Title	Publisher/Web site
1	Published	Pandey P. and Pandey M.M.	2015	Research Methodology: Tools	Bridge Center

Other Resources (optional)

	Type	Author	Year / ISBN	Title	Publisher/Web site

Course Content - Curriculum Plan

	TOPICS	Activity
1	Introduction to class. Organization of teams. Requirements of the department for graduation.	The instructor presents the syllabus and lets students select topics of interests to form 3 groups. The following research areas are proposed asan example: RL, NLP, CV. The list can be extended. Each week, students will need to read and present one paper from a set of selected papers. Students have 10 minutes to present the paper, including background, the main idea, methodology, and results.
2	General Research Methods in CS. Plagiarism and citations	An instructor makes a small lecture about the topic. Each student makes a presentation about the paper of his/her choice. Students discuss the research methods used in the papers they picked to present. Each student submits peer evaluation. Students will evaluate peer's presentation quality and give one of the five rates: poor, fair, good, very good, and excellent
3	Measure Based in CS	An instructor makes a small lecture about the topic. Each student makes a presentation about the paper of his/her choice. Students discuss measures used in the papers they picked to present. Each student submits peer evaluation
4	General methods in Academic Writing: Small Tutorial about Latex	An instructor makes a small lecture about the topic. Each student makes a presentation about the paper of his/her choice. Students discuss the organization of the papers they picked to present. Each student submits peer evaluation.
5	Research Question and Paper Search: Literature Review	An instructor makes a small lecture about the topic. Each student makes a presentation about the paper of his/her choice. Students discuss the research questions and literature review used in the papers they picked to present. Each student submits peer evaluation.
6	Paper Writing: Title and Introduction	An instructor makes a small lecture about the topic. Each student makes a presentation about the paper of his/her choice. Students discuss the choice of title used in the papers they picked to present. Each student submits peer evaluation.
7	Paper Writing: Methods and Results	An instructor makes a small lecture about the topic. Each student makes a presentation about the paper of his/her choice. Students discuss the methods and results used in the papers they picked to present. Each student submits peer evaluation.

8	Midterm Exam: the first draft of the survey paper	Each team submits the first draft of its survey paper. Each team with a common selected topic will write a survey paper based on the presentations/selected papers of its members. By Week 8 each team will have enough material to write the first draft of the survey paper. Then each draft will be reviewed by other teams. There will be a formal discussion of the reviews. Then teams will have additional 3 weeks to address the comments before making the final presentations. Finally, teams submit the final version of the survey papers, which again will be evaluated by other teams.
9	Paper publishing and Reviewing	An instructor makes a small lecture about the topic. Each team submits its review of other groups' work.
10	Criteria for Evaluation of Academic Paper	An instructor makes a small lecture about the topic. Teams discuss the review comments
11	Research funding	An instructor makes a small lecture about the topic. Students perform small exercises to write scientific grants.
12	Oral Presentation of Scientific work	An instructor makes a small lecture about the topic. Students learn how to use Latex beamer.
13	Project Discussions	Each team makes a presentation about its survey paper using Latex beamer.
14	Project Submission	Each team submits the final version of its survey paper.
15	Evaluation Submissions	Each team submits a written evaluation of the other teams final survey papers

Academic Integrity

Students must ensure that all work completed for this course is their own work. Any evidence of plagiarism, data falsification, fabrication, collusion, self-plagiarism and/or other forms of academic misconduct will be penalised. Further, information can be found in the Code of Practice on Academic Integrity.

Late/Non Submission and Attendance Policy

Academic excellence and high achievement are only possible in an environment where the highest standards of academic honesty and integrity are maintained: students at SDU must ensure they adhere to this requirement.

Active participation is an integral part of teaching and learning at SDU. Therefore, regular class attendance is required of all students and records of any absences are kept for each class: a student whose attendance falls below 70% will fail the course. Students are also expected to be in class on time: poor punctuality is seen as being discourteous to the teacher and other students, therefore repeat incidences of late arrivals are subject to a penalty.

The use of electronic devices (e.g.: computers, tablets, phones) is only permitted upon tutor instruction. Any other activities (e.g.: texting, surfing, gaming, social emails, online shopping…etc.) are strictly forbidden during class time. Students found to be engaged in any non-class activity may lose marks for overall participation.

Course-Specific Policy

Administrative Contacts

	User	Email	Action	Date
	Lyazzat Atymtayeva	lyazzat.atymtayeva@sdu.edu.kz	Create	8/21/2021 1:08:03 AM
	Ardak Shalkarbay-uly delegated Cemil Turan	cemil.turan@sdu.edu.kz	Келісемін	8/25/2021 4:58:36 PM
	Azamat Zhamanov	azamat.zhamanov@sdu.edu.kz	Келісемін	8/29/2021 1:25:00 AM