SECTION A: DEFINITIVE

1.	**General course information**		
1.1	School: Engineering and Digital Sciences	1.6	Credits (ECTS): 6
1.2	Course Title: Web Programming and Problem Solving	1.7	Course Code: CSCI 111
1.3	Pre-requisites: none	1.8	Effective from: *Fall 2025*
1.4	Co-requisites: none Anti-requisites: CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR CSCI 151 Programming for Scientists and Engineers (192) (D and above) OR ENG 101 Programming for Engineers (4517) (D and above)		
1.5	Computer Science ☐ Core ☐ Elective ☒ Common core computing (for non-CS majors) Programs: *(in which the course is offered)*		

2.	**Course description (max.150 words)**
The course is designed to provide insight and understanding of the protocols and technical characteristics of the Internet, web pages, spreadsheets, graphs, and programming. It will introduce students to computer-based tools and methods that will be useful throughout their university careers by developing skills in gathering data, performing routine analysis, and correctly presenting the results in a professional manner in documents, presentations, and web pages.	

3.	**Summative assessment methods** (tick if applicable)**:**				
3.1	Examination	☒	3.5	Presentation	☐
3.2	Term paper	☐	3.6	Peer-assessment	☐
3.3	Project	☒	3.7	Essay	☐
3.4	Laboratory Practicum	☒	3.8	Other *(specify)*	

4.	**Course aims**

The aims of the course are:

1) To provide insight and understanding of the protocols and characteristics of the technology underlying the Internet, web pages, spreadsheets, graphs, and programming;
1) Introduce students to computer-based tools and methods that will be useful throughout their university training and professional careers;
2) Develop skills in gathering data, performing routine analysis, and correctly presenting the

results in a professional manner in documents, presentations, and web pages.

5.	**Course learning outcomes (CLOs)**
5.1	1) Students will have a basic understanding of how the internet and web pages work. 2) Students can create basic interactive webpages using HTML, CSS, and JavaScript, and load external scripts. 3) Students will be able to create Excel spreadsheets from online data, and use intermediate features such as conditional formatting, graphs, and pivot tables to help in analyzing the data. 4) Students will gain experience in performing routine data analysis and presenting their results in a written report and an online webpage.
5.2	

CLO ref #	Program Learning Outcome(s) to which CLO is linked	Graduate Attribute(s) to which CLO is linked
1 - 4	Identify and describe the significant issues, challenges, and milestones within the field; Apply the key mathematical skills relevant to the discipline; Assess technical problems and establish requirements for their solution; Design and implement substantive computer systems, in the form of devices or software	Possess an in-depth and sophisticated understanding of their domain of study. Be intellectually agile, curious, creative and open-minded.

SECTION B: NON-DEFINITIVE

Course Syllabus

Details of teaching, learning and assessment

6.	**Detailed course information**		
6.1	Academic Year: 2025-2026	6.3	Schedule (class days, time): Three times a week
6.2	Semester: Fall 2025	6.4	Location (building, room): 7.422

7. Course leader and teaching staff

Position	**Name**	**Office #**	**Contact information**	**Office hours**
Course Instructor(s)	Irina Dolzhikova, Syed Muhammad Umair Arif, Talgat Manglayev	7e.328 7e.428	ifedorova@nu.edu.kz umair.arif@nu.edu.kz talgat.manglayev@nu.edu.kz	TBD
Teaching Assistant(s)	TBD			TBD

8. Course Outline

Session	Date (tentative)	Topics and Assignments	**Course Aims** (ref. # only, see item 4)	CLOs
Week 1		Course Overview Markup language, HTML origins & history, basic HTML tags	1, 2	1, 2
Week 2		HTML hyperlinks, basic HTML elements	1, 2	1, 2
Week 3		HTML and CSS	1, 2	1, 2
Week 4		CSS layouts, inheritance, pseudo-classes and pseudo-elements	1, 2, 3	3
Week 5	Quiz 1	Responsive Web Design	1, 2, 3	3, 4
Week 6		JavaScript basics	1, 2, 3	3, 4
Week 7		JavaScript functions	1, 2	1, 2
Week 8		**Fall Break**		
Week 9		JavaScript loops	1, 2	1, 2
Week 10		DOM basics & manipulation	1, 2	1, 2
Week 11	Quiz 2	JavaScript events	1, 2	1, 2
Week 12		JavaScript Practice	1, 2	1, 2
Week 13		MS Excel	1, 2, 3	1, 2
Week 14	Quiz 3	MS Excel	1, 2, 3	1, 2, 3
Week 15		MS Excel	1, 2, 3	1, 2, 3

9. Learning and Teaching Methods

1	Lecture-demonstration by teacher
2	Lesson material provided online
3	Laboratory sessions to support lecture sections and provide practical hands on programing experience

10.	Summative Assessments (tentative)			
#	Activity	Date (tentative)	**Weighting (%)**	CLOs
	Course project (Live Grading)	End of the term, as scheduled	30%	1-4
	Quizzes (3)	As scheduled	30%	1-4
	Lab Assignments (~5)	About every other week	30%	1-3
	Attendance (Participation)	Each class	10%	2-3

11. Grading

Letter Grade	Percent range	Grade description (where applicable)
A	95-100	See Section 6 of "Academic Policies and Procedures for Undergraduate Programs" (available at https://registrar.nu.edu.kz/policies-and-procedures)
A-	90-94.9	
B+	85-89.9	
B	80-84.9	
B-	75-79.9	
C+	70-74.9	
C	65-69.9	
C-	60-64.9	
D+	55-59.9	
D	50-54.9	
F	0-49.9	

12. Learning resources (use a full citation and where the texts/materials can be accessed)

E-resources, including, but not limited to: databases, animations, simulations, professional blogs, websites, other e-reference materials (e.g. video, audio, digests)	w3schools.com TBD: On-line digital material (readings, references, tutorials) will be utilized throughout the course
E-textbooks	N/A
Laboratory physical resources	Labs will be conducted in appropriate computer labs (e.g., 7.422) with required software installed

Special software programs	Students can use the online HTML/CSS/JS interpreters, along with a standard text editor, the Sublime Text or VS Code, which are open-source and free to download.
Journals (inc. e-journals)	N/A
Textbooks	None, although we recommend *'Creating a website' by Matthew MacDonald* as a supplement for interested students

13. Course expectations

ATTENDANCE

As per university policy, all students are expected to attend class, and are required to be present at the beginning of the semester, and to remain until the semester is completed. This includes final examinations. Students who do not attend the first two weeks of class can be dropped from the course. You cannot get credit for lab exercises if you are not physically there. You also must be physically present to take the quizzes during the scheduled lecture times. Be sure to bring your student ID or other ID with a photo during quizzes, as well as the final exam. If your overall attendance starting from week 8 is lower than 50% you will be dropped from the course.

ELECTRONIC RESOURCES

Students will have access to our hybrid computer labs, which are designed to accommodate the full range of course activities. However, for convenience, we generally encourage students to bring and use their own laptops, with the proper software installed.
For this class, we will initially be using a standard text editor. We will discuss other options such as the use of the Sublime Text or VS Code, which have been installed on the lab computers, and are available online for free download to your own computer. While students will have access to our computer labs outside of normal class times, for convenience, we generally encourage them to use their own laptops with the necessary software installed.
You are expected to check your Nazarbayev University e-mail on a daily basis for updates and announcements about the course. Not checking your e-mail is not an excuse for missing an announcement.

SUBMISSION POLICY

You will also be required to use Moodle to submit your lab exercises and programming assignments when directed. These need to be submitted at the time and date specified by your instructors. If you are having problems with Moodle, and you need to submit your lab, you must e-mail your submission to both your lab instructor and primary TA for your section before the given deadline.
There will be Soft and Hard Deadlines. Late submissions (later than 60 minutes) after the Soft deadline are penalized by 50%. Any solutions submitted after the Hard deadline are subject to a 100% penalty. Your work (homework, projects, quizzes) may not be accepted and may be considered cheating if you cannot defend it and other tasks on the same topic during live grading.

CLASSROOM BEHAVIOR

You are expected to act respectfully towards your fellow classmates, TAs, lab instructors, and lecturers inside and outside of the classroom. We have a full class and a limited amount of space and computers, and so be mindful about not disrupting/annoying others. Talking on your phone, texting, chatting online, browsing VK or other social media sites, and talking excessively with your neighbors about non-class related stuff in the classroom or lab are just a few examples of behavior that is not acceptable.

Acts of harassment or intimidation towards classmates, TAs, instructors, lecturers, other students, staff, or anybody else will not be tolerated, and will result in a meeting with the Dean.

If you disagree with a grade, you may bring up the issue politely with your lab instructor or lecturer. However, persistent pestering and arguing about a grade once the matter is deemed settled by the lecturers constitutes harassment, and will be reported. The proper approach to dispute a grade is to bring the matter to the attention of the Vice-Dean of Academic Affairs instead.

14. Academic Integrity Statement

Nazarbayev University and the School of Science and Technology have established high standards for academic integrity, using an approach in which students are trained to produce original work according to professional standards, and to properly cite and reference the work of others when it is appropriate to do so.
The specific guidelines are published in the NU Student Handbook. In particular,

- The assignments in this class are designed to introduce important concepts and techniques, and enable you to explore the material independently so as to gain insight and comprehension of the subject. Doing the work is much more important than getting the right answer.
- The course is designed such that the new material presented each lesson builds on the skills developed in the preceding days; thus, any action that interferes with this process (e.g., skipping lesson exercises, copying) will seriously impede your progress.
- You are welcome—and encouraged—to talk through concepts and ideas with your fellow students and to study with them, but do not give or receive direct help from your classmates on graded exercises.
- Assignments should be completed individually. If you distribute or allow others to look at your work, even if you are not intending them to copy it, this is still considered academic misconduct.
- Even the appearance of cheating or inappropriate copying should be avoided.
- Students should be aware that the code submission process incorporates an automated plagiarism detector.
- You may only get help on graded work from designated people—the instructors, TAs, or lecturers for the course. If you are struggling with something, by all means, please seek help from them.

In the event that academic misconduct such as plagiarism or cheating is discovered, the student will receive no credit for the work, and the event reported to the Dean of your school. Egregious cases, or a second offense, can result in failure of the course and potential suspension or expulsion from the university.
When a student suspects that another student has violated the academic honesty policy, a report should be made to the appropriate faculty member.

15. E-Learning

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16. Approval and review

Date of Approval:	**Minutes #:**	**Committee:**
Date(s) of Approved Change:	**Minutes #:**	**Committee:**