COMPUTER SCIENCE
Academic level - Bachelor
Syllabus
ЗП 1.6
CSCI-111
Specialty - International Economic Relations
Educational programs – «IT Management»

Quarter/Year: Fall/2023

ECTS Credits: 6

Instructor: Ruslana Selezneva

US Credits: 3

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Prerequisites: -

Course Description

Computer science is the study of processes that interact with data and that can be represented as data in the form of programs. It enables the use of algorithms to manipulate, store, and communicate data and that can be represented as data in the form of programs. It enables the use of algorithms
to manipulate, store, and communicate digital information.
Its fields can be divided into theoretical and practical disciplines. Computational complexity theory is highly abstract, while computer graphics emphasizes real-world applications. Programming language theory considers
approaches to the description of computational processes, while computer programming itself involves the use of programming languages and complex
systems. Human–computer interaction considers the challenges in making computers useful, usable, and accessible.

Course Outcomes

Upon successful completion of this course students will be able to:
PH3. Demonstrate knowledge of theories, methods and functions of management, modern concepts of leadership.
PH4. Demonstrate skills to identify problems and justify management decisions.
PH6. Identify skills of search , collection and analysis of information , calculation of indicators to justify management decisions.
PH9. Demonstrate skills of interaction, leadership, teamwork.
PH11. Demonstrate skills of situation analysis and communication in various areas of the organization.
PH13. Communicate orally and in writing in state and foreign languages.
PH16.Demonstrate skillsof independent work, flexible thinking, openness to new knowledge, be critical and self-critical.
PH17. Perform research individually and/or in a group under the guidance of a leader.

Competencies

3K8. Skills in the use of information and communication technologies.

3K9. Ability to learn and master modern knowledge.

CK8. Ability to plan the activities of the organization and manage time.

CK10. Ability to evaluate the work performed, ensure their quality and motivate the staff of the organization.

CK12. Ability to analyze and structure the problems of the organization, to form sound decisions.

Internationality: international software, international textbooks …

Communications

For individual issues, students should contact the professor ONLY by given e-mail or by Moodle. In the Subject line they should put: UACUFirstNameLastName. E-mail messages will normally be answered within 24 hours.

Note! Only emails sent from the student's corporate email address will be answered.

Attention! Official and only language used for assessment activities is English. Official and only languages used for communication within the University are Ukrainian and English.

Student Responsibilities

Time Commitment

The study of technical courses is cumulative (i.e., an understanding of earlier material is necessary to grasp concepts covered later). Past experience has shown a high correlation between procrastination and low grades. Students must be committed to completing tasks on time.

Technical Aspects

The student is obliged to provide himself/herself with all the necessary technical equipment for the educational process (laptop or computer, webcam, headsets or headphones and microphone), as well as access to the Internet.

Only students signed-in with their own first and last name are allowed into video lectures in Zoom.

Grading Policy

The course is based on mastery of course outcomes. Student grades for this course will be calculated based on performance. Note: the minimal grade to pass a subject is 60%.

Graduate Grading Guidelines

The assignment of a letter grade for a course is an indication of the student's overall success in achieving the learning outcomes for the course. The course letter grade may be viewed as a summary statement of the student's achievement in individual assessments (assignments & activities). These assessments are intended to identify for students their strengths as well as those areas in need of improvement. Student work is assessed according to the guidelines below.

Course-level Grading guidelines:

Grade	ECTS Grade	International Grade
90% - 100%	A	5 (Excellent)
83% - 89%	B	4 (Very Good)
75% - 82%	C	4 (Good)
70% - 74%	D	3 (Good)
60% - 69%	E	3 (Acceptable)
35% - 59%	FX	Not acceptable, possible repetition of course

Criteria for grading:

ECTS grade	Requirements for the student
A	The student demonstrated a comprehensive systemic and in-depth knowledge of program material; processed basic and additional literature; obtained a solid grasp of the conceptual apparatus, methods, techniques and tools provided by the program; found creative abilities in the presentation of the educational program material both on this issue and on related modules of the course and related courses, or the student had a current control of 90-100 points
B	The student demonstrated good knowledge of program material; processed the basic literature, mastered the conceptual apparatus, methods, techniques and tools provided by the program, but with some inaccuracies
C	
D	The student showed mediocre knowledge of the core program material; learned information mainly from a lecture course or just one [textbook](); mastered only certain methods, techniques and tools provided by the program
E	
FX	The student has significant gaps in knowledge of the main program material; fragmentary mastered the basic concepts, techniques and tools; significant mistakes are made when using them

Maximum total possible points – 225 points incl.
(Midterm and Final exam are 60% of overall evaluation,
where Midterm – 20% and Final – 40%) ·Test/ Assignment / Project – 3/3 points (several times during the course)
Midterm exam – 45 points
Final exam – 90 points

Student Workload

It is assumed that for each out of 17 class sessions a student spends about 10.5 academic hours. of work.
This includes 3.5 academic hours of lectures with the instructor and 7 academic hours of personal work.
Personal work includes home work assignments, tests and working on the course materials.
Please pay attention that 1 academic hour equals to 40 minutes.

Assignment Format

•All work should be shown in time. If the student misses the deadline – the task is failed. •Midterm covered topics from previous lectures (weeks 1-7). It included multiple choice questions and cases (essays) and took about 1.5 hours. •The Final exam covered all course material and included multiple choice questions and cases (essays). It lasts for 1.5 hours.

Admission to the Final exam is possible only if all the tasks of the curriculum are covered.

Academic dishonesty

Academic integrity is submitting one's own work and properly acknowledging the contributions of others. Forms of academic dishonesty include:

1. Plagiarism – submitting all or part of another's work as one's own in an academic exercise such as an examination, a computer program, or written assignment.
2. Cheating – using or attempting to use unauthorized materials on an examination or assignment, such as using unauthorized texts or notes or improperly obtaining (or attempting to obtain) copies of an examination or answers to an examination. Including the use of artificial intelligence and pre-prepared answers to the questions of tasks is prohibited (unless otherwise specified in the task itself or allowed by the instructor).
3. Facilitating Academic Dishonesty – helping another commit an act of dishonesty, such as substituting for an examination or completing an assignment for someone else.
4. Fabrication – altering or transmitting, without authorization, academic information or records.

Any violation of these rules constitutes academic dishonesty and is liable to result in a failing grade and disciplinary action. In case of any academic dishonesty a student is not allowed to continue or retake the assessment activity and for the Final the unsatisfactory grade ("0") is assigned for the course total. Cases of the academic dishonesty are not considered by the Academic Council.

Midterm and Final are valid only if they are taken on-campus (room defined by the dean's office) and on UACU's computer/laptop or online on the student's computer/laptop using Zoom and other conditions defined by the dean's office to avoid the cases of academic dishonesty. Students who will not meet this requirement will be expelled from the course with grade "0".

In case of missed Midterm or Final exam (for a valid reason like sickness or an emergency) a request to repeat the exam is possible. Permit to repeat a midterm or final exam is done through a letter to the dean's office with request and approval of subject lecturer.

Submission or retaking of any assessment activities after deadlines are forbidden.

Submission & Return Policy

Assignments must be submitted to the professor on or before the due date indicated in the Course Schedule. The assignments submitted after the due dates receive zero points.

**** NO MAKE –UP QUIZZES AND EXAMS****

Schedule

Week #	Research Projects	Assignments Due	Points
Lecture 1	Topic Introduction to Computer Science	Review Lecture Test / Assignment	3/3

Lecture 2	Topic Hardware and software. Classification and scope. Operational systems. Types of software	Review Lecture Test / Assignment	3/3
Lecture 3	Topic The logical and algorithmic foundations of Computer Science. Programming languages. Classification of programming languages	Review Lecture Test/Project	3/3
Lecture	Topic MS Office. MS Word for beginner. Part 1	Review Lecture Test / Assignment	3/3
Lecture 5	Topic MS Word for beginner. Part 2	Review Lecture Test / Assignment	3/3
Lecture 6	Topic MS Word for advanced user. Part 1	Review Lecture Test / Assignment	3/3
Lecture 7	Topic MS Word for advanced user. Part 2	Review Lecture Test / Assignment	45
Lecture 8	Mid Term (20%)	Review Lecture Test / Assignment	3/3
Lecture 9	MS Word Project	Review Lecture Test / Assignment	3/3
Lecture 10	Topic MS Excel for beginner. Part 1	Review Lecture Test / Assignment	3/3
Lecture 11	Topic MS Excel for beginner. Part 2	Review Lecture Test / Assignment	3/3
Lecture 12	Topic MS Excel for advanced user. Part 1	Review Lecture Test / Assignment	3/3
Lecture 13	Topic MS Excel for advanced user. Part 2	Review Lecture Test / Assignment	3/3
Lecture 14	Topic MS Excel. Project	Review Lecture Test / Assignment	3/3
Lecture 15	Topic MS Power Point	Review Lecture Test / Assignment	3/3
Lecture 16	Topic Complex Project. (MS Word, MS Excel, MS Power Point)	Review Lecture Test / Assignment	3/3
Lecture 17	Final Exam (40%)		90
Total			225

Recommended Materials
Introductory Computer Science: Bits of Theory and Bytes of Practice.
A. K. Dewdney. Computer Science Press, 2016.
A. K. Dewdney. Computer Science Press, 2016.
Programming Challenges: The Programming Contest Training Manual.
Steven Skiena and Miguel Revilla.Springer-Verlag, 2003.
Steven Skiena and Miguel Revilla. Springer-Verlag, 2003.

Problems in Programming: Experience through Practice.

Andrej Vitek, Iztok Tvrdy, Robert Reinhardt, Bojan Mohar, Marc Martinec, Tomi Dolenc and Vladimir Batagelj.

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A. K. Dewdney. Computer Science Press, 2016.

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Programming Challenges: The Programming Contest Training Manual.

Steven Skiena and Miguel Revilla.Springer-Verlag, 2003.

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Problems in Programming: Experience through Practice.

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Andrej Vitek, Iztok Tvrdy, Robert Reinhardt, Bojan Mohar, Marc Martinec, Tomi Dolenc and Vladimir Batagelj.

John Wiley & Sons, 2015.

Problems on Algorithms (2nd Edition). [Available on-line]

Ian Parberry and William Gasarch.

Ian Parberry, 2020.

Ian Parberry and William Gasarch.

Ian Parberry, 2020.

Introduction to Algorithms (2nd Edition).

Thomas H. Cormen, Charles E. Leiserson, and Ronald L. Rivest, Clifford Stein.

The MIT Press / McGraw-Hill, 2021.

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