

# ALGEBRA UNIVERSITY ZAGREB

# DIPLOMA SUPPLEMENT

## Kristijan Rosandić

born on 8 May 2002 in Slavonski Brod, Republic of Croatia

01822222272
Personal
Identification Number
(OIB)

0321019387 Student Identification Number (JMBAG) CLASS: 602-03/25-13/240 REF. NO.: 785-04-01-25-02



### **INFORMATION IDENTIFYING THE QUALIFICATION**

Acquired academic or	Bachelor in Applied Computer Engineering
professional title or titles, or	
academic degree	
Scientific area and scientific field	Technical sciences - Computing
Date of qualification acquisition	30.09.2024.
Name of study programme	Applied Computer Engineering , specialization in Software
	Engineering
Data on study programme	Licence for conducting the study programme issued by the
accreditation	Ministry of Science and Education on 27 July 2010, CLASS:
	UP/I-602-04/09-12/00006, REF. NO.: 533-07-10-0004.
Name and address of the higher	Algebra University
education institution awarding the	Gradišćanska 24
degree and conducting the study	10000 Zagreb
programme	
Data on the accreditation of the	Licence for performing higher education activities and
higher education institution	conducting study programmes issued by the Ministry of
	Science and Education on 18 July 2023, CLASS:
	UP/I-602-04/19-12/00001, REF. NO: 533-04-23-0013.
Language or languages of	Croatian
instruction/examination	
Access requirement(s) and level	A professional undergraduate study programme can be
of the Croatian Qualifications	enrolled in by a person who has completed a corresponding
Framework required for access	secondary school programme in the duration of at least four
-	years and passed the state matriculation examination or a
	person who has completed a corresponding professional
	short-cycle study programme. Level 4.2 or 5 according to the
	Croatian Qualifications Framework.
Level of acquired qualification	Professional undergraduate study programme
(type of study programme, level of	
study programme,	
university/professional study	
programme)	
Level of the Croatian	6 st.
Qualifications Framework	
EQF level	6
Official length of the study	Official length in years: 3
programme in years or semesters	
Total number of ECTS points	180
acquired	
Data on the mode of study,	Full-time status
student status during studies	
(full-time/part-time status,	
recognition of prior learning, etc.).	



#### **LIST OF PASSED COURSES**

Name of the course	Grade	ECTS credits
English for IT	very good (4)	4
Computer architecture	very good (4)	5
Kinesiological culture 1	passed	0
Kinesiological culture 2	passed	0
Mathematical analysis	very good (4)	5
Mathematics	very good (4)	5
Operating systems	excellent (5)	5
Basics of digital electronics	very good (4)	6
Basics of business economics	good (3)	4
Programming	excellent (5)	6
Business software tools	excellent (5)	4
Data structures and algorithms	excellent (5)	6
Introduction to databases	very good (4)	5
Introduction to computer networks	good (3)	5
Authentication systems and databases	very good (4)	4
Object-oriented programming	excellent (5)	6
Object-oriented programming - lab in .NET	excellent (5)	5
environment		
Database development	very good (4)	5
Basics of business communication	very good (4)	5
Java programming 1	excellent (5)	6
Project management	good (3)	4
Project approach to applications	excellent (5)	4
development		
Development of web applications	excellent (5)	6
Information system security 1	very good (4)	5
Standards in internet technology	excellent (5)	5
application		
Probability and statistics	good (3)	5
Interoperability of information systems	excellent (5)	5
Application development for mobile devices	excellent (5)	6
Java web programming	very good (4)	5
Designing and developing a complete	excellent (5)	6
application solution		
Organization and management	very good (4)	4
Information systems in business	very good (4)	4
administration		
Accessing data from program code	excellent (5)	5
Software engineering	good (3)	5
Decision-making support systems	excellent (5)	6
Management of information systems	very good (4)	4
Final thesis/Internship	passed	10

Average grade	4.29	Weighted grade point average during	4,34
Average grade		studies and level of success	4,34



Grading
system/description of
grade distribution

Algebra University uses a point accumulation model (maximum 100 points per course) for grading, which is combined with an absolute criterion-referenced grade distribution model. In order to pass the module, the student must collect at least 50% of the possible number of points for each of the learning outcomes within the module.

Grading is performed according to learning outcomes, using different assessment methods (exam, homework, project), whereby at least 75% of the points are awarded through objective-type assessment performed in a controlled environment.

The scoring structure of a typical module looks as follows:

	Exam	Homework	Seminar paper	TOTAL
LO1	10		5	15
LO2	20		5	25
LO3	10	4		14
LO4	25	6		31
LO5	10	5		15
TOTAL	75	15	10	100

Grades are calculated according to the following criterion-referenced table:

0,00 - 50,00	fail (1)
50,01 - 58,00	pass (2)
58,01 - 75,00	good (3)
75,01 - 92,00	very good (4)
92,01 - 100,00	excellent (5)

method of completing
the study programme
and obtaining a diploma
Information on the final
or graduation thesis,
final or graduation exam,
performance of a work of
art or defense of a

Information on the

scientific or art dissertation

In order to acquire the qualification, the student has to pass all the prescribed modules, complete an internship and prepare a final thesis and successfully defend it in the final exam.

The final thesis was written on the topic: Development of a software solution with advanced interface for storage, organization, and management of files and folders in the cloud and defended: 30.09.2024. with the grade: excellent (5)



#### LEARNING OUTCOMES OF THE STUDY PROGRAMME

The student obtained the following competencies through their studies:

- 1. Actively, in speech and writing, communicate in English on the topics in the field of computer science and applied computing.
- 2. Evaluate and analyse problems in the field of expertise using concepts of information theory, applied mathematical theory and best engineering practices.
- 3. Suggest solutions in the field of applied computing by analysing and evaluating current knowledge, models and solutions in the field of the expertise.
- 4. Apply complex research and analysis methods to determine detailed user or organizational requirements for information solutions or systems.
- 5. Identify, analyse and explain the problems of applying, polishing and implementing existing information systems in a wider business context and propose adequate solutions.
- 6. Manage relationship with users and / or members of a team, recognizing possible sources of misunderstanding and conflict and proactively and effectively influence their inhibition.
- 7. Design, prepare and manage the implementation of development projects in the field of applied computing using recognized methodologies and considering available resources, budgets and risks.
- 8. Be aware of business, organizational and sociological aspects of application and impact on the environment (user, organization, society) when planning, designing and applying information systems.
- 9. Evaluate the entrepreneurial idea and propose adequate business and organizational conditions for its realization.
- 10. Proactively manage your own professional and personal development and collect new knowledge and skills in different contexts and environment (e.g. through successful and unsuccessful projects, through continuous self-learning and monitoring of scientific and technological achievements, additional education ...).
- 11. Independently design and manage IT project with available resources, taking responsibility for personal and team tasks in unpredictable business conditions and environment.
- 12. Perform an independently significant final project by following set of requirements and standards and by applying modern technologies, tools and methodology.
- 13. Apply basic software tools, structures and algorithms to solve problems and develop complete software solutions.
- 14. Apply tools and techniques for creating and formatting databases, and entering, modifying and accessing data in databases.
- 15. Expert usage of current programming languages (Java, C #, ...) and development tools, and apply current software development methodologies using object-oriented approach.
- 16. Use modern tools, techniques and development frameworks to create software solutions for the web environment.
- 17. Use modern tools, techniques and development frameworks to create mobile software solutions.
- 18. Create, plan and design user interface in accordance with current trends in design, ergonomics and accessibility, including interfaces for users with special needs.
- 19. Design and build complex interactive application solutions and applications for business usage
- 20. Create software solutions in line with current methodologies of solution development lifecycle, project development of applications, software engineering and software documentation.
  - 21. Apply adequate methods and techniques for tackling large sets of data and create





### **ADDITIONAL INFORMATION**

Access to further levels of	The student has the right to continue their studies in a
education	professional graduate study programme or a university
	graduate study programme in accordance with the internal
	regulations of the higher education institution that conducts
	that study programme and along with passing differential
	exams determined by the higher education institution.
Access to regulated professions	-
Professional status (if any) and	Upon completion of the study programme, the holder of this
access to the labour market	qualification is authorised to use the professional title:
	Prvostupnik (baccalaureus) inženjer računarstva /
	Prvostupnica (baccalaurea) inženjerka računarstva (bacc. ing.
	comp.).
	Description of the title awarded: Bachelor in Applied Computer
	Engineering
Sources of additional information	Algebra University
	Gradišćanska 24
	HR-10000 Zagreb
	Republic of Croatia
	Phone: + 385 1 2222 182
	Fax: + 385 1 2222 183
	E-mail: student@algebra.hr
	Web: http://www.algebra.hr
	ENIC/NARIC National Information Centre
	Donje Svetice 38/5
	HR-10000 Zagreb,
	Republic of Croatia
	Phone: +385 1 627 48 88
	Fax: +385 1 627 48 89
	E-mail: enic@azvo.hr
	Web: http://www.azvo.hr
Internship carried out in:	Company: Hrvatska akademska i istraživačka mreža -
	CARNET
	Relevant work experience recognized instead of work
	placement.
Academic mobility:	-
Prizes:	-
Disciplinary measures:	-
During their studies, the student	-
obtained industrial certificates as	
follows:	
Other:	-



## DISPLAY OF THE LEVEL OF ACHIEVEMENT OF LEARNING OUTCOMES IN THE MODULE

									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	
									learning outcomes
21-06-500	English for IT	1	Mandatory	15 hours	30 hours	4	4	15.02.2022	Max. 100%
Outcome 1	Use technical terminology				ven exercise	S.			70%
Outcome 2	Use simple grammatical st								93%
Outcome 3	Write a simple text in Engl								90%
Outcome 4 Outcome 5	Hold a simple presentation								80% 90%
Outcome 6	Use more complex gramm					ses.			95%
Outcome 7	Write a simple summary or				exercises.				95%
Outcome 1	vviite a cimple callinary c	r a protocolo	riar toxt iii E	ngilon.					
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
									learning outcomes
21-06-501	Kinesiological culture 1	1	Mandatory	0 hours	30 hours	0	Pass	13.09.2023	Max. 100%
21 00 001	Tariesiological culture 1		wandatory	o nours	00 110013	U	1 455.	10.00.2020	Widx. 10070
				-					
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	
									learning outcomes
21-06-502-1	Mathematics	1	Mandatory	30 hours	30 hours	5	4	11.02.2022	Max. 100%
Outcome 1	Analyse the elementary fu	inctions, ske	etch graphs	of elementa	ry functions,	and calcul	ate the	domain of	95%
Outcome	basic and complex function								3570
Outcome 2	Calculate inverse function			ets and disp	olay sets, an	d operation	s Venn	diagrams,	88%
	and calculate the arithmeti			-l - 4 ! 4	- <b> </b>			f 1!	
Outcome 3	Solve basic operations w		s, calculate	determinant	or matrix,	and solve	systems	s of linear	79%
	equations using appropriation Calculate basic geometry		lane and er	aca (linas 1	and planes)	using vect	ore and	usa hasic	
Outcome 4	linear algebra in manipulat			•	and planes)	using vecu	JIS allu	use basic	56%
	inical algebra in manipulat	lion with goo	лиси у објес						l accel of a daution of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
Code	Name	Ocinicator	L/1V1	Locialo	LA.	LOIO	Orauc	Date	learning outcomes
	Decise of digital								
21-00-500	Basics of digital	1	Mandatory	30 hours	30 hours	6	4	01.02.2022	Max. 100%
21 00 000	electronics		ivialidatory	00 110013	oo nours	· ·		01.02.2022	Wax. 10070
<ul> <li>Outcome 1</li> </ul>	Use number systems and	codes to dis	nlav digital d	lata					63%
Outcome 1 Outcome 2	Use number systems and Use methods to detect and								63% 75%
Outcome 1 Outcome 2 Outcome 3	Use number systems and Use methods to detect and Apply axioms and theorem	d correct dat	a transmissi						63% 75% 58%
Outcome 2	Use methods to detect and	d correct dat ns of Boolea	a transmissi n algebra.	on errors.	ogic circuits.				75%
Outcome 2 Outcome 3 Outcome 4 Outcome 5	Use methods to detect and Apply axioms and theorem	d correct dat ns of Boolea omplex logic	a transmissi n algebra. c functions u	on errors.	ogic circuits.				75% 58% 83% 92%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6	Use methods to detect and Apply axioms and theorem Minimize and implement c Design a simple combinati Design a simple arithmetic	d correct dat as of Boolea omplex logic onal digital c digital circu	ta transmissi n algebra. c functions u circuit. iit.	on errors.	ogic circuits.				75% 58% 83% 92% 92%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Use methods to detect and Apply axioms and theorem Minimize and implement c Design a simple combinati Design a simple arithmetic Design a simple sequentia	d correct dat as of Boolea omplex logic onal digital digital circu digital circu	ta transmissi n algebra. c functions u circuit. iit. uit.	on errors. sing basic k	ogic circuits.				75% 58% 83% 92% 92% 82%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8	Use methods to detect and Apply axioms and theorem Minimize and implement c Design a simple combination Design a simple arithmetic Design a simple sequentia Analyze the characteristics	d correct dat ns of Boolea omplex logic onal digital c digital circu digital circu s of static an	a transmissi n algebra. c functions u circuit. iit. uit. d dynamic n	on errors. sing basic lo					75% 58% 83% 92% 92% 82% 59%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Use methods to detect and Apply axioms and theorem Minimize and implement c Design a simple combinati Design a simple arithmetic Design a simple sequentia	d correct dat ns of Boolea omplex logic onal digital c digital circu digital circu s of static an	a transmissi n algebra. c functions u circuit. iit. uit. d dynamic n	on errors. sing basic lo		conversion.			75% 58% 83% 92% 92% 82%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination Design a simple arithmetic Design a simple sequentiar Analyze the characteristics Analyze the operation of comparison	d correct datas of Boolea complex logic conal digital circuit digital circuit of static and ircuits for digital circuits for digital ci	a transmissi n algebra. c functions u circuit. iit. uit. id dynamic n gital-to-analo	on errors. sing basic long nemories. g and analo	og-to-digital (				75% 58% 83% 92% 92% 82% 59%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8	Use methods to detect and Apply axioms and theorem Minimize and implement c Design a simple combination Design a simple arithmetic Design a simple sequentia Analyze the characteristics	d correct dat ns of Boolea omplex logic onal digital c digital circu digital circu s of static an	a transmissi n algebra. c functions u circuit. iit. uit. d dynamic n	on errors. sing basic lo		conversion.	Grade	Date	75% 58% 83% 92% 92% 82% 59% 90% Level of adoption of
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination Design a simple arithmetic Design a simple sequentiar Analyze the characteristics Analyze the operation of comparison	d correct datas of Boolea complex logic conal digital circuit digital circuit of sof static an ircuits for digital circuits for digital	a transmissi n algebra. c functions u circuit. iit. uit. id dynamic n gital-to-analo	on errors. sing basic long nemories. g and analo	og-to-digital (		Grade	Date	75% 58% 83% 92% 92% 82% 59% 90%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple sequential Analyze the characteristics Analyze the operation of contact of the Name	d correct datas of Boolea omplex logic onal digital of a digital circuit digital circuits of static an ircuits for digital circuits for	a transmissi n algebra. c functions u circuit. iit. id dynamic n gital-to-analo	on errors. sing basic long memories. g and analo	og-to-digital o	ECTS			75% 58% 83% 92% 92% 82% 59% 90% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination Design a simple arithmetic Design a simple sequentiar Analyze the characteristics Analyze the operation of comparison	d correct datas of Boolea complex logic conal digital circuit digital circuit of sof static an ircuits for digital circuits for digital	a transmissi n algebra. c functions u circuit. iit. uit. id dynamic n gital-to-analo	on errors. sing basic long memories. g and analo	og-to-digital (			Date 05.02.2022	75% 58% 83% 92% 92% 82% 59% 90% Level of adoption of
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination of Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of continuous Name	d correct datas of Boolea omplex logic onal digital circu digital circu digital circu s of static an ircuits for dig Semester	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n jital-to-analo  E/M  Mandatory	nemories. g and analo Lecture	eg-to-digital of Ex.  45 hours	ECTS 6	5	05.02.2022	75% 58% 83% 92% 92% 82% 59% 90% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination of Design a simple arithmetic Design a simple sequential Analyze the characteristics Analyze the operation of continuous Name  Programming  Design a simple algorithm	d correct datas of Boolea omplex logic onal digital circu digital circu digital circu s of static an ircuits for dig Semester	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n jital-to-analo  E/M  Mandatory	nemories. g and analo Lecture	eg-to-digital of Ex.  45 hours	ECTS 6	5	05.02.2022	75% 58% 83% 92% 92% 82% 59% 90% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combinated Design a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of continuous Name  Programming  Design a simple algorithm programming language.	d correct datas of Boolea omplex logic omal digital circu digital circu digital circu digital circu s of static an ircuits for dig Semester	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel	on errors.  sing basic long basic	Ex.  45 hours	ECTS 6 sing the ba	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combinated Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of containing the Programming  Programming  Design a simple algorithm programming language.  Select a suitable contain	d correct datas of Boolea omplex logic onal digital circu d digital circu d digital circu d digital circu s of static an ircuits for dig Semester	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel	on errors.  sing basic long basic	Ex.  45 hours	ECTS 6 sing the ba	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9 Code 21-06-503 Outcome 1	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple sequentiation and the combination of	d correct datas of Boolea omplex logic onal digital of digital circuits of static an ircuits for digital circuits	a transmissi n algebra. c functions u circuit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel	nemories.  g and analo  Lecture  30 hours ines and im	eg-to-digital of Ex.  45 hours  applement it upply comple	ECTS 6 sing the back mathematic	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9 Code 21-06-503 Outcome 1 Outcome 2 Outcome 3	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple sequentiation Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements.  Design a solution to a simple algoritory and simple algorithm programming language.	d correct datas of Boolea omplex logic onal digital of digital circuits of static an ircuits for digital circuits	a transmissi n algebra. c functions u circuit. iiit. iit. id dynamic n gital-to-analo E/M  Mandatory  to the guidel ing more d using function	nemories.  g and analo  Lecture  30 hours ines and im ata and apons, create a	eg-to-digital of Ex.  45 hours  applement it upply comple	ECTS 6 sing the back mathematic	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100% 100% 89%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9 Code 21-06-503 Outcome 1	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple sequentiation and the combination of	d correct datas of Boolea omplex logic onal digital circu of static an ircuits for dig  Semester  1 according of the for stor of problem type and us	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel  using functio e its instance	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve	eg-to-digital of Ex.  45 hours  apply complete and call then a problem.	ECTS 6 sing the back mathematic	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination of the Design a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain the Design a simple algorithm programming language.  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a solution to a simple period of the Design a simple user data	d correct datas of Boolea omplex logic onal digital of digital circu of static an ircuits for dig  Semester  1 a according of oner for stor one problem type and us of available of	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel  using functio e its instance	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve	eg-to-digital of Ex.  45 hours  apply complete and call then a problem.	ECTS 6 sing the back mathematic	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100% 100% 89% 97%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination besign a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a solution to a simple user data Create a solution using the	d correct datas of Boolea omplex logic onal digital of digital circu of static an ircuits for dig  Semester  1 a according of oner for stor one problem type and us of available of	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel  using functio e its instance	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve	eg-to-digital of Ex.  45 hours  apply complete and call then a problem.	ECTS 6 sing the back mathematic	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100% 100% 89% 97% 100% 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5	Use methods to detect and Apply axioms and theorem Minimize and implement or Design a simple combination besign a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a solution to a simple user data Create a solution using the	d correct datas of Boolea omplex logic onal digital of digital circu of static an ircuits for dig  Semester  1 a according of oner for stor one problem type and us of available of	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel  using functio e its instance	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve	eg-to-digital of Ex.  45 hours  apply complete and call then a problem.	ECTS 6 sing the back mathematic	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100%  100% 89% 97% 100% Level of adoption of
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a simple user data Create a solution using the Construct a	d correct datas of Boolea omplex logic onal digital circuit digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for digita	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel ing more d using functio se its instance nemory optic	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve ans of stack	eg-to-digital of Ex.  45 hours  applement it upoply completed call them a problem. and heap.	6 sing the back mathematic.	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes Max. 100% 100% 89% 97% 100% 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a simple user data Create a solution using the Construct a	d correct datas of Boolea omplex logic onal digital circuit digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for digita	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel ing more d using functio se its instance nemory optic	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve ans of stack	eg-to-digital of Ex.  45 hours  applement it upoply completed call them a problem. and heap.	6 sing the back mathematic.	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100%  100% 89% 97% 100% Level of adoption of
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a simple user data Create a solution using the Construct a	d correct datas of Boolea omplex logic onal digital circuit digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for digita	a transmissi n algebra. c functions u- circuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel ing more d using functio se its instance nemory optic	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve ans of stack	eg-to-digital of Ex.  45 hours  applement it upoply completed call them a problem. and heap.	6 sing the back mathematic.	5 asic eler	05.02.2022 ments of a	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100%  100% 89% 97% 100% Level of adoption of
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple sequentian Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a solution to a simple user data Create a solution using the Construct a solution using Name	d correct datas of Boolea omplex logic onal digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for d	a transmissi n algebra. c functions ucircuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel ing more d using functio se its instance nemory optic  E/M	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve ans of stack	eg-to-digital of Ex.  45 hours  applement it upply completed a problem.  and heap.	ECTS  6  sing the back mathematical mathemat	5 asic eler	nents of a nd logical	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100%  100% 89% 97% 100% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple sequentian Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a solution to a simple user data Create a solution using the Construct a solution using Name	d correct datas of Boolea omplex logic onal digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for d	a transmissin algebra. c functions uncircuit. iit. iit. iid dynamic ngital-to-analo  E/M  Mandatory  to the guidel ing more d using function its instance memory option  E/M  Mandatory	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve ins of stack  Lecture	eg-to-digital of Ex.  45 hours  applement it upply complete and call them a problem, and heap.  Ex.  30 hours	ECTS  6  as mathematical mathem	5 asic eler	nents of a nd logical	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100%  100% 89% 97% 100% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9 Code  21-06-503  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination besign a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain the Name Programming Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a solution to a simple user data Create a solution using Name  Business software tools  Use the programme to wo Use basic tools and possitic simplements.	d correct datas of Boolea omplex logic onal digital or digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for digital cir	a transmissi n algebra. c functions uncircuit. iit. iit. iid dynamic n gital-to-analo  E/M  Mandatory  to the guidel ing more d  using function is its instance nemory optic  E/M  Mandatory  ill for community program for	on errors.  sing basic long basic	eg-to-digital of Ex.  45 hours  apply complete and call then a problem. and heap.  Ex.  30 hours  d organizations are a proper to the complete and the complete	ECTS  6  asing the back mathematical mathema	5 asic eleratical a	nents of a nd logical  Date	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100% 89% 97% 100% 100% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2  Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain the Name Programming Industry Select a suitable contain operations to its elements. Design a simple user data Create a solution to a simple Design a simple user data Create a solution using the Construct a solution using the Construct a solution using the Use basic tools and possit Use basic tools and fear	d correct datas of Boolea omplex logic onal digital or digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for digital cir	a transmissi n algebra. c functions uncircuit. iit. iit. iid dynamic n gital-to-analo  E/M  Mandatory  to the guidel ing more d  using function is its instance nemory optic  E/M  Mandatory  ill for community program for	on errors.  sing basic long basic	eg-to-digital of Ex.  45 hours  apply complete and call then a problem. and heap.  Ex.  30 hours  d organizations are a proper to the complete and the complete	ECTS  6  asing the back mathematical mathema	5 asic eleratical a	nents of a nd logical  Date	75% 58% 83% 92% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100% 89% 97% 100% 100% Level of adoption of learning outcomes  Max. 100% 70% 70%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain Name  Programming  Design a simple algorithm programming language.  Select a suitable contain operations to its elements. Design a solution to a simple posign a simple user data Create a solution using the Construct a solution using the Construct a solution using the Use basic tools and possit Use basic tools and feadocuments.	d correct datas of Boolea omplex logic onal digital circuit digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for digita	a transmissi n algebra. c functions ucircuit. iit. iit. id dynamic n gital-to-analo  E/M  Mandatory  to the guidel ing more d  using functio se its instance nemory optio  E/M  Mandatory  iil for commu- program for word proces	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve ans of stack  Lecture  15 hours nication and creating prossing progressing progressing stack	and hours  20 hours  45 hours  45 hours  46 pply complete  and call then a problem.  and heap.  Ex.  30 hours d organization esentations.  amme in organization	ECTS 6 sing the back mathematical mathematic	5 asic eleratical a Grade	nents of a nd logical  Date  18.02.2022	75% 58% 83% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100% 89% 97% 100% 100% Level of adoption of learning outcomes  Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8 Outcome 9  Code  21-06-503  Outcome 1  Outcome 2  Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Use methods to detect and Apply axioms and theorem Minimize and implement of Design a simple combination Design a simple arithmetic Design a simple arithmetic Design a simple sequentia Analyze the characteristics Analyze the operation of contain the Name Programming Industry Select a suitable contain operations to its elements. Design a simple user data Create a solution to a simple Design a simple user data Create a solution using the Construct a solution using the Construct a solution using the Use basic tools and possit Use basic tools and fear	d correct datas of Boolea omplex logic onal digital circuit digital circuit digital circuit digital circuit digital circuit sof static an ircuits for digital circuits for store for store digital circuits for store digital circuits for digit	a transmissin algebra. c functions uncircuit. iit. iit. id dynamic nigital-to-analo  E/M  Mandatory to the guidel ing more di using function ing function ing function ing more di using function ing fu	nemories. g and analo Lecture  30 hours ines and im ata and ap ons, create a es to solve ans of stack  Lecture  15 hours nication and creating prossing progressing progressing stack	and hours  20 hours  45 hours  45 hours  46 pply complete  and call then a problem.  and heap.  Ex.  30 hours d organization esentations.  amme in organization	ECTS 6 sing the back mathematical mathematic	5 asic eleratical a Grade	nents of a nd logical  Date  18.02.2022	75% 58% 83% 92% 92% 92% 92% 82% 59% 90% Level of adoption of learning outcomes  Max. 100%  100% 89% 97% 100% 100% Level of adoption of learning outcomes  Max. 100% 70% 70%



									UNIVERSITY
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	·
									learning outcomes
	Introduction to computer								
21-00-501	networks	1	Mandatory	30 hours	30 hours	5	3	17.02.2022	Max. 100%
Outcome 1	Define the role of compute								73%
Outcome 2	Analyze computer commu					nalysis.			53%
Outcome 3 Outcome 4	Configure devices in a net								70% 58%
Outcome 5	Define the architecture and			inication ne	WUIKS.				50%
Gutonii o	Bonnie the role of cyberees	diffy iii ii o	yotorno.						
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
3343									learning outcomes
21-00-502	Computer architecture	2	Mandatory	30 houre	30 hours	5	4	05.07.2022	Max. 100%
21-00-302	Computer architecture		iviaridator y	30 110013	50 Hours			00.01.2022	IVIAA. 10070
	Differentiate between the	structure a	nd the elem	ents of a m	otherboard	in a nerso	nal con	nouter and	
Outcome 1	sketch the architecture, mo				iotriorboard	iii a poioo	iai 0011	ipator and	100%
	Analyze the phases of per				of the bus ar	nd combine	basic,	branching,	200/
Outcome 2	and looping instructions in							0,	82%
Outcome 3	Sketch and analyze the str	ucture and	the basic ele	ments of the	e ALU and th	ne control u	nit.		76%
Outcome 4	Analyze the concept and o	rganization	of the interru	ıpt system a	and methods	of data trai	nsfer.		94%
Outcome 5	Analyze the parallelism on		<u> </u>				ole proc	essors.	94%
Outcome 6	Compare SMP and NUMA	memory me	odels on sys	tems with m	ultiple proce	ssors.			88%
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	
									learning outcomes
21-06-505	Kinesiological culture 2	2	Mandatory	0 hours	30 hours	0	Pass.	13.09.2023	Max. 100%
				-					
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
Code	Ivaille	Semester	L/IVI	Lecture	LA.	LOIG	Orace	Date	learning outcomes
									J
24 00 502	Mathamatical analysis	2	Mondotoni	20 haura	20 haura	-	4	07 07 0000	May 1000/
21-00-503	Mathematical analysis	2	Mandatory	30 nours	30 hours	5	4	07.07.2022	Max. 100%
	Define the miles of class	-1	atian and a	a a la contra de la contra dela contra de la contra del la contra de la contra de la contra de la contra de la contra del la contra de la contra del la contra del la contra del la contra de la contra del la co	6		a alamin	ations and	
Outcome 1	Define the rules of eleme	•		ppiy tnem o	on function	compositio	n deriv	ations and	76%
Outcome 2	implicitly and parameter-de Apply differential calculus			ctorictic par	amotore for	drawing a fi	ınction	graph	87%
Outcome 3	Define basic features of an							grapii.	75%
Outcome 4	Define definite integral and							irves	80%
	- comme de management								
									Loyal of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of learning outcomes
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	
									learning outcomes
Code 21-00-504-1	Name Operating systems	Semester 2	E/M Mandatory		Ex.	ECTS 5		Date 11.07.2022	
21-00-504-1	Operating systems	2	Mandatory	30 hours	30 hours				learning outcomes  Max. 100%
		2 ystem work	Mandatory s on a simple	30 hours	30 hours				learning outcomes
21-00-504-1 Outcome 1	Operating systems  Explain how the interrupt s	2 ystem work cess on a co	Mandatory s on a simple omputer.	30 hours	30 hours	5	5		learning outcomes  Max. 100%
21-00-504-1  Outcome 1  Outcome 2	Operating systems  Explain how the interrupt s  Explain the concept of products	2 ystem work cess on a co ads on a co	Mandatory s on a simple computer. computer and	30 hours e computers how the pro	30 hours	5	5		Max. 100% 99% 83%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5	Operating systems  Explain how the interrupt s Explain the concept of prot Explain the concept of thre Explain simple principles o Explain the simple principle	ystem work cess on a co ads on a co f memory m es of disk m	Mandatory s on a simple omputer. imputer and tanagement. anagement.	30 hours e computers how the pro	30 hours model.	5 ates time to	5		99% 83% 94% 88% 88%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles of	ystem work cess on a co ads on a co f memory m es of disk m	Mandatory s on a simple omputer. imputer and tanagement. anagement.	30 hours e computers how the pro	30 hours model.	5 ates time to	5		99% 83% 94% 88%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles of Explain the simple principle Explain the principles of operating the second second second	ystem work cess on a co ads on a co f memory m es of disk m peration of s	Mandatory s on a simple mputer. mputer and management. anagement. imple multim	30 hours e computers how the pro	30 hours model.	5 ates time to	5 them.	11.07.2022	99% 83% 94% 88% 88%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5	Operating systems  Explain how the interrupt s Explain the concept of prot Explain the concept of thre Explain simple principles o Explain the simple principle	ystem work cess on a co ads on a co f memory m es of disk m	Mandatory s on a simple omputer. imputer and tanagement. anagement.	30 hours e computers how the pro	30 hours model.	5 ates time to	5	11.07.2022	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82%  Level of adoption of
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles of Explain the simple principle Explain the principles of operating the second second second	ystem work cess on a co ads on a co f memory m es of disk m peration of s	Mandatory s on a simple mputer. mputer and management. anagement. imple multim	30 hours e computers how the pro	30 hours model.	5 ates time to	5 them.	11.07.2022	99% 83% 94% 88% 88% 82%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles of Explain the simple principle Explain the principles of operating the second second second	ystem work cess on a co ads on a co f memory m es of disk m peration of s	Mandatory s on a simple mputer. mputer and management. anagement. imple multim	30 hours e computers how the pro	30 hours s model. cessor alloc ing systems Ex.	5 ates time to	5 them.	11.07.2022	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82%  Level of adoption of
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of thre Explain simple principles of Explain the simple principle Explain the principles of op Name  Basics of business	ystem work cess on a co ads on a co f memory m es of disk m peration of s	Mandatory s on a simple mputer. mputer and management. anagement. imple multim	30 hours e computers how the pro nedia operat Lecture	30 hours model.	5 ates time to	5 them.	11.07.2022	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82%  Level of adoption of learning outcomes
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of thre Explain simple principles of Explain the simple principle Explain the principles of op  Name  Basics of business economics	ystem work cess on a co ads on a co f memory m es of disk m peration of s Semester	Mandatory s on a simple omputer. mputer and lanagement. anagement. imple multim E/M Mandatory	30 hours e computers how the pro nedia operat Lecture 30 hours	30 hours s model. cessor alloc ing systems Ex.	ates time to	5 them.	11.07.2022 Date	learning outcomes  Max. 100%  99% 83% 94% 88% 88% Level of adoption of learning outcomes  Max. 100%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6  Code  21-00-505  Outcome 1	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles of Explain the simple principle Explain the principles of op Name  Basics of business economics Present the basic elements	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the eco	Mandatory s on a simple computer. computer and lanagement. anagement. imple multim E/M Mandatory	30 hours e computers how the pro nedia operat Lecture 30 hours n.	30 hours s model.  cessor allocing systems  Ex.  15 hours	ates time to	5 them.	11.07.2022 Date	learning outcomes  Max. 100%  99% 83% 94% 88% 82% Level of adoption of learning outcomes  Max. 100%  65%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6  Code  21-00-505  Outcome 1  Outcome 2	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles o Explain the simple principle Explain the principles of op Name  Basics of business economics  Present the basic elements Explain market, supply, de	ystem work cess on a co ads on a co f memory m es of disk m peration of s Semester  2 s of the eco mand, and t	Mandatory s on a simple computer. computer and computer a	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity	30 hours s model. cessor alloc ing systems Ex. 15 hours	ates time to ECTS 4 d demand.	5 them.	11.07.2022 Date	learning outcomes  Max. 100%  99% 83% 94% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6  Code  21-00-505  Outcome 1  Outcome 2  Outcome 3	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of thre Explain simple principles of Explain the simple principles of op Name  Basics of business economics  Present the basic elements Explain market, supply, de Analyze the factors influen	ystem work cess on a co ads on a co f memory m es of disk m beration of s  Semester  2 s of the econ mand, and i cing consur	Mandatory s on a simple omputer and nanagement. anagement. imple multim E/M Mandatory nomic syster the concept oner behavior	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity	30 hours s model. cessor alloc ing systems Ex. 15 hours	ates time to ECTS 4 d demand.	5 them.	11.07.2022 Date	learning outcomes  Max. 100%  99% 83% 94% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65%
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of thre Explain simple principles of Explain the simple principles of Explain the principles of op Name  Basics of business economics  Present the basic elements Explain market, supply, de Analyze the factors influen Explain the characteristics	ystem work cess on a co ads on a co ads on a co ads of sof disk m beration of s  Semester  2 s of the econ mand, and t cing consur of production	Mandatory s on a simple omputer. imputer and anagement. anagement. imple multin  E/M  Mandatory  nomic syster the concept the concept of the policy on inputs.	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produc	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions	ates time to ECTS 4 d demand.	5 them.	11.07.2022 Date	learning outcomes  Max. 100%  99% 83% 94% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63%
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5	Operating systems  Explain how the interrupt s Explain the concept of produce of the explain simple principles of explain the simple principle of explain the principles of operating the explain the basic elements of the explain market, supply, defined analyze the factors influented explain the characteristics of the explain the interaction of markets.	ystem work cess on a co ads on a co ads on a co ads of sof disk m beration of s  Semester  2 s of the eco mand, and t cing consur of production acroeconor	Mandatory s on a simple omputer. mputer and anagement. anagement. imple multim  E/M  Mandatory  momic system the concept on inputs. mic objectives	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produces, instrume	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions nts, and indicates	ates time to ECTS  4 d demand.	5 them.	11.07.2022 Date	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64%
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of thre Explain simple principles of Explain the simple principles of Explain the principles of op Name  Basics of business economics  Present the basic elements Explain market, supply, de Analyze the factors influen Explain the characteristics	ystem work cess on a co ads on a co ads on a co ads of sof disk m beration of s  Semester  2 s of the eco mand, and t cing consur of production acroeconor	Mandatory s on a simple omputer. mputer and anagement. anagement. imple multim  E/M  Mandatory  momic system the concept on inputs. mic objectives	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produces, instrume	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions nts, and indicates	ates time to ECTS  4 d demand.	5 them.	11.07.2022 Date	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 6  Code  21-00-505  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6	Operating systems  Explain how the interrupt so Explain the concept of proc Explain the concept of three Explain simple principles of Explain the simple principle Explain the principles of operation of the Explain the principles of operation of the Explain the principles of operation of the Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of mexplain the impact of various explain the impact of various explain the characteristics of the Explain the impact of various explain the impact of various explain the characteristics of the Explain the impact of various explain the i	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the econ mand, and to cing consur nacroeconol us factors of	Mandatory s on a simple computer. computer and lanagement. anagement. imple multim  E/M  Mandatory  momic system the concept t	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produces, instrume	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply ander decisions ints, and indidevelopmen	ates time to ECTS  4 d demand.	5 them.	11.07.2022  Date 23.07.2022	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64%
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5	Operating systems  Explain how the interrupt s Explain the concept of produce of the explain simple principles of explain the simple principle of explain the principles of operating the explain the basic elements of the explain market, supply, defined analyze the factors influented explain the characteristics of the explain the interaction of markets.	ystem work cess on a co ads on a co ads on a co ads of sof disk m beration of s  Semester  2 s of the eco mand, and t cing consur of production acroeconor	Mandatory s on a simple omputer. mputer and anagement. anagement. imple multim  E/M  Mandatory  momic system the concept on inputs. mic objectives	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produces, instrume	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions nts, and indicates	ates time to ECTS  4 d demand.	5 them.	11.07.2022  Date 23.07.2022	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54%
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 6  Code  21-00-505  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6	Operating systems  Explain how the interrupt so Explain the concept of proc Explain the concept of three Explain simple principles of Explain the simple principle Explain the principles of operation of the Explain the principles of operation of the Explain the principles of operation of the Explain the basic elements economics  Present the basic elements Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of mexplain the impact of various Name	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the econ mand, and to cing consur nacroeconol us factors of	Mandatory s on a simple computer. computer and lanagement. anagement. imple multim  E/M  Mandatory  momic system the concept t	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produces, instrume	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply ander decisions ints, and indidevelopmen	ates time to ECTS  4 d demand.	5 them.	11.07.2022  Date 23.07.2022	learning outcomes  Max. 100%  99% 83% 944% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Operating systems  Explain how the interrupt so Explain the concept of proc Explain the concept of three Explain simple principles of Explain the simple principle Explain the principles of operation of the Explain the principles of operation of the Explain the principles of operation of the Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of mexplain the impact of various explain the impact of various explain the characteristics of the Explain the impact of various explain the impact of various explain the characteristics of the Explain the impact of various explain the i	ystem work cess on a co f memory m es of disk m eration of s  Semester  2 s of the eco mand, and t cing consur of productic nacroeconor us factors o  Semester	Mandatory s on a simple computer and computer behavior computer behavior computer behavior computer and compu	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produc es, instrume growth and Lecture	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions ints, and indicate development Ex.	ates time to ECTS  4 d demand.	5 them.  Grade	11.07.2022  Date 23.07.2022	learning outcomes  Max. 100%  99% 83% 944% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes
21-00-504-1  Outcome 1  Outcome 2  Outcome 3  Outcome 6  Code  21-00-505  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Outcome 6	Operating systems  Explain how the interrupt so Explain the concept of proc Explain the concept of three Explain simple principles of Explain the simple principle Explain the principles of operation of the Explain the principles of operation of the Explain the principles of operation of the Explain the basic elements economics  Present the basic elements Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of mexplain the impact of various Name	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the econ mand, and to cing consur nacroeconol us factors of	Mandatory s on a simple computer. computer and lanagement. anagement. imple multim  E/M  Mandatory  momic system the concept the concept on inputs. mic objective n economic	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produc es, instrume growth and Lecture	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply ander decisions ints, and indidevelopmen	ates time to ECTS  4 d demand.	5 them.  Grade	11.07.2022  Date 23.07.2022	learning outcomes  Max. 100%  99% 83% 944% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of three Explain simple principles of Explain the simple principle Explain the principles of operation of the concept of	ystem work cess on a co ads on a co f memory m es of disk m eration of s  Semester  2 s of the eco mand, and t cing consur of production acroeconor us factors o  Semester	Mandatory s on a simple omputer. omputer and lanagement. anagement. imple multim  E/M  Mandatory  nomic system the concept on inputs. mic objective n economic  E/M  Mandatory	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity of and product es, instrume growth and Lecture 30 hours	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions ints, and indidevelopment Ex. 30 hours	ates time to ECTS  4 d demand. cators. tt. ECTS	5 them.  Grade  3 Grade	11.07.2022  Date 23.07.2022	learning outcomes  Max. 100%  99% 83% 944% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of thre Explain simple principles of Explain the simple principles of operations Explain the principles of operations Name  Basics of business economics  Present the basic elements Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of m Explain the impact of varion  Name  Data structures and algorithms  Determine and argue the	ystem work cess on a co ads on a co f memory m es of disk m eration of s  Semester  2 s of the eco mand, and t cing consur of production acroeconor us factors o  Semester	Mandatory s on a simple omputer. omputer and lanagement. anagement. imple multim  E/M  Mandatory  nomic system the concept on inputs. mic objective n economic  E/M  Mandatory	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity of and product es, instrume growth and Lecture 30 hours	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions ints, and indidevelopment Ex. 30 hours	ates time to ECTS  4 d demand. cators. tt. ECTS	5 them.  Grade  3 Grade	11.07.2022  Date 23.07.2022	learning outcomes  Max. 100%  99% 83% 944% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-506  Code	Operating systems  Explain how the interrupt s Explain the concept of protexplain the concept of three Explain simple principles of Explain the simple principle of Explain the simple principle Explain the principles of operation of the Explain the principles of operation of the Explain the principles of operation of the Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of the Explain the interaction of the Explain the interaction of the Explain the impact of various Name  Data structures and algorithms  Determine and argue the programming language.	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the econ mand, and to cing consuri nacroeconor us factors o  Semester  2 time comple	Mandatory s on a simple computer. computer and lanagement. anagement. imple multim  E/M  Mandatory  nomic system the concept the concept on inputs. mic objectives n economic  E/M  Mandatory  exity a prior	30 hours e computers how the pro nedia operat Lecture 30 hours and produc es, instrume growth and Lecture 30 hours i and a pos	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply ander decisions ints, and indidevelopment Ex. 30 hours teriori for a	ates time to ECTS  4 d demand. cators. t. ECTS  6 given algor	5 othem.  Grade  3 Grade	11.07.2022 Date 23.07.2022 Date 22.07.2022	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes  Max. 100%
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code	Operating systems  Explain how the interrupt s Explain the concept of prod Explain the concept of thre Explain simple principles of Explain the simple principles of operations Explain the principles of operations Name  Basics of business economics  Present the basic elements Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of m Explain the impact of varion  Name  Data structures and algorithms  Determine and argue the	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the econ mand, and to cing consuri nacroeconor us factors o  Semester  2 time comple	Mandatory s on a simple computer. computer and lanagement. anagement. imple multim  E/M  Mandatory  nomic system the concept the concept on inputs. mic objectives n economic  E/M  Mandatory  exity a prior	30 hours e computers how the pro nedia operat Lecture 30 hours and produc es, instrume growth and Lecture 30 hours i and a pos	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply ander decisions ints, and indidevelopment Ex. 30 hours teriori for a	ates time to ECTS  4 d demand. cators. t. ECTS  6 given algor	5 othem.  Grade  3 Grade	11.07.2022 Date 23.07.2022 Date 22.07.2022	learning outcomes  Max. 100%  99% 83% 944% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 5 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-506  Outcome 1 Outcome 5 Outcome 6	Operating systems  Explain how the interrupt s Explain the concept of proc Explain simple principles o Explain the simple principles of Explain the simple principle Explain the principles of operating simple principle Explain the principles of operating simple principle Explain the principles of operating simple sim	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the eco mand, and t cing consur of production acroecono us factors of  Semester  2 time complete ag linear de	Mandatory s on a simple computer. computer and computer computer computer concept concept computer concept concept computer concept concep	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produc es, instrume growth and Lecture 30 hours i and a pos es (list, lint)	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply ander decisions nts, and indicated development Ex. 30 hours teriori for a seed list, states	ates time to ECTS  4 d demand cators. tt. ECTS  6 given algorack, queue	5 them.  Grade  5 rithm do and	11.07.2022  Date  23.07.2022  Date  22.07.2022  erived in a associated	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes  Max. 100%  100%
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-506  Code	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles of Explain the simple principles of Explain the principles of op Name  Basics of business economics  Present the basic elements Explain market, supply, de Analyze the factors influen Explain the characteristics Explain the interaction of m Explain the impact of vario  Name  Data structures and algorithms  Determine and argue the programming language. Construct a solution usin algorithms.	ystem work cess on a co ads on a co f memory m es of disk m peration of s  Semester  2 s of the eco mand, and t cing consur of production acroecono us factors of  Semester  2 time complete ag linear de	Mandatory s on a simple computer. computer and computer computer computer concept concept computer concept concept computer concept concep	30 hours e computers how the pro nedia operat Lecture 30 hours n. of elasticity and produc es, instrume growth and Lecture 30 hours i and a pos es (list, lint)	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply ander decisions nts, and indicated development Ex. 30 hours teriori for a seed list, states	ates time to ECTS  4 d demand cators. tt. ECTS  6 given algorack, queue	5 them.  Grade  5 rithm do and	11.07.2022  Date  23.07.2022  Date  22.07.2022  erived in a associated	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes  Max. 100%
21-00-504-1  Outcome 1 Outcome 2 Outcome 3 Outcome 5 Outcome 6  Code  21-00-505  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6  Code  21-00-506  Outcome 1 Outcome 5 Outcome 6	Operating systems  Explain how the interrupt s Explain the concept of proc Explain the concept of thre Explain simple principles of Explain the simple principle Explain the principles of operating simple sim	ystem work cess on a co ads on a co f memory m es of disk m beration of s  Semester  2 s of the eco mand, and t cing consur of production acroeconor us factors o  Semester  2 time complete  g hierarchic	Mandatory s on a simple omputer. omputer and lanagement. anagement. imple multim  E/M  Mandatory  nomic system the concept on inputs. mic objective n economic  E/M  Mandatory  exity a prior ata structure al data structure	30 hours e computers how the pro ledia operat Lecture 30 hours in. of elasticity of and product es, instrume growth and Lecture 30 hours i and a pos les (list, lint) lictures (tree	30 hours s model. cessor alloc ing systems Ex. 15 hours of supply and the decisions ints, and indidevelopment Ex. 30 hours teriori for a ked list, state, heap, price	ates time to ECTS  4 d demand. cators. tt. ECTS  6 given algority queue	5 them.  Grade  5 rithm do and	11.07.2022  Date  23.07.2022  Date  22.07.2022  erived in a associated	learning outcomes  Max. 100%  99% 83% 94% 88% 88% 82% Level of adoption of learning outcomes  Max. 100%  65% 63% 65% 63% 64% 54% Level of adoption of learning outcomes  Max. 100%  100%



	Describe certing and ac	orob olgorit	hma and a	onotruot o	colution be	and on an	rting on	d ooorob	UNIVERSITY
Outcome 5	Describe sorting and se algorithms.	arch algoni	nms and c	onstruct a	Solution ba	isea on so	rung an	u search	92%
Outcome 6	Create a solution using ad	dressing tec	hniques and	l argue their	time compl	exity.			100%
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
Code	Namo	Comester	Ľ/IVI	Locialo	LA.	2010	Orauc	Date	learning outcomes
21-06-506	Introduction to databases	2	Mandatory	30 hours	30 hours	5	4 0	9.07.2022	Max. 100%
Outcome 1	Construct a relational data	model start	ing from use	r requireme	ents				96%
Outcome 2	Create a database using D								100%
Outcome 3	Propose changes to the re								100%
Outcome 4 Outcome 5	Use basic statements to m Construct a solution using								100% 68%
Outcome 6	Apply subqueries to create								77%
0.1			E /\ 4		_	FOTO	0 1	<b>.</b>	Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	learning outcomes
	Authentication systems								
22-00-507	and databases	3	Mandatory	15 hours	30 hours	4	4 2	5.01.2023	Max. 100%
Outcome 1		DM avatama							1000/
Outcome 1 Outcome 2	Support LDAP, AAA, and I Evaluate Microsoft LDAP s		<b>5.</b>						100% 100%
Outcome 3	Justify the use of OpenLD	AP, SAML, (			entication sy	stems.			96%
Outcome 4	Support installation and co				okup out	noted data -			75%
Outcome 5 Outcome 6	Recommend monitoring to				ickup, auton	ialeu data 6	xport tas	on5.	60% 67%
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	
	Object								learning outcomes
22-00-510	Object-oriented	3	Mandatory	30 hours	45 hours	6	5 0	6.02.2023	Max. 100%
	programming		,						
Outcome 1	Design a solution to a give	en problem	according to	a basic spe	ecification ar	nd implemei	nt it usin	g classes	100%
Outcome 2	and objects.  Apply the principle of inher	itance in a r	rogramming	ı landuade					100%
Outcome 3	Identify the need for a poly				d implement	it.			93%
Outcome 4	Anticipate the possibility of	exceptions	and process	s them.					100%
Outcome 5	Implement and apply gene								100%
Outcome 6	Implement part of the softv	vare solution	n using the "	Publisher-S	ubscriber" p	attern.			100%
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
0000	rianio	Comocion		Locialo	LA.	2010	O.uuo	Date	learning outcomes
22-00-512	Database development	3	Mandatory	30 hours	30 hours	5	4 0	4.02.2023	Max. 100%
						latabasa			
Outcome 1	Use basic statements to cr	eate and us	e views and	triggers in a	a relational o	iaiaoase			100%
Outcome 1	Use basic statements to cr						ry proble	ems using	100%
Outcome 2	Use basic statements to cr an index in a relational dat	eate and us abase.	e procedure	s and functi	ons and sol	ve slow que	ry proble	ems using	80%
Outcome 2 Outcome 3	Use basic statements to commend an index in a relational dat Use basic statements to commend to the statement of the statemen	eate and us abase. eate CRUD	e procedure operations i	s and functi	ons and solons al database.	ve slow que		ems using	80% 89%
Outcome 2 Outcome 3 Outcome 4 Outcome 5	Use basic statements to co an index in a relational dat Use basic statements to co Use JSON and XML metho Use transactions and isola	reate and us abase. reate CRUD ods and use tion levels ir	e procedure operations i r-defined tab a relational	s and function a relation ble data type database.	ons and solons al database.	ve slow que onal databa	se.	ems using	80%
Outcome 2 Outcome 3 Outcome 4	Use basic statements to co an index in a relational dat Use basic statements to co Use JSON and XML metho Use transactions and isola Use advanced grouping fu	reate and us abase. reate CRUD ods and use tion levels in nctions and	operations in the procedure operations in the procedure operations in the procedure operation of a relational operation of a relation of a rel	is and function a relation of the data type I database. Inalytical fur	ons and solutions and database.  Ses in a relation of the solutions in a relations in a relation in a	ve slow que onal databa relational da	se.		80% 89% 71%
Outcome 2 Outcome 3 Outcome 4 Outcome 5	Use basic statements to commend an index in a relational datuse basic statements to commend use JSON and XML method use transactions and isolate Use advanced grouping full Compare different non-relations.	reate and us abase. reate CRUD ods and use tion levels in nctions and	operations in the procedure operations in the procedure operations in the procedure operation of a relational operation of a relation of a rel	is and function a relation of the data type I database. Inalytical fur	ons and solutions and database.  Ses in a relation of the solutions in a relations in a relation in a	ve slow que onal databa relational da	se.		80% 89% 71% 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6	Use basic statements to co an index in a relational dat Use basic statements to co Use JSON and XML metho Use transactions and isola Use advanced grouping fu	reate and us abase. reate CRUD ods and use tion levels in nctions and	operations in the procedure operations in the procedure operations in the procedure operation of a relational operation of a relation of a rel	is and function a relation of the data type I database. Inalytical fur	ons and solutions and database.  Ses in a relation of the solutions in a relations in a relation in a	ve slow que onal databa relational da	se.		80% 89% 71% 100% 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6	Use basic statements to commend an index in a relational datuse basic statements to commend use JSON and XML method use transactions and isolate Use advanced grouping full Compare different non-relations.	reate and us abase. reate CRUD ods and use tion levels in nctions and	operations in the procedure operations in the procedure operations in the procedure operation of a relational operation of a relation of a rel	is and function a relation of the data type I database. Inalytical fur	ons and solutions and database.  Ses in a relation of the solutions in a relations in a relation in a	ve slow que onal databa relational da	se.		80% 89% 71% 100% 100% 83% Level of adoption of
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Use basic statements to commend an index in a relational datuse basic statements to commend use JSON and XML methods use transactions and isolated Use advanced grouping ful Compare different non-relational databases.  Name	reate and us abase. reate CRUD ods and use tion levels in nctions and elational da	operations in the procedure operations in the procedure operation of the procedure operation of the procedure operation operations o	in a relationable data type I database I database Inalytical fur and basic	ons and solons and database. es in a relationations in a restatements	ve slow que onal databa: relational da s for data	se. tabase. manag	ement in	80% 89% 71% 100% 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Use basic statements to commend an index in a relational datuse basic statements to commend use JSON and XML methods use transactions and isolated Use advanced grouping ful Compare different non-relational databases.	reate and us abase. reate CRUD ods and use tition levels in nctions and elational da	operations i r-defined tab n a relational window or a tata models	in a relation.  ble data type I database.  inalytical fur and basic	ons and solvant database. es in a relation citions in a restatement.	onal database for data	se. tabase. manag Grade	ement in	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Use basic statements to commend an index in a relational datuse basic statements to commend use JSON and XML methods use transactions and isolated Use advanced grouping ful Compare different non-relational databases.  Name	reate and us abase. reate CRUD ods and use tion levels in nctions and elational da	operations in the procedure operations in the procedure operation of the procedure operation of the procedure operation operations o	in a relation.  ble data type I database.  inalytical fur and basic	ons and solons and database. es in a relationations in a restatements	ve slow que onal databa: relational da s for data	se. tabase. manag Grade	ement in	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code	Use basic statements to commend an index in a relational dature basic statements to commend use JSON and XML method use transactions and isolate Use advanced grouping furth compare different non-non-relational databases.  Name  Basics of business communication  Recommend ways and page 1.	reate and us abase. reate CRUD ods and use tion levels in nctions and elational da Semester	operations in r-defined taken a relational window or a lata models  E/M  Mandatory	in a relation: ble data type database. inalytical fur and basic  Lecture  30 hours ing, and con-	al database. es in a relation notions in a restatement.  Ex.  30 hours cluding busi	onal database relational database for data	se.  tabase. manag  Grade  4 3	ement in  Date  1.01.2023  Pate basic	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Use basic statements to commend an index in a relational datuse basic statements to commend use JSON and XML method use transactions and isola Use advanced grouping fur Compare different non-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive	reate and us abase. reate CRUD ods and use tion levels in nctions and elational da Semester  3  utterns of place and negation and negation and place and negation and settlements of place and negations.	operations i r-defined talt a a relational window or a ata models E/M Mandatory	in a relation. ble data type I database. inalytical fur and basic  Lecture  30 hours ing, and cones, and expla	al database. es in a relation notions in a restatements  Ex.  30 hours  cluding busiain their con	relational database for data  ECTS  5  ness messatent, form, a	se.  tabase. manag  Grade  4 3  ages, creind effecting of the control of the cont	ement in  Date  1.01.2023  tate basic tiveness.	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1	Use basic statements to commend an index in a relational dature basic statements to commend use JSON and XML method use transactions and isolated use advanced grouping furth compare different non-non-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive Recommend ways and pagatterns of routine, positiv	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da Semester  3  Itterns of place and negation terms of place and negations of pl	operations i r-defined talt a a relational window or a ata models E/M Mandatory anning, writir ve message lanning, writir	in a relation: in a relation: in a relation: in data type database. inalytical fur and basic  Lecture  30 hours ing, and cons, and explaing, and cons, and explaing, and consequences.	al database. es in a relation notions in a restatement.  Ex.  30 hours  cluding busion their con completing pe	relational database for data  ECTS  5  ness messatent, form, a presuasive m	se.  tabase. manag  Grade  4 3  ages, creind effectivessages	Date 1.01.2023 tate basic tiveness.	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code	Use basic statements to come an index in a relational dature basic statements to come use JSON and XML methods. Use JSON and XML methods use transactions and isolated use advanced grouping further compare different non-relational databases.  Name  Basics of business communication  Recommend ways and patterns of routine, positive Recommend ways and pand proposals, explain the effectiveness of visual communication.	reate and us abase. reate CRUD do and use tion levels in nctions and elational da semantial delational da semantial delational da semantial delational del	operations i r-defined talt a relational window or a sta models  E/M  Mandatory  anning, writir ve message lanning, writand forms, ans.	in a relation: in a relation: in a relation: in a relation: in a data type database. I database. Lecture  30 hours and basic and con s, and explaing, and con and present,	al database. es in a relation notions in a restatements  Ex.  30 hours cluding busiain their con completing pe evaluate, ar	relational databas for data  ECTS  5  ness messatent, form, a persuasive mid explain the	se.  tabase. manag  Grade  4 3  ages, cre and effect essages le import	Date 1.01.2023 tate basic tiveness. , reports, ance and	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1	Use basic statements to come index in a relational dat Use basic statements to come use JSON and XML method use transactions and isolar Use advanced grouping fur Compare different non-relational databases.  Name  Basics of business communication  Recommend ways and paratterns of routine, positive Recommend ways and proposals, explain the effectiveness of visual come Recommend basic ways of Recommend Basic ways	reate and us abase. reate CRUD ods and use tion levels in nctions and elational da Semester  3  Itterns of place and negating and negating and negating and negating and negating of collecting, of collecting,	operations in r-defined talk in a relational window or a lata models  E/M  Mandatory  anning, writing we message lanning, writing writing writing writing with a models and forms, and forms, and s	in a relation: ble data type database. inalytical fur and basic  Lecture  30 hours ing, and con is, and explaining, and con ind present, and using b	al database. es in a relation retions in a relation statements  Ex.  30 hours  cluding busing their completing perevaluate, ar usiness info	relational database for data  ECTS  5  ness messatent, form, a dersuasive mend explain the formation, sugarnation, sugarna	se.  tabase. manag  Grade  4 3  ages, cre nd effect essages te import	Date 1.01.2023 rate basic tiveness. reports, ance and sic forms	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1	Use basic statements to come index in a relational dature basic statements to come use JSON and XML methods and isolate Use advanced grouping further compare different non-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive Recommend ways and pand proposals, explain the effectiveness of visual come Recommend basic ways of negotiation, distinguish	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da seminary of place and negatiatterns of place and negatiatterns of price pecifics a munications of collecting, ways of suc	operations in op	s and function a relation on a relation on a relation of the data type of database. Inalytical fur and basic conduction of the database of the	al database. es in a relationations in a relationation in a relationat	relational databases for data  ECTS  5  ness messatent, form, a persuasive mid explain the primation, sugnmentication	se.  tabase. manag  Grade  4 3  ages, cre nd effect essages e import ggest ba , sugges	Date 1.01.2023 tate basic tiveness., reports, ance and sic forms at ways of	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1  Outcome 1  Outcome 2	Use basic statements to come an index in a relational dature basic statements to come use JSON and XML method use transactions and isolate use advanced grouping ful Compare different non-non-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive Recommend ways and proposals, explain the effectiveness of visual come Recommend basic ways of negotiation, distinguish overcoming conflicts and business.	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da seminary of plate and negative atterns of plate and negative atterns of price and negative atterns of price and negative atterns of price atterns of prices atterns of price atterns of prices atterns of prices atterns of prices attended to the	operations in r-defined talk a relational window or a standard models  E/M  Mandatory  anning, writing the message lanning, writing the message lanning, writing the message lanning, writing and forms, and forms, and forms, and generatings.	in a relation.  In a relation in a relation in a relation.  In a relation in a relation in a relation.  In a relation in a relat	al database. es in a relationations in a restatement.  Ex.  30 hours  cluding busicain their concepting perevaluate, are usiness infortul team concepting to cultural descriptions.	relational database for data  ECTS  5  ness messatent, form, a dersuasive mad explain the formation, sugarmunication differences,	se.  tabase. manag  Grade  4 3 ages, creind effectessages imported and present	Date  1.01.2023 tate basic tiveness., reports, ance and asic forms at ways of epare for	80% 89% 71% 100% 100% 83%  Level of adoption of learning outcomes Max. 100% 95%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1 Outcome 2	Use basic statements to come an index in a relational dature basic statements to come use JSON and XML methods and isolar Use JSON and XML methods and isolar Use advanced grouping fur Compare different non-relational databases.  Name  Basics of business communication  Recommend ways and paratterns of routine, positive Recommend ways and paratterns of routine, positive Recommend ways and proposals, explain the effectiveness of visual come Recommend basic ways of of negotiation, distinguish overcoming conflicts and business.  Recommend a way of	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da semantic s	operations is r-defined talt or a relational window or a lata models  E/M  Mandatory  anning, writing the models of the models o	in a relation: in and basic  Lecture  30 hours ing, and con is, and explaing, and con in present, in and using b unsuccessiful recognize immediate	al database.  as in a relation relation in a restatement.  Ex.  30 hours  cluding busing their control properties of the relation to the relat	relational database for data  ECTS  5  ness messatent, form, a carsuasive mand explain the communication ifferences, e crisis, ci	se.  tabase. manag  Grade  4 3 ages, cre and effect essages ae import gggest ba , sugges and pre	Date  1.01.2023 tate basic tiveness., reports, ance and asic forms at ways of epare for	80% 89% 71% 100% 100% 83%  Level of adoption of learning outcomes Max. 100% 95%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Code 22-00-509-1 Outcome 1 Outcome 2	Use basic statements to come an index in a relational dature basic statements to come use JSON and XML method use transactions and isolate use advanced grouping ful Compare different non-non-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive Recommend ways and proposals, explain the effectiveness of visual come Recommend basic ways of negotiation, distinguish overcoming conflicts and business.	reate and us abase. reate CRUD ods and use tion levels in nctions and elational da semantic s	operations in r-defined talk in a relational window or a lata models  E/M  Mandatory  anning, writing we message lanning, writing	s and function a relation ole data type database. Inalytical fur and basic Lecture  30 hours  10, and cons, and explaing, and cond present, and using bunsuccess, recognize immediate nterview, ar	al database. es in a relationations in a relationations in a relationation in a relation in	relational database for data  ECTS  5  ness messatent, form, a persuasive mend explain the primation, sugnmunication differences, ecrisis, coccessful reservant.	se.  tabase. manag  Grade  4 3 ages, cre and effect essages ae import gggest ba , sugges and pre	Date  1.01.2023 tate basic tiveness., reports, ance and asic forms at ways of epare for	80% 89% 71% 100% 100% 83%  Level of adoption of learning outcomes Max. 100% 95% 83%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1 Outcome 2  Outcome 3  Outcome 4 Outcome 5	Use basic statements to come index in a relational dat Use basic statements to come use JSON and XML method use transactions and isola Use advanced grouping fur Compare different non-non-relational databases.  Name  Basics of business communication  Recommend ways and paratterns of routine, positive Recommend ways and pand proposals, explain the effectiveness of visual con Recommend basic ways of negotiation, distinguish overcoming conflicts and business.  Recommend a way of presentations, suggest a way Create a simple presentational databases.	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da semble and negation and negation and negations and negations are and negations of collecting, ways of such conductin crisis comvay to prepaon, analyze	operations in r-defined taken a relational window or a lata models  E/M  Mandatory  anning, writing we message lanning, writing writing writing we mand forms, and forms, and generating we mand forms and forms and forms are coessful and generating with the audience operations with the sudience of the second se	s and function a relation ole data type database. Inalytical fur and basic Lecture  30 hours  10, and cons, and explaing, and cond present, and using bunsuccess, recognize immediate nterview, ar	al database. es in a relationations in a relationations in a relationation in a relation i	relational database for data  ECTS  5  ness messatent, form, apersuasive mend explain the formation, summunication despiration, summunication despiration, coessful research.	se.  tabase. manag  Grade  4 3 ages, cre and effect essages ae import gggest ba , sugges and pre	Date  1.01.2023 tate basic tiveness., reports, ance and asic forms at ways of epare for	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100% 95% 83%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1 Outcome 2  Outcome 3	Use basic statements to can index in a relational dat Use basic statements to co Use JSON and XML metho Use transactions and isola Use advanced grouping fu Compare different non-ron- non-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive Recommend ways and prand proposals, explain the effectiveness of visual con Recommend basic ways of negotiation, distinguish overcoming conflicts and business.  Recommend a way of presentations, suggest a way	reate and us abase. reate CRUD ods and use tion levels in nctions and elational da semantic s	operations in r-defined talk in a relational window or a lata models  E/M  Mandatory  anning, writing we message lanning, writing	s and function a relation ole data type database. Inalytical fur and basic Lecture  30 hours  10, and cons, and explaing, and cond present, and using bunsuccess, recognize immediate nterview, ar	al database. es in a relationations in a relationations in a relationation in a relation in	relational database for data  ECTS  5  ness messatent, form, a persuasive mend explain the primation, sugnmunication differences, ecrisis, coccessful reservant.	se.  tabase. manag  Grade  4 3 ages, cre and effect essages ae import gggest ba , sugges and pre	Date  1.01.2023 tate basic tiveness., reports, ance and asic forms at ways of epare for	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100% 95% 83%  81% 77% 100% Level of adoption of
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1 Outcome 2  Outcome 3  Outcome 4 Outcome 5	Use basic statements to come index in a relational dat Use basic statements to come use JSON and XML method use transactions and isola Use advanced grouping fur Compare different non-non-relational databases.  Name  Basics of business communication  Recommend ways and paratterns of routine, positive Recommend ways and pand proposals, explain the effectiveness of visual come Recommend basic ways of negotiation, distinguish overcoming conflicts and business.  Recommend a way of presentations, suggest a way of create a simple presentations.	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da semble and negation and negation and negations and negations are and negations of collecting, ways of such conductin crisis comvay to prepaon, analyze	operations in r-defined taken a relational window or a lata models  E/M  Mandatory  anning, writing we message lanning, writing writing writing we mand forms, and forms, and generating we mand forms and forms and forms are coessful and generating with the audience operations with the sudience of the second se	as and function a relation. Die data type database. Inalytical fur and basic lecture and basic lecture and consequences, and explaing, and cond present, and using bunsuccessing, recognize immediate interview, and present, and present.	al database. es in a relationations in a relationations in a relationation in a relation i	relational database for data  ECTS  5  ness messatent, form, apersuasive mend explain the formation, summunication despiration, summunication despiration, coccessful research.	se.  tabase. manag  Grade  4 3  ages, creind effectessages in importagest bar, suggest and preference measure.	Date 1.01.2023 Late basic tiveness. Late reports, ance and lasic forms at ways of epare for models of	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100% 95% 83%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1 Outcome 2  Outcome 3  Outcome 4 Outcome 5	Use basic statements to can index in a relational dat Use basic statements to co Use JSON and XML metho Use transactions and isola Use advanced grouping fu Compare different non-ranon-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive Recommend ways and proposals, explain the effectiveness of visual con Recommend basic ways of negotiation, distinguish overcoming conflicts and business.  Recommend a way of presentations, suggest a w Create a simple presentations Name  Standards in internet	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da semble and negation and negation and negations and negations are and negations of collecting, ways of such conductin crisis comvay to prepaon, analyze	operations in r-defined taken a relational window or a lata models  E/M  Mandatory  anning, writing we message lanning, writing writing writing we mand forms, and forms, and generating we mand forms and forms and forms are coessful and generating with the audience operations with the sudience of the second se	s and function a relation ole data type database. Inalytical fur and basic lecture 30 hours and explaing, and cons, and explaing, and cond present, and using bunsuccesst, recognize immediate nterview, are, and present, and present lecture lecture	al database. es in a relationations in a relationations in a relationation in a relation i	relational database for data  ECTS  5  ness messatent, form, apersuasive mend explain the formation, summunication despiration, summunication despiration, coccessful research.	se.  tabase. manag  Grade  4 3 ages, creind effectessages te import ggest ba, sugges and pro- reate manages. Grade	Date 1.01.2023 Late basic tiveness. Late reports, ance and lasic forms at ways of epare for models of	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100% 95% 83%  81%  77% 100% Level of adoption of learning outcomes
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1 Outcome 2  Outcome 3  Outcome 4 Outcome 5 Code	Use basic statements to come index in a relational dat Use basic statements to come use JSON and XML method use transactions and isola Use advanced grouping fur Compare different non-non-relational databases.  Name  Basics of business communication  Recommend ways and paratterns of routine, positive Recommend ways and pand proposals, explain the effectiveness of visual come Recommend basic ways of negotiation, distinguish overcoming conflicts and business.  Recommend a way of presentations, suggest a way of create a simple presentations.	reate and us abase. reate CRUD dos and use tion levels in nctions and elational da service of place and negative atterns of place and negative atterns of price of collecting, ways of such conductin crisis company on, analyze Semester	operations in r-defined talk of a relational window or a lata models  E/M  Mandatory  Anning, writing the message lanning, writing the message lanning, writing the meetings.  An analyzing, a coessful and gemeetings.  In munication refor a job in the audience.	s and function a relation ole data type database. Inalytical fur and basic lecture 30 hours and explaing, and cons, and explaing, and cond present, and using bunsuccesst, recognize immediate nterview, are, and present, and present lecture lecture	al database. es in a relationations in a relationation in a relation in a relation in a relationation in a relation in a r	relational database for data  ECTS  5  ness messatent, form, a persuasive mand explain the formation, summunication differences, etc. ccessful resent.  ECTS	se.  tabase. manag  Grade  4 3 ages, creind effectessages te import ggest ba, sugges and pro- reate manages. Grade	Date  1.01.2023 tate basic tiveness., reports, ance and sic forms at ways of epare for models of	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100% 95% 83%  81% 77% 100% Level of adoption of learning outcomes Max. 100%
Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7  Code  22-00-509-1 Outcome 1 Outcome 2  Outcome 3  Outcome 4 Outcome 5 Code	Use basic statements to can index in a relational dat Use basic statements to co Use JSON and XML metho Use transactions and isola Use advanced grouping fu Compare different non-ranon-relational databases.  Name  Basics of business communication  Recommend ways and papatterns of routine, positive Recommend ways and proposals, explain the effectiveness of visual con Recommend basic ways of negotiation, distinguish overcoming conflicts and business.  Recommend a way of presentations, suggest a w Create a simple presentations Name  Standards in internet	reate and us abase. reate CRUD dos and use tion levels in nctions and elational date and read and read and read and read and read and regation and read and regation of collecting, ways of such conductin crisis common analyze  Semester	pe procedure operations i r-defined talt a relational window or a ata models  E/M  Mandatory anning, writin ve message lanning, writin ve message lanning, writin operations, aritic analyzing, a coessful and g meetings immunication re for a job i the audience  E/M  Mandatory	s and function a relation. In a relation of the data type of database. Inalytical fur and basic of the data type of the data type of the database. Inalytical fur and basic of the database. Inalytical fur and basic of the database. Inalytical fur and basic of the database.  Lecture  30 hours  Immediate of the database	al database. es in a relationations in a relationation in a relation in a relation in a relationation in a relation in a r	relational database for data  ECTS  5  ness messatent, form, a persuasive mand explain the formation, summunication differences, etc. ccessful resent.  ECTS	se.  tabase. manag  Grade  4 3 ages, creind effectessages te import ggest ba, sugges and pro- reate manages. Grade	Date  1.01.2023 tate basic tiveness., reports, ance and sic forms at ways of epare for models of	80% 89% 71% 100% 100% 83% Level of adoption of learning outcomes Max. 100% 95% 83% 81% 77% 100% Level of adoption of learning outcomes



									UNIVERSITY
Outcome 3	Structure page display usir		<u> </u>						100%
Outcome 4	Apply standard client scrip	ting libraries	to manage	page structi	ure.				100%
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of learning outcomes
22-00-508	Probability and statistics	3	Mandatory	30 hours	30 hours	5	3	10.02.2023	Max. 100%
Outcome 1	Adopt the basic combinate space.	rial notions	and rules ar	nd calculate	the probabi	ility in the cl	lassical <sub>l</sub>	probability	83%
Outcome 2	Determine the conditional								67%
Outcome 3	Determine basic numerica characteristics of some covariables.								66%
Outcome 4	Calculate the basic quantit	ies for giver	n discrete sta	atistical data					92%
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of learning outcomes
22-00-518	Object-oriented programming - lab in .NET environment	4	Mandatory	15 hours	45 hours	5	5 1	11.09.2023	Max. 100%
Outcome 1	Construct a desktop solution								100%
Outcome 2	Recommend ways of impro							deckton	100%
Outcome 3	applications.	on our dolling	and imple	c.iuig III	o parent-ci	a reiauul	ionip ili	ι ασσκιυμ	100%
Outcome 4	Implement an appropriate								100%
Outcome 5	Apply animations for achie	ving better i	user experie	nce in deskt	op applicati	ons.			100%
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of learning outcomes
22-00-515	Java programming 1	4	Mandatory		45 hours	6		07.09.2023	Max. 100%
Outcome 1	Implement the basic conce a virtual platform.	pts of object	ct-oriented pa	aradigm in o	bject-orient	ed program	ming lar	nguage on	100%
Outcome 2	Apply a functional paradigr	n and evalu	ate it in relat	tion to an ob	ject-oriente	d paradigm.			100%
Outcome 3	Identify the need to use t							ng to best	100%
Outcome 4	practices.	traditional	and modern	way of work	ing with the	data avatar	<u> </u>		100%
Outcome 5	Compare and evaluate the Apply appropriate libraries						n.		100%
Outcome 6	Apply appropriate librarie						raphical	software	100%
	solutions.	h		h:	1.45				
Outcome 7	Compare different approac	nes when c	reating grap	nic sollware	solutions.				100%
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of learning outcomes
22-00-513	Project management	4	Mandatory	30 hours	15 hours	4	3	13.09.2023	Max. 100%
Outcome 1	Explain basic values of the project's WBS structure, m	ilestones, a	nd activities.					•	50%
Outcome 2	Calculate project plan and parameters of Earned Valu		to control p	project by u	sing Critica	ı path meth	od. Exp	lain basic	79%
Outcome 3	Explain basic concepts of different PM standards and	managing I methodolo	gies.	,	,	, , , ,			75%
Outcome 4	Create a project timetable Update project plan and								50%
Outcome 5	project management.	oreate a re	port on the	progress at	iu cost oi t	ne project i	by using	, 10015 10F	50%
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of learning outcomes
22-00-516	Project approach to applications development	4	Mandatory	30 hours	15 hours	4	5 1	13.06.2023	Max. 100%
Outcome 1	Independently create a frequests.	unctionality	specification	n documen	t based on	collected	and rar	nked user	100%
Outcome 2	Design the application acc								100%
Outcome 3	Design programming task iterations.	s based on	user require	ements and	recommen	d their distr	ribution	by project	100%
Outcome 4	Use the basic functionalitie								100%
Outcome 5 Outcome 6	Independently apply different						ing.		88% 100%
Outcome 6	Independently create a bas	oc user mai	uai uocume	antion a give	п арріісацо	11.			
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of learning outcomes
22-00-517	Development of web applications	4	Mandatory	30 hours	30 hours	6	5 2	24.06.2023	Max. 100%
Outcome 1 Outcome 2 Outcome 3	Create a solution using HT Compare methods and imp Implement MVC architectu	lement stat	e storage in	a web appli					100% 100% 90%



Outcome 4	Implement the model in an	MVC web a	application.						100%
Outcome 5	Recommend the use of AJ	AX technolo	ogy in creatir	ng views in t	he MVC we	b applicatio	n.		95%
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
0000	7.13.110	555515.		2001010			0.00	Zaio	learning outcomes
	Information system								
22-00-514	security 1	4	Mandatory	30 hours	30 hours	5	4 2	29.06.2023	Max. 100%
	Security 1								
Outcome 1	Explain the basic concepts	. methods.	and techniqu	es of inform	nation securi	itv.			58%
Outcome 2	Suggest an optimal way to						,		79%
Outcome 3	Describe the ways in which								87%
Outcome 3									0176
Outcome 4	Determine methods for vu	linerability r	nanagemeni	processes	, web appli	cation secu	rity, and	methods	76%
	for managing log records.								
Outcome 5	Understand the category of				es for their u	se, network	security	y controls,	84%
Outcome 3	advanced persistent threat	t, and busine	ess continuit	y.					0470
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
0000		3333.3.		20010.0			0.00	Zaio	learning outcomes
	Application development								
23-00-523	6 19 1	5	Elective	30 hours	30 hours	6	5 2	27.06.2024	Max. 100%
	for mobile devices								
Outcome 1	Evaluate the architecture of	of the mobile	ecosystem						100%
Outcome 2					face clama	ate			100%
Outcome 2	Implement a mobile applic						hor !	loment!	10070
Outcome 3	Evaluate standard archited	Jurai compo	DITELLIS OF MC	nuie applica	uons and ap	phix tuem w	nen imp	iementing	100%
	user requirements.								
Outcome 4	Implement the data layer of								100%
Outcome 5	Analyze and use different	types of mo	bile ecosyste	em services	in order to n	neet user re	quireme	ents.	100%
Outcome 6	Implement different levels	of security v	vithin the mo	bile environ	ment.				100%
		, .							
Code	Name	Comester	E/M	Looture	Ex.	ECTS	Grade	Doto	Level of adoption of
Code	Name	Semester	E/IVI	Lecture	EX.	ECIS	Grade	Date	le amin a cutocosco
									learning outcomes
	Organization and								
23-00-519	organization and	5	Mandatory	30 hours	15 hours	4	4	10.02.2024	Max. 100%
20 00 010	management		iviaridatory	oo nours	10 Hours			10.02.2024	WIAX. 10070
Outcome 1	To define management, i	ts functions	, activities a	and manage	er roles and	to enume	rate ma	nagement	100%
Odtoome	skills.								10070
Outcome 2	Interpret the elements of the	ne external a	and internal	environmen	t od the orga	nization.			83%
Outcome 3	Explain the relationship an	d connectio	n of different	t planning el	ements.				100%
Outcome 4	Critically evaluate the deci					cision-makir	na techn	inues	68%
Outcome 5	Analyze the advantages ar						ig teenin	iquos.	83%
	<u> </u>					ctures.			
Outcome 6	Argue the importance of hi	uman resou	rce managei	ment in the (	enterbrise.				68%
									000/
Outcome 7	Evaluate the advantages a			ferent leade	rship models	s and motiva	ation the	ories.	92%
Outcome 7 Outcome 8	Evaluate the advantages a Explain the importance of			ferent leade	rship models	s and motiva	ation the	ories.	92% 88%
				ferent leade	rship models	s and motiva	ation the	eories.	88%
		the organiza		ferent leade	rship models	and motivation	ation the Grade	eories.	
Outcome 8	Explain the importance of		ation's contro	ferent leade olling proces	rship models s.				88%
Outcome 8	Explain the importance of Name	the organiza	ation's contro	ferent leade olling proces	rship models s.				88% Level of adoption of
Outcome 8  Code	Explain the importance of	the organiza Semester	ation's contro	ferent leade olling proces Lecture	rship models s. Ex.	ECTS	Grade	Date	88% Level of adoption of learning outcomes
Outcome 8	Explain the importance of Name  Accessing data from	the organiza	ation's contro	ferent leade olling proces Lecture	rship models s.		Grade		88% Level of adoption of learning outcomes
Outcome 8  Code	Explain the importance of Name	the organiza Semester	ation's contro	ferent leade olling proces Lecture	rship models s. Ex.	ECTS	Grade	Date	88% Level of adoption of learning outcomes
Outcome 8  Code  23-00-522	Explain the importance of the Name  Accessing data from program code	the organiza Semester 5	E/M Mandatory	ferent leade olling proces Lecture 30 hours	rship models s. Ex. 30 hours	ECTS 5	Grade	Date	88% Level of adoption of learning outcomes  Max. 100%
Outcome 8  Code  23-00-522  Outcome 1	Name  Accessing data from program code  Create a software solution	the organization of the or	E/M  Mandatory	ferent leade olling proces Lecture 30 hours ase on the o	rship models s.  Ex.  30 hours	ECTS 5 ata source.	Grade 5 (	Date 03.02.2024	88% Level of adoption of learning outcomes  Max. 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2	Name  Accessing data from program code  Create a software solution  Create a software solution	Semester  5  using a relausing soluti	E/M  Mandatory  ational databons for storic	ferent leade billing proces  Lecture  30 hours ase on the ong unstructure	rship models s. Ex. 30 hours cloud as a da	ECTS  5  ata source. the cloud as	Grade 5 (	Date 03.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100%  100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution	Semester  5  using a relausing solutiusing a nor	E/M  Mandatory  ational databons for storian-relational c	ferent leade olling proces Lecture 30 hours ase on the ong unstructuloud databa	rship models s. Ex. 30 hours cloud as a da	ECTS  5  ata source. the cloud as	Grade 5 (	Date 03.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept	Semester  5  using a relausing solutiusing a norual data mo	E/M  Mandatory  stional datab ons for storich-relational codel and imple	ferent leade olling proces Lecture 30 hours ase on the ong unstructuloud databalement it.	rship models s. Ex. 30 hours cloud as a da	ECTS  5  ata source. the cloud as	Grade 5 (	Date 03.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution	Semester  5  using a relausing solutiusing a norual data mo	E/M  Mandatory  stional datab ons for storich-relational codel and imple	ferent leade olling proces Lecture 30 hours ase on the ong unstructuloud databalement it.	rship models s. Ex. 30 hours cloud as a da	ECTS  5  ata source. the cloud as	Grade 5 (	Date 03.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept	Semester  5  using a relausing solutiusing a norual data mo	E/M  Mandatory  stional datab ons for storich-relational codel and imple	ferent leade olling proces Lecture 30 hours ase on the ong unstructuloud databalement it.	rship models s. Ex. 30 hours cloud as a da	ECTS  5  ata source. the cloud as	Grade 5 (	Date 03.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept	Semester  5  using a relausing solutiusing a norual data mo	E/M  Mandatory  stional datab ons for storich-relational codel and imple	ferent leade olling proces Lecture 30 hours ase on the ong unstructuloud databalement it.	rship models s. Ex. 30 hours cloud as a da	ECTS  5  ata source. the cloud as	Grade 5 (	Date 03.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution	Semester  5  using a relation using a normal data motion using selection using	E/M  Mandatory  ational datab ons for storiu-relational c del and implelected ORM	ferent leade olling proces Lecture  30 hours ase on the ong unstructuoud databalement it. It tools.	rship models s. Ex. 30 hours cloud as a da ired data in the se as a data	5 ata source. the cloud as a source.	Grade 5 (	Date 03.02.2024 source.	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution	Semester  5  using a relation using a normal data motion using selection using	E/M  Mandatory  ational datab ons for storiu-relational c del and implelected ORM	ferent leade olling proces Lecture  30 hours ase on the ong unstructuoud databatement it. It tools.	rship models s. Ex. 30 hours cloud as a da ired data in the se as a data	5 ata source. the cloud as a source.	Grade 5 (	Date 03.02.2024 source.	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Code	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name	Semester  5  using a relausing solution using a normual data motion using semester	E/M  Mandatory  ational datab ons for stori -relational c del and impledected ORM  E/M	derent leade lling proces Lecture  30 hours ase on the one of the	rship models s.  Ex.  30 hours cloud as a da ired data in it se as a data  Ex.	ECTS  5 ata source. the cloud as a source. ECTS	Grade 5 (	Date 03.02.2024 source. Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution	Semester  5  using a relation using a normal data motion using selection using	E/M  Mandatory  ational datab ons for storiu-relational c del and implelected ORM	derent leade lling proces Lecture  30 hours ase on the one of the	rship models s. Ex. 30 hours cloud as a da ired data in the se as a data	5 ata source. the cloud as a source.	Grade 5 (	Date 03.02.2024 source.	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Code	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name	Semester  5  using a relausing solution using a normual data motion using semester	E/M  Mandatory  ational datab ons for stori -relational c del and impledected ORM  E/M	derent leade lling proces Lecture  30 hours ase on the one of the	rship models s.  Ex.  30 hours cloud as a da ired data in it se as a data  Ex.	ECTS  5 ata source. the cloud as a source. ECTS	Grade 5 (	Date 03.02.2024 source. Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Code	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name	Semester  5  using a relausing solutiusing a norual data motion using s Semester	E/M  Mandatory  ational datab ons for stori n-relational c idel and impletected ORM  E/M  Mandatory	Lecture  30 hours ase on the ong unstructuoud databalement it. I tools.  Lecture	rship models s.  Ex.  30 hours cloud as a dared data in se as a data  Ex.  30 hours	ECTS  5 ata source. the cloud as source. ECTS	Grade 5 ( 6 a data  Grade 3 1	Date 03.02.2024 source. Date 15.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Code	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a	Semester  5  using a relausing solution using a normal data motion using solution	E/M  Mandatory  ational datab ons for stori n-relational c idel and impletected ORM  E/M  Mandatory	derent leade olling process  Lecture  30 hours ase on the ong unstructure loud databatement it.  I tools.  Lecture  30 hours	rship models s.  Ex.  30 hours cloud as a dared data in se as a data  Ex.  30 hours	ECTS  5 ata source. the cloud as source. ECTS	Grade 5 ( 6 a data  Grade 3 1	Date 03.02.2024 source. Date 15.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Code  23-00-521  Outcome 1	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the	Semester  5  using a relausing solutiusing a normal data motion using semester  5  Semester  5  an appropriate project.	E/M  Mandatory  stional datab ons for storic n-relational c del and implelected ORM  E/M  Mandatory  ate method	deferent leade olling process  Lecture  30 hours ase on the one of the one of the old databate of the old databate of the old databate of the old databate of software	rship models s.  Ex.  30 hours cloud as a daired data in ise as a data  Ex.  30 hours developme	ECTS  5 ata source. the cloud as source. ECTS	Grade 5 ( 6 a data  Grade 3 1	Date 03.02.2024 source. Date 15.02.2024	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap	Semester  5  using a relausing solutiusing a normal data motion using solution us	E/M  Mandatory  stional datab ons for storic -relational c del and implelected ORM  E/M  Mandatory ate method gile methods	Lecture  30 hours ase on the ong unstructuoud databalement it. I tools. Lecture  30 hours and practice	rship models s.  Ex.  30 hours cloud as a da ired data in ise as a data  Ex.  30 hours developme es.	ECTS  5 ata source. the cloud as a source.  ECTS  5	Grade 5 ( 6 a data  Grade 3 1  organiz	Date 03.02.2024 source. Date 15.02.2024 ation with	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50%
Outcome 8  Code  23-00-522  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Outcome 5  Code  23-00-521  Outcome 1	Explain the importance of the Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue aregard to the specifics of the Recommend the use of ap Categorize the offered cha	Semester  5  using a relausing solutiusing a normal data motion using solution us	E/M  Mandatory  stional datab ons for storic -relational c del and implelected ORM  E/M  Mandatory ate method gile methods	Lecture  30 hours ase on the ong unstructuoud databalement it. I tools. Lecture  30 hours and practice	rship models s.  Ex.  30 hours cloud as a da ired data in ise as a data  Ex.  30 hours developme es.	ECTS  5 ata source. the cloud as a source.  ECTS  5	Grade 5 ( 6 a data  Grade 3 1  organiz	Date 03.02.2024 source. Date 15.02.2024 ation with	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of th Recommend the use of ap Categorize the offered chaprocess framework.	semester  5  using a relausing soluti using a nor ual data mo tion using si Semester  5  an appropriate propriate agaracteristics	E/M  Mandatory  ational datab ons for stori n-relational c idel and implehected ORM  E/M  Mandatory  ate method gite methods with regard	derent leade olling proces  Lecture  30 hours ase on the one of the one of the old databatement it.  I tools.  Lecture  30 hours of software and practice to roles, cer	s.  Ex.  30 hours cloud as a daired data in se as a data  Ex.  30 hours developme es. emonies or	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in	Grade 5 (Grade 3 1 organiz.	Date 03.02.2024 source.  Date 15.02.2024 ation with	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 3	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework.  Develop a way to monitor of the specific of the specifi	semester  5  using a relausing solution using a normal data motion using semester  5  an appropriate agaracteristics  the design by	Mandatory ational datab ons for stori n-relational c idel and impletected ORM  E/M  Mandatory ate method gite methods with regard in	Lecture  30 hours ase on the ong unstructuoud databalement it.  I tools.  Lecture  30 hours congunstructure  30 hours of software and practice to roles, cer	s.  Ex.  30 hours cloud as a dared data in se as a data  Ex.  30 hours developme es. emonies or	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in	Grade 5 Grade Grade 3 1 organiz. the sele	Date 03.02.2024 source.  Date 15.02.2024 ation with	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework.  Develop a way to monitor Calculate an estimate of the	semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for stori n-relational c del and implelected ORM  E/M  Mandatory ate method with regard passed on the	Lecture  30 hours ase on the ong unstructuoud databalement it. I tools.  Lecture  30 hours congunstructuoud databalement it. I tools.  Lecture  and practice to roles, cercharacteriselease in age	s.  Ex.  30 hours cloud as a dared data in ise as a data  Ex.  30 hours developme es. emonies or tics of the or ille planning	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in a control of a contr	Grade 5 Grade Grade 3 1 organiz. the sele	Date 03.02.2024 source.  Date 15.02.2024 ation with	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 1 Outcome 1 Outcome 2  Outcome 3  Outcome 4 Outcome 3  Outcome 4 Outcome 5 Outcome 6	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework.  Develop a way to monitor Calculate an estimate of the Organize software system	semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for storional datab ons fo	derent leade olling proces  Lecture  30 hours ase on the ong unstructure old databatement it. I tools.  Lecture  30 hours of software and practice to roles, cer characteriselease in agion software	rship models s.  Ex.  30 hours cloud as a daired data in ise as a data  Ex.  30 hours developme es. emonies or tics of the or ille planning system spe	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in ganization of and evaluation of and evaluation of and evaluation of and evaluations.	Grade 5 Grade Grade 3 1 organiz. the sele	Date 03.02.2024 source.  Date 15.02.2024 ation with	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework. Develop a way to monitor to Calculate an estimate of the Organize software system Create an appropriate UM	Semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for storical-relational cadel and impledected ORM  E/M  Mandatory ate method gile methods with regard assed on the a software re ts and devel a specific a	Lecture  30 hours ase on the congunstruct. loud databatement it. It tools. Lecture  30 hours congunstruct. loud databatement it. It tools. Lecture  and practicator roles, cer characteriselease in agiop software	s.  Ex.  30 hours  cloud as a dared data in se as a data  Ex.  30 hours  developme es. emonies or  tics of the or ille planning system spe software pr	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in rganization of and evaluate cification. ocess.	Grade  5 (Grade  3 1  organize  the seleen working ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework.  Develop a way to monitor Calculate an estimate of the Organize software system	Semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for storical-relational cadel and impledected ORM  E/M  Mandatory ate method gile methods with regard assed on the a software re ts and devel a specific a	Lecture  30 hours ase on the congunstruct. loud databatement it. It tools. Lecture  30 hours congunstruct. loud databatement it. It tools. Lecture  and practicator roles, cer characteriselease in agiop software	s.  Ex.  30 hours  cloud as a dared data in se as a data  Ex.  30 hours  developme es. emonies or  tics of the or ille planning system spe software pr	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in rganization of and evaluate cification. ocess.	Grade  5 (Grade  3 1  organize  the seleen working ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 1 Outcome 1 Outcome 2  Outcome 3  Outcome 4 Outcome 3  Outcome 4 Outcome 5 Outcome 6	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework. Develop a way to monitor to Calculate an estimate of the Organize software system Create an appropriate UM	semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for storical-relational cadel and impledected ORM  E/M  Mandatory ate method gile methods with regard assed on the a software re ts and devel a specific a	Lecture  30 hours ase on the congunstruct. loud databatement it. It tools. Lecture  30 hours congunstruct. loud databatement it. It tools. Lecture  and practicator roles, cer characteriselease in agiop software	s.  Ex.  30 hours  cloud as a dared data in se as a data  Ex.  30 hours  developme es. emonies or  tics of the or ille planning system spe software pr	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in rganization of and evaluate cification. ocess.	Grade  5 (Grade  3 1  organize  the seleen working ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework. Develop a way to monitor in Calculate an estimate of the Organize software system Create an appropriate UM Identify the area of applice.	semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for storical-relational cadel and impledected ORM  E/M  Mandatory ate method gile methods with regard assed on the a software re ts and devel a specific a	Lecture  30 hours ase on the congunstruct. loud databatement it. It tools. Lecture  30 hours congunstruct. loud databatement it. It tools. Lecture  and practicator roles, cer characteriselease in agiop software	s.  Ex.  30 hours  cloud as a dared data in se as a data  Ex.  30 hours  developme es. emonies or  tics of the or ille planning system spe software pr	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in rganization of and evaluate cification. ocess.	Grade  5 (Grade  3 1  organize  the seleen working ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 54% 64% 82% 77%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework. Develop a way to monitor to Calculate an estimate of the Organize software system Create an appropriate UMI Identify the area of applica agile architecture, and agili	Semester  5  using a relausing solution using a normal data motion using semester  5  an appropriate agaracteristics the design be scope of requirement adding a fine project.	Mandatory ational datab ons for stori n-relational c del and impletected ORM  E/M  Mandatory ate method gite methods with regard the a software re ts and device a specific a tain good pr	Lecture  30 hours ase on the ong unstructure loud databatement it. I tools.  Lecture  30 hours of software and practice to roles, cer characteriselease in ago postware spect of the actices in cer	s.  Ex.  30 hours cloud as a dared data in se as a data  Ex.  30 hours developme es. emonies or tics of the or ille planning system speriode writing	ECTS  5 ata source. the cloud as a source.  ECTS  5 ant or team artefacts in reganization cand evaluat cification. ocess. (e.g. software)	Grade 5 Grade Grade 3 1 organiz. the sele or workin ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group.	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework. Develop a way to monitor in Calculate an estimate of the Organize software system Create an appropriate UM Identify the area of applice.	semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for storical-relational cadel and impledected ORM  E/M  Mandatory ate method gile methods with regard assed on the a software re ts and devel a specific a	Lecture  30 hours ase on the congunstruct. loud databatement it. It tools. Lecture  30 hours congunstruct. loud databatement it. It tools. Lecture  and practicator roles, cer characteriselease in agiop software	s.  Ex.  30 hours  cloud as a dared data in se as a data  Ex.  30 hours  developme es. emonies or  tics of the or ille planning system spe software pr	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team artefacts in rganization of and evaluate cification. ocess.	Grade  5 (Grade  3 1  organize  the seleen working ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77% Level of adoption of
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework. Develop a way to monitor to Calculate an estimate of the Organize software system Create an appropriate UMI Identify the area of applica agile architecture, and agili	Semester  5  using a relausing solution using a normal data motion using semester  5  an appropriate agaracteristics the design be scope of requirement adding a fine project.	Mandatory ational datab ons for stori n-relational c del and impletected ORM  E/M  Mandatory ate method gite methods with regard the a software re ts and device a specific a tain good pr	Lecture  30 hours ase on the ong unstructure loud databatement it. I tools.  Lecture  30 hours of software and practice to roles, cer characteriselease in ago postware spect of the actices in cer	s.  Ex.  30 hours cloud as a dared data in se as a data  Ex.  30 hours developme es. emonies or tics of the or ille planning system speriode writing	ECTS  5 ata source. the cloud as a source.  ECTS  5 ant or team artefacts in reganization cand evaluat cification. ocess. (e.g. software)	Grade 5 Grade Grade 3 1 organiz. the sele or workin ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group.	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework. Develop a way to monitor of Calculate an estimate of the Organize software system Create an appropriate UMI Identify the area of applicagile architecture, and agil	semester  5  using a relausing solution using a normal data motion using semester  5  an appropriate agaracteristics the design be scope of requirement adding a fine project.	Mandatory ational datab ons for stori n-relational c del and impletected ORM  E/M  Mandatory ate method gite methods with regard the a software re ts and device a specific a tain good pr	Lecture  30 hours ase on the ong unstructure loud databatement it. I tools.  Lecture  30 hours of software and practice to roles, cer characteriselease in ago postware spect of the actices in cer	s.  Ex.  30 hours cloud as a dared data in se as a data  Ex.  30 hours developme es. emonies or tics of the or ille planning system speriode writing	ECTS  5 ata source. the cloud as a source.  ECTS  5 ant or team artefacts in reganization cand evaluat cification. ocess. (e.g. software)	Grade 5 Grade Grade 3 1 organiz. the sele or workin ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group.	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77% Level of adoption of
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework. Develop a way to monitor to Calculate an estimate of the Organize software system Create an appropriate UMI Identify the area of applica agile architecture, and agili	semester  5  using a relausing solution using a normal data motion using solution	Mandatory stional datab ons for stori n-relational c del and implelected ORM  E/M  Mandatory ate method with regard based on the a software re ts and devel n a specific a tain good pr	Lecture  30 hours ase on the ong unstructure loud databalement it. It tools.  Lecture  30 hours congunstructure loud databalement it. It tools.  Lecture  characteriselease in ago posoftware ispect of the actices in consumption of the consumption of the lecture  Lecture	s.  Ex.  30 hours cloud as a digred data in see as a data  Ex.  30 hours developme es. developme es. developme es. emonies or tics of the or ille planning system spe software pr ode writing  Ex.	ECTS  5 ata source. the cloud as source.  ECTS  5 nt or team artefacts in reganization of and evaluat ciffication. ocess. (e.g. software)	Grade  5 Grade  Grade  3 1  organiz  the sele or workir ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group. smanship, Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77%  Level of adoption of learning outcomes
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework. Develop a way to monitor of Calculate an estimate of the Organize software system Create an appropriate UMI Identify the area of applicagile architecture, and agil	semester  5  using a relausing solution using a normal data motion using semester  5  an appropriate agaracteristics the design be scope of requirement adding a fine project.	Mandatory ational datab ons for stori n-relational c del and impletected ORM  E/M  Mandatory ate method gite methods with regard the a software re ts and device a specific a tain good pr	Lecture  30 hours ase on the ong unstructure loud databatement it. I tools.  Lecture  30 hours of software and practice to roles, cer characteriselease in ago postware spect of the actices in cer	s.  Ex.  30 hours cloud as a dared data in se as a data  Ex.  30 hours developme es. emonies or tics of the or ille planning system speriode writing	ECTS  5 ata source. the cloud as a source.  ECTS  5 ant or team artefacts in reganization cand evaluat cification. ocess. (e.g. software)	Grade  5 Grade  Grade  3 1  organiz  the sele or workir ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group.	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77% Level of adoption of
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8  Code	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solu  Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework.  Develop a way to monitor Calculate an estimate of the Organize software system Create an appropriate UM Identify the area of applicagile architecture, and agil  Name  Decision-making support systems	semester  5  using a relausing solution using a normal data motition using solution using soluti	Mandatory stional datab ons for storion-relational codel and impledected ORM  E/M  Mandatory ate method gile methods with regard based on the asoftware rets and devel as a specific a lain good pr  E/M  Elective	Lecture  30 hours ase on the ong unstructure loud databalement it. It tools.  Lecture  30 hours congunstructure loud databalement it. It tools.  Lecture  characteriselease in ago posoftware ispect of the actices in consumption of the consumption of the lecture  Lecture	s.  Ex.  30 hours cloud as a digred data in see as a data  Ex.  30 hours developme es. developme es. developme es. emonies or tics of the or ille planning system spe software pr ode writing  Ex.	ECTS  5 ata source. the cloud as source.  ECTS  5 nt or team artefacts in reganization of and evaluat ciffication. ocess. (e.g. software)	Grade  5 Grade  Grade  3 1  organiz  the sele or workir ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group. smanship, Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77%  Level of adoption of learning outcomes  Max. 100%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8  Code	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework. Develop a way to monitor to Calculate an estimate of the Organize software system Create an appropriate UM Identify the area of application agile architecture, and agil  Name  Decision-making support systems  Classify decision supports	semester  5  using a relausing solution using a normal data motion using solution	Mandatory ational databoons for storiun-relational cade and impledected ORM  Mandatory ate methods with regard assed on the asoftware rests and develon a specific at an impledected or the case of th	Lecture  30 hours ase on the ong unstructure loud databalement it. It tools.  Lecture  30 hours congunstructure loud databalement it. It tools.  Lecture  characteriselease in ago posoftware ispect of the actices in consumption of the consumption of the lecture  Lecture	s.  Ex.  30 hours cloud as a digred data in see as a data  Ex.  30 hours developme es. developme es. developme es. emonies or tics of the or ille planning system spe software pr ode writing  Ex.	ECTS  5 ata source. the cloud as source.  ECTS  5 nt or team artefacts in reganization of and evaluat ciffication. ocess. (e.g. software)	Grade  5 Grade  Grade  3 1  organiz  the sele or workir ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group. smanship, Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100%  Level of adoption of learning outcomes  Max. 100%  50% 54% 64% 82% 77%  Level of adoption of learning outcomes  Max. 100%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8  Code	Recommend and argue a regard to the specifics of the Recommend the use of appropriate UMI Identify the area of applicagile architecture, and agile Name  Explain the importance of the Name  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework.  Develop a way to monitor of Calculate an estimate of the Organize software system Create an appropriate UMI Identify the area of applicagile architecture, and agile Name  Decision-making support systems  Classify decision support selections analysis of the Name and Statistics of the Statistics	semester  5  using a relausing solution using a normal data motion using solution	Mandatory ational databons for storinarelational cadel and implehected ORM  E/M  Mandatory ate method gile methods with regard the asoftware rets and devel a lain good pr  E/M  Elective  ents.	derent leade olling process  Lecture  30 hours ase on the one of the condition of the condi	s. Ex. 30 hours cloud as a daired data in se as a data Ex. 30 hours developme es. emonies or tics of the or ille planning systems per ode writing Ex. 30 hours	ECTS  5 ata source. the cloud as a source.  ECTS  5 ant or team artefacts in ganization cand evaluat cification. ocess. (e.g. software)  ECTS  6	Grade  5 Grade  Grade  3 1  organiz  the sele or workir ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group. smanship, Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 644% 82% 77%  Level of adoption of learning outcomes  Max. 100%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8  Code	Name  Accessing data from program code  Create a software solution Create a software solution Create a software solution Select the optimal concept Implement a software solution Name  Software engineering  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered cha process framework. Develop a way to monitor to Calculate an estimate of the Organize software system Create an appropriate UM Identify the area of application agile architecture, and agil  Name  Decision-making support systems  Classify decision supports	semester  5  using a relausing solution using a normal data motion using solution	Mandatory ational databons for storinarelational cadel and implehected ORM  E/M  Mandatory ate method gile methods with regard the asoftware rets and devel a lain good pr  E/M  Elective  ents.	derent leade olling process  Lecture  30 hours ase on the one of the condition of the condi	s. Ex. 30 hours cloud as a daired data in se as a data Ex. 30 hours developme es. emonies or tics of the or ille planning systems per ode writing Ex. 30 hours	ECTS  5 ata source. the cloud as a source.  ECTS  5 ant or team artefacts in ganization cand evaluat cification. ocess. (e.g. software)  ECTS  6	Grade  5 Grade  Grade  3 1  organiz  the sele or workir ion.	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group. smanship, Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100%  Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77%  Level of adoption of learning outcomes  Max. 100%
Outcome 8  Code  23-00-522  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5  Code  23-00-521  Outcome 1 Outcome 2 Outcome 3 Outcome 4 Outcome 5 Outcome 6 Outcome 7 Outcome 8  Code	Recommend and argue a regard to the specifics of the Recommend the use of appropriate UMI Identify the area of applicagile architecture, and agile Name  Explain the importance of the Name  Recommend and argue a regard to the specifics of the Recommend the use of ap Categorize the offered chaprocess framework.  Develop a way to monitor of Calculate an estimate of the Organize software system Create an appropriate UMI Identify the area of applicagile architecture, and agile Name  Decision-making support systems  Classify decision support selections analysis of the Name and Statistics of the Statistics	semester  5  using a relausing solutiusing a normal data motion using simple project.  propriate agaracteristics the design be scope of a requirement adding a final diagram in the diagram in the diagram in the scope of semester  5  Semester  5  Semester  5  Semester  5  Semester  5  Semester  6  Semester  6  Semester  6  Semester  7  Semester  6  Semester  6  Semester  6  Semester  6  Semester  7  Semester  6  Semester  7  Semester  8  Semester  9  Semester	Mandatory ation's control  E/M  Mandatory ational datab ons for stori n-relational c del and impletected ORM  E/M  Mandatory ate method gile methods with regard the a software re ts and devel a specific a tain good pr  E/M  Elective tents. The method with	derent leade olling process  Lecture  30 hours ase on the ong unstructure  30 hours lement it.  I tools.  Lecture  30 hours of software and practice to roles, certor or coles, certor or coles, certor on the coles of the actices in coles of the actices in coles.  Lecture  30 hours on software characteriselease in ago postware ispect of the actices in coles.  Lecture  30 hours	s. Ex. 30 hours cloud as a dared data in se as a data Ex. 30 hours developme es. emonies or tics of the or ille planning system spe software prode writing Ex. 30 hours support systems post support systems post systems post software prode writing Ex. 30 hours	ECTS  5 ata source. the cloud as a source.  ECTS  5 nt or team  artefacts in reganization of and evaluat cification. occess. (e.g. software)  6 tem.	Grade  5 Grade  3 1 organiz. the sele br workinion.  Grade  5 3	Date 03.02.2024 source.  Date 15.02.2024 ation with cted agile ng group.  Date	88% Level of adoption of learning outcomes  Max. 100%  100% 100% 100% 100% 100% Level of adoption of learning outcomes  Max. 100%  60% 50% 82% 50% 54% 64% 82% 77% Level of adoption of learning outcomes  Max. 100%



									UNIVERSITY
Outcome 5	Analyze data and create a	holistic solu	tion.						100%
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	
									learning outcomes
	Management of								
23-00-520	information systems	5	Mandatory	30 hours	15 hours	4	4	01.02.2024	Max. 100%
	· ·								
Outcome 1	Describe basic terms and								80%
Outcome 2	Explain the purpose and a								76%
Outcome 3 Outcome 4	Describe standards applicate Define the stages in management				ment.				80% 68%
Outcome 4	Define the stages in mana	jing iniorma	illon service	5.					
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
Couc	T Taille	Cernester	L/1V1	Locialo	Δ.	LOIG	Orauc	Date	learning outcomes
									J
23-00-529	Interoperability of	6	Mandatory	30 hours	30 hours	5	5	28.06.2024	Max. 100%
23-00-329	information systems	U	iviariuatory	30 Hours	30 110015			20.00.2024	IVIAX. 100 /6
	Assess the justification fo	r introducine	n interenera	hility in pub	lic and prive	ate organiz	ations i	n terms of	
Outcome 1	e-business, legal framewo					ite organiz	ations i	ii teiiiis oi	100%
	Compare the performance					of informa	ation sv	stems and	
Outcome 2	argue the opinion about it.								100%
Outcome 2	Select and justify the use	of technolog	y used in s	ervices in m	nore complex	cases of	distribut	ed system	1009/
Outcome 3	integration.				<u> </u>				100%
Outcome 4	Recommend the use of	, ,		b services	when it is r	nost appro	priate	to achieve	100%
Culcome 4	interoperability of informati								100 /0
Outcome 5	Select the option of introd	lucing new	services in	the SOA o	r microservio	ce architec	ture or	reusing of	84%
	existing services.					-t f	4- !		
Outcome 6	Recommend the standards interoperability.	ot commun	iication, info	mination exc	mange, and	storage for	mats im	portant for	100%
	Determine which security	mechanism	e ehould he		evieting inter	onerable s	anvicas	to encure	
Outcome 7	optimal protection.	mechanism	3 SHOULU DE	s used on e	salsting inter	operable 3	ei vices	to ensure	100%
	optima protocion:								Laval of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	Level of adoption of
3000	116.1116	3333.	_,	20014.0	_7		0.440	Date	learning outcomes
23-00-531	Java web programming	6	Elective	30 hours	30 hours	5	4	26.06.2024	Max. 100%
20-00-001	Java web programming	Ü	LICCUVE	JO HOUIS	30 Hours			20.00.2024	Wiax. 10070
	Create a simple web app	olication usi	na lanauaa	e of the vi	rtual platforr	n using th	e diven	language	
Outcome 1	specification.	nication usi	ng languag	e or the vii	ituai piatioiii	ii usiiig uii	e giveri	language	80%
Outcome 2	Structure views in a web application using object-oriented language libraries on a virtual platform.								
Outcome 3	Apply appropriate libraries when creating web applications to join views and background code.								
Outcome 4	Define application security	aspects using	ng deploym	ent descripte	or.				100%
Outcome 5	Implement filters for reque								70%
Outcome 6	Apply event handlers wher	creating we	eb application	ons.					70%
									Level of adoption of
Code	Name	Semester	E/M	Lecture	Ex.	ECTS	Grade	Date	la amina autoomaa
									learning outcomes
	Designing and								
23-00-528	developing a complete	6	Mandatory	15 hours	45 hours	6	5	20.06.2024	Max. 100%
	application solution								
Outcome 1	Plan a complete solution to								
Outcome 2									100%
Outcom 0	Implement a complete solu	ition to a sim	npler proble	m in applied	computing.	0.00ft	ngo d		96%
Outcome 3	Implement a complete solu Recommend appropriate v	ution to a sim	npler problement the misu	m in applied use of persor	l computing. nal data in th				96% 100%
Outcome 3 Outcome 4	Implement a complete solu Recommend appropriate v Develop project documen	ution to a simulation to a simulation to prevente tation using	npler problement the misu	m in applied use of persor	l computing. nal data in th				96%
Outcome 4	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches	ution to a simulation to a simulation to prevente tation using	npler problement the misuclassical o	m in applied use of person or agile deve	I computing. nal data in th elopment me	ethodology	applyin	g relevant	96% 100% 100%
	Implement a complete solu Recommend appropriate v Develop project documen	ution to a simulation to a simulation to prevente tation using	npler problement the misuclassical o	m in applied use of person or agile deve	I computing. nal data in th elopment me	ethodology	applyin	g relevant	96% 100%
Outcome 4 Outcome 5	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth	ution to a simulation to a simulation using station using stakehold	npler problement the misuclassical of ders the de	m in applied use of person agile develor agile develor	I computing. nal data in th elopment me	ethodology esign, and	applyin	g relevant d software	96% 100% 100% 100%
Outcome 4	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product.	ution to a simulation to a simulation to a simulation using the state of the state	npler problement the misus classical of the detection of the state of	m in applied use of person agile develor agile develor	I computing. nal data in th elopment me	ethodology esign, and	applyin	g relevant d software	96% 100% 100%
Outcome 4 Outcome 5	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product.	ution to a simulation to a simulation to a simulation using the state of the state	npler problement the misus classical of the detection of the state of	m in applied use of person agile develor agile develor	I computing. nal data in the elopment methitecture, de	ethodology esign, and	applyin	g relevant d software	96% 100% 100% 100%
Outcome 4 Outcome 5	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product.	ution to a simulation to a simulation to a simulation using the state of the state	npler problement the misus classical of the detection of the state of	m in applied use of person agile develor agile develor	I computing. nal data in the elopment methitecture, de	ethodology esign, and	applyin	g relevant d software ussion and	96% 100% 100% 100% 100% Level of adoption of
Outcome 4 Outcome 5 Outcome 6	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own	ution to a simulation to a simulation using it. er stakehold vare product contribution	npler problement the misuclassical of ders the detailed to the stall.	m in applied use of person or agile develentable develent	I computing. nal data in the elopment methitecture, desponsible in	ethodology esign, and the produ	applyin finished	g relevant d software ussion and	96% 100% 100% 100%
Outcome 4 Outcome 5 Outcome 6	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own	ution to a simulation to a simulation using it. er stakehold vare product contribution	npler problement the misuclassical of ders the detailed to the stall.	m in applied use of person or agile develentable develent	I computing. nal data in the elopment methitecture, desponsible in	ethodology esign, and the produ	applyin finished	g relevant d software ussion and	96% 100% 100% 100% 100% Level of adoption of
Outcome 4 Outcome 5 Outcome 6	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in	ution to a simulation to a simulation to a simulation using the state of the state	npler problement the misuclassical of ders the detailed to the stall.	m in applied use of person or agile devo etails of arc keholders, p	I computing. nal data in the elopment methitecture, desponsible in	ethodology esign, and the produ	applyin finished ct discu Grade	g relevant d software ussion and	96% 100% 100% 100% 100% Level of adoption of
Outcome 4 Outcome 5 Outcome 6 Code	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own	ution to a simulation to a simulation to a simulation using the state of the state	npler problement the misus classical of the desired to the stal to	m in applied use of person or agile devo etails of arc keholders, p	computing. nal data in the elopment me chitecture, de carticipate in	ethodology esign, and the produ ECTS	applyin finished ct discu Grade	g relevant d software ussion and Date	96% 100% 100% 100% Level of adoption of learning outcomes
Outcome 4 Outcome 5 Outcome 6 Code 23-00-526 Outcome 1	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and con	ution to a similarly ays to preventation using sites. er stakehold vare product contribution  Semester  6  ncepts of but	npler proble ent the misu classical o ders the de t to the stal E/M Mandatory siness infor	m in applied use of person or agile devo- etails of arc keholders, p  Lecture  30 hours mation syste	computing. nal data in the elopment me chitecture, de corricipate in Ex.  15 hours ems.	ethodology esign, and the produ ECTS	applyin finished ct discu Grade	g relevant d software ussion and Date 18.06.2024	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80%
Outcome 4 Outcome 5 Outcome 6 Code 23-00-526 Outcome 1 Outcome 2	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and columning	ution to a similarly ays to preventation using it. er stakehold vare product contribution.  Semester  6  ncepts of busin systems in	npler problement the misus classical of the desired of the state of th	m in applied use of person or agile devote tails of arc keholders, p  Lecture  30 hours  mation systet of support	computing. nal data in the elopment me chitecture, de carticipate in Ex.  15 hours ems. for manager	ethodology esign, and the produ ECTS 4	applyin finished ct discu Grade	g relevant d software ussion and Date 18.06.2024	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88%
Outcome 4 Outcome 5 Outcome 6 Code 23-00-526 Outcome 1 Outcome 2 Outcome 3	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and col Define business informatio Define business informatio	ution to a similarly ays to preventation using its er stakehold ware product contribution  Semester  6  ncepts of but in systems in	npler problement the misus classical of classical of the desired to the state.  E/M  Mandatory  siness informent the context of the context o	m in applied use of person or agile devote tails of arc keholders, pure tecture 30 hours mation system of support of support to of support to of support to one of person in applied to the support to of support to one of person in applied to the support to of support t	computing. nal data in the elopment me chitecture, de participate in  Ex.  15 hours  ems. for manager for business	ethodology esign, and the produ ECTS 4	applyin finished ct discu Grade	g relevant d software ussion and Date 18.06.2024	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88% 68%
Outcome 4 Outcome 5 Outcome 6 Code 23-00-526 Outcome 1 Outcome 2	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and columning	ution to a similarly ays to preventation using its er stakehold ware product contribution.  Semester  6  ncepts of but in systems in	npler problement the misus classical of classical of the desired to the state.  E/M  Mandatory  siness informent the context of the context o	m in applied use of person or agile devote tails of arc keholders, pure tecture 30 hours mation system of support of support to of support to of support to one of person in applied to the support to of support to one of person in applied to the support to of support t	computing. nal data in the elopment me chitecture, de participate in  Ex.  15 hours  ems. for manager for business	ethodology esign, and the produ ECTS 4	applyin finished ct discu Grade	g relevant d software ussion and Date 18.06.2024	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88%
Outcome 4  Outcome 5  Outcome 6  Code  23-00-526  Outcome 1  Outcome 2  Outcome 3  Outcome 4	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and col Define business informatio Define business informatio Define strategic managem	ution to a similarly ays to preventation using its er stakehold ware product contribution.  Semester  6  ncepts of busing its systems in systems in ent of busing ways to prevent a similar and the similar ays to prevent a similar ays to prevent ay	mpler problement the misus classical of classical of the desired to the state.  E/M  Mandatory  siness information the context of the context	m in applied use of person or agile devote tails of arc keholders, pure tecture 30 hours mation system to f support to f support to systems	computing. nal data in the elopment me chitecture, de coarticipate in  Ex.  15 hours  ems. for manager for business s.	ethodology esign, and the produ  ECTS  4 ment and defunctions.	applyin finished ct discu Grade 4	g relevant d software ussion and Date 18.06.2024 making.	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88% 68%
Outcome 4 Outcome 5 Outcome 6 Code 23-00-526 Outcome 1 Outcome 2 Outcome 3	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and col Define business informatio Define business informatio	ution to a similarly ays to preventation using its er stakehold ware product contribution.  Semester  6  ncepts of but in systems in	npler problement the misus classical of classical of the desired to the state.  E/M  Mandatory  siness informent the context of the context o	m in applied use of person or agile devote tails of arc keholders, pure tecture 30 hours mation system of support of support to of support to of support to one of person in applied to the support to of support to one of person in applied to the support to of support t	computing. nal data in the elopment me chitecture, de participate in  Ex.  15 hours  ems. for manager for business	ethodology esign, and the produ ECTS 4	applyin finished ct discu Grade	g relevant d software ussion and Date 18.06.2024 making.	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88% 68%
Outcome 4  Outcome 5  Outcome 6  Code  23-00-526  Outcome 1  Outcome 2  Outcome 3  Outcome 4	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and col Define business informatio Define business informatio Define strategic managem	ution to a similarly ays to preventation using its er stakehold ware product contribution.  Semester  6  ncepts of busing its systems in systems in ent of busing ways to prevent a similar and the similar ays to prevent a similar ays to prevent ay	mpler problement the misus classical of classical of the desired to the state.  E/M  Mandatory  siness information the context of the context	m in applied use of person or agile devote tails of arc keholders, pure tecture 30 hours mation system to f support to f support to systems	computing. nal data in the elopment me chitecture, de coarticipate in  Ex.  15 hours  ems. for manager for business s.	ethodology esign, and the produ  ECTS  4 ment and defunctions.	applyin finished ct discu Grade 4	g relevant d software ussion and Date 18.06.2024 making.	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88% 68%
Outcome 4  Outcome 5  Outcome 6  Code  23-00-526  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Code	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and co Define business informatio Define strategic managem Name	ution to a similarly ays to preventation using items. Items of the service of the	mpler problement the misus classical of classical of the state of the	m in applied use of person agile development agi	computing. nal data in the elopment me chitecture, de control de c	ethodology esign, and the produ  ECTS  4  ment and defunctions.	applyin finished ct discu	g relevant d software ussion and Date 18.06.2024 making.	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88% 68%
Outcome 4  Outcome 5  Outcome 6  Code  23-00-526  Outcome 1  Outcome 2  Outcome 3  Outcome 4	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and col Define business informatio Define business informatio Define strategic managem	ution to a similarly ays to preventation using items. Items of the service of the	mpler problement the misus classical of classical of the desired to the state.  E/M  Mandatory  siness information the context of the context	m in applied use of person agile development agi	computing. nal data in the elopment me chitecture, de coarticipate in  Ex.  15 hours  ems. for manager for business s.	ethodology esign, and the produ  ECTS  4 ment and defunctions.	applyin finished ct discu	g relevant d software ussion and Date 18.06.2024 making.	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88% 68%
Outcome 4  Outcome 5  Outcome 6  Code  23-00-526  Outcome 1  Outcome 2  Outcome 3  Outcome 4  Code	Implement a complete solu Recommend appropriate v Develop project documen standards and approaches Explain to users and oth product. Present the finished softw self-critically evaluate own Name Information systems in business administration Define basic terms and co Define business informatio Define strategic managem Name	ution to a similarly ays to preventation using items of the stakehold of t	mpler problement the misus classical of classical of the desired to the stall between the context of the contex	m in applied use of person or agile development of archestalls of aupport of support to fund systems  Lecture	computing. nal data in the elopment me chitecture, de control de c	ethodology esign, and the produ  ECTS  4  ment and do functions.  ECTS	applyin finished ct discut Grade 4  ecision Grade	g relevant d software ussion and Date 18.06.2024 making.	96% 100% 100% 100% 100% Level of adoption of learning outcomes Max. 100% 80% 88% 68% 68%

Topic of final thesis was "Development of a software solution with advanced interface for storage, organization, and management of files and folders in the cloud" with mentor Daniel Bele.

Assoc. Prof. Mislav Balković, PhD



## INFORMATION ON THE HIGHER EDUCATION SYSTEM IN THE REPUBLIC OF CROATIA

#### TYPES OF HIGHER EDUCATION INSTITUTIONS

Higher education institutions are universities, faculties, art academies and polytechnics (universities of applied sciences).

Universities (sveučilišta) are higher education institutions which offer university study programmes in at least two scientific fields/fields of arts and in at least three scientific areas/areas of arts. Universities may also offer professional study programmes. Universities may establish faculties (fakulteti) and art academies (umjetničke akademije) as constituent units which are legal entities. Universities may establish university departments, faculties or art academies which are not legal entities, research institutes, centres, institutes, clinics or other organisational units as constituent units which are not legal entities. Universities and their constituent unts perform higher education activities, scientific or artistic activities as well as professional activities.

Polytechnics/Universities of applied sciences (veleučilišta) are higher education institutions which offer professional study programmes. They perform higher education activities and professional activities and may perform scientific or artistic activities.

Public universities are established by law, public polytechnics are established by a decree of the Government of the Republic of Croatia, and private higher education institution are established by a decision of the founder.

#### TYPES OF STUDY PROGRAMMES

Higher education institutions perform university or professional study programmes.

University study programmes prepare students for work in science, arts and higher education, in the private and public sectors and society in general, as well as for the development and application of scientific, artistic and professional achievements.

Professional study programmes prepare students for professional work in the private and public sectors and society in general.

Levels of studies are: short-cycle study programmes, undergraduate study programmes, graduate study programmes and postgraduate or doctoral study programmes.

The Republic of Croatia joined the Bologna Process in 2001, and since 2005 learning outcomes and student workload expressed in ECTS credits have been defined within study programmes. Students can normally obtain 60 ECTS credits within one year.

#### Short-cycle study programmes

Short-cycle study programmes (stručni kratki studiji) take two years in which students earn 120 ECTS credits.

The requirement for enrolling in a short-cycle study programme is to complete a corresponding secondary school programme according to the requirements determined by the higher education institution.

Upon completion of the study programme, students receive a certificate as well as a certificate supplement and the professional title of pristupnik with an indication of the field of study.

#### Undergraduate study programmes

University undergraduate (sveučilišni prijediplomski studiji) or professional undergraduate study programmes (stručni prijediplomski studiji) are performed in the first cycle of higher education and take three years in which students earn at least 180 ECTS credits, or take four years in which students earn at least 240 ECTS credits.

They can be enrolled in by a person who has completed a corresponding secondary school programme in the duration of at least four years and passed the state matura examination. A professional undergraduate study programme can be enrolled in by a person who has completed a short-cycle study programme. Exceptionally, undergraduate study programmes in the field of arts can be enrolled in without a completed corresponding secondary school education on the basis of the recognition of prior non-formal and informal learning. More detailed enrolment requirements for specific study programmes are determined by the higher education institution.

Upon completion of the study programme, students receive a diploma and a diploma supplement.

Students graduating in university undergraduate study programmes are awarded the academic title of University Bachelor/baccalaureus (sveučilišni prvostupnik/prvostupnica) with an indication of the field of study (univ. bacc.). Students graduating in professional undergraduate study programmes are awarded the professional title of Bachelor/ baccalaureus (prvostupnik/prvostupnica) with an indication of the field of study (bacc.).

#### Graduate study programmes



University (sveučilišni diplomski studiji) and professional graduate study programmes (stručni diplomski studiji) are performed in the second cycle of higher education. They normally take two years in which students earn at least 120 ECTS credits. The requirement for enrolment is a completed three-year undergraduate study programme with at least 180 ECTS credits obtained.

One-year graduate study programmes in which students earn at least 60 ECTS credits can also be performed. They can be enrolled in by students who have completed four-year university or professional undergraduate study programmes and earned 240 ECTS credits.

Normally, students who complete a university undergraduate study programme can enrol in a university graduate study programme, and students who complete a professional undergraduate study programme can enrol in a professional graduate study programme. However, it is possible that students who complete a professional undergraduate study programme enrol in a university graduate study programme if they pass differential exams.

More detailed enrolment requirements for specific study programmes are determined by the higher education institution.

Upon completion of the study programme, students receive a diploma and a diploma supplement.

By completing a university graduate study programme, students are awarded the academic title of University Master (sveučilišni magistar) with an indication of the field of study (univ. mag. with an indication of the field of study). In the field of technical sciences and some programmes in the field of biotechnical sciences, students are awarded the academic title of University Master of Engineering (sveučilišni magistar inženjer) with an indication of the field of study (univ. mag. ing. with an indication of the field of study).

By completing a professional graduate study programme, students are awarded the professional title of Master (magistar) with an indication of the field of study (mag. with an indication of the field of study), and in the technical field students are awarded the title of Master of Engineering (magistar inženjer) with an indication of the field of study (mag. ing. with an indication of the field of study).

#### Integrated university undergraduate and graduate study programmes

Integrated university undergraduate and graduate study programmes (sveučilišni integrirani prijediplomski i diplomski studiji) encompass the first and the second cycle of higher education and take five years in which students earn at least 300 ECTS credits, or six years in which students earn at least 360 ECTS credits.

They can be enrolled in by a person who has completed a corresponding secondary school programme in the duration of at least four years and passed the state matura examination. Exceptionally, integrated university undergraduate and graduate study programmes in the field of arts can be enrolled in without a completed corresponding secondary school education on the basis of the recognition of prior non-formal and informal learning. More detailed enrolment requirements for specific study programmes are determined by the higher education institution.

Upon completion of the study programme, students receive a diploma and a diploma supplement. By completing an integrated university undergraduate and graduate study programme, students are awarded the academic title of University Master (sveučilišni magistar) with an indication of the field of study (univ. mag. with an indication of the field of study), and in the field of medicine, veterinary medicine and dental medicine students are awarded the academic title of Doctor (doktor) with an indication of the field of study).

#### Specialist university study programmes

Specialist university study programmes (sveučilišni specijalistički studiji) are performed in the third cycle of higher education and take one to two years in which students earn from 60 to 120 ECTS credits

Specialist university study programmes can be enrolled in by a person who has completed a corresponding university graduate or university integrated undergraduate and graduate study programme, and exceptionally by a person who has completed a professional graduate study programme if they pass differential exams. More detailed enrolment requirements for specific study programmes are determined by the higher education institution.

Upon completion of the study programme, students receive a diploma and a diploma supplement. By completing a specialist university study programme, students are awarded the academic title of Specialist (specijalist) with an indication of the field of study (spec. with an indication of the field of study), and in the field of medicine, veterinary medicine, dental medicine, pharmacy and medical biochemistry, students are awarded the academic title of University Specialist (sveučilišni specijalist)

with an indication of the field of study (univ. spec. with an indication of the field of study).

#### **Doctoral study programmes**

Doctoral study programmes (doktorski studiji) are performed in the third cycle of higher education and take three years in which students earn 180 ECTS credits.

They can be enrolled in by a person who has completed a corresponding university graduate study



programme, an integrated university undergraduate and graduate study programme or a specialist university study programme.

Upon completion of the study programme, students receive a diploma and a diploma supplement. By completing a doctoral study programme, students are awarded the academic degree of Doctor of Science (doktor znanosti) with an indication of the scientific field (dr. sc. with and indication of the scientific field) or Doctor of Fine Arts (doktor umjetnosti) (dr. art.).

### ACCREDITATION OF HIGHER EDUCATION INSTITUTIONS AND STUDY PROGRAMMES

The Agency for Science and Higher Education is a national body responsible for different types of external evaluation of the quality in higher education and science in alignment with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). The Agency was founded by the Republic of Croatia, is periodically evaluated by the European Association for Quality Assurance in Higher Education (ENQA) and is registered with the European Quality Assurance Register for Higher Education (EQAR).

All higher education institutions in the Republic of Croatia are subject to the initial accreditation procedure in order to obtain a licence for operating.

For all new study programmes, an initial accreditation is conducted by the Agency for Science and Higher Education according to the uniform criteria for all public and private higher education institutions and for all university and professional study programmes.

The Agency for Science and Higher Education also conducts the procedure of a regular re-accreditation of higher education institutions in the Republic of Croatia, as well as thematic evaluations.

#### **GRADING SYSTEM**

The learning outcomes obtained in a study programme are evaluated by the following grades:

Izvrstan (excellent) (5) - excellent achievement corresponding to the letter grade A

Vrlo dobar (very good) (4) - above-average achievement corresponding to the letter grade B

Dobar (good) (3) - average achievement corresponding to the letter grade C

Dovoljan (pass) (2) - satisfactory achievement corresponding to the letter grade D

Nedovoljan (fail) (1) - learning outcomes have not been achieved, and the grade corresponds to the letter grade F.

Particular courses can be evaluated descriptively, in which case they are not included in the calculation of the grade point average of the study programme.

#### NATIONAL QUALIFICATIONS FRAMEWORK

The Croatian Qualifications Framework (CROQF) is an instrument for regulating the entire system of qualifications at all education levels in the Republic of Croatia, referencing the levels of qualifications obtained in the Republic of Croatia to the levels of the European Qualifications Framework (EQF) and the Qualifications Frameworks in the European Higher Education Area (QF-EHEA).

More information on the Croatian Qualifications Framework can be accessed via: http://www.kvalifikacije.hr.



