RIT | Croatia

RIT CROATIA PROGRAM OUTLINE

PROGRAM TITLE: BACHELOR OF SCIENCE (B.S.) IN WEB & MOBILE COMPUTING - ZAGREB

TYPE OF PROGRAM: Undergraduate professional program

DURATION OF PROGRAM: 4 years /8 semesters

TOTAL NUMBER OF ECTS: 240

SCIENTIFIC AREA: Technical Sciences

SCIENTIFIC FIELD: Computing

EFFECTIVE FOR: Students enrolled starting from AY 2023/24

RIT | Croatia

1. ENROLLMENT CRITERIA

Enrollment in the study program can be offered to candidates who have completed an appropriate secondary education program lasting at least four years and have passed the Croatian state exam. A person who has completed a relevant short vocational program may enroll in a professional undergraduate study. A person who completed an appropriate secondary education program lasting at least four years in the Republic of Croatia before 2010, without having passed the state exam, or a person who has completed 12 years of equivalent education abroad, may enroll in a university or professional undergraduate study,, in accordance with the conditions prescribed by the general act of the higher education institution.

For candidates who are required to take the state exam, a B level in mathematics and English is required. In addition, candidates must pass additional assessments:

- Essay
- Motivational interview

Scoring:

Mandatory part of the state exam

Subject	**Level**	**Weighting**
Croatian	**B**	**0%**
Mathematics	**B**	**25%**
English	**B**	**35%**

Additional assessments of specific knowledge, skills, and abilities

Assessment	**Mandatory**	**Weighting**
Motivational essay	**YES**	**10%**
Motivational interview	**YES**	**30%**

Candidates who completed secondary education in the Republic of Croatia before 2010 apply through the website www.croatia.rit.edu, submit copies of their high school certificates and final diploma, and undergo additional assessments: motivational interview, essay,

Transfer students from other higher education institutions also apply through the website www.croatia.rit.edu, submit their high school diploma and transcripts from their previously enrolled study program. They also undergo additional assessments: motivational interview, and essay.

Candidates who completed secondary education outside the Republic of Croatia must go through the process of recognition of foreign educational qualifications as part of the central application procedure.

2. CRITERIA FOR ENROLLMENT IN THE NEXT SEMESTER/YEAR LEVEL

An undergraduate student must maintain a cumulative and term Grade Point Average (GPA) of 2.00 or above at RIT Croatia in order to remain in good academic standing. RIT Croatia has set standards to help students maintain satisfactory academic performance, and serve to identify, warn, and provide timely intervention to students experiencing academic difficulty.

All probation and academic suspension actions are taken at the end of the fall, spring and summer terms. Students who attempt fewer than 9 credits in a term, and earn a term GPA less than a 2.0, but whose cumulative GPA is 2.0 or higher may be subject to academic action at the discretion of the college.

Probation refers to the academic action taken when a student is not in good academic standing. A student placed on probation is expected to sufficiently raise their GPA so as to return to good academic standing in the succeeding term. Students placed on probation will be required to complete an academic success plan. Without consultation with their advisor and written permission from the dean of the college, students on probation may enroll in no more than 16 credits. In some circumstances, a student will also be required to satisfy specific conditions required by the home program. Failure to meet the terms of probation may result in suspension. A student can be placed on probation no more than two terms during a given undergraduate degree level (i.e. bachelor) at RIT Croatia. Students who have had two academic probations and do not meet the criteria for good academic standing will be placed on academic suspension.

Academic Suspension refers to the academic action taken when a student is not permitted to enroll in courses at RIT Croatia for minimum of one term. Students who qualify for academic suspension at the end of a spring term will be placed on academic suspension for the following summer and fall terms. An appeal form can be used by a student to appeal an academic suspension decision.

Deferred Suspension refers to the academic action taken when a student appeals academic suspension and the appeal is granted. Students placed on deferred suspension will have one term to return to good academic standing and will be required to complete an academic success plan with their home program. A student on deferred suspension, enrolled in summer term, and taking 12 or more credits will be subject to this academic action policy and subsequent academic success plan.

Academic Success Plan is an agreement between a student and the student's academic program designed to facilitate success in the program. Students should consult with their academic program to determine the appropriate number of credits per term. Policy statements

i. Any degree-seeking undergraduate student whose term or cumulative grade point average falls below a 2.00 (C average) will be placed on probation.

ii. Students placed on probation may enroll in no more than 16 credits during the probation period and are required to complete an academic success plan with their home/primary program. Students in consultation with their faculty and/or professional academic advisor may appeal to the dean of the college for permission to take more than 16 credits while on probation.

iii. A student can be placed on probation no more than two terms during a given undergraduate degree level (i.e. bachelor) at RIT Croatia. Students who have had two academic probations and do not meet the criteria for good academic standing will be placed on academic suspension.

iv. Any student who has been placed on probation after having been removed from probation will be granted one term to be removed from probation before academic suspension from RIT Croatia.

v. Any student whose term grade point average falls below 1.00 is not eligible for probation and will be placed on academic suspension through the upcoming fall or spring term, at the minimum.

vi. Students who have been readmitted to RIT Croatia after an academic suspension will have up to two terms to return to good academic standing, and their status will be "pending action." Students who fail to return to good academic standing in two terms will be placed on academic suspension.

vii. A student on academic suspension cannot enroll in any credit or non-credit course at RIT Croatia while on academic suspension.

viii. Students on academic suspension may appeal an academic suspension decision to the Ombudsperson. If the appeal is granted, the student will be placed on deferred suspension for one term.

ix. Decisions regarding deferred suspension require dean (or designee) approval. For programs housed outside the college structure, the approval of the academic unit in which the enrollment is requested is required.

x. Students placed on deferred suspension will have one term to return to good academic standing and will be required to complete an academic success plan with their home department.

xi. Academic suspension refers to the academic action taken when a student is not permitted to enroll in courses at RIT for a minimum of one term. A student on academic suspension will be excluded from classes, university housing, and all other university activities during the period of academic suspension.

xii. Students on academic suspension may be required to satisfy specific academic requirements imposed by the home program in order to be considered for readmission to their program.

xiii. Students on academic suspension may be admitted to another program if it is approved by the dean (or designee) of the college in which enrollment is requested. Such students will be placed on deferred suspension and required to complete an academic success plan with the new program. For programs housed outside the college structure, the approval of the academic program in which the enrollment is requested is required.

xiv. Readmitted students will be required to complete an academic success plan and will have up to two terms to return to good academic standing. After two terms, students who do not maintain both cumulative and term GPA of 2.0 or above will be placed on academic suspension.

3. TRANSFER PROCEDURE

Credit transfer procedure and transfer procedures generally speaking are defined by The Rulebook on Admission Requirements and Transfer Procedures from other HE institutions to RIT Croatia.

4. GRADUATION REQUIREMENT

All of the following are required for graduation from a student's program:

- A Cumulative Grade Point Average (GPA) of 2.00 or above based on the US credits system
- Satisfactory completion of the Capstone course
- Completion of a minimum of 126 US credits for the US degree and 240 ECTS for the Croatian degree
- Satisfactory completion and grade for the required co-ops in duration of 800 working hours
- No outstanding library dues
- Full payment or satisfactory adjustment of all financial obligations

Graduation with Honors

Honors posted to the academic record will be based upon the student's Cumulative Grade Point Average upon completion of the degree requirements. The numerical criteria for graduation with honors are as follows:

Summa cum laude	3.80 Cumulative GPA
Magna cum laude	3.60 Cumulative GPA
Cum laude	3.40 Cumulative GPA

5. DEGREES UPON COMPLETION OF THE STUDIES

RIT Croatia is the only educational institution in Croatia granting two degrees: an American degree from RIT and a Croatian degree from RIT Croatia.

Upon successful completion of the four-year program in Web and Mobile Computing students receive a Bachelor of Science (B.S.) degree in Web and Mobile Computing. Studies at RIT Croatia are also accredited by the Croatian Ministry of Science, Education and Sports and meet the requirements of the Bologna Agreement. As a result, all students completing the four-

year IT program will receive the degree title of prvostupnik/prvostupnica (baccalaureus/ baccalaurea) inženjer/inženjerka informacijskih tehnologija.

In order to receive a Croatian degree from RIT Croatia students must have either a high school diploma issued by a Croatian high school or a high school diploma recognized by the Ministry of Science, Education and Sports of the Republic of Croatia.

6. LIST OF OTHER STUDY PROGRAMS FROM WHICH THE ECTS POINTS COULD BE EARNED

Hospitality and Tourism Management

International Business

7. PROGRAM LEARNING OUTCOMES

WMC1	Analyze user, software and hardware requirements in the selection, development, integration, evaluation, and administration of information systems
WMC2	Design a computer-based solution for solving problems using mathematical and information technology principles and practices
WMC3	Apply software design principles and patterns to design and implement software solutions
WMC4	Create a web-based solution applying software design and development principles, patterns and practices
WMC5	Create a mobile application using software design and development principles, patterns and practices
WMC6	Build a solution using contemporary software development methodologies, frameworks, libraries and tools
WMC7	Apply tools and methods to design, model, create, manage and use a database
WMC8	Design user interface and user experience for software solutions based on contemporary principles and practices
WMC9	Apply methods and techniques to design, build and manage a computer network system using requisite hardware and software
WMC10	Apply IT project management techniques to achieve specific project objectives including scope, quality, time, and cost
WMC11	Make decisions in computing practices based on professional, legal, ethical, social, and security principles
WMC12	Collaborate effectively as a team member or leader in various IT projects
WMC13	Communicate field-specfic information in written and oral form using a standard English variety.
WMC14	Critically evaluate text and other media in a specific field.
WMC15	Reevaluate existing principles and practices in a specific field.
WMC16	Manage one's professional development and engage in lifelong learning activities pertaining to the field.
WMC17	Apply scientific principles in solving contemporary issues in a specific field.

RIT | Croatia

8. LIST OF COURSES

Course No.	Course Name	Credits	ECTS
YEAR 1			
GCIS-123	Software Development and Problem Solving I	4	6
ISTE-140	Web and Mobile I	3	6
NMDE-111	New Media Design Digital Survey I	3	6
MATH-131	Discrete Mathematics	4	5
UWRT-100	Critical Reading and Writing	3	5
YEAR 2			
NSSA-290	Networking Essentials for Developers	3	5
ISTE-222	Applied Data Structures and Algorithms	3	6
ISTE-260	Designing the User Experience	3	5
SOCI-102	Foundation of Sociology	3	5
CHOOSE 1 LANGUAGE COURSE BELOW:			
MLFR-201	Beginning French I	4	5
MLGR-201	Beginning German I	4	5
MLIT-201	Beginning Italian I	4	5
MLSP-201	Beginning Spanish I	4	5
YEAR 3			
ISTE-422	Application Development Practices	3	6
ISTE-341	Server Programming	3	6
ENGL-210	Literature and Cultural Studies	3	5
FREE	Free Elective (Choose any course)	3	5
CHOOSE 1 IMMERSION COURSE BELOW:			
Language Immersion:			
MLFR-301	Intermediate French I	3	4
MLGR-301	Intermediate German I	3	4
MLSP-301	Intermediate Spanish I	3	4
Cultural Anthropology Immersion:			
ANTH-210	Culture and Globalization	3	5
YEAR 4			
ISTE-454	Concentration Mobile 1: Mobile Application	3	6
ISTE-500	Senior Development Project I	3	6
ANTH-210	Culture and Globalization	3	5
ENVS-151	Scientific Inquiries in Environmental Science	4	5
FREE*	Free Elective (Choose any course)	3	5

WMC Concentrations (need both for graduation):

Mobile Application Development

ISTE-454	Mobile Application Development I	3	6
ISTE-456	Mobile Application Development II	3	6

Web Application Development

ISTE-442	Secure Web Application Development	3	6
ISTE-444	Web Server Development And Administration	3	6

Course No.	Course Name	Credits	ECTS
YEAR 1			
GCIS-124	Software Development and Problem Solving II	4	6
ISTE-240	Web and Mobile II	3	6
ISTE-230	Introduction to Database and Data Modeling	3	6
MATH-161	Applied Calculus	4	5
UWRT-150	Writing Seminar	3	5
YEAR 2			
ISTE-340	Client Programming	3	6
ISTE-252	Foundation of Mobile Design	3	5
SWEN-383	Software Design Principles and Patterns	3	6
ISTE-330	Database Connectivity and Access	3	6
CHOOSE 1 LANGUAGE COURSE BELOW:			
MLFR-202	Beginning French II	4	5
MLGR-202	Beginning German II	4	5
MLIT-202	Beginning Italian II	4	5
MLSP-202	Beginning Spanish II	4	5
ISTE-499	COOP 1	0	12
YEAR 3			
ISTE-442	Concentration Web 1: Secure Web Application	3	6
ISTE-444	Concentration Web 2 : Web Server Development And	3	6
ENVS-150	Ecology of Dalmatian Coast	4	5
PHIL-202	Foundations of Moral Philosophy	3	5
CHOOSE 1 IMMERSION COURSE BELOW:			
Language Immersion:			
MLFR-302	Intermediate French II	3	4
MLGR-302	Intermediate German II	3	4
MLSP-302	Intermediate Spanish II	3	4
Cultural Anthropology Immersion:			
ANTH-380	Nationalism and Identity	3	5
ISTE-499	COOP	0	12
YEAR 4			
ISTE-456	Concentration Mobile2: Mobile Application Development II	3	6
ISTE-501	Senior Development Project II	3	6
PHIL-449	Topics in Philosophy	3	5
FREE	Free Elective (Choose any course)	3	5
FREE*	Free Elective (Choose any course)	3	5

RIT | Croatia

YEAR 1 – COURSE DESCRIPTIONS

RIT | Croatia

General Information

Course title:	Software Development and Problem Solving I
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	First
ECTS points:	6
Teaching hours (L+S+E):	90 (4+0+2)

Course Description

Course objectives:

- Learn to program in a selected, contemporary, high-level programming language (Python).
- Describe and apply problem-solving skills, algorithms, and data structures that are appropriate to solve a variety of computing problems of varying degrees of complexity.
- Describe and apply fundamental concepts of software engineering including understanding needs, software design, solution testing, and incremental development.

Conditions for enrolment in the course:

None/prerequisite

Expected learning outcomes of the course:

A student will be able to:

CLO1: Use basic programming language constructs in developing a solution

CLO2: Build solutions to computing problems by utilizing algorithms and data structures

CLO3: Apply software engineering concepts, including understanding needs, software design, and solution testing

Course content:

- Statements, expressions, variables, standard output/input
- Types, variables, functions, parameters, arguments
- Arrays, Boolean expressions, conditionals, iteration
- File I/O, raising exceptions, exception handling
- Basic string parsing, regular expressions
- Arrays, recursion, searching, sorting
- Classes, objects, constructors, fields, methods

Teaching delivery methods:

- Lectures
- Independent work
- Laboratory
- Mentoring
- Peer review

Student obligations:

- Attending classes
- Submitting assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Quizzes	0.3
Class Activities	0.6
Problem Solving	0.6
Assignments	1.5
Practica	1.8
Final Exam	1.2
Total	6

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quizzes	5
Class Activities	10
Problem Solving	10
Assignments	25
Practica	30
Final Exam	20
Total:	**100**

Required reading:

- Lutz, M. (2013). Learning Python. Beijing: O'Reilly. ISBN: 978-1-4493-5573-9

Additional reading:

- Hunt, A., Thomas, D. (2000). The Pragmatic programmer : from journeyman to master. Boston [etc.]: Addison-Wesley. ISBN: 020161622X 9780201616224

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	ISTE-140 Web and Mobile I
Course leader:	dr. sc. Branko Mihaljević, prof.
Study programme:	Web and Mobile Computing (WMC) Program
Course status:	Obligatory
Year:	First
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course provides a basic introduction to Internet technologies and web development. Topics include HTML and CSS, digital images, web page design and web site publishing. Emphasis is placed on fundamentals, concepts and standards. Additional topics include the user experience, mobile design issues, and copyright/intellectual property considerations.

Course objectives:

- Gain knowledge of key individuals and events in the history of the Internet and the World Wide Web
- Understand and apply different Internet search techniques for research
- Understand Internet protocols and tools, including usage of SSH and SFTP
- Utilize Unix file and directory management tasks
- Understand digital graphics content types, including file formats, resolution, color models, and compression
- Utilize imaging software to create graphic elements and composite images
- Develop web pages with HTML and CSS
- Identify and implement basic graphic design principles including contrast, alignment, proximity, repetition, and effective use of color and type
- Address cross-browser issues

Conditions for enrolment in the course:

None/prerequisite

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create valid web pages using standard markup languages and style sheets

CLO2: Apply appropriate design principles to a web site structure and functionality

CLO3: Create graphics optimized for web sites

CLO4: Work remotely on the web server using the Unix/Linux-based operating environment

CLO5: Build responsive web page design and layout using contemporary design techniques

CLO6: Develop a multi-page web site with embedded graphics and multimedia on a web server

Course content:

Course topics include:

- History of Web
- HTML (HyperText Markup Language) and CSS (Cascading Style Sheet Language)
- Web Page Validation
- Secure File Transfer Protocol (SFTP)
- Basics of Linux/UNIX Operating Systems
- Secure Shell Protocol (SSH)
- Digital Images for Web - Creation and Manipulation
- Internet Searches
- Responsive Web Design
- Copyright and Intellectual Property
- Plagiarism
- Web Design Basics
- User Experience and Usability on the Web
- CSS3 Features and Grid
- Introduction to JavaScript Language
- Introduction to PHP Language

Teaching delivery methods:

- Lectures
- Exercises
- Independent work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Homework assignments	0.6
Quizzes	0.6
Project 1	0.6
Project 2	0.9
Project 3	0.9
Midterm Exam Theory	0.6
Midterm Exam Practical	0.6
Final Exam Theory	0.6
Final Exam Practical	0.6
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments, projects and preparing for the exams.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Homework assignments	10
Quizzes	10
Project 1	10
Project 2	15
Project 3	15
Midterm Exam Theory	10
Midterm Exam Practical	10

Final Exam Theory	10
Final Exam Practical	10
Total:	**100**

Required reading:

- Robbins, J. (2018). Learning Web Design: A beginner's guide to HTML, CSS, JavaScript, and Web Graphics (Fifth ed.). O'Reilly. – available as eBook in RIT Library

or

- Felke-Morris, T. (2021). Basics of web design: HTML5 & CSS (Sixth ed.). Pearson.

Additional reading:

- Kyrnin, J., & Meloni, J. C. (2019). Sams: Teach Yourself HTML, CSS, and JavaScript all in One (Third ed.). Pearson. – optional and available as eBook in RIT Library
- Frain, B. (2020). Responsive Web Design with HTML5 and CSS: Develop future-proof responsive websites using the latest HTML5 and CSS techniques, 3rd edition. Packt Publishing, Limited. – optional and available as eBook in RIT Library
- Hong, P. (2018). Practical Web Design: Learn the fundamentals of web design with HTML5, CSS3, bootstrap, jQuery, and vue.js. Packt. – optional and available as eBook in RIT Library
- Grant, K. (2018). CSS in Depth (1st ed.). Manning Publications. – optional and available as eBook in RIT Library

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	NMD Digital Survey I
Course leader:	Ante Poljičak
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	First
Number of ECTS credits:	6
Teaching hours (L+S+E):	75 (2+0+3)

Course Description

Course objectives:

- Introduce the fundamental creative principles for generating digital content and designs that communicates concise and impactful visual messages.
- Understand the technical principles and tools of digital graphics.
- Introduce principles and methods of visual organization, design and graphic analysis.
- Develop skills that allow the student to decide the best options to generate and output content for digitally based imagery and design.
- Develop visual solutions using observational drawing, sketching, image manipulation as well as photographic techniques and imagination.
- Develop solutions that reflect semiotic concerns of effective communication including aesthetic considerations, appropriate concept development and pragmatic concerns.
- Understand the ethics and copyright issues of digital graphics.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: Apply elements and principles of two-dimensional design

CLO2: Demonstrate the use of appropriate vocabulary in the critique and analysis of two-dimensional compositions

CLO3: Create innovative solutions to design problems that include ideation, visualization, and sketching

CLO4: Demonstrate presentation skills and craftsmanship

CLO5: Combine creative tools, media, and process to solve a visual communication problem

CLO6: Apply historical and contemporary references in concept generation

CLO7: Critique their designs and the designs of others

Course content:

This project-based course is an investigation of the computer as an illustrative, imaging, and graphical generation tool. It develops foundational technical and design skills in raster and vector image creation, editing, compositing, layout and visual design for online production. Emphasis will be on the application of technical and design organization methods and principles for digital and printed media. Students will create and edit images, graphics, layouts and typography to form effective design solutions for various media delivery.

Following topics will be covered:

- Fundamentals of images
  - Vector vs. Raster
  - Resolution and size
  - Color space and bit-depth (RGB)
  - Sketching, drawing and the relation to commercial media
  - Bezier Curves, Paths and Anchor Points
  - Working with objects and art boards
  - Color space and bit-depth (RGB vs. CMYK)
- Graphic technology and Imaging
  - Fundamentals of printing
  - Halftoning principles
  - Prepress requirements
  - Color Theory and reproduction
- Image capture and saving
  - Fundamentals of photography (lighting, depth, color, subject, perspective, time)
  - Introduction to camera controls (f-stop, shutter, megapixels)
  - How to take photographs (image capture assignment)
  - Correcting and enhancing digital photographs (RAW and PS tools)
  - Image compressions and file formats for online and storage
  - Working with advanced image correcting and enhancing tools
- Image creation and manipulation
  - Advanced imaging styles
  - Using layers to enhance and combine images

    - Templates, drawing and tracing
    - Blends, Gradients and Meshes
    - Transparencies
    - Process for image creation
- Creating graphic elements
    - Elements and principles of Graphic Design
    - Introduction to layout and grids
    - Introduction to Typography
    - Introduction to design for interaction
    - Digital output best practices
- Design principles
    - Selecting, purchasing, and using copyright free images for design
    - Ethics, copyright and user responsibilities and liabilities
    - Conceptualizing image-based design solutions
    - Use of type in relation to image
    - New Media and advertising
    - UI and app icons

Teaching delivery methods:

- Lectures
- Exercises

Comments:

Student obligations:

- Attending classes
- Submitting assignments and projects

Monitoring student work:

Activity	ECTS
Projects 1	1
Projects 2	1
Projects 3	1.2
Lab assignments	1.2
Homework	0.4
Written exam	1.2

Total 6

Teaching time is worth 2.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exam	20%
Lab assignments	15%
Project 1	15%
Project 2	15%
Project 3	15%
Participation	10%
Homework	10%
Total:	**100**

Required reading (at the moment of submitting the Study Programme Report):

- Ambrose, G., Harris, P., & Ball, N. (2019). *The Fundamentals of Graphic Design*. Bloomsbury Publishing.
- Stone, M. (2016). *A Field Guide to Digital Color*. CRC Press.
- Kipphan, H. (2014). Handbook of Print Media: Technologies and Production Methods. Springer Berlin Heidelberg.
- Lidwell, W., Holden, K., & Butler, J. (2010). *Universal Principles of Design, Revised and Updated: 125 Ways to Enhance Usability, Influence Perception, Increase Appeal, Make Better Design Decisions, and Teach through Design*. Rockport Publishers.
- James, D. (2011). *Crafting Digital Media: Audacity, Blender, Drupal, GIMP, Scribus, and other Open Source Tools.* Apress.
- Cohen, J., & Kenny, T. (2015*). Producing New and Digital Media: Your Guide to Savvy Use of the Web.* Taylor & Francis.

Additional reading (at the moment of submitting the Study Programme Report):

- Mestha, L. K., & Dianat, S. A. (2018). Control of Color Imaging Systems: Analysis and Design. CRC Press.
- Galer, M. (2007). *Photography: Foundations for Art & Design : the Creative Photography Handbook.* Focal.
- Lupton, E. (2010). *Thinking with Type, 2nd revised and expanded edition: A Critical Guide for Designers, Writers, Editors, & Students.* Princeton Architectural Press.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Discrete Mathematics, COS-MATH-131
Course leader:	Kristijan Tabak
Study programme:	WMC
Course status:	Obligatory
Year:	First
ECTS points:	5
Teaching hours (L+S+E):	60 (2+0+2)

Course Description

Course objectives:

- Gain knowledge of the mathematical concepts needed for understanding and analyzing programming.
- Discuss applications of mathematics to computer science and computer information systems.
- Use results of the theorems in Information Technology

Conditions for enrolment in the course:

None/prerequisite

Expected learning outcomes of the course:

A student will be able to:

CLO1: create truth tables for complex logical expressions,
CLO2: evaluate complexity of a graph,
CLO3: analyze complex combinatorial enumeration problems,
CLO4: construct solutions of congruences over rings of numbers.

Course content:

- Number Systems
- Sets
- Logic

- Functions
- Counting
- Graph Theory
- Arrays
- Regular Sets

Teaching delivery methods:

- Lectures
- Workshops
- Exercises
- Remote learning
- Independent work
- Multimedia
- Mentoring
- Peer review

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Assignment 1	1.25
Assignment 2	1.25
Assignment 3	1.5
In Class Quizz	1
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%

Assignment 1	25
Assignment 2	25
Assignment 3	30
In Class Quizz	20
Total:	**100**

Required reading:

- Molluzzo and Buckley, A First Course in Discrete Mathematics,Waveland Press, Long Grove, IL.
- Siegel, Schaum's Outline of Discrete Mathematics, McGraw-Hill, Columbus, OH.
- Wallis,W.D., A Beginner's Guide to Discrete Mathematics, Birkhauser, New York, NY

Additional reading:

- None

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Critical thinking
Course leader:	Luka Boršić
Study programme:	WMC, NMD
Course status:	Obligatory
Year:	First
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- to provide a general introduction to logic;
- to find inconsistencies and mistakes in reasoning;
- to identify, evaluate, and construct arguments;
- to understand logical connections and relationships between ideas;
- to understand the relevance and weight of arguments and ideas;
- to analyize problems systematically;
- to evaluate the grounds for or against a decision;
- to evaluate and question one's own beliefs and values.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: becoming familiar with basic concepts of analysis of critical thinking;

CLO2: critically analyse a variety of discourses;

CLO3: create a complete critical analysis of a longer discourse.

Course content:

The main objective of the course is to learn how to explore arguments on all sides and to explain why someone rejects what one rejects before taking a position. This will enable students to figure out the consequences of various ideas, proposals, and problems, generate arguments for each side, and evaluate them. Thinking in principles, rather than case by case, or at least to recognize similar principles in different cases, even if they choose to take different positions on them, is strongly encouraged and recommended.

The course aims to provide knowledge of practical application of analytical and creative thinking rather than a survey of methods, doctrines, and leading ideas.

Teaching delivery methods:

- lectures
- multimedia presentations
- classroom exercises
- discussions

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

	As1	As2	As3	As4	ECTS	Points
ECTS (hrs)	0.50 (15)	1.25 (37.5)	1,5 (45)	1,75 (52,5)	5 (150)	
Points	10	25	30	35		100
LO1	5	25	5	0	1.75	35
LO2	5	0	10	15	1.5	30
LO3	0	0	15	20	1.75	35

Teaching time is worth 3 ECTS points, and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

	Component	Points/%
As1	Classroom participation	10
As2	Quizzes	25
As3	Written assignments	30
As4	Final project	35
	Total:	**100**

Required reading:

The material will be supplied by the instructor.

Additional reading:

Selection from:

- J. Freeley, D. L. Steinberg, *Argumentation and Debate. Critical Thinking for Reasoned Decision Making*, Wadsworth Cengage Learning, 2009.
- D. R. Morrow, A. Weston, *A Workbook for Arguments*, Hackett Publishing Company, 2011.
- J. Y. F. Lau, *An Introduction to Critical Thinking and Creativity*, Wiley, 2011.
- H. M. Curtler, *Ethical Argument: Critical Thinking in Ethics*, Oxford University Press, 2004.
- N. M. Cavender, H. Kahane, *Logic and Contemporary Rhetoric*, Wadsworth Cengage Learning, 2010.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Software Development and Problem Solving II
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	First
ECTS points:	6
Teaching hours (L+S+E):	90 (4+0+2)

Course Description

Course objectives:

- Learn to program in a selected, contemporary, high-level programming language (Java).
- Describe and apply problem solving skills, algorithms, and data structures that are appropriate to solve a variety of computing problems of varying degrees of complexity.
- Describe and apply fundamental concepts of software engineering including understanding needs, software design, solution testing, and incremental development.

Conditions for enrolment in the course:

ISTE-120 or GCIS-123 or equivalent course

Expected learning outcomes of the course:

A student will be able to:

CLO1: Design a class following the object-oriented programming principles

CLO2: Design and implement algorithms that utilize data structures to solve specific computational problems

CLO3: Develop multi-threaded applications by applying concurrent programming concepts, including threads, synchronization, and inter-thread communication

Course content:

- Algorithmic thinking, computational problem solving
- Software design (UML), design principles and design patterns
- Classes, objects, constructors, fields, methods
- Inheritance, interfaces, generics, abstract classes, lambdas
- Multi-dimensional arrays, lists, queues, binary trees, maps, sets, graphs
- Concurrent Programming
- Thread Cooperation
- Networking
- Test Driven Development (TDD), unit & automated testing, command line usage, team work

Teaching delivery methods:

- Lectures
- Independent work
- Laboratory
- Mentoring
- Peer review
- Project work

Student obligations:

- Attending classes
- Submitting assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Quizzes	0.3
Class Activities	0.6
Problem Solving	0.6
Mini-Practica	0.48
Assignments	1.02

Practica	1.8
Final Exam	1.2
Total	6

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quizzes	5
Class Activities	10
Problem Solving	10
Mini-Practica	8
Assignments	17
Practica	30
Final Exam	20
Total:	**100**

Required reading:

- Bloch, J. (2018). Effective Java. Boston, MA: Addison-Wesley. ISBN: 978-0-13-468599-1

Additional reading:

- Hunt, A., Thomas, D. (2000). The Pragmatic programmer : from journeyman to master. Boston [etc.]: Addison-Wesley. ISBN: 020161622X 9780201616224

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	Web & Mobile II
Course leader:	Ante Poljičak
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	First
Number of ECTS credits:	6
Teaching hours (L+S+E):	45 (2+0+1)

Course Description

Course objectives:

The objective of this course is to provide students with the following knowledge and skills:

- Create valid web pages using HTML5 and CSS3
- Use client side programming such as JavaScript and the DOM
- Implement server-side programming using PHP
- Identification and execution of basic principles of graphic design: contrast, alignment, proximity, repetition, effective use of colors and types of letters
- website performance for use on different browsers with different screen sizes of different resolutions across different devices
- Integrate front-end, back-end and database to develop dynamic and interactive web pages.

Conditions for enrolment in the course:

- Computational Problem Solving in the Information Domain I
- Web & Mobile I or NMD Interactive I

Expected learning outcomes of the course:

A student will be able to:

LO1: Create dynamic and interactive web pages using client side programming such as JavaScript and the document object model

LO2: Use server side programming and databases to improve site performance, modularization, and separation of logic from data.

LO3: Use the HTTP protocol to properly submit, validate and process user input data

LO4: Create medium scale web sites combining information design, graphics, and markup languages.

LO5: Plan, design and document a web site as part of a team.

LO6: Integrate front-end, back-end and database in a medium scale full-stack development project.

Course content:

This course builds on the basics of web page development that are presented in Web and Mobile I or Interactive I and extends that knowledge to focus on theories, issues, and technologies related to the design and development of web sites. An overview of web design concepts, including usability, accessibility, information architecture, and graphic design in the context of the web will be covered. Introduction to web site technologies, including HTTP, web client and server programming, and dynamic page generation from a database also will be explored. Development exercises are required.

- Intermediate Design
- User Experience and Usability
- Information Architecture
- Navigation
- Sites vs. Pages
- Introduction to N-Tiered Systems
- Introduction to Web Client Programming
- Basic Document Object Model (DOM) manipulation
- Programmed manipulation of styles
- HTTP
- GET/POST generation
- Forms and validation
- Introduction to Web Server Programming
- Modularization
- Basic database access and use
- Consuming and producing data

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia and network

Comments:

Student obligations:

Regular class attendance, mandatory lectures review, independent preparation of solutions of exercises, independent development of the project, group work on group project, final exam

Monitoring student work:

Activity	ECTS
Group project	2
Individual project	2
Lab exercises	1
Final exam	1
Total	6

Teaching time is worth 2.5 ECTS points, and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Individual project	30 %
Group project	30 %
Lab exercises	20 %
Final exam	20 %
Total:	**100**

Required reading (at the moment of submitting the Study Programme Report):

- Frain, B. (2020). Responsive Web Design with HTML5 and CSS: Develop future-proof responsive websites using the latest HTML5 and CSS techniques. Packt Publishing.
- Nixon, R. (2021). Learning PHP, MySQL & JavaScript. O'Reilly Media.

Additional reading (at the moment of submitting the Study Programme Report):

- Beaird, J., George, J., & Walker, A. (2020). *The Principles of Beautiful Web Design*. SitePoint Pty, Limited.
- Robbins, J. (2018). *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics*. O'Reilly Media.
- Felke-Morris, T. (2018). *Web Development and Design Foundations with HTML5*. Pearson.
- Dean, J. (2018). *Web Programming with HTML5, CSS, and JavaScript.* Jones & Bartlett Learning.
- Web Development Tutorials available at W3Schools
- Additional materials will be available through the MyCourses student system and through the RIT Library available for all students

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Introduction to Database and Data Modeling, ISTE-230
Course leader:	Aleksander Radovan
Study programme:	WMC
Course status:	Obligatory
Year:	First
ECTS points:	6
Teaching hours (L+S+E):	60 (2+0+2)

Course Description

Course objectives:

- Provide students with the foundation skill set required to organize and to structure data for subsequent computer processing
- The skill set includes the ability to interpret Entity-Relationship data models, to translate an Entity-Relationship data model into a theoretical data model, to apply normalization theory
- Read and interpret an Entity-Relationship (E-R) model diagram and map the E-R model into a relational model.
- Apply the techniques of normalization to a relational model.
- Implement a relational model and manipulate the data and structure using SQL.
- Apply relational algebra operations to manipulate data stored in relational form.

Conditions for enrolment in the course:

None, intended for 2nd year WMC students

Expected learning outcomes of the course:

A student will be able to:

CLO1: Design a new data model based on entities in an information system

CLO2: Create relationships between database tables (1:1, 1:N, M:N)

CLO3: Examine the data model with first, second, third or Boyce-Codd normal form

CLO4: Develop a SQL query that fetches, saves, updates or delete rows from a database

CLO5: Formulate SQL query in a way to use transactions

Course content:

- *Conceptual Foundation of Data Organization*
  - Logical data modeling
  - Physical data modeling
- *Conceptual Foundation of the Relational Model*
  - Keys and referential integrity
  - Functional dependencies and normalization
- *Data Modeling Techniques*
  - The motivation for data modeling
  - Basic Entity-Relationship Diagram (ERD) elements and components
  - Basic relationships
  - Reading and interpreting an ERD
- *Relational Mapping and Normalization*
  - Rules for implementing relationships from an ERD within a relational model
  - Constructing a relational model from an ERD
  - Evaluating a relational model by applying normalization theory
- *Relational Algebra and SQL*
  - SQL Data Definition Language (DDL) statements
  - Introduction to database management systems
  - Using SQL DDL statements to create a physical model
  - SQL Data Manipulation Language (DML) statements
  - Using SQL DML statements to query a physical model
  - Relational algebra operations using SQL
- *Advanced Topics (if time allows)*
  - Backups and recovery
  - Transaction concepts
  - Complex queries
  - Information assurance

Teaching delivery methods:

- Lectures
- Guest Lectures
- Demonstration of practical assignments

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Homeworks	2.4
Midterm Exam	1.8
Final Exam	1.8
Total	6

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Homeworks	40
Midterm Exam	30
Final Exam	30
Total:	**100**

Required reading:

- Kroenke, David M. and Auer, David J., *Database Concepts* (7th Edition) Pearson Prentice-Hall, Upper Saddle River, NJ, 2014. ISBN-13: 978-0133544626

Additional reading:

- Fehily, Chris, *SQL Visual QuickStart Guide* (3rd Edition), Peachpit Press, Berkeley CA, 2008. ISBN-13: 978-0321553577

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Observation of lectures
- Assessment of the achievement of learning outcomes through homeworks and exams

RIT | Croatia

General Information

Course title:	Applied Calculus
Course leader:	Kristina Soric
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	First
ECTS points:	5
Teaching hours (L+S+E):	60 (2+0+2)

Course Description

Course objectives:

- To have students learn the basic definitions, concepts, rules, vocabulary, and mathematical notation of calculus.
- To provide students with the necessary manipulative skills required for solving problems in calculus.
- To provide an opportunity for students to obtain a background in mathematics necessary to a study of life practice

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO 1:	Analyze functions, continuity, limit, derivative and integral
CLO 2:	Analyze mathematical concepts for modeling and solving problems from everyday environment
CLO 3:	Evaluate solutions of solved problems
CLO 4:	Formulate examples for modeling, solving and interpreting when applying mathematical framework

Course content:

(1) DERIVATIVES

(a) Limits and continuity

(b) Definition of the derivative

(c) Rules of differentiation

(d) Tangent lines

(e) Higher order derivatives

(f) Implicit differentiation

(g) Derivatives of exponential and logarithmic functions

(2) APPLICATIONS OF THE DERIVATIVE

(a) Related rates

(b) Curve sketching

(c) Optimization

(d) Applications of exponential and logarithmic functions

(3) INTEGRATION

(a) Antiderivatives and the indefinite integral

(b) Area and the definite integral

(c) Fundamental theorem of calculus

(d) Evaluating the definite integral

(e) Substitution

(4) APPLICATIONS OF THE INTEGRAL

(a) Area between curves

(b) Applications of the definite integral to business and economics

(c) Applications of the definite integral to life sciences

(d) Numerical integration

(5) ADDITIONAL TOPICS

(a) Introduction to the solution of differential equations

(b) Separable differential equations

(c) Applications of differential equations

(d) Sequences

(e) Geometric series

Teaching delivery methods:

- Lectures
- Exercises
- Remote learning
- Independent work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Exam I	1.25
Exam II	1.25
Exam III	1.50
Quizzes/ Continuous work/ Participation	1
Total	5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points %
Exam I	25
Exam II	25
Exam III	30
Quizzes/ Continuous work/ Participation	20
Total	100

Required reading:

- Tan, S. T. (2015). Applied Calculus for the Managerial, Life, and Social Sciences, 10th Edition, Brooks/Cole

Additional reading:

- Handouts and readings will be made available to students throughout the semester by the instructor
- Video material will be made available to students throughout the semester by the instructor

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Critical Reading and Writing
Course leader:	Jakob Patekar
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	First
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Improve critical reading and writing skills
- Think critically and articulate, support, defend, and refute an argument
- Gain insight into the writing process
- Develop literary practices
- Emphasize the principles of intellectual property and academic honesty
- Engage in peer review

Conditions for enrolment in the course:

Introduction to Academic English – passed or tested out

Expected learning outcomes of the course:

A student will be able to:

CLO1: Critically analyze a variety of texts.

CLO2: Evaluate peer work.

CLO3: Use APA style in citing and referencing.

CLO4: Compose texts in standard English using appropriate style and rhetorical strategy.

Course content:

- Analyzing and constructing arguments
- Cognitive bias and fake news
- Punctuation
- Paragraphs
- Word choice and style
- Persuasive writing
- Working with sources
- Giving feedback

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Peer review

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Fallacies & Cognitive Biases Quiz	0.5
Language Quiz	1
Critical Analysis 1	0.5
Critical Analysis 2	0.5
Critical Analysis 3	0.5
Peer Review 1	0.25
Persuasive Essay Draft	0.75
Persuasive Essay Peer Review	0.25
Persuasive Essay Final	0.75

Total 5

Teaching time is worth 1.5 ECTS points and has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Fallacies & Cognitive Biases Quiz	10
Language Quiz	**20**
Critical Analysis 1	10
Critical Analysis 2	10
Critical Analysis 3	10
Peer Review 1	5
Persuasive Essay Draft	15
Persuasive Essay Peer Review	5
Persuasive Essay Final	15
Total:	**100**

Required reading:

- Hacker, D., & Sommers, N. (2015). *A writer's reference* (8th ed.). Boston, MA: Bedford/St. Martin's.
- Lunsford, A. A. (2010). *The St. Martin's handbook.* Boston, MA: Bedford/St. Martin's.

Additional reading:

- Anker, S. (2010). Real writing with readings. Boston, MA: Bedford/St. Martin's.
-
- Scarry, S., & Scarry, J. (2011). The writer's workplace with readings. Building college writing skills. Boston, MA: Wadsworth.

- VanderMey, R., Meyer, V., Van Rys, J., & Sebranek, P. (2012). The college writer: A guide to thinking, writing, and researching. Boston, MA: Wadsworth.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

YEAR 2 – COURSE DESCRIPTIONS

RIT | Croatia

General Information

Course title:	Networking Essentials for Developers
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This is a course in the basics of network communication for software developers. Topics will include the OSI 7-layer model and its realization in the TCP/IP protocol stack. Students will also learn about naming and name resolution as it is used in the internet, plus the basics of routing and switching. The focus in all of this will be on an analysis of how name resolution, routing and switching operate from the developer's perspective. The specifics of how the socket transport layer appears to the programmer and operates will be a key topic. Finally, an overview of authentication mechanisms and number of examples of the security vulnerabilities of existing communication protocols will be provided to instruct students on the inherent risks of communication via the internet. (Pre-requisite: one year of programming in a high level language)

Course objectives:

This course will provide students with the network knowledge needed to develop and design software applications. At the end of the course, students should be conversant in:

Network Communications

- TCP/IP and OSI models
  - Why do we have them?
  - What are they used for?
  - What are the security implications?
- Physical and Data link communications
  - How do I get data from point A to point B?
  - How do I know it is from this device?
  - How do I send it to everyone or a specific person?
- Network and Transport Layers
  - What is an IP address?

  - What is DHCP and DNS? Why do we use it? How does it impact my coding?
  - How do we use it?
  - What is private versus public IP addresses?
  - What about firewalls and communications?
  - What are port numbers and sockets? How do I create code that allows for communication that is secure or direct?
- Communications
  - How do I know how the data is being processed or communicating?
  - What affect does routing over multiple network topologies have on communications?
  - How does on demand (client) versus server (passive listening) work when sending and receiving data?

Conditions for enrolment in the course:

ISTE-121

Expected learning outcomes of the course:

A student will be able to:

CLO1: Analyze packets and identify differences and their impact on routing and switching

CLO2: Explain the functions of the transport layer (ports, sockets)

CLO3: Analyze the differences between client (demand) and server (passive listening) uses of the transport layer

CLO4: Describe the purpose and operation of name resolution

CLO5: Describe authentication methods and differentiate authentication from authorization

CLO6: Analyze vulnerabilities in the TCP/IP protocol suite and countermeasures to these vulnerabilities

Course content:

- Communications Models (OSI and TCP/IP)
- The physical and data link layers: point to point communication (MAC addressing)
- The network layer: end to end communication (IP addressing)
- The transport layer: process to process communication (port numbers)
- The programmer's view of the transport layer (sockets)
- Name resolution in the internet
- Authentication mechanism overview plus authentication vs. authorization
- Security vulnerabilities in the TCP/IP stack

Teaching delivery methods:

- Lectures

- Exercises
- Independent work
- Mentoring
- Critiques

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Midterm Exam	1.25
Final Exam	1.25
Quizzes	1
Homework #1	0.75
Homework #2	0.75
Total	5

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Midterm Exam	25
Final Exam	25
Quizzes	20
Homework #1	15
Homework #2	15
Total:	**100**

Required reading:

- Beasley J, Nilkaew P, Safari, an O'Reilly Media Company. Networking Essentials, Third Edition. 1st ed. Pearson IT Certification; 2012

Additional reading:

-

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	ISTE-222 Applied Data Structures and Algorithms
Course leader:	dr. sc. Branko Mihaljević, prof.
Study programme:	Web and Mobile Computing (WMC) Program
Course status:	Obligatory
Year:	Second
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

The third course in the programming sequence is expanding the student's knowledge base of higher-level programming concepts, including data storage and memory management, abstract data types, linear and non-linear data structures, algorithm analysis (Big-O notation) and development, application performance, and a greater understanding of how complex software can more easily be designed.

Course objectives:

- Advance the student's understanding of the use of data structures in designing a system and other programming related concepts, including algorithm development, proper application of data structures, software performance, and a greater understanding of advanced programming algorithms, fundamental for developing more efficient software in less time.
- Understand and be able to use different data structures and analyze the complexities of applied algorithms
- Identify different forms of data records in the computer and know how to use them depending on the purpose and need
- Assess aspects and ways of memory management and ways of storing different data structures
- Analyze programming algorithms in computer programs in the context of their execution time and efficiency and evaluating their complexity (Big-O)
- Distinguish, compare, and apply different more advanced data structures in problem solving
- Develop different algorithms over data structures with emphasis on sorting and searching

Conditions for enrolment in the course:

ISTE-121 or GCIS-124 or equivalent course

Expected learning outcomes of the course:

A student will be able to:

CLO1: Compare different formats of digital data in the computer depending on their need and purpose

CLO2: Assess various memory management methods and techniques of storing different data structures

CLO3: Analyze programming algorithms in the context of their execution time and efficiency by evaluating their complexity (Big-O)

CLO4: Develop a computational problem solution using linear data structures and associated algorithms

CLO5: Develop a computational problem solution using non-linear (hierarchical) data structures and associated algorithms

Course content:

Course topics include:

- Number systems
- Memory Management (in Java)
- Java and OOP Review
- Data Structures and Abstract Data Types
- Algorithm Analysis and Performance / Efficiency
- Scaling Applications, Timing for Analysis, and Big-O
- Linear Data Structures, including Arrays, Linked Lists (Singly, Doubly, Circularly), Array Lists, Dynamic Array, Positional Lists, Stack, Queues and Deques, and others
- Non-linear (Hierarchical) Data Structures, including different Trees, Maps and Hash Tables, Search Trees, Priority Queues, Graphs and others
- Various Sorting and Searching Algorithms

Teaching delivery methods:

- Lectures
- Exercises
- Independent work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Exercises	3.6
Midterm Exam Theory	0.6
Midterm Exam Practical	0.6
Final Exam Theory	0.6
Final Exam Practical	0.6
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments, projects and preparing for the exams.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exercises	60
Midterm Exam Theory	10
Midterm Exam Practical	10
Final Exam Theory	10
Final Exam Practical	10
Total:	**100**

Required reading:

- Cutajar, J. (2018). Beginning Java Data Structures and Algorithms. Packt. – available as eBook in RIT Library

or

- Goodrich, M. T., Tamassia, R & Goldwasser M. H. (2014). Data Structures and Algorithms in Java. Wiley. ISBN: 978-1118771334

Additional reading:

- Althoff, C. (2021). The Self-taught Computer Scientist: The beginner's guide to data structures and algorithms. John Wiley & Sons. – optional and available as eBook in RIT Library
- Downey, A. B. (2017). Think Data Structures: Algorithms and information retrieval in java (1st ed.). O'Reilly Media. – optional and available as eBook in RIT Library
- Samoylov, N. (2018). Introduction to programming: Learn to program in Java with data structures, algorithms, and logic. Packt. – optional and available as eBook in RIT Library
- Chawdhuri, D. R. (2017). Java 9 data structures and algorithms: A step-by-step guide to data structures and algorithms (1st ed.). Packt. – optional and available as eBook in RIT Library
- Lafore, R. (2017). Data structures and algorithms in Java, 2nd edition. Sams. – optional and available as eBook in RIT Library
- Streib, J. T., Soma, T. (2017). Guide to data structures: A concise introduction using Java. Springer. – optional and available as eBook in RIT Library

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	IST Second Year Designing the User Experience, ISTE-260
Course leader:	Aleksander Radovan
Study programme:	WMC
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (2+0+2)

Course Description

Course objectives:

- Analysis and decomposition of user requirements
- Using Research Methodologies, Scenarios, Personas and universal/global/accessibility/assistive technologies to improve the User Experience of a product
- Designing user interfaces by using appropriate tools
- Using diffusion of Innovations, Product Lifecycle, Cognitive Psychology, Heuristic evaluations, Mobile/Pervasive technologies and Usability Testing to create a product and use best practice to improve it's User Experience

Conditions for enrolment in the course:

None, intended for 2nd year WMC students

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create low fidelity sketches of a user interface design

CLO2: Construct wireframes of screens for a mobile, desktop or web application

CLO3: Suggest usability testing procedures for testing a design of a product

CLO4: Formulate characteristics of personas for using a product

Course content:

- Requirement Analysis
- Research Methodologies
- Usability Goals
- Personas
- Task Analysis and decomposition
- Universal/Global/accessibility/Assistive Technologies
- GUI design
- Diffusion of Innovations
- Design life cycles
- Cognitive Psychology
- User Profiles
- Heuristic Evaluation
- Mobile/Pervasive
- Usability Testing

Teaching delivery methods:

- Lectures
- Guest Lectures
- Demonstration of practical assignments

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Individual Project	2
Final Presentation	0.5
Assignments	2
Video	0.5
Total	5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Individual project	40
Final Presentation	10
Assignments	40
Video assignment	10
Total:	**100**

Required reading:

- Norman, Donald. *The Design of Everyday Things*. NY: Currency and Doubleday, 2002. ISBN 0-385-26774-6

Additional reading:

- Saul Greenbert, Sheelagh Carpendale, Nicolai Marquardt, Bill Buxton. *Sketching the User Experiences: The workbook.* Morgan Kaufmann Publishers, 2011. ISBN 0-123-81959-8
- Jeff Johnson. *Designing with the mind in Mind.* Morgan Kaufmann Publishers, 2ed. 2011. ISBN:0-124-07914-8

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Observation of lectures
- Assessment of the achievement of learning outcomes through individual assignments, group assignments and individual project

RIT | Croatia

General Information

Course title:	Foundations of Sociology
Course leader:	Vanda Bazdan
Study programme:	WMC
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

An introduction to the way sociologists interpret social reality, including the elementary terms, foundational ideas, major insights, and research discoveries in the discipline. Included are topics such as statuses and roles, socialization, cultural variation, deviance, social stratification, social institutions, and social change. Fulfils a liberal arts core social/behavioural science requirement. Counts as a prerequisite for the sociology/anthropology concentration and minor, the international studies and urban communities studies majors, and as a prerequisite for the required cultures in globalization.

Course objectives:

- Develop critical awareness of the interactions among society, culture, science, and technology
- Foster understanding and appreciation of diverse social and cultural perspectives
- Foster understanding of local, national, international, and global forms of citizenship and community
- Develop critical awareness of interactions between society and the environment
- Foster development of the ability to reason critically and creatively

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: Compare main theoretical perspectives in sociology (tenets, research methods, studies conducted) and their implications in understanding individual development, cultural and social contexts and issues

CLO2: Synthesize data from various theoretical perspectives and research studies in interpretation of social phenomena

CLO3: Compose arguments, and anticipate and assess counterarguments, to support and defend their attitudes regarding current social issues in written format (discussion papers), and in competitive debates (in keeping with the academic standards)

Course content:

This course will introduce the student to the basic concepts in sociology, and to fundamental sociological approaches and methods. Sociology is interested in understanding social stability and social change. Social change, with all its conflicts and problems, has been the driving force in sociology. The course will examine the topic of social inequality, giving special attention to social stratification, racial-ethnic relations, and gender relations. It will cover the major institutions of society – family, the educational, religious, the political systems, the economy, and health care and medicine. We will explore the theme of social change through examination of collective behaviour.

Teaching delivery methods:

- Lectures
- Seminars
- Independent work
- Project work
- Multimedia

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Exam 1	1
Exam 2	1

Research paper	1
Presentation	0.5
Discussions (5)	0.5
Discussion papers	1
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exam 1	20
Exam 2	20
Research paper	20
Presentation	10
Discussions (5x2)	10
Discussion papers (5x4)	20
Total:	**100**

Required reading:

- Newman, D.M. (2020). *Sociology: Exploring the architecture of everyday life.* SAGE publications.
- Newman, D.M. (2018). *Sociology: Exploring the architecture of everyday life: Readings.* SAGE publications.

Additional reading:

- Excerpts from classics in sociology, as well as contemporary scholarly articles, available on myCourses.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey

- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning French I
Course leader:	Tea Kovačević
Study programme:	WMC
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in French as it is spoken and written today
- Practice all four basic language skills - listening, speaking, reading, and writing
- Give opportunities for student-student interaction and self-expression in realistic situations
- Emphasize cultural aspects of contemporary life and culture in French and French-speaking countries
- Engage students in in-class dialogues and readings

Conditions for enrolment in the course:

N/A

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short and simple texts in written form about real life situations.

CLO2: Select appropriate grammar and vocabulary at beginner level.

CLO3: Combine a range of vocabulary to communicate effectively at beginner level.

CLO4: Differentiate some aspects of French life and culture.

Course content:

- narrating and describing simple things and situations from real life in the present tense
- communicating and understanding greetings and daily class conversation and using expressions of common courtesies
- articulating basic needs, emotions, and attitudes in a short question/answer format
- providing autobiographical information, interests, abilities, likes and dislikes
- practicing basic spoken French on topics presented in class
- reading passages from the textbook
- expressing ideas coherently at beginner level in writing
- gaining basic understanding of some aspects of French life and culture

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8
Final Oral Examination	0.5
Homework	0.5

Total 5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	**100**

Required reading:

- Manley, J., Smith, S., McMinn, J., & and Prévost, 8. (2011). *Horizons*. 6th edition.

Additional reading:

- Les 500 Exercices de phonétique A1/A2 – Hachette, 2009
- Nouvelle grammaire du français: Cours de Civilisation Française de la Sorbonne – Y. Dellatour, D. Jennepin, M. Léon-Dufour, B. Teyssier, Hachette, 2004

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning German I
Course leader:	Nikolina Božinović
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in German as it is spoken and written today
- Practice all four basic language skills - listening, speaking, reading, and writing
- Give opportunities for student-student interaction and self-expression in realistic situations
- Emphasize cultural aspects of contemporary life and culture in German speaking countries
- Engage students in in-class dialogues and readings

Conditions for enrolment in the course:

N/A

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short and simple texts in written form about real life situations.

CLO2: Select appropriate grammar and vocabulary at beginner level.

CLO3: Combine a range of vocabulary to communicate effectively at beginner level.

CLO4: Differentiate some aspects of German life and culture.

Course content:

- narrating and describing simple things and situations from real life in the present tense
- communicating and understanding greetings and daily class conversation and using expressions of common courtesies
- articulating basic needs, emotions, and attitudes in a short question/answer format
- providing autobiographical information, interests, abilities, likes and dislikes
- practising basic spoken German on topics presented in class
- reading passages from the textbook
- expressing ideas coherently at beginner level in writing
- gaining basic understanding of some aspects of German life and culture

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8
Final Oral Examination	0.5
Homework	0.5

Total 5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	100

Required reading:

- Moeller, J., Berger, S., Hoecherl-Alden, G., Howes, S., Adolph, W. (2016). *Deutsch heute,* Introductory German, Tenth Edition, Cengage Learning.
- Moeller, J., Berger, S., Hoecherl-Alden, G., Howes, S., Adolph, W. (2016). *Deutsch heute*, Student Activities Manual, Tenth Edition, Cengage Learning.

Additional reading:

- German College Dictionary, Harper-Colllins, Second Edition (or any other dictionary of the German language)

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey

- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning Italian I
Course leader:	Zrinka Friganović Sain
Study programme:	Web and Mobile Computing ZG
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in Italian as it is spoken and written today.
- Practice all four basic language skills - listening, speaking, reading, and writing.
- Give opportunities for student-student interaction and self-expression in realistic situations.
- Emphasize cultural aspects of contemporary life and culture in Italy and Italian speaking countries.
- Engage students in in-class dialogues and readings.

Conditions for enrolment in the course:

N/A

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short and simple texts in written form about real life situations.

CLO2: Select appropriate grammar and vocabulary at beginner level.

CLO3: Combine a range of vocabulary to communicate effectively at beginner level.

CLO4: Differentiate some aspects of Spanish life and culture.

Course content:

- narrating and describing simple things and situations from real life in the present tense
- communicating and understanding greetings and daily class conversation and using expressions of common courtesies
- articulating basic needs, emotions, and attitudes in a short question/answer format
- providing autobiographical information, interests, abilities, likes and dislikes
- practising basic spoken Italian on topics presented in class
- reading passages from the textbook
- expressing ideas coherently at beginner level in writing
- gaining basic understanding of some aspects of Italian life and culture

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8

Final Oral Examination	0.5
Homework	0.5
Total	5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	**100**

Required reading:

- Merlonghi, F., Merlonghi, F., Tursi, J., & O'Connor, B. (2012). *Oggi in Italia*: *a first course in Italian* (9th ed.). Heinle Cengage Learning.
- Merlonghi, F., Merlonghi, F., Tursi, J., & O'Connor, B. (2012). *Oggi in Italia: Student activities manual* (9th ed.). Heinle Cengage Learning.

Additional reading:

- Cozzarelli, J.M. (2020). *Sentieri*. Vista Higher Learning.
- Manella, C. (2005). *Si! L'italiano in mano. Manuale e corso pratico di italiano per stranieri. Livello elementare, intermedio e superiore.* Progetto Lingua Edizioni.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning Spanish I
Course leader:	Barbara Perić
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in Spanish as it is spoken and written today
- Practice all four basic language skills - listening, speaking, reading, and writing
- Give opportunities for student-student interaction and self-expression in realistic situations
- Emphasize cultural aspects of contemporary life and culture in Spain and Spanish speaking countries
- Engage students in in-class dialogues and readings

Conditions for enrolment in the course:

N/A

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short and simple texts in written form about real life situations.

CLO2: Select appropriate grammar and vocabulary at beginner level.

CLO3: Combine a range of vocabulary to communicate effectively at beginner level.

CLO4: Differentiate some aspects of Hispanic life and culture.

Course content:

- narrating and describing simple things and situations from real life in the present tense
- communicating and understanding greetings and daily class conversation and using expressions of common courtesies
- articulating basic needs, emotions, and attitudes in a short question/answer format
- providing autobiographical information, interests, abilities, likes and dislikes
- practicing basic spoken Spanish on topics presented in class
- reading passages from the textbook
- expressing ideas coherently at beginner level in writing
- gaining basic understanding of some aspects of Hispanic life and culture

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8
Final Oral Examination	0.5
Homework	0.5

Total 5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	**100**

Required reading:

- Hershberger, R., Navey-Davis, S. & Borrás Álvarez, G. (2016). *Plazas, Lugar de encuentros* (5th ed.), Heinle Cengage Learning.

Additional reading:

- Acevedo A, I. (2013). *Spanish Reader for Beginners-Elementary.* CreateSpace Independent Publishing Platform

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	ISTE-340 Client Programming
Course leader:	Kristina Marasović
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Second
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Explore the issues involved in the design and implementation of client-side programming, both web and desktop application based
- Design and deployment of both web-based and desktop-based clients targeting multiple browsers, operating systems, and platforms
- Use of specific Application Programming Interfaces and libraries where appropriate.
- Focus on the design, development, and implementation of usable, effective clients and client interfaces, both desktop and mobile, using multiple technologies.
- Design and build usable and effective interactive systems, clients, and interfaces. Key features addressed will include browser and platform compatibility, object reusability, bandwidth and communications issues, development environments, privacy and security, and related technologies and APIs.

Conditions for enrolment in the course:

- ISTE-240 Web & Mobile II AND
- GCIS-124 Software Development and Problem Solving II OR ISTE-121 Computational Problem Solving in the Information Domain II
- OR equivalent courses

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create an object-oriented MVC-based website using JavaScript.

CLO2: Build a website to consume JSON data from a RESTful web service.

CLO3: Create a website using a contemporary programming language and a framework.

Course content:

- Introduction to Object-Oriented JavaScript
- Building a Simple MVC App from Scratch
- Conditional Selects and Forms
- Client-Side Storage
- JavaScript Compatibility
- jQuery
- Introduction to C# and Visual Studio
- Building an ASP.NET Core MVC App

Teaching delivery methods:

- Lectures
- Independent work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Assignment 1	1.5
Assignment 2	0.9
Assignment 3	0.9
Exam 1	1.5
Exam 2	0.6
Final Exam	0.6
Total	6

Teaching time is worth 1.5 ECTS points and is incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Assignment 1	25
Assignment 2	15
Assignment 3	15
Exam 1	25
Exam 2	10
Final Exam	10
Total:	**100**

Required reading:

- No textbook is required. All assignments, lecture notes, and other distributable course materials are available via MyCourses.

Additional reading:

- Flanagan, D. (2020). *JavaScript: The Definitive Guide* (7th ed.). O'Reilly Media.
- Barklund, M., & Mardan, A. (2023). *React Quickly* (2nd ed.). Manning Publications.
- Freeman, A. (2023). *Pro ASP.NET Core 7* (10th ed.). Manning Publications.
- Bibeault, B., Katz, Y., & De Rosa, A. (2015). *JQuery in Action* (3rd ed.). Manning Publications.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	IST Second Year Foundations of Mobile Design, ISTE-252
Course leader:	Aleksander Radovan
Study programme:	WMC
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (2+0+2)

Course Description

Course objectives:

- Development of mobile applications for different platforms
- Designing, prototyping, implementing, deploying and testing mobile device software
- Determining advantages and disadvantages of every type of development environment and mobile applications
- Integration with external API
- Mobile Interaction patterns and User Interface design

Conditions for enrolment in the course:

None, intended for 2nd year WMC students

Expected learning outcomes of the course:

A student will be able to:

CLO1: Organize development environment for the development of mobile applications

CLO2: Develop an application that reads data from a JSON file

CLO3: Create an application that implements navigations among mobile application screens

CLO4: Connect a mobile application with an external REST API interface

CLO5: Reorganize a mobile application to be able to use external libraries

CLO6: Suggest development error fixes by using available debug tools

Course content:

- Introduction to Mobile Design
- Mobile Patterns
- Data on the web
- REST API
- JavaScript
- Introduction to React Native
- React Native Basics
- React Native Layouts
- React native Layouts, Images and Menus
- React Native Navigations
- React Native User Input
- React Native External data
- React Web View

Teaching delivery methods:

- Lectures
- Guest Lectures
- Demonstration of practical assignments

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Assignments	1.25
Midterm Exam	0.75
Final Exam	1.25
Individual Project	1.75
Total	5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Assignments	25
Midterm Exam	15
Final Exam	25
Individual Project	35
Total:	**100**

Required reading:

- Devin Abbott, Houssein Djirdeh, Anthony Accomazzo, Sophia Shoemaker: Fullstack React Native: Create beautiful mobile apps with JavaScript and React Native, Published: January 2019.,ISBN: 978-1728995557

Additional reading:

- Adam Boduch, Roy Derks, Mihail Sakhniuk: React and React Native: Build cross-platform JavaScript applications with native power for the web, desktop, and mobile, 4th edition, Published: March, 2022., ISBN: 978-1803231280

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Observation of lectures
- Assessment of the achievement of learning outcomes through homeworks and exams

RIT | Croatia

General Information

Course title:	SWEN-383 Software Design Principles and Patterns
Course leader:	Kristina Marasović
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Second
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Introducing the students to software engineering principles and patterns, the impact of design, and to have students practice that knowledge by working on a term-long team-based project.
- Cover several broad areas of software engineering: software engineering design principles, software design patterns, implementation challenges, quality software designs and architectures that represent best contemporary practice.
- Explicating the fundamental principles, examining a set of design and architecture patterns that embody the principles, and applying patterns appropriate to a design problem in a given context

Conditions for enrolment in the course:

- Prerequisite: ISTE.240 Web and Mobile II or equivalent course.
- Co-requisite: ISTE.340 Client Programming or equivalent course.

Expected learning outcomes of the course:

A student will be able to:

CLO1: Build a group project within the context of software design principles and patterns.

CLO2: Implement software design principles & patterns within an iterative development approach.

CLO3: Develop a solution to a design problem using UML.

Course content:

- Intro to Software Design Principles & Patterns
- Single Responsibility Principle (SRP)
- Don't Repeat Yourself Principle (DRY)
- Program to an Interface, not an Implementation (P2I)
- Version Control.
- Unified Modelling Language (UML): Class Diagram and Sequence Diagram
- Observer Pattern
- Factory Pattern
- Adapter Pattern
- MVC Pattern
- Composite Pattern
- Mediator Pattern
- Facade Pattern
- Proxy Pattern

Teaching delivery methods:

- Lectures
- Independent work
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Project 1	1.8
Project 2	1.8
Midterm Exam	1.2
Final Exam	1.2
Total	6

Teaching time is worth 1.5 ECTS points and is incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Project 1	30
Project 2	30
Midterm Exam	20
Final Exam	20
Total:	**100**

Required reading:

- No textbook is required. All assignments, lecture notes, and other distributable course materials are available via MyCourses.

Additional reading:

- Freeman, E., Robson, E., & Safari, an O'Reilly Media Company. (2020). *Head first design patterns* (2nd ed.). O'Reilly Media, Inc.
- Sarcar, V., & SpringerLink (Online service). (2022). *Java design patterns: A hands-on experience with real-world examples* (3rd ed.). Apress.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	ISTE-330 Database Connectivity and Access
Course leader:	dr. sc. Branko Mihaljević, prof.
Study programme:	Web and Mobile Computing (WMC) Program
Course status:	Obligatory
Year:	Second
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

In this course students build applications that interact with relational databases. Through programming exercises students work with multiple relational databases and programmatically invoke the advanced database processing operations that are integral to contemporary computing data-centric applications. Topics also include the database drivers, the data layer access techniques, connectivity operations, security and integrity, and controlling database access.

Course objectives:

- Apply basic object-oriented programming (OOP) techniques in the development of database-driven applications
- Implement fully functional database interfaces utilizing common data access APIs, such as JDBC
- Connect to, and issue database queries against, different DBMSs
- Discuss and implement various standard data access techniques designed to improve DBMS connectivity and access performance
- Compare and contrast similarities and differences between various popular data access APIs

This course is part of the BS WMC/IT core course offerings that provide fundamental software development skills. Specifically, this course covers foundation database connectivity content for multi-tier architectures.

Conditions for enrolment in the course:

ISTE-230 or equivalent course and ISTE-120 or GCIS-124 or equivalent course

Expected learning outcomes of the course:

A student will be able to:

CLO1: Apply common database connectivity methods to connect to a database from the programming code

CLO2: Create programming interfaces utilizing common data access APIs and database drivers for different database servers

CLO3: Execute SQL queries against different database management systems (DBMSs) from the programming code

CLO4: Select appropriate data access techniques to improve DBMS connectivity and access performance and security

CLO5: Develop multi-user database-driven applications using multi-layered architectural approach and best practices

Course content:

Course topics include:

- SQL Review and Database Normalization Review
- Database Drivers: Direct, Native, Abstract
- Building Multi-tier Architecture and Data Layer: Isolation, Error handling
- Basic Database Operations: CRUD, Connection, Statement, ResultSet, Metadata
- Advanced Operations: Prepared statements, Transactions, Stored procedures
- Security and Integrity: SQL Injection, Audit Trails
- Implementing Users, Privileges, and Roles
- Advanced topics (optional): Backup and Recovery, Object Relational Mappings (ORMs), Basic ETL, Contemporary databases

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Project work
- Peer review

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Exercises	0.9
Midterm Exam Theory	0.9
Midterm Exam Practical	1.2
Participation	0.3
Final Project	1.8
Final Exam	0.9
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments, projects and preparing for the exams.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exercises	15
Midterm Exam Theory	15
Midterm Exam Practical	20
Participation	5
Final Project	30
Final Exam	15
Total:	**100**

Required reading:

- Sharan, K. (2018). JDBC API. In: Java APIs, Extensions and Libraries: With JavaFX, JDBC, jmod, jlink, networking, and the process API (2nd ed.). Apress. – available as eBook in RIT Library
- MySQL (2022). MySQL Connector/J 8.0 Developer Guide. Oracle. – available online for free

Additional reading:

- Sciore, E. (2020). JDBC. In: Database Design and Implementation: 2nd edition. Springer. – optional and available as eBook in RIT Library

- Horstmann, C. (2019). Core Java, Volume II - Advanced Features, 12th edition, Addison-Wesley Professional. – available as eBook in RIT Library
- Juneau, J. (2020). Jakarta EE recipes: A problem-solution approach (1st ed.). Apress. – optional and available as eBook in RIT Library

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning French II
Course leader:	Tea Kovačević
Study programme:	WMC
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in French as it is spoken and written today
- Practice all four basic language skills - listening, speaking, reading, and writing
- Give opportunities for student-student interaction and self-expression in realistic situations
- Emphasize cultural aspects of contemporary life and culture in Russia and French-speaking countries
- Engage students in in-class dialogues and readings

Conditions for enrolment in the course:

Completion of Beginning French I

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short texts in written form

CLO2: Implement appropriate grammar rules and vocabulary at sentence and text level in written form

CLO3: Combine more complex vocabulary to improve communication skills

CLO4: Contrast aspects of French life and culture

Course content:

- applying target grammatical structures and vocabulary through storytelling and describing real-life situations in the past
- talking about plans, travel preparations, free time, needs, feelings and attitudes
- interpreting different topics related to course material
- using target grammatical structures in the present and past tenses
- applying acquired grammatical structures and vocabulary in speaking and writing
- expressing ideas in writing
- comparing and thinking critically about cultural differences
- connecting different contents in written and oral form

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8
Final Oral Examination	0.5
Homework	0.5

Total 5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	**100**

Required reading:

- Manley, J., Smith, S., McMinn, J., & and Prévost, 8. (2011). *Horizons*. 6th edition.

Additional reading:

- Les 500 Exercices de phonétique A1/A2 – Hachette, 2009
- Nouvelle grammaire du français: Cours de Civilisation Française de la Sorbonne – Y. Dellatour, D. Jennepin, M. Léon-Dufour, B. Teyssier, Hachette, 2004

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning German II
Course leader:	Nikolina Božinović
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in German as it is spoken and written today
- Practice all four basic language skills - listening, speaking, reading, and writing
- Give opportunities for student-student interaction and self-expression in realistic situations
- Emphasize cultural aspects of contemporary life and culture in German speaking countries
- Engage students in in-class dialogues and readings

Conditions for enrolment in the course:

Completion of Beginning German I

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short texts in written form

CLO2: Implement appropriate grammar rules and vocabulary at sentence and text level in written form

CLO3: Combine more complex vocabulary to improve communication skills

CLO4: Contrast aspects of German life and culture

Course content:

- applying target grammatical structures and vocabulary through storytelling and describing real-life situations in the past
- talking about plans, travel preparations, free time, needs, feelings and attitudes
- interpreting different topics related to course material
- using target grammatical structures in the present and past tenses
- applying acquired grammatical structures and vocabulary in speaking and writing
- expressing ideas in writing
- comparing and thinking critically about cultural differences
- connecting different contents in written and oral form

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8
Final Oral Examination	0.5
Homework	0.5

Total 5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	100

Required reading:

- Moeller, J., Berger, S., Hoecherl-Alden, G., Howes, S., Adolph, W. (2016). *Deutsch heute*, Introductory German, Tenth Edition, Cengage Learning.
- Moeller, J., Berger, S., Hoecherl-Alden, G., Howes, S., Adolph, W. (2016). *Deutsch heute*, Student Activities Manual, Tenth Edition, Cengage Learning.

Additional reading:

- German College Dictionary, Harper-Colllins, Second Edition (or any other dictionary of the German language)

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning Italian II
Course leader:	Zrinka Friganović Sain
Study programme:	Web and Mobile Computing ZG
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in Spanish as it is spoken and written today
- Practice all four basic language skills - listening, speaking, reading, and writing
- Give opportunities for student-student interaction and self-expression in realistic situations
- Emphasize cultural aspects of contemporary life and culture in Spain and Spanish speaking countries
- Engage students in in-class dialogues and readings

Conditions for enrolment in the course:

Completion of Beginning Italian I

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short texts in written form

CLO2: Implement appropriate grammar rules and vocabulary at sentence and text level in written form

CLO3: Combine more complex vocabulary to improve communication skills

CLO4: Contrast aspects of Italian life and culture

Course content:

- applying target grammatical structures and vocabulary through storytelling and describing real-life situations in the past
- talking about plans, travel preparations, free time, needs, feelings and attitudes
- interpreting different topics related to course material
- using target grammatical structures in the present and past tenses
- applying acquired grammatical structures and vocabulary in speaking and writing
- expressing ideas in writing
- comparing and thinking critically about cultural differences
- connecting different contents in written and oral form

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8
Final Oral Examination	0.5
Homework	0.5

Total 5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	**12**
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	**100**

Required reading:

- Merlonghi, F., Merlonghi, F., Tursi, J., & O'Connor, B. (2012). *Oggi in Italia*: *a first course in Italian* (9th ed.). Heinle Cengage Learning.
- Merlonghi, F., Merlonghi, F., Tursi, J., & O'Connor, B. (2012). *Oggi in Italia: Student activities manual* (9th ed.). Heinle Cengage Learning.

Additional reading:

- Cozzarelli, J.M. (2020). *Sentieri*. Vista Higher Learning.
- Manella, C. (2005). *Sì! L'italiano in mano. Manuale e corso pratico di italiano per stranieri. Livello elementare, intermedio e superiore.* Progetto Lingua Edizioni.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Beginning Spanish II
Course leader:	Barbara Perić
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Second
ECTS points:	5
Teaching hours (L+S+E):	60 (4+0+0)

Course Description

Course objectives:

- Provide students with a sound basis for learning to communicate effectively and accurately in Spanish as it is spoken and written today
- Practice all four basic language skills - listening, speaking, reading, and writing
- Give opportunities for student-student interaction and self-expression in realistic situations
- Emphasize cultural aspects of contemporary life and culture in Spain and Spanish speaking countries
- Engage students in in-class dialogues and readings

Conditions for enrolment in the course:

Completion of Beginning Spanish I

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce short texts in written form

CLO2: Implement appropriate grammar rules and vocabulary at sentence and text level in written form

Combine more complex vocabulary to improve communication skillsCLO4: Contrast aspects of Hispanic life and culture

Course content:

- applying target grammatical structures and vocabulary through storytelling and describing real-life situations in the past
- talking about plans, travel preparations, free time, needs, feelings and attitudes
- interpreting different topics related to course material
- using target grammatical structures in the present and past tenses
- applying acquired grammatical structures and vocabulary in speaking and writing
- expressing ideas in writing
- comparing and thinking critically about cultural differences
- connecting different contents in written and oral form

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.6
Quiz 2	0.6
Quiz 3	0.6
Written Assignments	1.4
Oral In-Class Examinations	0.8
Final Oral Examination	0.5
Homework	0.5

Total 5

Teaching time is worth 2 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Written Assignments	28
Oral In-Class Examinations	16
Final Oral Examination	10
Homework	10
Total:	**100**

Required reading:

- Hershberger, R., Navey-Davis, S. & Borrás Álvarez, G. (2016). *Plazas, Lugar de encuentros* (5th ed.), Heinle Cengage Learning.

Additional reading:

- Acevedo A, I. (2013). *Spanish Reader for Beginners-Elementary.* CreateSpace Independent Publishing Platform.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	WMC COOPERATIVE EDUCATION 1
Course leader:	Sara Stanić
Study programme:	WMC
Course status:	Obligatory
Year:	Second
ECTS points:	12
Teaching hours (L+S+E):	co-op

Course Description

Career-related work experience. Employment within the IT related industries is monitored by the Web and Mobile Computing Program and the Career Services Office.

Course objectives:

- Coop work is designed for the student to experience progressive training on the job as related to the academic option.

Conditions for enrolment in the course:

Minimum 55 credits obtained

Expected learning outcomes of the course:

A student will be able to:

CLO1: Apply acquired knowledge and skills from previous academic courses in co-op tasks.

CLO2: Perform in accordance with the instructions and feedback in the process of solving co-op tasks in a real environment.

CLO3: Explain the activities, work processes and the market environment of the co-op organisation.

CLO4: Reflect on professional and personal growth, and work-related competencies gained during co-op.

Course content:

Co-op documentation

- Registration & offer letter
- Reports
- Evaluations

Field work

Teaching delivery methods:

- Field work
- Mentoring
- Remote learning
- Independent work
- Project work

Student obligations:

- Completing full 400 hours of mentored filed work
- Submitting co-op documentation (registrations, reports, evaluations)

Monitoring student work:

Activity	ECTS
Mentored fieldwork	11.7
Co-op evaluation reports	0.3
Total	12

Teaching time is worth 0 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Mentored fieldwork	95
Co-op evaluation reports	5
Total:	**100**

Required reading:

- RIT Croatia cooperative education handbook and cooperative education bylaw

Additional reading:

- …

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- RIT Croatia cooperative education registration form & offer letter
- RIT Croatia cooperative education biweekly report form for students on remote or project-based co-op formats
- RIT Croatia cooperative education student evaluation form
- RIT Croatia cooperative education employer evaluation form

RIT | Croatia

YEAR 3 – COURSE DESCRIPTIONS

RIT | Croatia

General Information

Course title:	ISTE-422 Application Development Practices
Course leader:	Kristina Marasović
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Third
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Gain experience with the processes, practices, and tools professional developers use to deliver robust and maintainable applications
- Apply these practices and tools to build smaller-scale production-quality applications and systems

Conditions for enrolment in the course:

- GCIS-124 SW Development and Problem Solving II
- OR equivalent courses

Expected learning outcomes of the course:

A student will be able to:

CLO1: Build a group project using an agile software development methodology & appropriate tools.

CLO2: Refactor the code to improve software design and performance with appropriate tools.

CLO3: Build a software project ready for testing and deployment

Course content:

- Development Methodologies

- Version Control
- Build Utilities & Servers
- Error Handling, Logging
- Introduction to Refactoring
- Static Code Analysis
- Dynamic Code Analysis
- Testing in Software Development
- Application Deployment
- Help Systems. Documentation

Teaching delivery methods:

- Lectures
- Independent work
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Exercises	1.80
Milestone 1	1.00
Milestone 2	1.00
Milestone 3	1.00
Quiz 1	0.40
Quiz 2	0.40
Quiz 3	0.40
Total	6

Teaching time is worth 1.5 ECTS points and is incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exercises	30
Milestone 1	16.67
Milestone 2	16.67
Milestone 3	16.67
Quiz 1	6.67
Quiz 2	6.67
Quiz 3	6.67
Total:	**100**

Required reading:

- No textbook is required. All assignments, lecture notes, and other distributable course materials are available via MyCourses.

Additional reading:

- Stellman, A., Greene, J., & Safari, an O'Reilly Media Company. (2017). *Head first agile* (1st ed.). O'Reilly Media, Inc.
- Heath, F., & Safari, an O'Reilly Media Company. (2021). *The professional scrum master (PSM I) guide* (1st ed.). Packt Publishing.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	ISTE-341 Server Programming
Course leader:	Kristina Marasović
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Third
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- In-depth work in server-side programming
- Develop dynamic, data centric web pages and systems
- Develop server-side information services that will be available to clients implemented in a variety of software technologies.

Conditions for enrolment in the course:

- ISTE-340 Client Programming
- ISTE-230 Introduction to Database and Data Modelling
- SWEN-383 Software Design Principles and Patterns
- OR equivalent courses

Expected learning outcomes of the course:

A student will be able to:

CLO1: Build an object-oriented database-driven web application.

CLO2: Develop RESTful web services using contemporary server-side programming languages.

CLO3: Build a multi-container application using contemporary technologies & tools.

Course content:

- Object-oriented PHP
- Database Access with PHP
- HTTP State Management
- Data-Exchange Formats
- Web Services
- RESTful Web Services with Java
- Node.js
- Express Framework
- Docker
- Multi-Container Applications with Docker Compose

Teaching delivery methods:

- Lectures
- Independent work
- Project work
- Lab assignments

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Labs	1.2
Project 1	0.8
Project 2	0.8
Project 3	0.8
Week 5 Exam	1.2
Final Exam	1.2
Total	6

Teaching time is worth 1.5 ECTS points and is incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Labs	20.00
Project 1	13.33
Project 2	13.33
Project 3	13.33
Week 5 Exam	20.00
Final Exam	20.00
Total:	**100**

Required reading:

- No textbook is required. All assignments, lecture notes, and other distributable course materials are available via MyCourses.

Additional reading:

- Butler, T., & Safari, an O'Reilly Media Company. (2022). *PHP & MySQL: Novice to ninja* (7th ed.). SitePoint.
- Nixon, R., & Safari, an O'Reilly Media Company. (2021). *Learning PHP, MySQL & JavaScript* (6th ed.). O'Reilly Media, Inc.
- Burke, Bill. (2013). RESTful java with JAX-RS 2.0 (2nd ed.). O'Reilly.
- Herron, D., & Safari, an O'Reilly Media Company. (2020). *Node.js web development* (5th ed.). Packt Publishing.
- Nickoloff, J., & Kuenzli, S. (2019). *Docker in Action* (2nd ed.). Manning Publications Co. LLC.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General information

Course title:	Literature and Cultural Studies (ENGL.210)
Course leader:	Evelina MIščin
Study programme:	WMC
Course status:	Elective
Year:	Third
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- To develop analytical skills through reading, discussion, writing and making a short film.
- To develop critical thinking skills through close reading of literary texts, cultural artifacts, and watching movies.
- To gain an appreciation for the art and politics of literary and cultural representations.
- To develop an awareness of the correlation between literary and cultural artifacts, and their social and cultural contexts.
- To gain a broad understanding of genres—in literary, oral, aural, and visual media—as well as how these genres can interact with one another.
- To reflect on your own experiences as viewers and think about the ways films engage you.
- To improve vocabulary and writing skills.

Conditions for enrolment in the course:

None.

Expected learning outcomes of the course:

- A student will be able to:

LO1: Analyse a variety of literary texts, cultural artefacts, and/or critical/analytical essays

LO2: Connect literary and cultural artefacts to their social and cultural contexts

LO3: Compose coherent literary analyses, creative essays, research papers, or multimedia presentations

Course content

- Britain vs. America
- New beginnings
- Ethnicity and immigration
- African Americans
- Religion in American life
- Approaches to regionalism
- Dystopia
- Gender and sexuality
- Representing youth
- Beyond American borders
- Technology and media cultures

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Peer review

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Primers	1.5

Weekly assignments	1.00
Quiz	1.00
Media projects/Essay	1.5
Total	**5**

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Primers	30
Weekly assignments	20
Quiz	20
Media projects/Essay	30
Total:	**100**

Required reading

Materials on MyCourses

Additional reading:

Rangno, E.V.N. (2006). *Contemporary American Literature (1945-present).* DWU Books: NewYork.

Gray, R. (2011). *A Brief History of American Literature*. Wiley-Blackwell: New Jersey.

http://www.history.com/

https://owl.english.purdue.edu/owl/

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey

- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	Intermediate French I
Course leader:	Tea Kovačević
Study programme:	WMC
Course status:	Elective
Year:	Third
ECTS points:	4
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Provide students with adequate tools to increase their ability to function better in French language and understand better all aspects of French culture, formal and informal.
- Practice and advance basic skills acquired in the beginning courses.
- Engage students in communication activities, contemporary texts, and more advanced study of vocabulary and grammar to expand all communication skills, especially oral proficiency.
- Emphasize relevant aspects of contemporary French life and culture.

Conditions for enrolment in the course:

Completion of Beginning French I and Beginning French II

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce texts in written form about a range of topics

CLO2: Argue one's point in class discussions

CLO3: Support different cultural aspects with appropriate vocabulary

CLO4: Design a presentation on a topic of interest

CLO5: Differentiate grammar structures and vocabulary at intermediate level

Course content:

- discussing different topics related to course materials in present and past tenses
- participating in basic every-day situation dialogues
- arguing for or against a certain position in class discussions
- reading and analyzing a variety of literary and non-literary texts
- writing paragraphs of increasing complexity in French
- gaining a deeper understanding of French culture and differences between different cultures
- delivering a short presentation in French language

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.5
Quiz 2	0.5
Quiz 3	0.5
Oral In-Class Examinations	0.6
Written Assignments	1.1
Final Oral Examination	0.4
Homework	0.4
Total	4

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Oral In-Class Examinations	16
Written Assignments	28
Final Oral Examination	10
Homework	10
Total:	100

Required reading:

- Muyskens, J., Harlow, L., Vialet, M., & Brière, J. (2013). *Bravo!* 8th edition. Cengage.
- Muyskens, J., Harlow, L., Vialet, M., & Brière, J. (2013). *Bravo! Student Activities Manual.* 8th edition. Cengage.

Additional reading:

- Les 500 Exercices de phonétique A1/A2 – Hachette, 2009
- Les 500 Exercices de grammaire A2-Hachette, 2006
- Nouvelle grammaire du français: Cours de Civilisation Française de la Sorbonne – Y. Dellatour, D. Jennepin, M. Léon-Dufour, B. Teyssier, Hachette, 2004
- Grammaire essentielle du français niveaux A1 A2 - Glaud Ludivine, Lannier Muriel, Loiseau Yves, Didier, 2015
- Edito 1 (méthode de français et cahier d'activités) – Marie-Pierre Baylocq Sassoubre, Stéphanie Brémaud, Stefano Campopiano, Clara Cheilan, Erwan Dambrine, Cécile Pinson, Didier, 2016
- Génération A2 (méthode de français) – P.Dauda, L.Giachino, C. Baracco, Didier, 2016

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	Intermediate German I
Course leader:	Nikolina Božinović
Study programme:	Web and Mobile Computing
Course status:	Elective
Year:	Third
ECTS points:	4
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Provide students with adequate tools to increase their ability to function better in German language and understand better all aspects of German culture, formal and informal.
- Practice and advance basic skills acquired in the beginning courses.
- Engage students in communication activities, contemporary texts, and more advanced study of vocabulary and grammar to expand all communication skills, especially oral proficiency.
- Emphasize relevant aspects of contemporary German life and culture.

Conditions for enrolment in the course:

Completion of Beginning German I and Beginning German II

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce texts in written form about a range of topics

CLO2: Argue one's point in class discussions

CLO3: Support different cultural aspects with appropriate vocabulary

CLO4: Design a presentation on a topic of interest

CLO5: Differentiate grammar structures and vocabulary at intermediate level

Course content:

- discussing different topics related to course materials in present and past tenses

- participating in basic every-day situation dialogues
- arguing for or against a certain position in class discussions
- reading and analyzing a variety of literary and non-literary texts
- writing paragraphs of increasing complexity in German
- gaining a deeper understanding of German culture and differences between different cultures
- delivering a short presentation in German language

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.5
Quiz 2	0.5
Quiz 3	0.5Oral In-Class Examinations 0.6
Written Assignments	1.1
Final Oral Examination	0.4
Homework	0.4
Total	4

Teaching time is worth 1.5 ECTS and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%

Quiz 1	12
Quiz 2	12
Quiz 3	12
Oral In-Class Examinations	16
Written Assignments	28
Final Oral Examination	10
Homework	10
Total:	100

Required reading:

- Moeller, J., Mabee, B., Berger, S., Adolph, W. (2016). *Kaleidoskop Kultur, Literatur und Grammatik*, Ninth Edition, Cengage Learning.
- Moeller, J., Mabee, B., Berger, S., Adolph, W. (2016). *Kaleidoskop Kultur, Literatur und Grammatik*, Student Activities Manual, Ninth Edition, Cengage Learning.

Additional reading:

- Funk, H. Kuhn, C., Demme, S. (2006). Studio d A2 Deutsch als Fremdsprache, Cornelsen Verlag, Berlin.
- Funk, H., Kuhn, C., Demme, S., Winzer, B. (2009). Studio d B1 Deutsch als Fremdsprache, Cornelsen Verlag Berlin.
- Augustyn, P.; Euba, N. (2020). Stationen, Ein Kursbuch für die Mittelstufe. Fourth Edition, Cengage Learning.
- German College Dictionary, Harper-Colllins, Second Edition (or any other dictionary of the German language

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	Intermediate Spanish I
Course leader:	Barbara Perić
Study programme:	Web and Mobile Computing
Course status:	Elective
Year:	Third
ECTS points:	4
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Provide students with adequate tools to increase their ability to function better in Spanish language and understand better all aspects of Hispanic culture, formal and informal.
- Practice and advance basic skills acquired in the beginning courses.
- Engage students in communication activities, contemporary texts, and more advanced study of vocabulary and grammar to expand all communication skills, especially oral proficiency.
- Emphasize relevant aspects of contemporary Hispanic life and culture.

Conditions for enrolment in the course:

Completion of Beginning Spanish I and Beginning Spanish II

Expected learning outcomes of the course:

A student will be able to:

CLO1: Produce texts in written form about a range of topics

CLO2: Argue one's point in class discussions

CLO3: Support different cultural aspects with appropriate vocabulary

CLO4: Design a presentation on a topic of interest

CLO5: Differentiate grammar structures and vocabulary at intermediate level

Course content:

- discussing different topics related to course materials in present and past tenses
- participating in basic every-day situation dialogues
- arguing for or against a certain position in class discussions
- reading and analyzing a variety of literary and non-literary texts
- writing paragraphs of increasing complexity in Spanish
- gaining a deeper understanding of Hispanic culture and differences between different cultures
- delivering a short presentation in Spanish language

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.5
Quiz 2	0.5
Quiz 3	0.5
Oral In-Class Examinations	0.6
Written Assignments	1.1
Final Oral Examination	0.4
Homework	0.4
Total	4

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Oral In-Class Examinations	16
Written Assignments	28
FinalOral Examination	10
Homework	10
Total:	100

Required reading:

- Blitt, M.A., Casas, M. & Copple, M.T. (2020). *Exploraciones, curso* intermedio (second edition), Cengage Learning.

Additional reading:

- Jarvis, A.C. & Lebredo, L. (2011). *Basic Spanish for business and finance* (second edition), Heinle Cengage Learning.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Culture and Globalization
Course leader:	Vanda Bazdan
Study programme:	IB, WMC
Course status:	Elective/Immersion
Year:	Third and Fourth
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course explores critical issues of globalizing culture. How are ideas, attitudes, and values exchanged or transmitted across conventional borders? How has the production, articulation, and dissemination of cultural forms (images, languages, practices, beliefs) been shaped by global capitalism, media industries, communication technologies, migration, and tourist travels? How are cultural imaginaries forged, exchanged, and circulated among a global consumer public? How has the internationalizing of news, computer technologies, video-sharing websites, blogging sites, and other permutations of instant messaging served to accelerate cultural globalization? Students will be introduced to anthropological perspectives on cultural globalization, the transmission of culture globally, and the subsequent effects on social worlds, peoples, communities, and nations.

Course objectives:

- After completing this course successfully, the students should be able to:
- Demonstrate knowledge of the key perspectives, concepts, and terminologies of cultural globalization.
- Identify appropriate application of analytical tools and fundamental models and methods of analysis for assessing global change and local consequences.
- Demonstrate foundational knowledge of qualitative research skills, including ethnographic and/or sociological research methods, for the analysis of concrete social or political situations in a global context.
- Demonstrate knowledge of the relative rights of peoples, cultures, and societies in a global context.
- Correlate the dynamic relationships between the mandates of globalization, political interests, local traditions, and cultural transformations.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: Explain historical, political, economic, and social aspects of globalization through application of key theoretical perspectives.

CLO2: Synthesize data from specific case studies of culture in evaluating impact of globalization.

CLO3: Conduct a literature review of a cultural phenomenon (researching, reading, analysing, evaluating, and summarizing scholarly literature, properly acknowledged sources of information assumed), and present the results in writing and an oral presentation (in keeping with academic standards

CLO4: Compose arguments, and anticipate and assess counterarguments, to support and defend their attitudes regarding current issues in written format and in competitive debates (in keeping with the academic standards)

Course content:

1. Globalizing Culture
2. Creating global cultural imaginaries
3. The traffic in cultural practices and identities
4. Mediating culture
5. Creating global consumer cultures
6. Cultural globalization and national distinction
7. Transglobal cultural flows
8. Transnational cultural forms
9. Signs, symbols, and ideologies of globalization
10. Translocal culture industries
11. The culture war on a global stage
12. Branding cultural traditions
13. Commodifying cultural memories
14. Cultural authenticity for sale in the global marketplace
15. Globalizing unruly cultural identities

Teaching delivery methods:

- Lectures
- Seminars
- Independent work
- Discussions
- Multimedia

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Discussions	1.8
Exam 1	1.2
Exam 2	1
Research paper	0.5
Presentation	0.5
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exam 1	24
Exam 2	20
Research Paper	10
Presentation	10
Discussions (12x3)	36
Total:	**100**

Required reading:

- Selected chapters and excerpts from the listed readings:
- Ritzer, G. (2021). *Globalization: A Basic Text.* Wiley-Blackwell (3rd edition).
- Lechner, F.J. (2009). Globalization: The making of world society. (1st edition)
- Gannon, Martin J. (2008). *Paradoxes of Culture and Globalization.* Sage Publications.
- Pieterse, Jan Nederveen (ed.) (2009). *Globalization and Culture*. Rowman and Littlefield.
- Gannon, Martin J. et al. (eds.) (2009). *Understanding Global Cultures*. Sage Publishers.
- King, A. (1997). *Culture, Globalization, and the World System*. University of Minnesota Press.
- Xavier, J., and Rosaldo, R. (2008). *The Anthropology of Globalization*. Blackwell.
- Pleyers, G. (2013). *Alter-Globalization*. Polity.
- Dudley, K. M. (1994). *The end of the line: Lost jobs, new lives in postindustrial America.* University of Chicago Press.
- Maeckelbergh, M. (2013). *The will of the many.* Pluto Press.
- Moberg, M. & Lyon, S. (2010). *Fair trade and social justice: Global ethnographies.* NYU Press.
- Stiglitz, J. (1994). *Globalization and its discontents.* W.W. Norton & Company.
- Stiglitz, J. (2017). *Globalization and its discontents revisited: Anti-globalization in the era of Trump.* W.W. Norton & Company.

Additional reading:

- Excerpts from classics in anthropology, as well as more recent scholarly and popular articles, available on myCourses.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Secure Web App Development
Course leader:	Assoc. Prof. Martin Žagar, Ph.D. in C.S., EMBA
Study programme:	WMC
Course status:	Obligatory
Year:	Third
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Secure applications that are browser and platform-independent.
- Integrate client-server technologies by dynamically generating client-side code at the server that has the ability to manipulate the DOM on the client.
- Write programs and GUIs using technologies such as SVG, JavaScript, PHP, and other scripting environments to gain competence with current and future practices.
- Research new technologies and techniques. Assessed by in-class presentations.

Conditions for enrolment in the course:

Students must have successfully completed ISTE-341 Server Programming course.

Expected learning outcomes of the course:

A student will be able to:

CLO1: Categorize common web architectures

CLO2: Develop an optimized web application

CLO3: Defend against common web security intrusions

CLO4: Measure performance and web application load

CLO5: Compare new web technologies and development techniques

Course content:

Security principles

- ZAP
- Injections
- Security filters
- Hashing
- Encryption

Software and project development

- Web App Overview
- Advanced frontend and principles
- Technology availability
- Technology characteristics
- Web Architectures

Analysis

- Profiling
- Load testing
- JS Heap
- Allocation sampling
- Memory usage

Teaching delivery methods:

- Lectures
- Independent work
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Security test	1.2
Self-guided study: topic proposal	0.6
Self-guided study: presentation	0.9
Project web architecture and technology decisions	0.6
Project frontend	0.6
Project Functionalities	0.9
Project backend	0.3
Project profiling and load testing	0.3
Project heap analysis and memory allocation	0.3
Participation	0.3
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Security test (Q1 ZAP 2 pts; Q2 SQL injection 3 pts; Q3 XSS 3 pts; Q4 CSRF 3 pts; Q5 Hashing 3 pts; Q6 Asymmetric Encryption 3 pts; Q7 Symmetric Encryption 3 pts)	20
Self-guided study: topic proposal (2 pts; technology landscape 3 pts; advantages and disadvantages of technology 5 pts)	10
Self-guided study: presentation (4 pts; working example 6 pts; libraries used 2 pts; real-world applicability 3 pts)	15
Project web architecture and technology decisions	10
Project frontend (UX/UI 3 pts; interactivity 3 pts; resources optimization 2 pts; mockups 2 pts)	10
Project Functionalities (primary functionalities 7 pts; secondary functionalities 5 pts; Wishlist functionalities 3 pts)	15
Project backend	5
Project profiling and load testing	5
Project heap analysis and memory allocation	5
Participation	5
Total:	**100**

Required reading:

- Pressman, R., Lowe, D.(2009). Web Engineering: A Practitioner's Approach

Additional reading:

- Assigned readings

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Web Server Development and Administration
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Third
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Web developers often need to go beyond building Web pages and client-server programming to plan, install, configure, develop, and maintain the Web servers that host their sites. They need to understand issues of scalability, performance, and security as they apply to deploying a Web presence.

Course objectives:

This course provides a practical hands-on approach to development, configuration, and administration of Web server platforms. Topics include issues of and approaches to scalability, multiple server systems, security, and auditing, as well as the many configuration options, modules, and server alternatives available. By the end of the course, each student will be expected to:

- Understand the security and auditing aspects of web server programming
- Demonstrate the ability to install and analyze scalability and performance issues
- Install, configure, develop and maintain web servers

Conditions for enrolment in the course:

ISTE-341

Expected learning outcomes of the course:

A student will be able to:

CLO1: Configure web server software at the entire site level and on a per-directory basis.

CLO2: Design server architectures for multiple scalability scenarios

CLO3: Implement security measures appropriate to provided scenarios

CLO4: Implement auditing and log analysis

CLO5: Plan, design, develop, and test a custom-built web server

---

Course content:

Web Server Software Selection

- Operating System Considerations
- Hosting Options
- Server Access

Web Server Configuration

- IIS
- Apache
- Modules & Options

Scaling and Performance

- Vertical Scaling
- Horizontal Scaling
- Geographic Scaling
- Sessions Distribution
- Server Farms
- Virtualization
- Cloud Computing
- Custom Server Software
- DNS Issues

Security & Auditing

- Users and Groups
- Authentication, Authorization, and Access Control
- Dynamic Content Security Issues
- SSL
- Certificates
- Robots and Spiders
- Logging and Log Analysis

Web Server development

- Custom, Extensible Web Servers
- Co-routines and Communicating Processes
- Consumers, Producers, and Transducers

- Threads, Processes, and Thread-safe Programming
- Extensibility

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Mentoring
- Critiques

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Quizzes	0.6
Practical #1	1.2
Practical #2	1.2
Group Project	1.8
Homework	1.2
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quizzes	10
Practical #1	20
Practical #2	20

Group Project	30
Homework	20
Total:	**100**

Required reading:

- The following are sample texts, from which excerpts might be assigned:
  - Linux Apache Web Server Administration (Linux Library)
  - Run Your Own Web Server Using Linux & Apache

Additional reading:

- Additional material distributed in class and/or via MyCourses

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	COS-ENVS-150-Ecology of Dalmatian Coast
Course leader:	Staša Puškarić
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Third
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Case studies will be used to provide real life examples of the basic concepts introduced in the course. We will use case studies throughout the sequence to provide a framework for applying the basic concepts. We will also use the case studies to demonstrate the interconnections between and among the concepts and the resulting complexities associated with environmental problems illustrated in the case studies. The case studies will also provide examples of successful, and sometimes unsuccessful, problem solving.

Course objectives:

- To explain and synthesize ecological concepts at the individual, population, community, and ecosystem level.
- To learn about experimental design and local ecosystems.
- To critically read scientific articles.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

LO1: Analyze environmental issues.

LO2: Critically evaluate texts and other media on environmental issues.

LO3: Formulate and defend claims and solutions using evidence gathered from primary literature.

LO4: Examine how human actions impact the concept of sustainability and ways to minimize these impacts.

Course content:

This course is an introduction to population, community and ecosystem ecology, stressing the dynamic interrelationships of plant and animal communities of the Dalmatian Coast. The course includes such ecological concepts as energy flow and trophic levels in natural communities, population and community dynamics, biogeography and ecosystem ecology. Field trips to local ecosystems are included.

Teaching delivery methods:

- Lectures
- Exercises
- Field work
- Independent work
- Project work

Teaching delivery modes:

- Lectures
- Class discussions
- Fieldtrips

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Essay (Assignment 1) **ECTS 0.8**

Students have to write individual reflections on ideas selected in class. Connections between topics covered in class and their personal observations have to be clearly outlined in text. The focus is evaluation of level understanding of class materials and student's personal contribution to defined problems.

Research paper (Assignment 2) **ECTS 1**

Given the topic of research students have to find a minimum of 6 relevant sources (scholarly articles) using RIT online library. After reading (their secondary research), students have to write literature review as part of the Introduction. As this assignment is strictly focused on secondary research, they have to discuss their findings in relation to class materials and organize the information in a research paper including:

Cover Page

Abstract

Introduction (including literature review and in-text citations)

Discussion

Reference list

Quiz (pop-up quiz) **ECTS 0.3**

A short 5 multiple choice questions related to materials presented in class

Presentation **ECTS 0.7**

After submission of their research paper, students have to present their findings in short in-class presentation using visual aids, focusing on the most important findings of their research.

Participation **ECTS 0.7**

Final Exam **ECTS 1.5**

Online test which includes 30 multiple choice questions covering all topics covered during the semester. Test duration 1 hour.

Total 5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Assignment 1	20
Assignment 2	15

Presentation	10
Quiz	10
Participation	15
Final Exam	30
Total:	**100**

Required reading (at the moment of submitting the Study Programme Report):

- Brennan, S. and Withgott, J. Environment: The Science Behind the Stories. Pearson/Benjamin Cummings. San Francisco, CA.

Additional reading (at the moment of submitting the Study Programme Report):

- Papers selected from the primary literature (updated annually)

Number of copies of required reading in relation to the number of students who currently attend a course:

Materials available at RIT online library The Wallace Center.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Foundations of Moral Philosophy
Course leader:	Vanda Bazdan
Study programme:	WMC
Course status:	Obligatory
Year:	Third
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course is a survey of foundational, and normative, approaches to moral philosophy and their motivating moral questions. Topics will include virtue ethics, deontology, consequentialism, evolutionary foundations of morality, and other approaches. Some of the questions to be examined are: How is human nature related to morality? What are the grounds for moral obligations? Is there an ultimate moral principle? How do we reason about what to do? Can reason determine how we ought to live? What are moral judgments? Are there universal goods? What constitutes a morally worthwhile life? Can morality itself be challenged?

Course objectives:

- To help the student develop the habit of careful analysis and critical evaluation of beliefs.
- To help the student become aware of the importance of basic assumptions in his thinking and acting.
- To help the student become aware of some of the philosophical assumptions he ordinarily makes.
- To encourage the student to examine those assumptions critically considering the reasons or evidence that could be offered both for and against them.
- To make the student aware of alternative assumptions he might make together with reasons for choosing or rejecting them.
- To encourage the student to develop a more reasonable and coherent view of himself or herself in relation to others and to the universe in which he or she lives.
- To acquaint the student with some of the major philosophers and various ethical positions.
- To encourage the student to critically engage various theories in moral philosophy and apply them in consideration of everyday experiences.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: Interpret different ethical theories and tenets and apply these in analysis of moral problems/moral issues

CLO2: Compose and evaluate arguments, and anticipate counterarguments, to support and defend their attitudes regarding moral issues in written format (discussion or research papers), and in competitive debates (in keeping with the academic standards)

CLO3: Analyse philosophical and popular texts (appropriate use of concepts and close/critical readings skills assumed)

CLO4: Compose analytical essays, subject being a scholarly paper or a book segment dealing with a specific ethical issue or outlining a relevant philosophical perspective (ability to summarize and assess arguments, proper word choice, structure sentences, and apply grammar and mechanics in keeping with academic standards assumed)

Course content:

Introduction to morality

Why be moral?

Ethics and religion

Ethics and ethical reasoning

Virtue Ethics

Deontology

Consequentialism

Contractarianism

Some particular moral issues

Teaching delivery methods:

- Lectures
- Seminars
- Independent work

- Discussions
- Multimedia

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Discussions	1
Exam 1	1
Exam 2	1
Essay 1	1
Essay 2	1
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exam 1	20
Exam 2	20
Essay 1	20
Essay 2	20
Discussions	20
Total:	**100**

Required reading:

- Shafer-Landau, R. (2017). *The ethical life.* Oxford University Press.

- Graham, G. (2010). *Theories of Ethics*. Routledge.
- Sidgwick, H. (1981). *The Methods of Ethics*. Hackett Publishing Company.
- Shafer-Landau, R. (2020). *Fundamentals of Ethics*. Oxford University Press.

.

Additional reading:

- Additional excerpts from classics in philosophy, as well as more recent scholarly and popular articles, available on myCourses.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	Intermediate French II
Course leader:	Tea Kovačević
Study programme:	WMC
Course status:	Elective
Year:	Third
ECTS points:	4
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Provide students with adequate tools to further increase their ability to function better in French language and understand better all aspects of French culture, formal and informal.
- Practice formal language and cultural behavior in professional environment
- Engage students in complex communication activities, contemporary texts, and more advanced study of vocabulary and grammar to further develop all communication skills, especially oral proficiency.
- Study and critically evaluate different aspects of contemporary French life and culture.

Conditions for enrolment in the course:

Completion of Beginning French I, Beginning French II and Intermediate French I

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create formal and informal texts in written form to communicate effectively in formal and informal settings

CLO2: Criticize different cultural aspects by formulating a standpoint on various topic

CLO3: Design a presentation on personal or professional topics

CLO4: Differentiate more complex grammar structures and vocabulary at intermediate level

Course content:

- discussing different topics related to course materials applying all verb tenses
- introducing and practicing contemporary formal French language and defining cultural differences in professional environments
- participating in debates and arguing for or against a certain position in class discussions
- critically reading and analyzing a variety of texts
- writing paragraphs in more advanced French using a variety of tenses and complex grammatical structures
- gaining a more profound understanding of French culture and differences between various cultures
- delivering a presentation in French language

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.5
Quiz 2	0.5
Quiz 3	0.5
Oral In-Class Examinations	0.6
Written Assignments	1.1
Final Oral Examination	0.4
Homework	0.4
Total	4

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Oral In-Class Examinations	16
Written Assignments	28
Final Oral Examination	10
Homework	10
Total:	100

Required reading:

- Muyskens, J., Harlow, L., Vialet, M., & Brière, J. (2013). *Bravo!* 8th edition. Cengage.
- Muyskens, J., Harlow, L., Vialet, M., & Brière, J. (2013). *Bravo! Student Activities Manual.* 8th edition. Cengage.

Additional reading:

- Les 500 Exercices de phonétique A1/A2 – Hachette, 2009
- Les 500 Exercices de grammaire A2-Hachette, 2006
- Nouvelle grammaire du français: Cours de Civilisation Française de la Sorbonne – Y. Dellatour, D. Jennepin, M. Léon-Dufour, B. Teyssier, Hachette, 2004
- Grammaire essentielle du français niveaux A1 A2 - Glaud Ludivine, Lannier Muriel, Loiseau Yves, Didier, 2015
- Edito 1 (méthode de français et cahier d'activités) – Marie-Pierre Baylocq Sassoubre, Stéphanie Brémaud, Stefano Campopiano, Clara Cheilan, Erwan Dambrine, Cécile Pinson, Didier, 2016
- Génération A2 (méthode de français) – P.Dauda, L.Giachino, C. Baracco, Didier, 2016

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	Intermediate German II
Course leader:	Nikolina Božinović
Study programme:	Web and Mobile Computing
Course status:	Elective
Year:	Third
ECTS points:	4
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Provide students with adequate tools to further increase their ability to function better in German language and understand better all aspects of German culture, formal and informal.
- Practice formal language and cultural behavior in professional environment
- Engage students in complex communication activities, contemporary texts, and more advanced study of vocabulary and grammar to further develop all communication skills, especially oral proficiency.
- Study and critically evaluate different aspects of contemporary German life and culture.

Conditions for enrolment in the course:

Completion of Beginning German I, Beginning German II and Intermediate German I

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create formal and informal texts in written form to communicate effectively in formal and informal settings

CLO2: Criticize different cultural aspects by formulating a standpoint on various topic

CLO3: Design a presentation on personal or professional topics

CLO4: Differentiate more complex grammar structures and vocabulary at intermediate level

Course content:

- discussing different topics related to course materials applying all verb tenses
- introducing and practicing contemporary formal German language and defining cultural differences in professional environments
- participating in debates and arguing for or against a certain position in class discussions
- critically reading and analyzing a variety of texts
- writing paragraphs in more advanced German using a variety of tenses and complex grammatical structures
- gaining a more profound understanding of German culture and differences between various cultures
- delivering a presentation in German language

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.5
Quiz 2	0
Oral In-Class Examinations	0.6
Written Assignments	1.1
Final Oral Examination	0.4
Homework	0.4
Total	4

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Oral In-Class Examinations	16
Written Assignments	28
Final Oral Examination	10
Homework	10
Total:	100

Required reading:

- Moeller, J., Mabee, B., Berger, S., Adolph, W. (2016). *Kaleidoskop Kultur, Literatur und Grammatik*, Ninth Edition, Cengage Learning.
- Moeller, J., Mabee, B., Berger, S., Adolph, W. (2016). *Kaleidoskop Kultur, Literatur und Grammatik*, Student Activities Manual, Ninth Edition, Cengage Learning.

Additional reading:

- Funk, H. Kuhn, C., Demme, S. (2006). Studio d A2 Deutsch als Fremdsprache, Cornelsen Verlag, Berlin.
- Funk, H., Kuhn, C., Demme, S., Winzer, B. (2009). Studio d B1 Deutsch als Fremdsprache, Cornelsen Verlag Berlin.
- Augustyn, P.; Euba, N. (2020). Stationen, Ein Kursbuch für die Mittelstufe. Fourth Edition, Cengage Learning.
- German College Dictionary, Harper-Colllins, Second Edition (or any other dictionary of the German language

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

General Information

Course title:	Intermediate Spanish II
Course leader:	Barbara Perić
Study programme:	Web and Mobile Computing
Course status:	Elective
Year:	Third
ECTS points:	4
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Provide students with adequate tools to further increase their ability to function better in Spanish language and understand better all aspects of Hispanic culture, formal and informal.
- Practice formal language and cultural behavior in professional environment
- Engage students in complex communication activities, contemporary texts, and more advanced study of vocabulary and grammar to further develop all communication skills, especially oral proficiency.
- Study and critically evaluate different aspects of contemporary Hispanic life and culture.

Conditions for enrolment in the course:

Completion of Beginning Spanish I, Beginning Spanish II and Intermediate Spanish I

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create formal and informal texts in written form to communicate effectively in formal and informal settings

CLO2: Criticize different cultural aspects by formulating a standpoint on various topic

CLO3: Design a presentation on personal or professional topics

CLO4: Differentiate more complex grammar structures and vocabulary at intermediate level

Course content:

- discussing different topics related to course materials applying all verb tenses
- introducing and practicing contemporary formal Spanish language and defining cultural differences in professional environments
- participating in debates and arguing for or against a certain position in class discussions
- critically reading and analyzing a variety of texts
- writing paragraphs in more advanced Spanish using a variety of tenses and complex grammatical structures
- gaining a more profound understanding of Hispanic culture and differences between various cultures
- delivering a presentation in Spanish language

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Multimedia
- Remote learning
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Quiz 1	0.5
Quiz 2	0.5
Quiz 3	0.5
Oral In-Class Examinations	0.6
Written Assignments	1.1
Final Oral Examination	0.4
Homework	0.4
Total	4

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz 1	12
Quiz 2	12
Quiz 3	12
Oral In-Class Examinations	16
Written Assignments	28
Final Oral Examination	10
Homework	10
Total:	100

Required reading:

- Blitt, M.A., Casas, M. & Copple, M.T. (2020). *Exploraciones, curso* intermedio (second edition), Cengage Learning.

Additional reading:

- Jarvis, A.C. & Lebredo, L. (2011). *Basic Spanish for business and finance* (second edition), Heinle Cengage Learning

skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Nationalism and Identity
Course leader:	Vanda Bazdan
Study programme:	WMC
Course status:	Elective/Immersion
Year:	Third
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Nationalism is often described in terms of strong sentiments and acts of self-determination on the part of members of a nation as distinct from the state that is necessarily a territorially and politically defined entity. This course will explore leading theories related to the origins of contemporary nationalism and nationalism's importance within the context of state societies, especially in Europe. The past as an invented historical or imagined reality will be highlighted, as invented pasts contribute to claims for exclusive national culture and both exclusive and contested identities. The relationships between culture, literacy, and capitalism will be applied to understanding select historical and ethnographic cases of nationalism.

Course objectives:

- Reflect on cultural and political processes that inform the process of nationalism.
- Reflect on the relationship between nationalism and invented tradition.
- Reflect on the relationships between identity, culture, and nationalism.
- Reflect on transnational processes in relation to both nationalism and globalization.
- Apply influential sociological and anthropological theories to major contemporary social issues.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: apply main theoretical perspectives on nationalism and identity in analysis of past and current organization of human societies and associated issues.

CLO2: analyse scholarly and popular texts, poetry, prose and video materials related to the topics of identity and nationalism

CLO3: compose analytical essays, subject being a scholarly paper or a book segment, dealing with a specific current or past issue involving nations and nationalism (proper use of terms, ability to summarize and assess arguments, proper word choice, structure sentences, and apply grammar and mechanics in keeping with academic standards assumed)

CLO4: compose arguments, and anticipate and assess counterarguments, to support and defend their attitudes regarding current social issues in written format (discussion papers), and in competitive debates (in keeping with the academic standards)

Course content:

1. Identity/ social identity
2. Myths and misconceptions in the Study of Nationalism
3. Nation/ nationalism definition
4. Nation/ nationalism history?
5. Imagined Communities - Anderson
6. Gellner's views on nationalism
7. Hobsbawm on Inventing Traditions
8. Smith on Chosen People
9. Myths and Memories of a Nation
10. Nationalism and Ethnicity Revisited
11. The Question of Identity Revisited
12. Nations in Europe and Europe in Nations
13. The New Nationalism in Europe

Teaching delivery methods:

- Lectures
- Seminars
- Independent work
- Discussions
- Multimedia

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Discussions	1.8
Exam 1	1.2
Exam 2	1
Essay	1
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exam 1	24
Exam 2	20
Essay	20
Discussions (12x4)	36
Total:	**100**

Required reading:

- Selected chapters and excerpts from the listed readings (list is not exclusive):
  Anderson, B. (2016). *Imagined Communities*. Verso [revised edition]
  Gellner, E. (2009). *Nations and Nationalism*. Cornell University Press [second edition]
  Hobsbawm, E.J. (2012). *Nations and Nationalism since 1780*. Cambridge University Press [second edition].
  Hobsbawm, E.J. (2012). *The Invention of Tradition*. Cambridge University Press [reissue edition].
  Hutchinson, J., & Smith, A. (eds.) (1995). *Nationalism.* Oxford University Press [1st edition].
  Smith, A.D. (1998). *Nationalism and Modernism*. Routledge [1st edition].
  Smith, A.D. (2010). *Nationalism: Theory, Ideology, History*.Polity [second edition].

Additional reading:

- Additional xcerpts from classics in anthropology, as well as more recent scholarly and popular articles, available on myCourses.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	WMC COOPERATIVE EDUCATION 2
Course leader:	Iva Kužina
Study programme:	WMC
Course status:	Obligatory
Year:	Third
ECTS points:	12
Teaching hours (L+S+E):	co-op

Course Description

Career-related work experience. Employment within the IT related industries is monitored by the Web and Mobile Computing Program and the Career Services Office.

Course objectives:

- Coop work is designed for the student to experience progressive training on the job as related to the academic option.

Conditions for enrolment in the course:

Having completed WMC cooperative education

Expected learning outcomes of the course:

A student will be able to:

CLO1: Apply the relevant ethical principles and work-environment behaviors within the co-op position and organization.

CLO2: Propose solutions to challenges within the area of co-op specialization.

CLO3: Integrate the creation and communication of the professional content in oral and written forms.

CLO4: Utilize appropriate tools, methods and techniques used in the co-op tasks or projects.

Course content:

Co-op documentation

- Registration & offer letter
- Reports
- Evaluations

Field work

Teaching delivery methods:

- Field work
- Mentoring
- Remote learning
- Independent work
- Project work

Student obligations:

- Completing full 400 hours of mentored filed work
- Submitting co-op documentation (registrations, reports, evaluations)

Monitoring student work:

Activity	**ECTS**
Mentored fieldwork	11.7
Co-op evaluation reports	0.3
Total	**12**

Teaching time is worth 0 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Mentored fieldwork	95
Co-op evaluation reports	5
Total:	100

Required reading:

- RIT Croatia cooperative education handbook and cooperative education bylaw

Additional reading:

- …

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- RIT Croatia cooperative education registration form & offer letter
- RIT Croatia cooperative education biweekly report form for students on remote or project-based co-op formats
- RIT Croatia cooperative education student evaluation form
- RIT Croatia cooperative education employer evaluation form

RIT | Croatia

YEAR 4 – COURSE DESCRIPTIONS

RIT | Croatia

General Information

Course title:	Mobile Application Development I
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Forth
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course extends the material covered in the Foundations of Mobile Design course and provides students with experience writing native applications for mobile devices such as Smartphone¹s in one of the current major platforms. These devices are exceptionally portable, have unique sets of hardware and communications capabilities, incorporate novel interfaces, are location aware, and provide persistent connectivity. Students are encouraged to make use of these unique characteristics and operating properties to develop innovative applications. Programming projects are required.

Course objectives:

- The purpose of this course is to provide students with the experience of creating native applications for mobile phones. Topics covered include user interaction patterns, connectivity, interface design, software design patterns, and application architectures within the context of mobile computing.

Conditions for enrolment in the course:

ISTE-252 Foundations of Mobile Design, ISTE-340 Client Programming, or instructor permission

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create effective mobile interfaces based on accepted interface conventions

CLO2: Create mobile applications that display various types of digital media

CLO3: Design mobile applications by utilizing device sensors

CLO4: Design mobile applications using third-party libraries, network services, and remote data storage

Course content:

Mobile Hardware

1.1.1 Capabilities and Limitations
1.1.2 Touch interfaces
1.1.3 Location awareness

Mobile User Interaction Patterns

1.1.4 Persistent Connectivity
1.1.5 Single User
1.1.6 Short/Frequent Use

Programming

1.1.7 Available SDKs and software frameworks
1.1.8 Software patterns and architectures
1.1.9 Native Language of Platform

Interface Conventions

1.1.10 Screen layout
1.1.11 Data display
1.1.12 Navigation systems
1.1.13 Interface elements
1.1.14 Animation

Media

1.1.15 Digital Images
1.1.16 Video
1.1.17 Sound
1.1.18 Procedural drawing

Data Acquisition

1.1.19 Consuming web services
1.1.20 Working with data formats: SON, Text
1.1.21 Posting data to remote data stores
1.1.22 System Architectures

Data Storage

1.1.23 User Defaults
1.1.24 Plists

Additional Device Sensors and Capabilities

1.1.25 Location Awareness

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Project work
- Multimedia
- Mentoring
- Critiques

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Homework	1.2
Mini Project	1.5
Final Project	2.1
Final Practical	1.2
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Homework	20
Mini Project	25
Final Project	35
Final practical	20

Total:	100

Required reading:

- Not required

Additional reading:

- Neuburg, M., & Safari, an O'Reilly Media Company. (2021). iOS 15 programming fundamentals with swift (1st ed.) O'Reilly Media, Inc.
- Smyth, N., & Safari, an O'Reilly Media Company. (2021). SwiftUI essentials - iOS 14 edition (1st ed.) Packt Publishing.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Senior Development Project I
Course leader:	Assoc. Prof. Martin Žagar, Ph.D. in C.S., EMBA
Study programme:	WMC
Course status:	Obligatory
Year:	Fourth
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Apply requirements elicitation methods in an extra-classroom environment.
- Architect an effective, user-centric solution
- Apply contemporary software development practices

Conditions for enrolment in the course:

Students must have taken all core courses in their degree and completed their co-op requirements in order to demonstrate their mastery of the core topics and their ability to apply them in a development environment.

Expected learning outcomes of the course:

A student will be able to:

CLO1: Design requirement methods for a real-world environment project

CLO2: Architect an effective user-centric solution based on project requirements

CLO3: Apply contemporary software development practices

CLO4: Create a proper project plan

CLO5: Evaluate work structure and project schedule

CLO6: Defend proposal for Minimum Viable Product

Course content:

Project guidelines

- Project expectations
- Team assignments

Team and communication dynamics

- Team formation
- Group dynamics
- Ethics

Requirements elicitation: methods and processes

- Requirements development
- Requirements tracking

Software project management

- Project charters
- Project methodologies
- Project strategies

Project plan development

- Work Breakdown Structure and tasks

System architecture and design

- Development environments
- Development of use cases/user stories
- Technology selection and testing
- Technology verification
- Defining Minimum Viable Product

Time and cost estimation

- Time estimation methods
- Scheduling tools

Risk management

- Typical project failures
- Scope management
- Change management

Project management documentation and presentation

- Documentation types

- Presentation etiquette
- Visual aids
- Communication etiquette
- Communication Vehicles
- Wireframes

Teaching delivery methods:

- Lectures
- Independent work
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Quiz Teams and Group Dynamics	0.06
Quiz Ethics	0.06
Deliverable 1 Team Contract	0.3
Quiz Gate Reviews	0.06
Quiz Requirements Gathering	0.06
Deliverable 2 Interview Preparation Documentation	0.18
Quiz Requirements Development	0.06
Quiz Requirements Tracking	0.06
Quiz Use Cases and User Stories	0.06
Deliverable 3 Use Case and User Story Documentation	0.9
Quiz Development Environments	0.06
Quiz Technology Selection	0.06
Quiz Technology Testing	0.06
Quiz Technology Verification	0.06
Quiz Minimum Viable Product	0.06
Quiz Operational Definitions	0.06
Quiz Charters and Plans	0.06
Deliverable 4 Project Charter	0.6
Deliverable 5 Work Breakdown Structure	0.6
Quiz Project Management Intro	0.06
Quiz Project Strategies	0.06
Quiz Methodologies	0.06
Deliverable 6 Project Plan	0.9
Quiz Cost Estimation	0.06
Quiz Scheduling	0.06
Quiz Managing project change	0.06
Quiz Managing Risk	0.06
Deliverable 7 Risks	0.3
Quiz Communication Etiquette	0.06
Deliverable 8 Wireframes & MVP presentation	0.3
Deliverable 9 Peer Review	0.3
Participation	0.3
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz Teams and Group Dynamics	1
Quiz Ethics	1
Deliverable 1 Team Contract	5
Quiz Gate Reviews	1
Quiz Requirements Gathering	1
Deliverable 2 Interview Preparation Documentation	3
Quiz Requirements Development	1
Quiz Requirements Tracking	1
Quiz Use Cases and User Stories	1
Deliverable 3 Use Case and User Story Documentation	15
Quiz Development Environments	1
Quiz Technology Selection	1
Quiz Technology Testing	1
Quiz Technology Verification	1
Quiz Minimum Viable Product	1
Quiz Operational Definitions	1
Quiz Charters and Plans	1
Deliverable 4 Project Charter	10
Deliverable 5 Work Breakdown Structure	10
Quiz Project Management Intro	1
Quiz Project Strategies	1
Quiz Methodologies	1
Deliverable 6 Project Plan	15
Quiz Cost Estimation	1
Quiz Scheduling	1
Quiz Managing project change	1

Quiz Managing Risk	1
Deliverable 7 Risks	5
Quiz Communication Etiquette	1
Deliverable 8 Wireframes & MVP presentation	5
Deliverable 9 Peer Review	5
Participation	5
Total:	**100**

Required reading:

- Gottesdiener, E. (2009). Requirements by Collaboration: Workshops for Defining Needs. Addison-Wesley Professional.
- Berczuk, S., Appleton, B., & Brown, K. (2003). Software Configuration Management Patterns: Effective Teamwork, Practical Integration. Addison-Wesley Professional.

Additional reading:

- Assigned readings

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Culture and Globalization
Course leader:	Vanda Bazdan
Study programme:	IB, WMC
Course status:	Elective/Immersion
Year:	Third and Fourth
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course explores critical issues of globalizing culture. How are ideas, attitudes, and values exchanged or transmitted across conventional borders? How has the production, articulation, and dissemination of cultural forms (images, languages, practices, beliefs) been shaped by global capitalism, media industries, communication technologies, migration, and tourist travels? How are cultural imaginaries forged, exchanged, and circulated among a global consumer public? How has the internationalizing of news, computer technologies, video-sharing websites, blogging sites, and other permutations of instant messaging served to accelerate cultural globalization? Students will be introduced to anthropological perspectives on cultural globalization, the transmission of culture globally, and the subsequent effects on social worlds, peoples, communities, and nations.

Course objectives:

- After completing this course successfully, the students should be able to:
- Demonstrate knowledge of the key perspectives, concepts, and terminologies of cultural globalization.
- Identify appropriate application of analytical tools and fundamental models and methods of analysis for assessing global change and local consequences.
- Demonstrate foundational knowledge of qualitative research skills, including ethnographic and/or sociological research methods, for the analysis of concrete social or political situations in a global context.
- Demonstrate knowledge of the relative rights of peoples, cultures, and societies in a global context.
- Correlate the dynamic relationships between the mandates of globalization, political interests, local traditions, and cultural transformations.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: Explain historical, political, economic, and social aspects of globalization through application of key theoretical perspectives.

CLO2: Synthesize data from specific case studies of culture in evaluating impact of globalization.

CLO3: Conduct a literature review of a cultural phenomenon (researching, reading, analysing, evaluating, and summarizing scholarly literature, properly acknowledged sources of information assumed), and present the results in writing and an oral presentation (in keeping with academic standards

CLO4: Compose arguments, and anticipate and assess counterarguments, to support and defend their attitudes regarding current issues in written format and in competitive debates (in keeping with the academic standards)

Course content:

1. Globalizing Culture
2. Creating global cultural imaginaries
3. The traffic in cultural practices and identities
4. Mediating culture
5. Creating global consumer cultures
6. Cultural globalization and national distinction
7. Transglobal cultural flows
8. Transnational cultural forms
9. Signs, symbols, and ideologies of globalization
10. Translocal culture industries
11. The culture war on a global stage
12. Branding cultural traditions
13. Commodifying cultural memories
14. Cultural authenticity for sale in the global marketplace
15. Globalizing unruly cultural identities

Teaching delivery methods:

- Lectures
- Seminars
- Independent work
- Discussions
- Multimedia

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Discussions	1.8
Exam 1	1.2
Exam 2	1
Research paper	0.5
Presentation	0.5
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exam 1	24
Exam 2	20
Research Paper	10
Presentation	10
Discussions (12x3)	36
Total:	**100**

Required reading:

- Selected chapters and excerpts from the listed readings:
- Ritzer, G. (2021). *Globalization: A Basic Text.* Wiley-Blackwell (3rd edition).
- Lechner, F.J. (2009). Globalization: The making of world society. (1st edition)
- Gannon, Martin J. (2008). *Paradoxes of Culture and Globalization.* Sage Publications.
- Pieterse, Jan Nederveen (ed.) (2009). *Globalization and Culture*. Rowman and Littlefield.
- Gannon, Martin J. et al. (eds.) (2009). *Understanding Global Cultures*. Sage Publishers.
- King, A. (1997). *Culture, Globalization, and the World System*. University of Minnesota Press.
- Xavier, J., and Rosaldo, R. (2008). *The Anthropology of Globalization*. Blackwell.
- Pleyers, G. (2013). *Alter-Globalization*. Polity.
- Dudley, K. M. (1994). *The end of the line: Lost jobs, new lives in postindustrial America.* University of Chicago Press.
- Maeckelbergh, M. (2013). *The will of the many.* Pluto Press.
- Moberg, M. & Lyon, S. (2010). *Fair trade and social justice: Global ethnographies.* NYU Press.
- Stiglitz, J. (1994). *Globalization and its discontents.* W.W. Norton & Company.
- Stiglitz, J. (2017). *Globalization and its discontents revisited: Anti-globalization in the era of Trump.* W.W. Norton & Company.

Additional reading:

- Excerpts from classics in anthropology, as well as more recent scholarly and popular articles, available on myCourses.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	COS-ENVS-151- Scientific Inquiries in Environmental Science
Course leader:	Staša Puškarić
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Fourth
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course is part of a two-semester sequence that when combined presents an integrated approach to the interrelated, interdisciplinary principles of environmental science through case studies, site visits, and field work. Through assigned readings, classroom discussion and case studies dealing with global environmental issues as well as the environmental issues related to the Dalmatian coast, students will learn how to critically analyze environmental problems from a multidisciplinary perspective and to propose solutions.

Course objectives:

- This course will introduce students to interdisciplinary environmental problems with a focus on the underlying scientific principles surrounding the issues.
- Students will learn problem solving techniques that integrate concepts and tools across disciplines and learn to conceptualize environmental problems from multiple perspectives.

Conditions for enrolment in the course:

Prerequisite ENVS 150

Expected learning outcomes of the course:

A student will be able to:

LO1: Develop one's own theories, methods, procedures, models, and other scientific results applying a scientific method

LO2: Analyze existing sources and databases with the aim of collecting data needed for carrying out own research

LO3: Solve complex problems using scientific methods

LO4: Compose a scientific manuscript

LO5: Formulate and defend claims and solutions using evidence gathered from own research.

Course content:

This is a project based course. Accompanied with lectures, class discussions and in-class presentations students will be led through the entire scientific method process. From defining problems, forming research questions and ideas, conducting their own research (primary research), discussing their results and organizing information in a scientific research paper. The course culminates with student final presentations in the last week of the semester in which they have to summarize their work during the course.

Teaching delivery methods:

- Lectures
- Exercises
- Field work
- Independent work
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Assignment 1	**1.25**
Assignment 2	**1.25**
Participation and discussion	**2.5**
Total	5

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Assignment 1	25
Assignment 2	25
Participation and discussion	50
Total:	**100**

Required reading (at the moment of submitting the Study Programme Report):

Griffin, J.M. *Global Climate Change: the science, economics and politics.* The Bush School, College Station, TX

Diamond, J. *Collapse: How Societies Choose to Fail or Survive*. Penguin Books, London, UK.

Additional reading (at the moment of submitting the Study Programme Report):

- Papers selected from the primary literature (RIT Wallace library)

Number of copies of required reading in relation to the number of students who currently attend a course:

Materials available at RIT online library The Wallace Center.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Mobile Application Development II
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Obligatory
Year:	Forth
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course extends the Mobile Application Development I experience to medium-size form factor mobile devices such as slates and tablets. Compared to smartphones, these devices have much larger screen areas, and have the potentials for more processing power, higher capacity memories, additional sensors, and higher capacity batteries. Students are encouraged to make creative use of these increased display and computing resources to develop innovative applications. Programming projects are required.

Course objectives:

- The purpose of this course is to provide students with the experience of creating native applications for mobile phones and tablets. Topics covered include user interaction patterns, connectivity, interface design, software design patterns, and application architecture within the context of mobile computing for mobile platform Android

Conditions for enrolment in the course:

ISTE-252 Foundations of Mobile Design, ISTE-340 Client Programming, or instructor permission

Expected learning outcomes of the course:

A student will be able to:

CLO1: Create effective mobile interfaces based on accepted interface conventions

CLO2: Create mobile applications that display various types of digital media.

CLO3: Design mobile applications by utilizing device sensors

CLO4: Design mobile applications using third-party libraries, network services, and remote data storage

Course content:

- Programming environments
- Mobile HCI
- Standards and interface conventions
- Mobile media
- Mobile data acquisition
- Mobile data storage
- Security, privacy, and ethics

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Project work
- Multimedia
- Mentoring
- Critiques

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Homework	2.4
Final Project	2.4
Final Exam	1.2
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Homework	40
Final Project	40
Final Exam	20
Total:	**100**

Required reading:

- Not required

Additional reading:

- Laurence, P., Hinchman-Dominguez, A., Dunn, M., Meike, G., & Safari, an O'Reilly Media Company. (2021). Programming android with kotlin (1st ed.). O'Reilly Media, Inc.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Senior Development Project II
Course leader:	Assoc. Prof. Martin Žagar, Ph.D. in C.S., EMBA
Study programme:	WMC
Course status:	Obligatory
Year:	Fourth
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:

- Design and evaluate domain-sensitive end-user experiences.
- Apply contemporary software development practices
- Develop and deploy n-tier, integrated, user-centric computing systems

Conditions for enrolment in the course:

Students must have successfully completed the first course (ISTE-500) in this two-course sequence.

Expected learning outcomes of the course:

A student will be able to:

CLO1: Evaluate domain-sensitive end-user experiences

CLO2: Combine contemporary software development practices

CLO3: Create n-tier, integrated, user-centric computing systems

CLO4: Deploy the project in an out-of-classroom environment

CLO5: Create system and user documentation suitable for continued project support and operation

CLO6: Discuss the solution in front of the sponsor

Course content:

Technology adoption

- Adoption Considerations: Adopter Types and Product Characteristics

Software development

- User interfaces
- Beta product presenting
- Secondary consequences
- Usability testing
- System testing
- Integration needs
- Database and Backend development
- UX/Frontend Design

Software project management

- Project charters
- Project methodologies
- Project strategies

Documentation

Maintenance procedures

Project status reports

- Individual status report
- PM status report
- Sponsor report

Writing and presenting for a specific audience

- Gate reviews
- Phase gates
- Traceability matrix

Teaching delivery methods:

- Lectures
- Independent work

- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Quiz Consequences	0.075
Quiz Technology Selection	0.075
Participation	0.225
Peer Evaluations	0.6
Quiz Secondary Consequences	0.075
Project Functionality	0.81
Quiz Change Strategies	0.075
Quiz Unit Testing	0.075
Quiz Strategically Defining Your Customer	0.075
Project Quality	0.81
Quiz Deployment	0.075
Deployment Plan	0.405
Team Status Presentation 1	0.09
Team Status Presentation 2	0.27
Team Status Presentation 3	0.36
Project Documentation	0.675
Quiz Status reports	0.075
Quiz Sponsor reports	0.075
Individual Status Report 1	0.18
Individual Status Report 2	0.18
Individual Status Report 3	0.18
Individual Status Report 4	0.27
Individual Status Report 5	0.27
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Quiz Consequences	1.25
Quiz Technology Selection	1.25
Participation	3.75
Peer Evaluations	10
Quiz Secondary Consequences	1.25
Project Functionality	23.5
Quiz Change Strategies	1.25
Quiz Unit Testing	1.25
Quiz Strategically Defining Your Customer	1.25
Project Quality	23.5
Quiz Deployment	1.25
Deployment Plan	6.75
Team Status Presentation 1	1.5
Team Status Presentation 2	4.5
Team Status Presentation 3	6
Project Documentation	11.25
Quiz Status reports	1.25
Quiz Sponsor reports	1.25
Individual Status Report 1	3
Individual Status Report 2	3
Individual Status Report 3	3
Individual Status Report 4	4.5
Individual Status Report 5	4.5
Total:	**100**

Required reading:

- None required

Additional reading:

- Assigned readings

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

ELECTIVE COURSES – COURSE DESCRIPTIONS

RIT | Croatia

General Information

Course leader:	Francis Brassard
Course title:	East Asian Philosophy
Study programme:	GBM-IB/HTM/WMC
Course status:	Elective
Year:	Fourth
Number of ECTS credits:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

- This course is an introduction to the origin and development of the philosophical traditions of primarily China and Japan through a consideration of selected thinkers, schools, and classic texts of Daoism, Confucianism, Buddhism, and Zen. Questions of metaphysics, epistemology, and ethics are emphasized with reference to the nature of reality and the person, social harmony and self-realization, causality, right action, and enlightenment. Comparisons may also be made with Western philosophers, both contemporary and classical.

Course objectives:

1. Define the basic terms and concepts of Daoism, Confucianism, Buddhism, and Zen;
2. Understand the significance of these basic terms and concepts within their specific traditions and cultural contexts;
3. Understand and put into perspective the different forms of religious and spiritual traditions existing today in East Asia and its spheres of influence;
4. Collect, summarise, and report information on the various traditions of East Asia discussed in this course;
5. Identify and discuss issues related to the study of Daoism, Confucianism, Buddhism, and Zen, their history, their influences on social values, ethics, etc.
6. Develop and use the academic practices for critical reading, information management and synthesis of source materials.
7. Make use of instructional feedback concerning strengths and weaknesses of their critical thinking skills and suggested strategies for improvement in their revisions.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

• LO1: Investigate the significance of the basic terms and concepts of the philosophical and religious traditions of East Asia.

• LO2: Discuss the various issues related to the philosophical and religious traditions of East Asia.

• LO3: Debate possible solutions to those issues taking into consideration their implications in modern settings.

Course content:

1. Philosophical and religious traditions of China
2. Philosophical and religious traditions of Japan

Teaching delivery methods:

- Lectures and multimedia presentations
- Class discussions

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Components of evaluation:

Component	Points/%	ECTS
What-is-going-on short presentations (4@5%)	20	1
Written assignments (3@10%)	30	1.5
Learning cell assignments 2@ (5% + 10%)	30	1.5
Final presentation	20	1
Total:	**100**	**5**

Required reading

- Davis Winston. (1992). *Japanese Religion and Society: Paradigms of Structure and Change*, Albany, New York: State University of New York Press.
- Earhart, Byron H. (1982). *Japanese Religion: Unity and Diversity*, Third Edition, Belmont:Wadsworth Publishing Company.
- Fairbank, John, Edwin O. Reischauer, and Albert Craig (1978). *East Asia: Tradition & Transformation*, Boston: Houghton Mifflin Company.
- Kitagawa, Joseph M., (ed.). (1989). *The Religious Traditions of Asia: Religion, History, and Culture, Selections from The Encyclopedia of Religion*, New York: Macmillian Publishing Company.
- Sharma, Arvind, (ed.). (1993). *Our Religions: The Seven World Religions Introduced by Preeminent Scholars from each Traditions*, New York: Harper San Francisco.
- Thompson, Laurence G. (1996)- *Chinese Religion: An Introduction,* Fifth Edition, Belmont: Wadsworth Publishing Company.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

• Student survey

• Observation of lectures

• Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Foundations of Wearable & Ubiquitous Computing
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Elective
Year:	Third
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:.

- Students will explore the integration of wearable technologies and ubiquitous computing technologies like the Internet of Things into everyday life
- Understand the historical context and research evolution in wearable and ubiquitous computing
- Gain insights into device development fundamentals, encompassing interface design, networking, and physical design considerations
- Delve into societal concerns including privacy implications posed by these technologies
- Engage in discussions about ethical considerations while developing practical skills through project-based learning

Conditions for enrolment in the course:

STE-341 and ISTE-252 or equivalent courses.

Expected learning outcomes of the course:

A student will be able to:

CLO1: Develop an informed understanding of the integration of wearable technologies and ubiquitous computing

CLO2: Analyze the historical progression and evolution of wearable and ubiquitous computing

CLO3: Apply principles of sensor integration, data communication, and hardware-software co-design to create functional and innovative solutions

CLO4: Demonstrate proficiency in designing IoT devices and wearable technologies

Course content:

- Introduction to IoT and ESP32
- Setting up the Development Environment
- Basic Electronics and Components
- Drawing & Understanding wiring diagrams
- Analog Electronics and Sensors
- Communication Protocols for IoT
- Interfacing with Actuators
- Wireless Communication
- Data Acquisition and Processing
- Real-time Operating Systems (RTOS) and Power Management
- Advanced IoT Security
- IoT Cloud Platforms
- Web and Mobile Application Development for IoT
- Reverse Engineering and Advanced Topics
- Philosophy for IoT Projects

Teaching delivery methods:

- Lectures
- Independent work
- Laboratory
- Mentoring
- Peer review
- Project work

Student obligations:

- Attending classes
- Submitting assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Midterm exam	0.9
Final Exam	0.9
Homework	1.2
Laboratory	1.2

Project work	1.8
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Midterm Exam	15
Final Exam	15
Homework	20
Laboratory	20
Project	30
Total:	**100**

Required reading:

- Farion, Christine. (2022) 2022. The Ultimate Guide to Informed Wearable Technology. 1st ed. Packt Publishing.

Additional reading:

-

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT Croatia

General Information

Course title: Industrial Organisational Psychology

Course leader: Ana Havelka Mestrovic

Study programme: Web and Mobile Computing

Course status: Obligatory

Year: Fourth

ECTS points: 5

Teaching hours (L+S+E): 45 (3+0+0)

Course Description

Industrial and organizational (I/O) psychology is a branch of applied psychology that is concerned with efficient management of an industrial labor force and especially with problems encountered by workers in a mechanized environment. Specific areas include job analysis, defining and measuring job performance, performance appraisal, tests, employment interviews, employee selection and training, and human factors. This course covers the basic principles of the above areas as well as applications of current research in I/O psychology.

Course objectives:

- Develop an understanding of the major theories of I/O psychology
- Understand the methods involved in I/O psychology psychology research.
- Examine the ways in which humans differ with regards to the decision making process.
- Apply theories as tools for describing and explaining HRstrategies
- Reflect on your own work life balance

Conditions for enrolment in the course:

Prerequisite: Psyc 101

Expected learning outcomes of the course:

A student will be able to:

CLO1: Interpret different methods of psychological research required to study problems in industrial and organizational settings.

CLO2: Compose and evaluate basic principles of I/O Psychology to Human Resources management in organizations: job analysis, staffing decisions (selection, job performance evaluation, promotion, and separation), and employee development.

CLO 3: Analyze workplace diversity, justice and fairness in a dynamic, global, and multicultural job market.

Course content:

- Industrial psychology in history
- Assessment of cognitive tests including ethical considerations and the scientific method.
- HR development
- Job market
- Marketing and IO psychology
- Human behavior at work
- Work life balance
- Applications to individual differences at job settings

Teaching delivery methods:

- Lectures
- Remote learning
- Independent work
- Project work

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participate in discussions

Monitoring student work:

Activity ECTS

Exam 1 1

Exam 2 1

Exam 3 1

Job market research 2

Total 5

Teaching time is worth 2 ECTS points, and it has been incorporated in time for assignments

Assessment and evaluation of student work Components of evaluation:

Component	Points/%
Exam 1	20/20
Exam 2	20/20
Exam 3	20/20
Job market research	**40/40**
Total:	**100**

Required reading:

- Kahneman and Tversky(2010).Thinking fast and slow

Additional reading:

- Materials from APA Monitor on Psychology (monthly edition)
- Olson & Hergenhahn (2011). An Introduction to Theories of Personality, 8th Ed.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	ISTE-432 Database Application Development
Course leader:	dr. sc. Branko Mihaljević, prof.
Study programme:	Web and Mobile Computing (WMC) Program
Course status:	Elective
Year:	Third / Fourth
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Database applications have aspects that need to be considered when designing and developing larger-scale information systems. In this course students will explore topics such as concurrent processing, scalability, performance, and security within the context of developing larger-scale database information processing systems. Programming exercises and projects are required for this course.

Course objectives:

Specific design and implementation considerations need to be considered when developing large-scale multiuser database/information systems. In this course, students will explore topics such as architectural styles for database application development, including architecture analysis and multi-user issues, data and business layers concepts, design patterns and business layer binding, scalability and performance considering SQL design, connection management and pooling, application vs. domain data and push/pull model considerations, exception handling in database applications, help systems, testing, building, refactoring, code segregation, deployment, security, and regulation all within the context of database applications development for larger-scale information processing systems.

Conditions for enrolment in the course:

- ISTE-330 or equivalent course
- ISTE-230 or equivalent course
- ISTE-120 or GCIS-124 or equivalent course

Expected learning outcomes of the course:

A student will be able to:

CLO1: Develop database-centric applications that interact with various database management systems (DBMSs)

CLO2: Evaluate various programming techniques for data retrieval, storage, and management on databases

CLO3: Create applications that maintain data integrity and control user access in multi-user environments

CLO4: Select appropriate object-relational mapping frameworks

CLO5: Build effective, user-centric software solutions within information-intensive environments using various data sources

Course content:

Course topics include:

- Introduction to Software Architecture (Styles, Design, Analysis and Selection)
- Advanced Database Connectivity and Access (based on ISTE-330)
- Multi-User Considerations and Big Data
- Data Persistence, Transactions, and Business Layers Binding
- Performance and Scalability Considerations, Query Design (SQL)
- Object-Relational Mapping (ORM)
- Software Design Patterns and Antipatterns - Best Practices
- Security Considerations (Authentication and Authorization) and Adequate Error Handling
- Database Design and Modeling for Effective and Efficient Usage from an Application
- Final Project with Demonstration - application and database

Teaching delivery methods:

- Lectures
- Exercises
- Independent work
- Project work
- Peer review

Student obligations:

- Attending classes
- Submitting projects and assignments

- Participate in discussions

Monitoring student work:

Activity	ECTS
Exercises	1.5
Midterm Exam	1.2
Final Project	2.10
Final Exam	1.20
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments, projects and preparing for the exams.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exercises	25
Midterm Exam	20
Final Project	35
Final Exam	20
Total:	**100**

Required reading:

- Sharan, K. (2018). JDBC API. In: Java APIs, Extensions and Libraries: With JavaFX, JDBC, jmod, jlink, networking, and the process API (2nd ed.). Apress. – available as eBook in RIT Library
- MySQL (2022). MySQL Connector/J 8.0 Developer Guide. Oracle. – available online for free
- Ottinger, J.B., Linwood J., Minter D. (2021). Beginning Hibernate 6: Java Persistence from Beginner to Pro, Apress – available as eBook in RIT Library
- Spilca, L. (2021). Spring Start Here, Manning Publications – available as eBook in RIT Library

Additional reading:

- Leonard, A. (2020). Spring Boot Persistence Best Practices: Optimize Java Persistence Performance in Spring Boot Applications. Apress – available as eBook in RIT Library

- Sacco. A. (2022). Beginning Spring Data: Data Access and Persistence for Spring Framework 6 and Boot 3. Apress – available as eBook in RIT Library
- Walls. C. (2018). Spring in Action, 5th ed., Manning Publications – available as eBook in RIT Library
- Spilca, L. (2020). Spring Security in Action, Manning Publications – available as eBook in RIT Library

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Data Mining and Exploration
Course leader:	Alan Mutka
Study programme:	Web and Mobile Computing
Course status:	Elective
Year:	Third, Fourth
ECTS points:	6
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

Course objectives:.

- Students will be introduced to the latest software tools and techniques for data exploration and data mining
- Students will discuss data mining techniques and their application to large data sets
- Students will learn the importance of applying data visualisation practices to facilitate exploratory data analysis

Conditions for enrolment in the course:

ISTAT-145 OR MATH-251 and GCIS-124 OR ISTE-121

Expected learning outcomes of the course:

A student will be able to:

CLO1: Formulate questions for subsequent analytical problem solving

CLO2: Identify and discuss potential ethical concerns of stakeholders

CLO3: Explain the key ideas underlying data analytics and mining

CLO4: Apply analytical tools to data collections

CLO5: Interpret the results of applying analytical and exploratory methods

Course content:

- Introduction to Data Mining
- Data / Exploring Data
- Classification
- Association Rules
- Cluster Analysis
- Anomaly Detection

Teaching delivery methods:

- Lectures
- Independent work
- Laboratory
- Mentoring
- Peer review
- Project work

Student obligations:

- Attending classes
- Submitting assignments
- Participate in discussions

Monitoring student work:

Activity	ECTS
Midterm Exam	0.9
Final Exam	0.9
Homework	1.2
Laboratory	0.6
Project	2.4
Total	6

Teaching time is worth 1.5 ECTS points and it has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Midterm Exam	15
Final Exam	15
Homework	20
Laboratory	10
Project	40
Total:	**100**

Required reading:

- Tan, P., Steinbach, M., Karpatne, A. & Kumar, V. (2019). “Introduction to Data Mining” 2nd Ed. Pearson Addison Wesley (2019). ISBN 0-13-31289-3

Additional reading:

-

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Topics in Philosophy
Course leader:	Vanda Bazdan
Study programme:	WMC
Course status:	Obligatory
Year:	Third/Fourth
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

A critical examination of issues in some area of philosophy not covered in other philosophy courses.

[The issues discussed in this course are associated with skepticism as a tradition in philosophy. Course provides students with an introduction into the long tradition of skeptical thought, dialectics, critical thinking and the differences between original skeptics and some of the contemporary instances of falsely skeptical reasoning.]

Course objectives:

- To help the student develop the habit of careful analysis and critical evaluation of beliefs.
- To help the student become aware of the importance of basic assumptions in his thinking and acting.
- To enable students to construct and evaluate arguments, including their own.
- To acquaint the student with some of the major philosophers and various skeptical positions.
- To encourage the student to critically engage various theories in philosophy and apply them in consideration of everyday experiences.

Conditions for enrolment in the course:

None.

Expected learning outcomes of the course:

A student will be able to:

CLO1: Analyze philosophical texts (appropriate use of concepts and close/critical readings skills assumed).

CLO2: Compose and evaluate arguments, anticipate and assess counterarguments to support and defend their attitudes or those presented by others.

CLO3: Write a review article (reviewing an approach, tradition, or a text in philosophy, ability to revise assumed).

CLO4: Write an argumentative essay (ability to revise assumed).

Course content:

The title and the original traditions

The inquirers

Academic inquiries

Pyrrhonists' inquiries

The ἀπραξία objection and the 'phantom' form of skepticism

Descartes' use of skepticism

Contemporary forms of skepticism

Teaching delivery methods:

- Lectures
- Seminars
- Independent work
- Discussions
- Multimedia

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Essay 1	1
Essay 2	1

Discussions	3
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Discussions (12x5pts)	60
Essay 1	20
Essay 2	20
Total:	**100**

Required reading:

Students will be provided with a selection of excerpts from:

- Plato, *Republic, Meno, Apology, Gorgias*
- Aristotle, *Nichomachean Ethics, Politics*
- R. Descartes, *Meditations*.
- D. Hume, *Treatise of Human Nature*
- J. Bentham, *An Introduction to the Principles of Morals and Legislation*
- I. Kant, *Critique of Pure Reason*
- Fogelin, *Pyrrhonian Reflections on Knowledge and Justification*
- Lehrer, Keith. “Why Not Skepticism?”
- Unger, Peter. “A Defense of Skepticism”

Additional reading:

- Additional excerpts from classics in philosophy, as well as more recent scholarly and popular articles, available on myCourses.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey

- Observation of lectures
- Assessment of the achievement of learning outcomes

RIT | Croatia

General Information

Course title:	Sociology of Work
Course leader:	Vanda Bazdan
Study programme:	WMC
Course status:	Elective
Year:	Fourth
ECTS points:	5
Teaching hours (L+S+E):	45 (3+0+0)

Course Description

This course examines types and essential properties of postmodern work, its structure, the group processes involved in it, gender relationships, the influence of contemporary technology on new work arrangements, and its social meaning (work satisfaction, unemployment, and perspectives of work in the changing society). It treats work as emerging, like other social realities, out of social relationships between individuals and groups. It looks at ways in which people can develop a positive self-regard or feel a sense of alienation in their occupations or professions and various types of work organizations. Also considers leisure as a complement to work.

Course objectives:

- By putting work into the context of other areas of social life, like economy, politics, and family, or in relation to processes like social mobility, socialization and personal feelings, we will try to get insight into the main perspectives on the organization and consequences of work. Since most of us spend our lives working for someone else, we will try to find answers to essential questions: Why and how we take on work roles? How organizational hierarchy influences our ambitions, feelings, self-esteem, family-life etc.? What are the benefits of teamwork and of workers' unions? What kind of leisure are we capable of?
- The course is designed to enable students to recognize and to understand new trends in shaping postmodern society by the economy sector in the society: more specifically, by the influence of division of labour, types of work, and the role of different institutions in shaping our lives. The students will be provided with necessary knowledge to be able to compare and analyse different work experiences from all over the world. Its aim is also to encourage students to discuss the impact of contemporary "work cultures and styles" on the quality of human living, customs, and relations as a whole. The issues concerning future of work and leisure in the contemporary world will give the students a solid framework to understand major social dimensions of the global society.

Conditions for enrolment in the course:

None

Expected learning outcomes of the course:

A student will be able to:

CLO1: Explain social dimensions of work through synthesis of different theoretical perspectives and research insights

CLO2: Discuss work-related experiences through application of key concepts from sociological perspectives of work, social research in general, and discipline-specific vocabulary

CLO3: Compose job application materials and present themselves in a professional manner in a job interview (verbal, nonverbal, vocal communication)

CLO4: Compose arguments, and anticipate and assess counterarguments, to support and defend their attitudes regarding different aspects of work, leisure, and unemployment in written format (discussion papers), and in competitive debates (in keeping with the academic standards)

Course content:

Sociological perspectives on work (and leisure)

Embarking in Careers

Work Roles

Socialization to Work

Work and Gender

Work and Discrimination

Occupational Careers

Social Mobility and Work

Fulfilment and Discontent at Work

Work and Unemployment

Work and Family Life

Teaching delivery methods:

- Lectures
- Seminars
- Independent work
- Discussions
- Multimedia

Student obligations:

- Attending classes
- Submitting projects and assignments
- Participating in discussions

Monitoring student work:

Activity	ECTS
Discussions	1
Discussion papers	1
Project Assignment	1
Exam 1	0.5
Exam 2	0.5
Exam 3	0.5
Exam 4	0.5
Total	5

Teaching time has been incorporated in time for assignments.

Assessment and evaluation of student work

Components of evaluation:

Component	Points/%
Exam 1	10
Exam 2	10
Exam 3	10
Exam 4	10

Discussions	20
Discussion papers	20
Project Assignment	20
Total:	**100**

Required reading:

- Robbins, R. H. (2011). *Global Problems and the Culture of Capitalism*. Allyn and Bacon.
- McCraw, T., K. (1997). *Creating Modern Capitalism.* Harvard University Press.
- Shaw, R. (1999). *Reclaiming America.* University of California Press.
- Ritzer, G. (2007). *Globalization of Nothing.* Pine Forge Press.
- Stiglitz, J. E. (2003). *Globalization and its Discontents*. W.W.Norton & Company.
- Vago, S. (2003). *Social Change* (5th edition). Prentice Hall.
- Rubin, B. (1995). *Shifts in Social Contract.* Pine Forge Press.
- Rothman, R. (1998). *Working: Sociological perspectives*. Prentice Hall.
- Honore, C. (2005). *In Praise of Slowness.* HarperOne.

.

Additional reading:

- Additional excerpts from classics in sociology, as well as more recent scholarly and popular articles, available on myCourses.

Methods for quality monitoring that ensure the acquisition of knowledge, skills and competencies:

- Student survey
- Observation of lectures
- Assessment of the achievement of learning outcomes