

Mobile Data Management

Course code	<i>FUN119</i>
Compulsory in the programmes	<i>Industrial Technology Management</i>
Level of studies	<i>Undergraduate</i>
Number of credits	<i>3 ECTS (24 in-class hours + 1 exam hours, 12 individual work hours)</i>
Course coordinator (title and name)	<i>Lect. Džiugas Petruškevičius</i>
Prerequisites	<i>None</i>
Language of instruction	<i>English</i>

THE AIM OF THE COURSE:

The overall objective of this course is to introduce students to cloud and on-premises mobile oriented data management solutions and equip them with practical knowledge of business oriented mobile application development, processes automation, reports, and capabilities for further mobile application development.

MAPPING OF COURSE LEVEL LEARNING OUTCOMES (OBJECTIVES) WITH DEGREE LEVEL LEARNING OBJECTIVES (See Annex), ASSESSMENT AND TEACHING METHODS

Course level learning outcomes (objectives)	Learning objectives for BSc in Business Management	Learning objectives for BSc in Social Science	Assessment methods	Teaching methods
CLO1. To be able to process information and operate at multiple levels of abstraction.	BLO4.1. Students will be able to communicate reasonably in different settings according to target audience tasks and situations.	ELO4.1. Students will be able to communicate reasonably in different settings according to target audience tasks and situations	Coursework, final exam, final project.	Lecture, problem solving, homework, discussion, self-study
CLO2. To be able to decompose IT problems into parts and solve them efficiently.	BLO4.3. Students will be able to convey their ideas effectively in a written paper.	ELO4.3. Students will be able to convey their ideas effectively in a written paper	Coursework, final exam, final project.	Lecture, problem solving, homework, discussion.
CLO3. To be able to demonstrate proficiency in a software development environment.	BLO3.2. Students will be able to make decisions using appropriate IT tools.	ELO3.2. Students will be able to make decisions using appropriate IT tools	Coursework, final exam, final project.	Lecture, problem solving, homework, discussion.
CLO4. To be able to assess the correctness, design, and style of code.	BLO3.2. Students will be able to make decisions using appropriate IT tools.	ELO3.2. Students will be able to make decisions using appropriate IT tools	Coursework, midterm, final exam, final project.	Lecture, problem solving, homework, discussion.
CLO5. To be able to evaluate the project's complexity and estimate required resources.	BLO1.2. Students will be able to conduct a contextual analysis to	ELO3.1. Students will demonstrate proficiency in common business	Final project, coursework.	Lecture, problem solving,



	identify a problem associated with their discipline, to generate managerial options and propose viable solutions.	software packages		homework, discussion.
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ACADEMIC HONESTY AND INTEGRITY

The ISM University of Management and Economics Code of Ethics, including cheating and plagiarism are fully applicable and will be strictly enforced in the course. Academic dishonesty, and cheating can and will lead to a report to the ISM Committee of Ethics. With regard to remote learning, ISM reminds students that they are expected to adhere and maintain the same academic honesty and integrity that they would in a classroom setting.

The course's philosophy on academic honesty is best stated as "be reasonable." The course recognizes that interactions with classmates and others can facilitate mastery of the course's material. However, there remains a line between enlisting the help of another and submitting the work of another. This policy characterizes both sides of that line.

The essence of all work that you submit to this course must be your own. Collaboration on problem sets is not permitted except to the extent that you may ask classmates and others for help so long as that help does not reduce to another doing your work for you. Generally speaking, when asking for help, you may show your code to others, but you may not view theirs, so long as you and they respect this policy's other constraints. Collaboration on the course's final exam and test is not permitted at all. Collaboration on the course's final project is permitted to the extent prescribed by its specification.

Reasonable	Not reasonable
Communicating with classmates about problem sets' problems in English (or some other spoken language), and properly citing those discussions.	Accessing a solution to some problem prior to (re-)submitting your own.
Discussing the course's material with others in order to understand it better.	Accessing or attempting to access, without permission, an account not your own.
Incorporating a few lines of code that you find online or elsewhere into your own code, provided that those lines are not themselves solutions to assigned problems and that you cite the lines' origins.	Asking a classmate to see their solution to a problem set's problem before (re-)submitting your own.
Reviewing past semesters' tests and final exams and solutions thereto.	Discovering but failing to disclose to the course's head bugs in the course's software that affect scores.
Sending or showing code that you've written to someone, possibly a classmate, so that he or she might help you identify and fix a bug, provided you properly cite the help.	Failing to cite (as with comments) the origins of code or techniques that you discover outside of the course's own lessons and integrate into your own work, even while respecting this policy's other constraints.
Turning to the course's heads for help or receiving help from the course's heads during a final exam or test.	Giving or showing to a classmate a solution to a problem set's problem when it is he or she, and not you, who is struggling to solve it.
Turning to the web or elsewhere for instruction beyond the course's own, for references, and for solutions to technical difficulties, but not for outright solutions to problem set's problems or your own final project.	Looking at another individual's work during the final exam or test.
Whiteboarding solutions to problem sets with others using diagrams or pseudocode but not actual code.	Paying or offering to pay an individual for work that you may submit as (part of) your own.
	Providing or making available solutions to problem sets to individuals who might take this course in the future.
	Searching for or soliciting outright solutions to problem sets online or elsewhere.
	Splitting a problem set's workload with another individual and combining your work.

	<p>Submitting the same or similar work to this course that you have submitted or will submit to another.</p> <p>Turning to humans (besides the course's heads) for help or receiving help from humans (besides the course's heads) during the final exam or midterm.</p> <p>Viewing another's solution to a problem set's problem and basing your own solution on it.</p>
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COURSE OUTLINE

Topic	In-class hours	Readings
Initial application development: Canvas PowerApps, integrating existing data.	2	[3] Chapter 1
Making advanced applications: Model driven apps, exploring dataverse, using dashboards to visualize the data.	2	[3] Chapter 2
Selecting right data source: Azure SQL database view, on-premise data integration, static data appliance.	2	[3] Chapter 3
Model driven apps: common data model, create a model-driven app.	2	[2] Chapters 15 & 16.
Extending PowerApp functionality: modify forms, adding controls, conditional logic, display data as tables.	2	[2] Chapters 2 & 7.
Mobile asset tracking 1: integrating API's into mobile solution.	2	[2] Chapter 8
Mobile asset tracking 2: extracting datasets from GPS, Barcodes and QR codes.	2	[2] Chapter 10.
Automating processes: Power Automate concepts, business processes automation.	2	[2] Chapter 13.
Improving applications with Artificial Intelligence: sentiment analysis concepts, text recognition systems.	2	[3] Chapter 8.
Improving user experience (UI): enhancing application interfaces, building responsive password manager.	2	[3] Chapter 8.
Mixed reality integration: 3D environment tools.	2	[4] Timo Pertilä documentation.
Work in PowerApps more efficiently: sharing data between tenants, using SVGs in canvas apps, Handling image resources in components.	2	[3] Chapter 10.
Total hours:	24	
CONSULTATIONS	6	
FINAL EXAM	2	

FINAL GRADE COMPOSITION

Type of assignment	%
<i>Individual Components 100%</i>	
[1] Course 1: Submit assignments to e-Learning	4
[1] Course 2: Submit assignments to e-Learning	4
[1] Course 3: Submit assignments to e-Learning	4
[1] Course 4: Submit assignments to e-Learning	4
[1] Course 5: Submit assignments to e-Learning	4
[1] Course 6: Submit assignments to e-Learning	4
[1] Course 7: Submit assignments to e-Learning	4
[1] Course 8: Submit assignments to e-Learning	4
[1] Chapter 9: Submit assignments to e-Learning	4
[2] Course 10: Submit assignments to e-Learning	4
[2] Course 11: Submit assignments to e-Learning	4
[2] Course 12: Submit assignments to e-Learning	4
[1-3] Homework: individual report using own data	22
[1-2] Exam	30
Total:	100

DESCRIPTION AND GRADING CRITERIA OF EACH ASSIGNMENT

The course overall assessment and final grade involves 3 tasks, which are described below:

1. Practical **assignments** will count for the **48%** of the final mark (there will be **12** assignments in total). Students will be assigned to a group and they are expected to attend exercises with the assigned group. Presenting accomplished assignment later than indicated in the 'due date' column, reduces its 10-point grade by the number of weeks being late.
2. Results of assignments will be summarized by **homework report** and it will count for the **22%** of the final mark. Students will be obliged to upload individual report to 'e-Learning' with respect to the specified deadline.
3. A two-hours **exam** in a written form (or online), which will include open and multiple-choice questions on the topics discussed during the practical sessions, mostly from 'key points' at the end of each chapter. Exam will count for the **30%** of the final mark.

Students must score for all 3 tasks of the semester (practical assignments, midterm exam, individual homework report) at the specified time (see, *Weekly course content*).

RETAKE POLICY

Explicit retake of the midterm assignments will not be allowed. Only in case of the negative final evaluation student has a possibility to retake final exam, which will count for the **30%** of the final grade. Precision of composite evaluations is left intact (up to 2 decimal places) until the end of semester and only the final evaluation will be subject to rounding.

REQUIRED READINGS

1. Cox, J., Lambert, J. (2013). Microsoft Access 2013: Step by Step. Redmond: Microsoft Press.
2. Weston, M. (2019). Learn Microsoft PowerApps. Birmingham: Packt Publishing Ltd.
3. Mendoza, E. (2021). Microsoft Power Apps Cookbook. Birmingham: Packt Publishing Ltd.
4. Pertilä, T. (2020) Power Apps and Mixed reality. Available online @ elearning.ism.it.

ANNEX

DEGREE LEVEL LEARNING OBJECTIVES

Learning objectives for the Bachelor of Business Management

Programmes:

International Business and Communication,

Business Management and Marketing, Finance,

Industrial Technology Management

Learning Goals	Learning Objectives
Students will be critical thinkers	BLO1.1. Students will be able to understand core concepts and methods in the business disciplines
	BLO1.2. Students will be able to conduct a contextual analysis to identify a problem associated with their discipline, to generate managerial options and propose viable solutions
Students will be socially responsible in their related discipline	BLO2.1. Students will be knowledgeable about ethics and social responsibility
Students will be technology agile	BLO3.1. Students will demonstrate proficiency in common business software packages
	BLO3.2. Students will be able to make decisions using appropriate IT tools
Students will be effective communicators	BLO4.1. Students will be able to communicate reasonably in different settings according to target audience tasks and situations
	BLO4.2. Students will be able to convey their ideas effectively through an oral presentation
	BLO4.3. Students will be able to convey their ideas effectively in a written paper

Learning objectives for the Bachelor of Social Science

Programmes:

Economics and Data Analytics,

Economics and Politics

Learning Goals	Learning Objectives
Students will be critical thinkers	ELO1.1. Students will be able to understand core concepts and methods in the key economics disciplines
	ELO1.2. Students will be able to identify underlying assumptions and logical consistency of causal statements
Students will have skills to employ economic thought for the common good	ELO2.1. Students will have a keen sense of ethical criteria for practical problem-solving
Students will be technology agile	ELO3.1. Students will demonstrate proficiency in common business software packages
	ELO3.2. Students will be able to make decisions using appropriate IT tools
Students will be effective communicators	ELO4.1. Students will be able to communicate reasonably in different settings according to target audience tasks and situations
	ELO4.2. Students will be able to convey their ideas effectively through an oral presentation
	ELO4.3. Students will be able to convey their ideas effectively in a written paper