I. GENERAL INFORMATION ABOUT THE COURSE

Information Systems in Management

Name of the organisational unit offering the programme:	The University College of Tourism and Ecology in Sucha Beskidzka Wyższa Szkoła Turystyki i Ekologii w Suchej Beskidzkiej
Name of the field of study and level of education:	Management – First degree (bachelor's)
Profile of education:	Practical
Major:	Not applicable
Type of module: (please specify as appropriate)	Basic / Core / Professionally oriented
Year / Semester:	II / 3-4
Prerequisites (resulting from the sequence of courses):	Possession of basic knowledge of computer operation and MS Office software.

II. FORMS OF CLASSES AND NUMBER OF HOURS

	Lecture	Exercises	Seminar discussion	Laboratory	Workshop	Project	Seminar	Internship	Examination / Assessment	Total number of hours
Full-time studies	12			56		16			6	90
Part-time studies	8			32		12			6	58

III. TEACHING METHODS

Forms of classes	Teaching methods
Lecture / Workshop / Project:	Lecture with multimedia presentation. Laboratory sessions and computer-based exercises using information systems, teamwork, discussion, practical exercises, and project-based learning.

IV. LEARNING OUTCOMES FOR THE COURSE WITH REFERENCE TO THE PROGRAMME AND DISCIPLINARY LEARNING OUTCOMES

No.	Description of the learning outcome for the course	Reference to the programme learning outcome

Knowledge:		
P_W01	The student knows IT tools for collecting, analysing, and presenting economic and social data.	K1P_W10 K1P_W12
P_W02	The student is familiar with integrated information systems (ERP, CRM), Business Intelligence (BI) systems, and their role in supporting management processes.	K1P_W10 K1P_W12
Skills:		
P_U01	The student can apply integrated management systems both in the traditional (on-premises) model and in the cloud computing model.	K1P_U01 K1P_U04 K1P_U06 K1P_U07 K1P_U10
P_U02	The student can use IT systems (CRM, ERP) to support decision-making processes.	K1P_U01 K1P_U04 K1P_U06 K1P_U07 K1P_U10
Social competences:		
P_K01	The student is ready to search for and identify IT systems applicable to practical managerial processes.	K1P_K01

V. COURSE CONTENT

No.	Lecture	Reference to the programme learning outcome
L1	MS Excel spreadsheet and mathematical modelling in management. Use of Excel for calculations, modelling, and building simple decision-support applications. Structure and functions of the program. Creating formulas using simple and nested functions. Working with worksheets and multiple workbooks. Charts and linking Excel files with MS Word and PowerPoint. Creating macros in Excel.	P_W01, P_U01, P_U02, P_K01
W1	Information and communication technologies (ICT) in the modern knowledge-based economy.	P_W01
W2	E-economy in the global society. Integrated information systems (ERP, CRM).	P_W01
W3	Business analysis – Business Intelligence (BI) systems. The Internet as a space for implementing management processes.	P_W02
W4	Mobile technologies and cloud computing in management. Legal aspects of using IT solutions in management.	P_W02
No.	Laboratory / Project:	Reference to the programme learning outcome
T1	<u>MS Excel spreadsheet and mathematical modelling in management.</u> Use of Excel for calculations, modelling, and building decision-support applications. Creating formulas using simple and nested functions. Charts, linking Excel workbooks with Word and PowerPoint, and creating macros.	P_W01, P_U01, P_U02, P_K01
T2	<u>Operational research models in decision support.</u> Formulating problems and developing models for selected operational research and decision support issues. Model notation in MS Excel using macros. Example: inventory models – Wilson's classic inventory control model.	P_W01, P_U01, P_U02, P_K01

T3	Graphic modelling editor Microsoft Visio – modelling organisational systems. System modelling and analysis, process engineering. Structural modelling: organisational charts, functional diagrams, data flow diagrams, and entity diagrams.	P_W02, P_U01, P_U02, P_K01
T4	Analysis and modelling of selected management structures. Microsoft Visio 2003 and function models drawing, data and data structure streams (model diagram encji).	P_W02, P_U01, P_U02, , P_K01
T5	Databases. Organising information in databases – basic concepts and examples. Microsoft Access: fields, records, tables, queries, forms, and reports. Core principles of modern databases – file-based and relational models.	P_U01, P_U02, P_K01
T6	Designing a simple relational database: defining the project, creating tables and entering sample data, sorting and searching, setting relations between tables, creating queries, forms, and reports. Example: design a simple relational database containing four tables with employee data, addresses, job positions, and salary information.	, P_U01, P_U02, P_K01
T7	Selected data processing systems. Document management systems, modelling system functions, process chains, value chain diagrams, EPC diagrams. Groupware systems and knowledge processing systems. Decision modelling: decision trees and tables.	P_U01, P_U02, P_K01
T8	Analysis and modelling of a Corporate Portal.. Federated Databases (FBD): developing a conceptual design for an FBD system for a supply-chain corporation – identification and specification of databases, selection of databases for federation, architecture and metadata identification, and construction of a canonical data model concept.	P_U01, P_U02, P_K01
T9	Integrated management information systems (ERP, CRM): implementation and operation of integrated management systems in both traditional (on-premises) and cloud computing models.	P_K01, P_U02
T10	Practical workshops in integrated CRM-class information systems.	P_K01, P_U02
T11	Practical workshops in integrated ERP-class information systems.	P_K01, P_U02

VI. METHODS OF VERIFYING LEARNING OUTCOMES

Learning outcomes	Verification method	Form of classes in which the learning outcome is verified
Knowledge:		
P_W01	Written test – summative colloquium.	Lecture
P_W02	Written test – summative colloquium.	Lecture
Skills:		
P_U01	Written assessment, project work, observation of task performance.	Laboratory / Project
P_U02	Written assessment, project work, observation of task performance.	Laboratory / Project
Social competences:		
P_K01	Written assessment, project work, observation of task performance.	Laboratory / Project

Final (summative) assessment:

The final grade consists of the assessment of project work and the performance of assigned practical tasks (1/2) and the assessment of the final knowledge test (1/2).

VII. ASSESSMENT CRITERIA FOR ACHIEVED LEARNING OUTCOMES

Learning outcomes	**Fail (2.0)** The student does not know, does not understand, is unable to, or is not ready to:	**Satisfactory range (3.0–3.5)** The student knows, understands, is able to, and is ready to:	**Good range (4.0–4.5)** The student knows, understands, is able to, and is ready to:	**Very good (5.0)** The student knows, understands, is able to, and is ready to:
P_W01	Use IT tools for collecting, analysing, and presenting economic and social data.	Use some IT tools for collecting, analysing, and presenting economic and social data.	Use IT tools for collecting, analysing, and presenting economic and social data.	Use IT tools for collecting, analysing, and presenting economic and social data, providing relevant examples of their practical applications..
P_W02	Understand integrated information systems (ERP, CRM), Business Intelligence (BI) systems, and their role in supporting management processes.	Recognise selected integrated information systems (ERP, CRM), Business Intelligence (BI) systems, and their role in supporting management processes.	Understand integrated information systems (ERP, CRM), Business Intelligence (BI) systems, and their role in supporting management processes.	Understand integrated information systems (ERP, CRM), Business Intelligence (BI) systems, and their role in supporting management processes, illustrating their use with multiple practical examples.
P_U01	Apply integrated management systems in the traditional (on-premises) model or in the cloud computing model.	Apply selected integrated management systems in the traditional (on-premises) and cloud computing models.	Apply integrated management systems in both the traditional (on-premises) and cloud computing models.	Apply integrated management systems in both the traditional (on-premises) and cloud computing models, indicating their limitations.
P_U02	Use selected IT systems (CRM, ERP) supporting decision-making processes.	Use basic IT systems (CRM, ERP) that support decision-making processes.	Use IT systems (CRM, ERP) to effectively support decision-making processes.	Use IT systems (CRM, ERP) to support decision-making processes, identifying potential constraints in their application.
P_K01	Search for IT systems applicable to practical solutions in management processes.	Seek IT systems for practical applications in management processes.	Independently seek and select IT systems for practical use in management processes.	Independly and creatively seek IT systems suitable for practical managerial applications, demonstrating initiative and critical awareness.

VIII. STUDENT WORKLOAD – HOURS AND ECTS BALANCE

Type of ECTS activity	Student workload	
	Full-time studies	Full-time studies
Participation in teaching activities (lectures, exercises, conversation classes, projects, laboratories, workshops, seminars) – TOTAL number of hours – from section II	84h	52h
Examinations / Assessments	6h	6h
Participation in consultations	8h	8h
Project / Essay / Case study / Practical task	8h	8h
Independent preparation for classes	38h	70h
Preparation for course assessments	6h	6h
Total student workload (25 hours = 1 ECTS) TOTAL hours / ECTS	150 h / 6 ECTS	150 h / 6 ECTS

Student workload within classes involving direct contact with the lecturer	98 h / 3,9 ECTS	66 h / 2,6 ECTS
Student workload within classes of a practical nature	-/-	-/-
Student workload within classes related to professional training	150 h / 6 ECTS	150 h / 6 ECTS
Student workload within classes related to research preparation	-/-	-/-

IX. COURSE LITERATURE AND OTHER TEACHING MATERIALS

Basic literature:

- Kisielnicki J., Zarządzanie i informatyka, Placet, Warszawa 2014.
- Schwartz S., Po prostu Access 2003 PL, Wyd. Helion, Gliwice 2004.
- Januszewski A., Funkcjonalność informatycznych systemów zarządzania - T.1, Wyd. PWN, Warszawa 2008.
- Kisielnicki J., MIS systemy informatyczne zarządzania. Wyd. Placet, Warszawa 2009.
- Walkenbach J., Excel 2013 PL. Biblia, Wyd. Helion, Warszawa, 2013
- Radosiński E., Systemy informatyczne w dynamicznej analizie decyzyjnej, PWN, Warszawa 2013.

Supplementary literature:

- Kisielnicki J., Sroka H., Systemy informacyjne biznesu. Informatyka dla zarządzania. Metody projektowania i wdrażania systemów, Agencja Wydawnicza „Placet", Warszawa 2005.
- Michalczuk G., Siemieniuk N. (red.), Technologie informacyjne w zarządzaniu organizacjami, Wyd. Uniwersytetu w Bialymstoku, Białystok 2012.
- Nowicki A. (red.), Komputerowe wspomaganie biznesu, PLACET Warszawa 2006.

- Radosiński E., Systemy informatyczne w dynamicznej analizie decyzyjnej, Wydawnictwo Naukowe PWN, Warszawa, 2013.
- Rokicka-Broniatowska A. (red.), Wstęp do informatyki gospodarczej, Oficyna Wydawnicza Szkoły Głównej Handlowej 2004.
- Kisielnicki J. (red.), Zintegrowane systemy informatyczne, Wyd. PWN, Warszawa 2012.
- Wrycza S. (red.), Informatyka ekonomiczna, Wyd. PWE, Warszawa 2010.
- Januła E., Truś T., Gospodarka elektroniczna, Wyd. Difin, Warszawa 2010.
- Wieczerzycki W. (red.), E-Logistyka, Wyd. PWE, Warszawa 2012.
- Wrycza S. (red.), Informatyka dla ekonomistów, Wyd. UG, Gdańsk 2000.
- Nowicki A. (red.), Komputerowe wspomaganie biznesu, Wyd. Placet, Warszawa 2006.
- Wróblewski P., MS Office 2016 PL w biurze i nie tylko, Helion 2015.
- Materiały szkoleniowe Microsoft Access, http://office.microsoft.com/pl-pl/training/CR061829401045.aspx[23.04.2010].

Other teaching materials:

- http://e-fakty.pl(Annual reports of the ILiM on the Electronic Economy in Poland are available on the e-fakty.pl website)
- http://www.egospodarka.pl
- http://www.web.gov.pl
- http://parp.gov.pl
- http://decyzje-it.pl