

**КИЇВСЬКИЙ НАЦІОНАЛЬНИЙ ТОРГОВЕЛЬНО-ЕКОНОМІЧНИЙ
УНІВЕРСИТЕТ**

СИСТЕМА УПРАВЛІННЯ ЯКІСТЮ

Система забезпечення якості освітньої діяльності та якості вищої освіти
сертифікована на відповідність ДСТУ ISO 9001:2015 / ISO 9001:2015

Кафедра сучасних європейських мов

ЗАТВЕРДЖЕНО

вченою радою

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Ректор



А. А. Мазаракі

**АНГЛІЙСЬКА МОВА АНАЛІТИКИ ДАНИХ /
ENGLISH FOR DATA ANALYTICS**

**РОБОЧА ПРОГРАМА /
COURSE OUTLINE**

освітній ступінь	Магістр / Master
галузь знань	12 Інформаційні технології / Information Technologies
спеціальність	124 Системний аналіз / System Analysis
спеціалізація	Інформаційні технології та бізнес-аналітика (Data Science) / Information Technologies and Business Analytics (Data Science)

Київ 2021

**Розповсюдження і тиражування без офіційного дозволу КНТЕУ
заборонено**

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Робочу програму розглянуто і затверджено на засіданні кафедри сучасних європейських мов 11.05.2021 р., протокол № 9.

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**АНГЛІЙСЬКА МОВА АНАЛІТИКИ ДАНИХ /
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**РОБОЧА ПРОГРАМА /
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**1. СТРУКТУРА ДИСЦИПЛІНИ
ТА РОЗПОДІЛ ГОДИН ЗА ТЕМАМИ (ТЕМАТИЧНИЙ ПЛАН)**

Назва теми	Кількість годин			Форми контролю
	Всього годин/ кредитів	Практичні заняття / МК	Самостійна робота	
Тема 1. Data analytics: essence, tools and features	12	4	8	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 2. The profession of data analyst	28	8	20	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 3. Big data	12	4	8	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 4. Fundamentals of business analytics	12	4	8	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 5. Visual data analytics	28	8	20	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 6. Recommender systems	12	4	8	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 7. Python and R as data analytics tools	24	4	10	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 8. Information technologies and machine learning	12	4	8	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 9. Enterprise resource planning systems	12	4	8	ТА, ТЧ, ЗПУМ, ЗППМ
Тема 10. Intelligent systems	12	4	8	ТА, ТЧ, ЗПУМ, ЗППМ

Тема 11. Knowledge management	16	8	18	ТА, ТЧ, ЗПУМ, ЗППМ, МКР
Разом	180/6	56	124	

Умовні скорочення:

ТА – тести з аудіювання

ЗПУМ – завдання для перевірки усного мовлення

ТЧ– тести з читання

ЗППМ – завдання для перевірки писемного мовлення

МКР – модульна контрольна робота

2. ТЕМАТИКА ТА ЗМІСТ ЛЕКЦІЙНИХ, ПРАКТИЧНИХ ЗАНЯТЬ, САМОСТІЙНОЇ РОБОТИ СТУДЕНТА

Результати навчання	Навчальна діяльність	Робочий час студента
Тема 1. Data analytics: essence, tools and features		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p>Lesson 1</p> <p>In-class activity</p> <p>Starting up</p> <ul style="list-style-type: none"> • talking about the essence of analytics <p>Reading What is data analytics? (part 1)</p> <ul style="list-style-type: none"> • guessing unknown word and expressions from the context • locating and understanding specific information in the text <p>Vocabulary Data analytics and it's features.</p> <ul style="list-style-type: none"> • developing key vocabulary to describe main features of business analytics and data analytics <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 13, 14, 16, 17, 20, 21, 22.</i> <i>Internet: 24, 25, 28, 31, 35, 38, 42.</i></p>	2
	<p>Further work</p> <p>Vocabulary Understanding the meaning</p> <ul style="list-style-type: none"> • <i>text analytics / descriptive analytics / inferential analytics / diagnostic analytics / predictive analytics.</i> <p>Speaking Developing skills through a variety of tasks</p> <ul style="list-style-type: none"> • giving full answers to the questions about the importance of data analytics using relevant vocabulary • making comparison • supporting a view with reasons • giving details <p>Grammar Review Present Simple and Present Continuous.</p> <ul style="list-style-type: none"> • the tenses are compared and contrasted • developing knowledge through a variety of exercises <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 13, 14, 16, 17, 20, 21, 22.</i> <i>Internet: 24, 25, 28, 31, 35, 38, 42.</i></p>	4

<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 2 In-class activity</p> <p>Starting up</p> <ul style="list-style-type: none"> • talking about the tools and techniques of data analytics <p>Reading What is data analytics? (part 2)</p> <ul style="list-style-type: none"> • guessing unknown word and expressions from the context • locating and understanding specific information in the text <p>Vocabulary Main tools of data analytics</p> <ul style="list-style-type: none"> • developing key vocabulary to describe main tools of data analytics and examples of their using <p>Sources: Main: 1-5 Additional: 7, 8, 11, 13, 14, 16, 17, 20, 21, 22. Internet: 24, 25, 28, 31, 35, 38, 42.</p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary Understanding the meaning</p> <ul style="list-style-type: none"> • <i>ethnographic analytics / narrative analytics / phenomenological analytics / constant comparative analytics / hermeneutic analytics / grounded theory analytics / content analytics / cross cultural analytics.</i> <p>Speaking Developing skills through a variety of tasks</p> <ul style="list-style-type: none"> • giving full answers to the questions about the main techniques of data analysis using relevant vocabulary • making comparison • supporting a view with reasons • giving details <p>Grammar Review Past Simple and Past Continuous.</p> <ul style="list-style-type: none"> • <i>the tenses are compared and contrasted</i> • <i>developing knowledge through a variety of exercises</i> <p>Sources: Main: 1-5 Additional: 7, 8, 11, 13, 14, 16, 17, 20, 21, 22. Internet: 24, 25, 28, 31, 35, 38, 42.</p>	4
Tema 2. The profession of data analyst		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 3 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Data Scientist: The Sexiest Job of the 21st Century (part 1)</p> <ul style="list-style-type: none"> • reading for specific information about essence of data scientist, knowledge and skills he should have • guessing unknown words and expressions from the context 	2

	<p>Vocabulary Positions of the data analyst</p> <ul style="list-style-type: none"> developing key vocabulary used to describe positions which data scientist can occupy, their requirements <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19.</i> <i>Internet: 24, 25, 28, 31, 32, 35, 38, 42.</i></p>	
	<p style="text-align: center;">Further work</p> <p>Speaking 1</p> <ul style="list-style-type: none"> giving full answers to the questions about the most demanded work in the field of data analytics (data science) making comparisons supporting a view with reasons giving details <p>Speaking 2</p> <ul style="list-style-type: none"> giving or seeking personal views and opinions giving reasons expressing preferences making comparisons understanding the meaning of idioms <p>Grammar Revision: Present Perfect Simple and Present Perfect Continuous</p> <ul style="list-style-type: none"> <i>the tenses are compared and contrasted</i> developing knowledge through a variety of exercises <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19.</i> <i>Internet: 24, 25, 28, 31, 32, 35, 38, 42.</i></p>	5
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 4</p> <p style="text-align: center;">In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> listening to the text or teacher’s information grammar drills <i>test “True (T) or False (F)”.</i> <p>Starting-up:</p> <ul style="list-style-type: none"> home assignment revision topical speaking (<i>in pairs</i>) about “Advantages of the work of data analyst” giving reasons. <p>Comprehension Speaking:</p> <ul style="list-style-type: none"> about the difference between data scientist, data analyst and data scientist (<i>in pairs</i>) giving or seeking personal views and opinions 	2

	<ul style="list-style-type: none"> • giving reasons • <i>expressing preferences (computer test)</i> • making comparisons • comprehension of idiomatic meanings <p>Vocabulary:</p> <ul style="list-style-type: none"> • improving the students' knowledge level through a variety of exercises • explanation of differences in the meaning: <i>business analyst, big data engineer, data analyst.</i> <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19. Internet: 24, 25, 28, 31, 32, 35, 38, 42.</p>	
	<p style="text-align: center;">Further work</p> <p>Vocabulary Revision: improving the students' knowledge level through a variety of exercises.</p> <p>Grammar Revision:</p> <ul style="list-style-type: none"> • drilling the grammar skills in using the Present Perfect Simple and Present Perfect Continuous • <i>the tenses compared and contrasted. (computer test)</i> <p>Writing:</p> <ul style="list-style-type: none"> • about your future job in data analyze: advantages and disadvantages; "Is your future job for pleasure or for earning money?" • selecting important information • finding a proper description • planning an answer • an introduction and the conclusion. <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19. Internet: 24, 25, 28, 31, 32, 35, 38, 42.</p>	5
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 5 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Data Scientist: The Sexiest Job of the 21st Century (part 2)</p> <ul style="list-style-type: none"> • reading for specific information about the most required positions of the data scientist in the world • guessing unknown words and expressions from the context <p>Vocabulary Positions of the data analyst</p> <ul style="list-style-type: none"> • developing key vocabulary used to describe the state of the labor market of data analysts in the world 	2

	<p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19. Internet: 24, 25, 28, 31, 32, 35, 38, 42.</p> <p style="text-align: center;">Further work</p> <p>Speaking 1</p> <ul style="list-style-type: none"> • giving full answers to the questions about the most demanded professions in the world in the field of IT • making comparisons • supporting a view with reasons • giving details <p>Speaking 2</p> <ul style="list-style-type: none"> • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons • understanding the meaning of idioms <p>Grammar Revision: Past Perfect Simple and Past Perfect Continuous</p> <ul style="list-style-type: none"> • <i>the tenses are compared and contrasted (computer test)</i> • developing knowledge through a variety of exercises <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19. Internet: 24, 25, 28, 31, 32, 35, 38, 42.</p>	5
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 6 In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> • listening to the text or teacher’s information • grammar drills • test “True (T) or False (F)”. <p>Starting-up:</p> <ul style="list-style-type: none"> • home assignment revision • topical speaking (<i>in pairs</i>) about “The labor market of data analysts in Ukraine” • giving reasons. <p>Comprehension Speaking:</p> <ul style="list-style-type: none"> • about the job interview in the field of data analyst (<i>in pairs</i>) • giving or seeking personal views and opinions • giving reasons • <i>expressing preferences (computer test)</i> • making comparisons • comprehension of idiomatic meanings 	2

	<p>Vocabulary:</p> <ul style="list-style-type: none"> improving the students' knowledge level through a variety of exercises explanation of differences in the meaning: <i>machine learning, engineer, data scientist, system analyst</i> <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19. Internet: 24, 25, 28, 31, 32, 35, 38, 42.</p>	
	<p style="text-align: center;">Further work</p> <p>Vocabulary Revision: improving the students' knowledge level through a variety of exercises usage of idioms and set phrases.</p> <p>Grammar Revision:</p> <ul style="list-style-type: none"> drilling the grammar skills in using the Past Perfect Simple and Past Perfect Continuous <i>the tenses compared and contrasted. (computer test)</i> <p>Writing:</p> <ul style="list-style-type: none"> a CV for position of data analyst selecting important information finding a proper description planning an answer an introduction and the conclusion. <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19. Internet: 24, 25, 28, 31, 32, 35, 38, 42.</p>	5
Tema 3. Big data.		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 7 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading The real story of how big data analytics helped Obama win in elections in the USA</p> <ul style="list-style-type: none"> reading for specific information about the role of big data analysis <i>guessing unknown words and expressions from the context (computer test)</i> <p>Vocabulary Describing the ways of using big data analytics in social processes</p> <ul style="list-style-type: none"> developing key vocabulary used to describe the ways of using bid data analytics <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 20, 21, 22. Internet: 24, 25, 27, 28, 31, 32, 36, 38, 40, 41, 47.</p>	2

	<p style="text-align: center;">Further work</p> <p>Vocabulary</p> <ul style="list-style-type: none"> • <i>big data, source of big data, data sets, analytic approaches, Hadoop, SQL</i> <p>Speaking</p> <ul style="list-style-type: none"> • giving full answers to the questions about principles of working with big data • making comparison • supporting a view with reasons • giving details <p>Grammar Review Future Continuous and Future Perfect</p> <ul style="list-style-type: none"> • the tense is compared and contrasted • <i>developing knowledge through a variety of exercises (computer test)</i> <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 20, 21, 22.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 40, 41, 47.</i></p>	4
	<p style="text-align: center;">Lesson 8 In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> • listening to the text or teacher’s information • grammar drills • test “True (T) or False (F)”. <p>Starting-up:</p> <ul style="list-style-type: none"> • home assignment revision • topical speaking about “The role of Big Data”. <p>Comprehension Speaking (in pairs): “Big Data Engineer: Role, Responsibilities, and Job Description”</p> <ul style="list-style-type: none"> • topical speaking (<i>in groups of three</i>), improving the students’ vocabulary knowledge through rendering the advantages and disadvantages of working in a position of Big Data Engineer • expressing one’s own ideas and arguments to encourage people to work with big data. <p>Vocabulary Revision:</p> <ul style="list-style-type: none"> • improving the key vocabulary through a variety of exercises • drilling terms to learn better the topic “Big Data” <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 20, 21, 22.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 40, 41, 47.</i></p>	2

	<p style="text-align: center;">Further work</p> <p>Grammar Revision:</p> <ul style="list-style-type: none"> • drilling the grammar skills in using When and If sentences. <p>Vocabulary Revision:</p> <ul style="list-style-type: none"> • improving the students' knowledge level through analytics of big data in economy <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 20, 21, 22.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 40, 41, 47.</i></p>	4
Tema 4. Fundamentals of business analytics		
	<p style="text-align: center;">Lesson 9 In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> • listening to the text or teacher's information • grammar drills • test "True (T) or False (F)". <p>Starting-up:</p> <ul style="list-style-type: none"> • home assignment revision • topical speaking (<i>in group of three</i>) about the purpose, object and subject of business analytics. <p>Comprehension Speaking (in pairs): working with databases.</p> <ul style="list-style-type: none"> • improving the students' vocabulary awareness through speaking about principles of creating of effective databases • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons <p>Vocabulary revision:</p> <ul style="list-style-type: none"> • drilling the new terms to learn better the topic "Basis of business analytics": • improving the students' lexical awareness. <p>Grammar Revision: The Passive Voice (Simple):</p> <ul style="list-style-type: none"> • <i>drilling skills in using the The Passive Voice (Simple) (computer test)</i> • improving the grammar knowledge level through a variety of exercises. <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 16.</i> <i>Internet: 24, 25, 28, 29, 31, 33, 38.</i></p>	2

	<p style="text-align: center;">Further work</p> <p>Vocabulary Revision:</p> <ul style="list-style-type: none"> • drilling the new terms to learn better the topic “Data preparation tools in business analytics” • comprehension of idiomatic meanings • comprehension of the meaning of set phrases. <p>Comprehension Speaking:</p> <ul style="list-style-type: none"> • supporting one’s view with his or her reasons • giving full answers to the questions about tools of business analytics • <i>making comparisons</i> • giving details • usage of prepositions. <p>Grammar Revision: The Passive Voice (Continuous):</p> <ul style="list-style-type: none"> • <i>drilling the grammar skills (computer test)</i> • improving the grammar knowledge level through a variety of exercises. <p>Writing: “Making SWOT analysis about tools of data analytics”</p> <ul style="list-style-type: none"> • planning an answer • comparing and contrasting. <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 16.</i> <i>Internet: 24, 25, 28, 29, 31, 33, 38.</i></p>	4
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 10 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading “9 essential business analysis models for the BA’s toolbox”</p> <ul style="list-style-type: none"> • reading for specific information about business analysis models <p>Vocabulary Describing business analysis essence</p> <ul style="list-style-type: none"> • <i>developing key vocabulary used to describe business analysis model and it’s role in business activity</i> <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 16.</i> <i>Internet: 24, 25, 28, 29, 31, 33, 38.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary <i>activity diagrams / feature mind maps / product roadmaps / organizational charts / SWOT analysis / user interface wireframe / process flow diagram / PESTLE analysis / entity-relationship diagram</i></p>	4

	<p>Speaking 1</p> <ul style="list-style-type: none"> giving full answers to the questions about advantages and disadvantages of business analytics models supporting a view with reasons giving details <p>Speaking 2</p> <ul style="list-style-type: none"> giving or seeking personal views and opinions giving reasons expressing preferences making comparisons understanding the meaning of idioms <p>Grammar Review The Passive Voice (Perfect)</p> <ul style="list-style-type: none"> <i>developing knowledge through a variety of exercises (computer test)</i> <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 16.</i> <i>Internet: 24, 25, 28, 29, 31, 33, 38.</i></p>	
Tema 5. Visual data analytics		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 11 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Visual Analytics</p> <ul style="list-style-type: none"> reading for specific information about the essence of visual analytics guessing unknown words and expressions from the context <p>Vocabulary Describing what is visual analytics and it's uses</p> <ul style="list-style-type: none"> developing key vocabulary used to describe use of visual analytics for big data <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18.</i> <i>Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary <i>data exploration, data visualization, understanding of data, decision-making, trends, outliers, correlations</i></p> <p>Speaking 1</p> <ul style="list-style-type: none"> giving full answers to the questions about visual analytics making comparison supporting a view with reasons 	5

	<ul style="list-style-type: none"> • giving details <p>Speaking 2</p> <ul style="list-style-type: none"> • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons • understanding the meaning of idioms <p>Grammar Review The Sequence of Tenses</p> <ul style="list-style-type: none"> • <i>the tense is compared and contrasted (computer test)</i> • <i>developing knowledge through a variety of exercises (computer test)</i> <p>Sources: Main: 1-5 Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18. Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</p>	
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 12 In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> • listening to the text or teacher’s information • grammar and phonetics drills • <i>test “True (T) or False (F)”.</i> (computer test) <p>Starting-up: home assignment revision:</p> <ul style="list-style-type: none"> • topical speaking (<i>in pairs</i>) about the advantages and disadvantages of visual analytics in Ukrainian companies. • drilling the new terms to learn better the topic under study <p>Comprehension Speaking: Rendering the topic (<i>in pairs</i>) “Difference Between Data Visualization and Data Analytics”:</p> <ul style="list-style-type: none"> • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons • comprehension of idiomatic meanings • usage of prepositions. <p>Grammar Revision: Reported Speech (Statements):</p> <ul style="list-style-type: none"> • <i>drilling the grammar skills in using Reported Speech (Statements) (computer test)</i> • <i>the tense compared and contrasted</i> • <i>improving the students’ grammar knowledge through a variety of exercises. (computer test)</i> <p>Sources: Main: 1-5 Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18.</p>	2

	<p><i>Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</i></p> <p style="text-align: center;">Further work</p> <p>Vocabulary Revision::</p> <ul style="list-style-type: none"> • drilling the new terms to learn better the topic “What is Data Visualization in Business Analytics?” <p>Grammar Revision: Reported Speech (Statements):</p> <ul style="list-style-type: none"> • <i>drilling the students’ grammar skills in using the Past Perfect Continuous (computer test)</i> • improving the students’ grammar knowledge through a variety of exercises. <p>Writing: <i>Advantages and disadvantages of using data visualization in business analytics:</i></p> <ul style="list-style-type: none"> • planning an answer • writing an introduction and the conclusion • comparing and contrasting • summarising ideas. <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18.</i> <i>Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</i></p>	5
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 13 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Visual Analytics Tools</p> <ul style="list-style-type: none"> • reading for specific information about the most widespread visual analytics tools • guessing unknown words and expressions from the context <p>Vocabulary describing requirements to the visual analytics tools</p> <ul style="list-style-type: none"> • developing key vocabulary about requirements to the visual analytics tools <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18.</i> <i>Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Speaking 1</p> <ul style="list-style-type: none"> • giving full answers to the questions about main visual analytics tools • making comparison • supporting a view with reasons • giving details about different control elements 	5

	<p>Speaking 2</p> <ul style="list-style-type: none"> • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons <p>Grammar Review Reported Questions, Orders, Requests</p> <ul style="list-style-type: none"> • <i>the tense is compared and contrasted (computer test)</i> • <i>developing knowledge through a variety of exercises (computer test)</i> <p>Sources: Main: 1-5 Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18. Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</p>	
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 14</p> <p style="text-align: center;">In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Ultimate Guide to the Best Visual Analytics Tools</p> <ul style="list-style-type: none"> • reading for specific information about software of visual data analytics • guessing unknown words and expressions from the context <p>Vocabulary Describing difference between Tableau and Power BI</p> <ul style="list-style-type: none"> • developing key vocabulary about control elements in Tableau and Power BI tools <p>Sources: Main: 1-5 Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18. Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary <i>intelligent business reports / storyboard / dashboard / predefined charts / animated forms / time periods / geospatial interaction / ad-hoc analytics / trend lines / forecasts / predictions</i></p> <ul style="list-style-type: none"> • <i>testing (computer test)</i> <p>Speaking 1</p> <ul style="list-style-type: none"> • giving full answers to the questions about difference between Tableau and Power BI • making comparison • supporting a view with reasons <p>giving details</p> <p>Speaking 2</p> <ul style="list-style-type: none"> • giving or seeking personal views and opinions • giving reasons 	5

	<ul style="list-style-type: none"> • expressing preferences • making comparisons <p>Grammar Review Reported Questions, Orders, Requests</p> <ul style="list-style-type: none"> • <i>the tense is compared and contrasted (computer test)</i> • <i>developing knowledge through a variety of exercises (computer test)</i> <p>Sources: Main: 1-5 Additional: 7, 8, 11, 12, 13, 14, 16, 17, 18. Internet: 23, 24, 25, 28, 30, 31, 34, 37, 36, 38, 39, 47.</p>	
Tema 6. Recommender systems		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 15 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Introduction to recommender systems</p> <ul style="list-style-type: none"> • reading for specific information about essence of recommender systems • guessing unknown words and expressions from the context <p>Vocabulary Describing examples recommender systems</p> <ul style="list-style-type: none"> • developing key vocabulary used to describe features of recommender systems <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 13, 14, 16, 17, 18. Internet: 24, 25, 28, 30, 31, 32, 34, 36, 37, 47.</p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary Understanding the meaning <i>recommendations / user-item interactions matrix / filtering algorithms / memory based approach / model based approach / nearest neighbours approach</i></p> <p>Speaking</p> <ul style="list-style-type: none"> • giving full answers to the questions about the recommender systems • giving details about the features • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons <p>Grammar Revision <i>Developing knowledge of Modal Verbs (Obligation and Necessity) through a variety of tasks (computer test)</i></p> <p>Sources:</p>	4

	<p><i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 13, 14, 16, 17, 18.</i> <i>Internet: 24, 25, 28, 30, 31, 32, 34, 36, 37, 47.</i></p>	
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 16 In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> • listening to the text or teacher’s information • grammar drills • test “True (T) or False (F)” (<i>T/F Test</i>). (<i>computer test</i>) <p>Starting-up: topical speaking about Recommender systems models</p> <ul style="list-style-type: none"> • making comparisons • supporting a view with reasons • giving details. <p>Comprehension Speaking (in pairs):</p> <ul style="list-style-type: none"> • about advantages and disadvantages of recommender systems models • about the role of recommender systems in business analysis • using idioms and set phrases • using of prepositions. <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 13, 14, 16, 17, 18.</i> <i>Internet: 24, 25, 28, 30, 31, 32, 34, 36, 37, 47.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary Revision:</p> <ul style="list-style-type: none"> • drilling the new terms to learn better the topic “recommender systems models” • <i>collaborative filtering / content-based filtering / multi-criteria recommender systems / risk-aware recommender systems / mobile recommender systems / hybrid recommender systems / session-based recommender systems / reinforcement learning for recommender systems</i> <p>Grammar Revision: Modal Verbs (Certainty, Possibility, Probability)</p> <ul style="list-style-type: none"> • improving the students’ grammar knowledge through a variety of tasks • <i>usage of the grammar rule for dealing with practical grammar exercises. (computer test)</i> <p>Writing: Main benefits of using recommender systems in e-commerce</p> <ul style="list-style-type: none"> • planning an answer • an introduction and the conclusion • summarising ideas. <p>Sources: <i>Main: 1-5</i></p>	4

	<p><i>Additional: 6, 7, 8, 9, 11, 13, 14, 16, 17, 18.</i> <i>Internet: 24, 25, 28, 30, 31, 32, 34, 36, 37, 47.</i></p>	
Tema 7. Python and R as data analytics tools		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 17 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Boston house price prediction</p> <ul style="list-style-type: none"> • reading for specific information about methods of data analysis with the help of Python • <i>guessing unknown words and expressions from the context (computer test)</i> <p>Vocabulary Developing key through a variety of tasks</p> <ul style="list-style-type: none"> • understanding the meaning • word formation • matching <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 39, 40, 41, 47.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary Understanding the meaning <i>pandas / numpy / scikit-learn / metrics / matplotlib / seaborn / heatmap / linear relationship / residuals / model evaluation</i></p> <p>Speaking</p> <ul style="list-style-type: none"> • giving full answers to the questions about Python modules, used in data analysis • giving details about features of Python modules • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons <p>Grammar Revision Developing knowledge of Modal Verbs with the Perfect Infinitive and Modal Verbs with the Perfect Infinitive through a variety of tasks</p> <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 39, 40, 41, 47.</i></p>	5
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 18 In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> • listening to the text or teacher's information 	2

<p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<ul style="list-style-type: none"> • grammar drills • test “True (T) or False (F)”. (computer test) <p>Starting-up: home assignment revision:</p> <ul style="list-style-type: none"> • topical speaking (<i>in pairs</i>) about the advantages of using R in data analytics • drilling the terms to learn better the topic under study • supporting a view with reasons • giving details. <p>Comprehension Speaking::</p> <ul style="list-style-type: none"> • rendering (<i>in groups of three</i>) about analysis of Titanic dataset with Random Forest (R) • what phase of analysis is the most difficult and important • what steps of data preparation is the most importance • giving reasons. <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21. Internet: 24, 25, 27, 28, 31, 32, 36, 38, 39, 40, 41, 47.</p>	
	<p style="text-align: center;">Further work</p> <p>Grammar Revision: improving the students’ grammar knowledge of the Comparison of Adjectives through a variety of tasks;</p> <ul style="list-style-type: none"> • <i>the grammar rules</i> (computer test) • improving the students’ grammar awareness through a variety of tasks • <i>grammar drills.</i> (computer test) <p>Sources: Main: 1-5 Additional: 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21. Internet: 24, 25, 27, 28, 31, 32, 36, 38, 39, 40, 41, 47.</p>	5
Tema 8. Information technologies and machine learning		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 19 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading All Machine Learning Models Explained in 6 Minutes</p> <ul style="list-style-type: none"> • reading for specific information about machine learning models • guessing unknown words and expressions from the context <p>Vocabulary Developing key vocabulary through a variety of tasks understanding the meaning <i>regression / supervised learning / decision tree / random forest / neural network / classification / clustering</i></p>	2

	<p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 11, 13, 14, 16, 17, 18.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 39, 40, 41, 42, 47.</i></p>	
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 20 In-class activity</p> <p>Starting up Homework revision</p> <p>Comprehension Speaking:</p> <ul style="list-style-type: none"> • giving full answers to the questions about the difference between machine learning tools and common statistics tools • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons. <p>Grammar Revision: Third Conditional:</p> <ul style="list-style-type: none"> • <i>the tenses compared and contrasted (computer test)</i> • improving the students' grammar knowledge through a variety of tasks. <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 11, 13, 14, 16, 17, 18.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 39, 40, 41, 42, 47.</i></p>	4
	<p style="text-align: center;">Further work</p> <p>Writing research scenario with the use of machine learning tools</p> <ul style="list-style-type: none"> • introducing 	4

	<ul style="list-style-type: none"> • expressing details • asking for information • describing <p>Sources: <i>Main: 1-5</i> <i>Additional: 6, 7, 8, 11, 13, 14, 16, 17, 18.</i> <i>Internet: 24, 25, 27, 28, 31, 32, 36, 38, 39, 40, 41, 42, 47.</i></p>	
Tema 9. Enterprise resource planning systems		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 21 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading A Modern ERP for Manufacturing: The Must Have Technology for 2020</p> <ul style="list-style-type: none"> • reading for specific information about top rated ERP solutions for manufacturers • guessing unknown words and expressions from the context <p>Vocabulary <i>Developing key vocabulary through a variety of tasks</i></p> <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 11, 16, 20, 21, 22.</i> <i>Internet: 24, 25, 28, 38, 42, 43, 44, 45, 46.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary Understanding the meaning <i>supply chains / production schedules / process monitoring / product lifecycle management / product data management</i></p> <p>Speaking</p> <ul style="list-style-type: none"> • giving full answers to the questions about requirements for modern ERP systems • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 11, 16, 20, 21, 22.</i> <i>Internet: 24, 25, 28, 38, 42, 43, 44, 45, 46.</i></p>	4
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 22 In-class activity</p> <p>Warming-up:</p>	2

<p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<ul style="list-style-type: none"> • listening to the text or teacher’s information • grammar drills • test “True (T) or False (F)” (computer test) <p>Starting-up: home assignment revision:</p> <ul style="list-style-type: none"> • topical speaking about <i>analysis of modern ERP systems</i> • <i>Implementation of ERP systems</i> • personal views and opinions • expressing preferences • making comparisons <p>Grammar Revision Developing knowledge of Other types of comparison, the Infinitive, the Gerund, Countable and Uncountable Nouns, Either... or, both... and; neither... nor, Possession, Numbers (fractions, decimals, percentages) through a variety of tasks</p> <ul style="list-style-type: none"> • <i>the tenses are compared and contrasted (computer test)</i> <p>Sources: Main: 1-5 Additional: 7, 11, 16, 20, 21, 22. Internet: 24, 25, 28, 38, 42, 43, 44, 45, 46.</p>	
	<p style="text-align: center;">Further work</p> <p>Vocabulary Revision:</p> <ul style="list-style-type: none"> • <i>improving the students’ key vocabulary through a variety of tasks (computer test)</i> • drilling the new terms to learn better the topic “Enterprise resource planning systems ” • comprehension of the meaning of confusing words <p>Comprehension Speaking (in pairs): <i>advantages and disadvantages of modern ERP systems (Odoo, Oracle, Microsoft Dynamics, BAS ERP, etc.)</i></p> <ul style="list-style-type: none"> • the most important features of ERP Systems • giving reasons. <p>Sources: Main: 1-5 Additional: 7, 11, 16, 20, 21, 22. Internet: 24, 25, 28, 38, 42, 43, 44, 45, 46.</p>	4
Tema 10. Intelligent systems		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 23 In-class activity</p> <p>Starting up Homework revision</p> <p>Speaking Difference between Human and Machine Intelligence</p> <ul style="list-style-type: none"> • working in pairs • revision of task 	2

	<p>Reading Artificial Intelligence - Intelligent Systems</p> <ul style="list-style-type: none"> • reading for specific information about essence and types of intelligens • <i>guessing unknown words and expressions from the context (computer test)</i> <p>Vocabulary Developing key vocabulary through a variety of tasks</p> <p>Sources: Main: 1-5 Additional: 7, 8, 11, 13, 16, 17, 19, 22. Internet: 24, 25, 28, 31, 32, 34, 38.</p>	
	<p style="text-align: center;">Further work</p> <p>Vocabulary Understanding the meaning <i>Linguistic intelligence / Musical intelligence / Logical-mathematical intelligence / Spatial intelligence / Bodily-Kinesthetic intelligence / Intra-personal intelligence / Interpersonal intelligence /</i></p> <p>Speaking</p> <ul style="list-style-type: none"> • giving full answers to the questions about learning in intelligent systems • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons <p>Sources: Main: 1-5 Additional: 7, 8, 11, 13, 16, 17, 19, 22. Internet: 24, 25, 28, 31, 32, 34, 38.</p>	4
	<p style="text-align: center;">Lesson 24 In-class activity</p> <p>Warming-up:</p> <ul style="list-style-type: none"> • listening to the text or teacher’s information • <i>grammar drills (computer test)</i> • <i>test “True (T) or False (F)” (computer test)</i> <p>Starting-up: home assignment revision::</p> <ul style="list-style-type: none"> • topical speaking (<i>in pairs</i>) about use of different intelligent systems • improving the students’ key vocabulary for rendering typical intelligent systems • supporting a view with reasons • expressing preferences • making comparisons <p>Sources: Main: 1-5 Additional: 7, 8, 11, 13, 16, 17, 19, 22.</p>	2

	<p><i>Internet: 24, 25, 28, 31, 32, 34, 38.</i></p> <p style="text-align: center;">Further work</p> <p>Comprehension Reading: “10 Business Functions That Are Ready To Use Artificial Intelligence”</p> <ul style="list-style-type: none"> • reading for obtaining specific information about using intelligent systems in business • comprehension of the meaning of the new words in the text • grasping the ideas of the text. <p>Grammar Revision: Wishes and Regrets</p> <ul style="list-style-type: none"> • <i>improving the students’ grammar knowledge through a variety of tasks (computer test)</i> • <i>the grammar rules (computer test)</i> • <i>grammar drills (computer test)</i> <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 8, 11, 13, 16, 17, 19, 22.</i> <i>Internet: 24, 25, 28, 31, 32, 34, 38.</i></p>	4
Tema 11. Knowledge management		
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 24</p> <p style="text-align: center;">In-class activity</p> <p>Starting up Homework revision</p> <p>Reading The Different Types of Knowledge</p> <ul style="list-style-type: none"> • reading for specific information about the ways to classify, to store and to manage knowledge • guessing unknown words and expressions from the context <p>Vocabulary <i>Developing key vocabulary through a variety of tasks (computer test)</i></p> <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 11, 10, 15, 16, 22.</i> <i>Internet: 24, 26, 38.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary Understanding the meaning <i>explicit knowledge / tacit knowledge / embedded knowledge / type of knowledge / source of knowledge / codification / locked knowledge</i></p> <p>Speaking</p> <ul style="list-style-type: none"> • giving full answers to the questions about practical using of knowledge management systems • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons 	4

	<p>Grammar Revision <i>Modal Verbs (Ability, Permission)</i> <i>improving the students' grammar knowledge through a variety of tasks (computer test)</i></p> <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 11, 10, 15, 16, 22.</i> <i>Internet: 24, 26, 38.</i></p>	
<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 24 In-class activity</p> <p>Starting up Homework revision</p> <p>Reading Three KM Models</p> <ul style="list-style-type: none"> • reading for specific information about different models of organizing of knowledge management systems • guessing unknown words and expressions from the context <p>Vocabulary <i>Developing key vocabulary through a variety of tasks (computer test)</i></p> <p>Grammar Revision Developing knowledge of Modal Verbs (Certainly, Possibility, Probability) through a variety of tasks</p> <ul style="list-style-type: none"> • <i>the tenses are compared and contrasted (computer test)</i> <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 11, 10, 15, 16, 22.</i> <i>Internet: 24, 26, 38.</i></p>	2
	<p style="text-align: center;">Further work</p> <p>Vocabulary Understanding the meaning <i>knowledge management matrix / knowledge management process framework / knowledge-based assets / knowledge repositories</i></p> <p>Speaking</p> <ul style="list-style-type: none"> • giving full answers to the questions about widespread knowledge management tools • giving or seeking personal views and opinions • giving reasons • expressing preferences • making comparisons <p>Sources: <i>Main: 1-5</i> <i>Additional: 7, 11, 10, 15, 16, 22.</i> <i>Internet: 24, 26, 38.</i></p>	4

<p>To know: the lexical vocabulary, the grammar patterns, the idioms, the phrases.</p> <p>Skills: usage the lexical vocabulary, grammar patterns, the idioms, the phrases.</p>	<p style="text-align: center;">Lesson 26 In-class activity</p> <p><i>Starting up</i> Homework revision</p> <p><i>Module test preparation</i></p> <p>Sources: Main: 1-5 Additional: 7, 11, 10, 15, 16, 22. Internet: 24, 26, 38.</p>	2
	<p style="text-align: center;">Further work</p> <p><i>Vocabulary and grammar review (computer test)</i></p> <p><i>Review of learned topics (computer test)</i></p> <p>Sources: Main: 1-5 Additional: 7, 11, 10, 15, 16, 22. Internet: 24, 26, 38.</p>	5
Module control	<p style="text-align: center;">Lesson 27 In-class activity</p> <p><i>Starting up</i> Homework revision (computer test)</p> <p><i>Writing</i> Module Control</p> <p>Sources: Main: 1-5 Additional: 7, 11, 10, 15, 16, 22. Internet: 24, 26, 38.</p>	2
	<p style="text-align: center;">Further work</p> <p><i>Revision of information and knowledge</i></p> <p>Sources: Main: 1-5 Additional: 7, 11, 10, 15, 16, 22. Internet: 24, 26, 38.</p>	5
	Разом	180

*курсивом виділено інтерактивні методики навчання

3. СПИСОК РЕКОМЕНДОВАНИХ ДЖЕРЕЛ

Основний

1. Sharda R. Analytics, Data Science, & Artificial Intelligence: Systems for Decision Support. 11th edition / R. Sharda, D. Delen, E. Turban. L.: Pearson, 2020. — 834 p. — ISBN-13: 9780135192016
2. Walter C. Oxford Practice Grammar Intermediate / C. Walter, M. Swan. O.: Oxford University Press, 2019. — 368 p.
3. Wilson W. English Grammar Workbook: Simple Rules, Basic Exercises, and Various Activities to Help you Practice Correct Grammar and Improve your English Language Skills / W. Wilson, J. H. Barlow. — P.: Independently published, 2020. — 256 p.
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