

## Subject card

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |                    |                                     |                                                |            |     |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------|-------------------------------------|------------------------------------------------|------------|-----|
| Subject name and code                       | Business Informatics, PG_00155072                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                          |                    |                                     |                                                |            |     |
| Field of study                              | Information Science and Econometrics                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                          |                    |                                     |                                                |            |     |
| Date of commencement of studies             | October 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Academic year of realisation of subject                  |                    |                                     | 2024/2025                                      |            |     |
| Education level                             | undergraduate studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Subject group                                            |                    |                                     | Obligatory subject group in the field of study |            |     |
| Mode of study                               | full-time studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mode of delivery                                         |                    |                                     | at the university                              |            |     |
| Year of study                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Language of instruction                                  |                    |                                     | Polish                                         |            |     |
| Semester of study                           | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ECTS credits                                             |                    |                                     | 7.0                                            |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Assessment form                                          |                    |                                     |                                                |            |     |
| Conducting unit                             | Katedra Informatyki Ekonomicznej -> Faculty of Management                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                          |                    |                                     |                                                |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                          | dr Marek Markowski |                                     |                                                |            |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                          | dr Marek Markowski |                                     |                                                |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lecture                                                  | Tutorial           | Laboratory                          | Project                                        | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 15.0                                                     | 0.0                | 45.0                                | 0.0                                            | 0.0        | 60  |
|                                             | E-learning hours included: 0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                          |                    |                                     |                                                |            |     |
| Learning activity and number of study hours | Learning activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Participation in didactic classes included in study plan |                    | Participation in consultation hours |                                                | Self-study | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60                                                       |                    | 30.0                                |                                                | 90.0       | 180 |
| Subject objectives                          | <ul style="list-style-type: none"><li>• Teach students how to efficiently and safely use information technologies.</li><li>• Teach students correct using of information technologies terminology.</li><li>• Teach students skills in documents, spreadsheet, and presentation development, rules of visual communication by WWW pages development.</li><li>• Teach students in safe use of Internet, information searching, verification, and using in bussiness problems solving.</li></ul> |                                                          |                    |                                     |                                                |            |     |

| Learning outcomes | Course outcome                                                                                                                                                                                                                                                                                                                                              | Subject outcome                                               | Method of verification                                                            |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                   | [liEL3_W04] The student has advanced knowledge of mathematical, statistical, econometric and computer methods of obtaining, processing and analysing data depicting the functioning and development of the national economy and its elements, as well as the phenomena and processes occurring in their environment.                                        | Knowledge of databases and modelling tools.                   | [SW4] test/exam - oral or written<br>[SW2] presentation/project/paper/report      |
|                   | [liEL3_U02] The student is able to acquire basic information about economic processes and phenomena by direct observation, planned experiment or database queries, and collect and process it using modern information technology tools.                                                                                                                    | Effective acquisition of data from different sources.         | [SU3] text preparation/written work<br>[SU5] implementation of a problem task     |
|                   | [liEL3_K05] The student is aware of the need for ethical, sustainable and socially responsible behavior in professional and social life.                                                                                                                                                                                                                    | Job regularity and timelines.                                 | [SK5] implementation of a problem task                                            |
|                   | [liEL3_K02] The student can communicate with the public on computer science and econometrics topics in and outside the workplace, communicate his knowledge and share his skills through various media.                                                                                                                                                     | Effective cooperation in group work.                          | [SK2] presentation/project/paper/report<br>[SK5] implementation of a problem task |
|                   | [liEL3_U01] The student can comprehensibly, orally and in writing, present and justify advanced economic theories and apply them to explain the functioning of the national economy and its elements. Understands and can explain the content of communications of economic institutions, articles published in the economic press and scientific journals. | Understanding of information found in the Internet.           | [SU2] presentation/project/paper/report<br>[SU3] text preparation/written work    |
|                   | [liEL3_W03] The student has advanced knowledge of man as an entity that creates economic structures and institutions.                                                                                                                                                                                                                                       | Understanding of human role in social and economical systems. | [SW1] oral statement/conversation/discussion                                      |
|                   | [liEL3_W07] The student has advanced knowledge of ethical norms applicable to business, good practices for its conduct and legal regulations for the protection of intellectual property. Has knowledge of the risks and responsibilities associated with the informatization of business processes, knows the principles of netiquette.                    | Knowledge in the area of specialization.                      | [SW4] test/exam - oral or written<br>[SW2] presentation/project/paper/report      |
|                   | [liEL3_K01] The student understands the need to constantly supplement and deepen acquired knowledge; is open to new ideas and teaching methods.                                                                                                                                                                                                             | Understanding of necessity of life-long learning.             | [SK1] oral statement/conversation/discussion                                      |
|                   | [liEL3_U08] The student can configure and apply advanced modern information and communication technologies in the process of business management and business communication.                                                                                                                                                                                | Configuration of used software.                               | [SU5] implementation of a problem task<br>[SU6] demonstration of practical skills |
|                   | [liEL3_W05] The student has advanced knowledge of the sources of socio-economic data, their databases and ways of creating them.                                                                                                                                                                                                                            | Knowledge in commercial databases,                            | [SW2] presentation/project/paper/report<br>[SW5] implementation of a problem task |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                               |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------|
| Subject contents                | <b>Lectures (15 hours):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                               |
|                                 | <ul style="list-style-type: none"><li>• Propaedeutics of business informatics.</li><li>• Information technologies (including: Hardware, Software, Internet of Things).</li><li>• Software, computer programming, Cloud Computing.</li><li>• Information systems development (including: Business Process Management, Information Systems Development Methodologies, Data Bases and Big Data).</li><li>• IT project management. Management Information Systems (including: ERP, CRM, BI systems).</li><li>• Digital Economy (including: Knowledge Management tools, Information Society, e-biznes, e-learning, Computer Supported Cooperative Tools).</li><li>• Advanced techniques of information searching in Internet. OSINT, legality.</li><li>• Business data presentation - rules, good practicess, software selection.</li><li>• Content Management Systems (CMS). Wordpress. WWW pages development. Hosting. Administration. Website security. elements of SEO.</li></ul> |                   |                               |
|                                 | <b>Laboratories (45 hours):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                               |
|                                 | <b>MS Excel (20 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                               |
|                                 | <ul style="list-style-type: none"><li>• Spreadsheet (MS Excel) - business problems solving, business dashboards.</li><li>• Using conditional (IF - Then), date, time, text, financial functions.</li><li>• Pivot tables and charts.</li><li>• Data visualisation and dashboards. Automatization, forms creation, advanced filtering of data.</li><li>• Macro, multiple files connecting, automatic e-mail sending.</li><li>• Data Base functions in Excel, sorting and filtering, advanced filtering.</li><li>• Solver, multidimensional analysis, scenario manager, objective function optimization.</li></ul>                                                                                                                                                                                                                                                                                                                                                                  |                   |                               |
|                                 | <b>Visual communication (5 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |                               |
|                                 | <ul style="list-style-type: none"><li>• Tools and techniques of effective content delivery. Business dashboard.</li><li>• Tools for interaction with the audience, graphics, infographics, visual notes. Teamworks tools.</li><li>• Forms, surveys, reports, presentations, stories. Google forms and Sway.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |                               |
| Prerequisites and co-requisites | <b>Advanced techniques of information searching (10 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |                               |
|                                 | <ul style="list-style-type: none"><li>• Information sources, information quality and validation.</li><li>• Open Source Intelligence (OSINT), Web browsers, Web searchers, Google Hacking elements.</li><li>• Google Hacking - how to defence yourself?</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                               |
|                                 | <b>CMS Systems (10 hours)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                               |
|                                 | <ul style="list-style-type: none"><li>• Acquisition, processing and presentation of business data with use of Internet.</li><li>• Work with CMS, Wordpress - configuration, administration, personalization.</li><li>• Content creation. Wordpress - management, users management, plugins instalation.</li><li>• Widgets, responsiveness.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                               |
|                                 | No requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                               |
|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                               |
|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |                               |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Passing threshold | Percentage of the final grade |
|                                 | WWW development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 51.0%             | 15.0%                         |
|                                 | Presentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 51.0%             | 10.0%                         |
|                                 | MS EXCEL Project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 51.0%             | 35.0%                         |
|                                 | Search report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 51.0%             | 15.0%                         |
|                                 | Lecture test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 51.0%             | 25.0%                         |

|                                                                |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended reading                                            | Basic literature                                                                                                                                                                                                                                                                                                                    | <p><b>Bibliography</b></p> <p><b>A.1. Used during lectures and laboratories</b></p> <ol style="list-style-type: none"> <li>1. Materials posted on the Educational Portal</li> <li>2. <b>Kokpity menedżerskie w analizie i prezentacji danych biznesowych z wykorzystaniem MS Excel 2016,</b></li> </ol> <p><b>Buchnowska D.</b> (red.), WZ UG 2016, Sopot WZ UG 2016, Sopot</p> <p><a href="https://wzr.ug.edu.pl/nauka/upload/files/Kokpity%20mened%C5%BCerskie%20w%20analizie%20i%20prezentac">https://wzr.ug.edu.pl/nauka/upload/files/Kokpity%20mened%C5%BCerskie%20w%20analizie%20i%20prezentac</a></p><br><ol style="list-style-type: none"> <li>3. <a href="#">WolkenbachJ.</a>, <b>Excel 2016 PL Biblia</b>., Helion, Gliwice 2016</li> </ol> <p><b>A.2. for individual studing</b></p> <ol style="list-style-type: none"> <li>1. <b>Wrycza S.</b> (red.), <b>Informatyka ekonomiczna. Podręcznik akademicki</b>, PWN Warszawa 2019</li> <li>2. <b>Masłowski K.</b>, <b>Excel 2016 PL Ćwiczenia zaawansowane</b>, Helion, Gliwice 2016</li> </ol> |
|                                                                | Supplementary literature                                                                                                                                                                                                                                                                                                            | <p><b>Recommended bibliography:</b></p> <ol style="list-style-type: none"> <li>1. <b>Alexander M.</b>, <b>Programowanie w VBA. Excel 2016 PL. Vademecum Walkenbacha</b>, Helion, Gliwice 2016</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                | eResources addresses                                                                                                                                                                                                                                                                                                                | <p>Podstawowe</p> <p><a href="https://wzr.ug.edu.pl/nauka/upload/files/Kokpity%20mened%C5%BCerskie%20w%20analizie%20i%20prezentac">https://wzr.ug.edu.pl/nauka/upload/files/Kokpity%20mened%C5%BCerskie%20w%20analizie%20i%20prezentac</a></p> <p>- Buchnowska D. (red.), WZ UG 2016, Sopot WZ UG 2016, Sopot</p> <p>Adresy na platformie eNauczanie:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Example issues/<br>example questions/<br>tasks being completed | <p>MS EXCEL: Create an estimate cost for opening a new business in town X.</p> <p>Serach Report: Property rental report in town X.</p> <p>CMS: Create a prototype of website for your business.</p> <p>Visual communication: Create a presentation that encourages a potential investor to partially finance your new business.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Work placement                                                 | Not applicable                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

Document generated electronically. Does not require a seal or signature.