UNIVERSITY OF ZIELONA GÓRA

FACULTY OF MATHEMATICS, COMPUTER SCIENCE AND ECONOMETRICS

FULL-TIME COURSE PROGRAMME

course: **COMPUTER SCIENCE AND ECONOMETRICS**

cycle: **second cycle**

profile: **general academic**

recruitment in the academic year
2022/2023

1. General characteristics of the course programme

Course	Computer Science and Econometrics
Cycle	Second-cycle programme
Profile	General academic
Course delivery method	Full-time
Specification of the fields of science and scientific disciplines or fields of art and artistic disciplines to which the learning outcomes apply (including the leading discipline), and specification of percentage share of each discipline in the number of ECTS credits required to obtain qualifications corresponding to the level of education	Exact and natural sciences Disciplines: Mathematics (93 ECTS credits - 77%) – leading discipline Computer Science (27 ECTS - 23%)
Professional title awarded to graduates	Master (Polish title: *magister*)
Scientific category held by the basic organizational unit of the university	B

2. Indication of the relationship between the course programme and the mission of the university and its development strategy

The graduates are specialists in the use of information systems in managing enterprises and the national economy, as well as the application of quantitative methods to analyse macro and micro economic processes.
The introduction of the course is consistent with the objective [K2] "Broadening the educational offer - orientation of learning outcomes to the needs of the labour market" specified in the "Development Strategy of the University of Zielona Góra until 2020" in the area of "Education". In addition, the course complies with the "Digital Agenda for Europe" and the "Agenda for New Skills and Jobs" in the Europe 2020 EU strategy.

3. Description of competencies expected from a candidate applying for admission to the first-cycle programme, second-cycle programme or single cycle master's programme

The candidate applying for admission to the second-cycle programme must be the holder of the following Polish degrees: *magister, magister inżynier, inżynier, licencjat* or other equivalent to bachelor or master degree.

The candidate applying for admission to the second-cycle programme must have competencies necessary to undertake second-cycle studies in Computer Science and Econometrics, and in particular:
- the candidate must have basic knowledge of economics, management and finance, information systems as well as statistics and econometrics;

- the candidate must be able to design and use information systems in company management;

- the candidate must be able to use mathematical, statistical and econometric methods and tools to analyse macroeconomic and microeconomic processes.;

4. Analysis of the compliance of the assumed learning outcomes with the needs of the labour market

The graduates acquire knowledge needed for advanced analysis of economic phenomena on a microeconomic and macroeconomic scale. Thy are specialists in the design and implementation of advanced IT systems and databases in business and administrative organizations, and in consulting activities that require analytical skills and the knowledge of mathematical, statistical, econometric and IT tools.

Students graduating from *business analytics* can be employed in consulting companies, business management centres or business and administrative organizations.

Students graduating from *statistics and econometrics* can be employed in economic information processing centres or in business management centres. They can also work in public administration and in organisations that plan and forecast the development of economic phenomena.

Students graduating from *information systems* can be employed in computer companies, IT centres, and R& D centres that use information technologies.

5. Description of methods of verifying and evaluating learning outcomes achieved by students throughout the entire educational process

The methods of verification and assessment of the learning outcomes achieved by the student are included in the syllabuses for individual subjects.

6. Course programme:

1.1 Description of the expected learning outcomes, with the indication of the field of science and scientific disciplines or fields of art and artistic disciplines to which the learning outcomes for this course relate.

See Appendix for:

- *Learning outcomes;*

- *Reference to Polish Qualifications Framework descriptors*

1.2 Programme indicators

Programme indicators concerning the evaluated course	
Number of ECTS credits required to obtain qualifications corresponding to the level of education	at least 120 ECTS credits

Number of semesters required to obtain qualifications corresponding to the level of education	4
Number of ECTS credits assigned to classes requiring direct participation of academic teachers and students	at least 60 (50%)
Number of ECTS credits assigned to the modules of classes related to the conducted scientific research in the field/fields of science/art corresponding the evaluated course during which the student acquires in-depth knowledge and the ability to conduct scientific research (for academic profile courses)	at least 103 (86%)
Number of ECTS credits assigned to the modules of classes related to practical vocational preparation aimed at acquiring practical skills and social competencies by the student (for courses of practical profile)	-
Number of ECTS credits assigned to classes in humanities or social sciences (in the case of courses assigned to fields other than humanities or social sciences, respectively)	humanities – at least 3 social sciences - 2
Number of ECTS credits assigned to elective courses/modules	at least 42 (35%)
Number of ECTS credits assigned to internships and number of hours of internships (if the programme provides for internships)	-
Number of hours of physical education classes – for full-time first-cycle and single-cycle courses	-

Modules of classes related to conducted scientific research in the field of science or art related to the programme, aimed at gaining in-depth knowledge and skills to conduct scientific research by the student			
Module	Instructional method	Total number of hours	ECTS credits
Core subjects	L, Lab	45	7
Subjects in the major area of study	L, C, Lab, P, S	645	67
Subjects offered for the course / compulsory subjects for specialisation courses	L, C, Lab, P, S	285	at least 29
Total:		975	103 (86%)

General academic profile – *includes classes related to scientific activity conducted at the university in the discipline or disciplines to which the course is assigned, in the amount exceeding 50% of ECTS credits and takes into account the participation of students in classes preparing for conducting scientific activity or participation in this activity.*

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Elective classes modules			
Module	Instructional method(s)	Total number of hours	ECTS credits
Subjects offered for the course / compulsory subjects for specialisation courses	L, C, Lab, P, S	285	at least 29
Humanities subjects social science subjects	C C	30 30	at least 3 at least 2
Elective subjects needed to obtain 30 ECTS credits in semester	L, C, Lab, P	90	at least 8
Total:		435	at least 42 (35%)

The student is allowed to choose classes to which ECTS credits are assigned in the amount of not less than 30% of the total number of ECTS credits.

1.3 Description of subjects or groups of subjects - with learning outcomes, content, instruction forms and teaching methods ensuring the achievement of the outcomes, and ECTS credits (syllabuses);

Appendix – subject catalogue in the SylabUZ system

1.4 Methods of verifying and evaluating the student's achievement of the assumed learning outcomes

Methods of verifying and evaluating the achievement of learning outcomes are described in the syllabuses.

The rules regarding diplomas are defined in the resolution: Rules for the preparation and evaluation of diploma theses at the Faculty of Mathematics, Computer Science and Econometrics.

1.5 Study programme with class modules;
See appendix.

Graduation requirements

The course in *computer science and econometrics* lasts 2 years (4 semesters). The minimum

number of ECTS credits is 120. The student must obtain at least 30 ECTS credits in each semester.

• The student of *computer science and econometrics* is awarded the master's degree (In Polish: magister) after

  1. completing courses for which they obtained at least 120 ECTS credits, including
  – compulsory module for *computer science and econometrics*,
  – additional subjects module offered in *computer science and econometrics* programme for which the student obtained at least 29 ECTS credits,
  – humanities module offered in *computer science and econometrics* programme for which the student obtained at least 3 ECTS credits, and social science module, for which the student obtained at least 5 ECTS credits

2. passing the diploma examination for which they received grade 3 or higher.

  • The student of *computer science and econometrics* is awarded the master degree (Polish *magister*) with one of the following specialisations: *Business Analytics, Statistics and Econometrics, Information Systems* after

1.   completing courses for which they obtained at least 120 ECTS credits, including
  – compulsory module for *computer science and econometrics* course,
  – specialisation compulsory module for which the student obtained 29 ECTS credits,
  – humanities module offered to computer science and econometrics students for which they obtained at least 3 ECTS credits, and social science module, for which the student obtained at least 5 ECTS credits

2.   passing the diploma examination for which they received grade 3 or higher.

1.6 The duration, rules and form of student internships

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