

Intended Learning Outcomes of the Bachelor Industrial Engineering and Management Science programme.

| Professional Academic Qualifications BSc | |
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| | <p>The graduate is able to identify, comprehend, assess, correctly apply, and integrate existing scientific knowledge that can be used for analysing problems and designing solutions, in the domains of:</p> <ul style="list-style-type: none"> • Production and logistics; • Information systems; • Finance and accounting; • Other fields in business administration (law; marketing; human resources; entrepreneurship); • Mathematics, statistics, empirical research methods. |
| A1 | <p><i>The student has a global overview of the structure of research and design processes.</i></p> <p>The student is able to:</p> <ul style="list-style-type: none"> • Identify the various steps in performed research and design • Properly break up own research and design activities into subprocesses <p>These processes are intertwined: Research is needed for producing knowledge that is used for designing solutions in a specific context. Such knowledge is produced in a purposeful and methodical way (using scientific research methods). It may or may not be generalizable knowledge</p> |
| A2 | <p><i>The student has an overview of quantitative and qualitative empirical research methods.</i></p> <p>The student is able to:</p> <ul style="list-style-type: none"> • Analyse performed research as to the methodological aspects • Select an appropriate method and explain this choice for research to be performed • Apply this method in relatively simple cases |
| A3 | <p><i>The student has an overview of quantitative modelling techniques for operational processes, specifically in the domains of</i></p> <ul style="list-style-type: none"> • Operations research models • Information systems models • Finance and accounting models <p>The student is able to:</p> <ul style="list-style-type: none"> • Analyse the results of modelling activities • Select an appropriate modelling technique and explain this choice • Apply this technique in relatively simple cases. |
| A4 | <p><i>The student is able to integrate existing knowledge, modelling techniques, and research results for designing, validating, and selecting solutions in relatively simple cases.</i></p> <p>This is challenging, because existing knowledge may not fully apply to a specific situation, models are always stylized, empirical research always has limitations, and some aspects have been left out of scope from the beginning anyway</p> |
| A5 | <p><i>The student has an overview of implementation methods and processes.</i></p> <p>The student is able to:</p> <ul style="list-style-type: none"> • (critically) Analyse ongoing or finished implementation processes • Plan globally an implementation process in a relatively simple case |
| A6 | <p><i>The student has an overview of evaluation methods and techniques.</i></p> <p>The student is able to:</p> <ul style="list-style-type: none"> • Analyse the results of performed evaluations • Select appropriate evaluation methods and explain this choice • Carry out an evaluation in relatively simple cases |
| A7 | <p><i>In order to be able to meet these competencies, the graduate must have mastered the following disciplines:</i></p> <ul style="list-style-type: none"> • Mathematics and statistics - [2] (see Legend) • Finance and accounting - [2] (see Legend) • Production and logistics - [2] (see Legend) • Information systems - [2] (see Legend) • Law, organization theory, marketing - [1] (see Legend) |
| General Academic Qualifications BSc | |
| B1 | <p><i>The student is able to work autonomously and is self-reliant</i></p> <p>The student:</p> |

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| | <ul style="list-style-type: none"> • Is able to select and use appropriate time management techniques • Is able to select and apply appropriate principles of project management • Can perform complex assignments without detailed briefs and within given boundaries |
| B2 | <p><i>The student is able to work in multidisciplinary teams</i></p> <p>The student:</p> <ul style="list-style-type: none"> • Can organize and structure meetings and has basic knowledge of decision-making techniques • Can adopt different roles within a team • Can reflect on the functioning of himself and others • Is able to give and receive effective feedback |
| B3 | <p><i>The student is able to communicate effectively, in oral and written form, with various stakeholders</i></p> <p>The student:</p> <ul style="list-style-type: none"> • Can deliver a strong, valid, and scientific line of argumentation in a concise manner and an acceptable amount of time • Can explain various concepts and present data • Can give a presentation aimed at knowledge transfer with use of appropriate audio-visual means • Can design, conduct, and report an interview |
| B4 | <p><i>The student is able to conduct a bibliographic search and knows how to reference correctly</i></p> <p>The student:</p> <ul style="list-style-type: none"> • Can systematically search for and select relevant scientific literature for projects and reports • Is able to properly use quotation and paraphrases • Is able to compile a relevant reference list in APA-style |
| B5 | <p><i>The student is able to recognise and reflect on ethical and societal aspects in the IEM domain</i></p> <p>The student:</p> <ul style="list-style-type: none"> • Can identify and address General Data Protection Regulation and confidentiality issues • Can describe ethical implications of using research methods and technologies |
| B6 | <p><i>The student is able to reflect on and direct personal and professional behaviour and development</i></p> <p>The student:</p> <ul style="list-style-type: none"> • Is able to analyse own strengths and weaknesses and compose and execute a personal development plan • Is able to balance study and other activities with effective time management |
| B7 | <p><i>Has enough basic knowledge and competencies to follow a broad range of MSc programmes that are adjacent to the IEM domain.</i></p> |

Level Legend

- [1] Knowledge of the basic concepts and principles
- [2] Application in relatively simple and monodisciplinary cases
- [3] Application in relatively simple interdisciplinary cases