

Admission Criteria for Faculty of Informatics MU Studies

Programme type: **Follow-up Master's
(accredited in English)**

Valid for academic year: **2025/2026**

Requirements for programmes accredited in English:

- **Software Systems and Services Management**
- **Computer Systems, Communication and Security**
- **Visual Informatics**

The applicants are obliged to submit all these documents (in electronic form):

- Completed application (<http://is.muni.cz/prihlaska/>).
- Curriculum vitae.
- Diploma/statement of expected graduation (at least) at a Bachelor's degree from an accredited university, including at least three full years of academic study (a minimum of 180 ECTS or equivalent).
- Diploma supplement/transcript.
- List of select computer science/math courses (with detailed syllabi).
- Proof of English language at least at B2 level¹.
- Motivation letter (related to the university/faculty/study programme of choice).
- Essay (related to the study programme/research topic of choice).
- Own academic work/publication (e.g. bachelor, diploma thesis).
- Copy of passport.
- If applicable, documentation of name change (e.g. marriage certificate).
- Two references on an official headed paper, one of which should be an academic reference.

¹ English knowledge on at least B2 CEFR level

- TOEFL: paper-based 563 points, internet-based 85 points;
- IELTS: 6.5 (with no individual score below 5.5);
- PTE 58;
- Cambridge ESOL examinations - CAE (A or B), CFE (grade A), CPE (A, B or C), or 180 (176) points as a minimum on the Cambridge English Scale;
- Exemption from English certificates - students who have completed their education in Canada (except Quebec), USA, UK, Ireland, New Zealand or Australia,
- Official confirmation from your university stating that your previous bachelor's study was held in English, accompanied by the online Duolingo English Test <https://englishtest.duolingo.com/home> results with the minimum score of 115 points.

Submitted documents will be evaluated according to the following scoring system:

| Evaluated component | Max points |
|--|-------------------|
| List of selected computer science/math courses The applicant declares the completion of selected courses tightly connected to computer science and mathematics. The applicant should fill in the "Curriculum analysis" form attached to this document. | 50 |
| Motivation letter Original authorial work of length up to one A4 page. The use of AI is strictly forbidden. | 10 |
| Essay Original authorial work of length up to one A4 page. The use of AI is strictly forbidden. | 10 |
| Study results An excellent or near-excellent performance is expected and shall be documented by at least one of the following means: <ul style="list-style-type: none"> • percentile 75, based on the evaluation of all students in the previous programme, • GPA 3.0 or higher, for a 4-point GPA, • GPA 4.0 or higher, for a 5-point GPA, • study average grade B or better on the ECTS scale, • study average 2.0 or lower on the 1-4 scale. | 20 |
| Own academic work/publication Bachelor/Diploma thesis or published conference/journal paper. | 10 |

The total number of points is decisive for the subsequent decision on admission, invitation to take the entrance exam or interview, according to the following table:

| Received points | Decision |
|------------------------|--|
| 0 - 49 | Entrance exam required |
| 50 - 69 | Conditional acceptance (on-line discussion required) |
| 70 - 100 | Accepted (entrance exam waiver) |

Deadlines for application submission:

All submitted and paid applications containing all required attachments will be continuously evaluated within one month from the set date. The dates for the evaluation of complete applications are:

The study from autumn 2025 15. 1. 2025, 15. 2. 2025, 15. 3. 2025, 15. 4. 2025.
 The study from spring 2026 15. 7. 2025, 15. 8. 2025, 15. 9. 2025, 15. 10. 2025.

Entrance exam dates:

Studies from autumn 2025: June 2025
Studies from spring 2026: end of January/beginning of February 2026

Form of the entrance exams

The entrance tests examine the applicant's ability to successfully study a follow-up Master's programme at the Faculty of Informatics MU. The tests consist of questions concerning basic Computer Science and Mathematics knowledge, and they take the form of a single-choice test of five options. The correct answer is attributed one point, an incorrect answer is deducted by 0.25 points; multiple selected answers or no answers result in zero points.

Entrance exam thematic areas

Computer Science Areas

1. Algorithms and data structures (algorithm complexity, sorting algorithms, basic abstract data structures and their implementation).
2. Programming (writing and interpreting a program in a common imperative programming language or pseudocode, principles of object-oriented programming, basic properties of imperative, object-oriented and functional programming languages) and fundamentals of software engineering.
3. Databases (relational data model, normal forms, SQL).
4. Computer Networks (connectionless networks, ISO OSI and TCP/IP models, functions, addressing and basic protocols of particular levels, switching and routing in IP networks).
5. Principles of computer systems (numeral systems in computer practice, processors, memories, operating system, peripherals, basic logic circuits).

Mathematics Areas

6. Graphs and graph algorithms (graph types and data structures, distance in graphs, graph connectivity, trees, graph traversals, spanning tree).
7. Sets, relations, functions (Cartesian product, power set, partial order relation, equivalence, bijection) and logic (propositional and predicate logic, syntax and semantics, satisfiability, equivalence of formulas).
8. Calculus (analysis of a function and its graph - monotonicity, convexity, local and global extrema, limit, derivative, integral).
9. Linear algebra (operations with matrices, linear transformation, solving systems of linear equations).
10. Probability and descriptive statistics (elementary combinatorics, conditional probability, probability distribution, mean, median, variance, correlation).

Assessment of the entrance exams

The determining factor for success in entrance exams is the percentile calculated based on the sum of the number of points obtained in both entrance tests. The percentile expresses how many percent of the applicants have lower or equal performance.

Estimated number of admitted students

| Study programme | Studies from | Number of students |
|--|---------------------|---------------------------|
| - Software Systems and Services Management - Computer Systems, Communication and Security - Visual Informatics | autumn 2025 | 150 |
| - Software Systems and Services Management - Computer Systems, Communication and Security - Visual Informatics | spring 2026 | 150 |

Curriculum analysis

| Computer science | | |
|--------------------------------|-----------------------|---|
| Course | Code | Corresponding course(s) in applicant's transcript |
| Computer architecture | PB150 | |
| Object oriented programming | PB006 | |
| Database systems | PB154 | |
| Formal languages and automata | IB005 | |
| Machine learning | IB031 | |
| Operating systems | PB152 | |
| Computer networks | PB156 | |
| Software engineering | PB007 | |
| Algorithms and data structures | IB002 | |
| Mathematics | | |
| Course | Code | Corresponding course(s) in applicant's transcript |
| Linear algebra | MB151 | |
| Discrete mathematics | IB000 | |
| Probability and statistics | MB153 | |
| Calculus | MB152 | |