

Z003	Obligatory - Semesters 3 and 4	English/German for Mathematics/Computer Science Students II	L+P+S 0+0+2 0+0+2	ECTS 3 3
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English for Mathematics/Computer Science Students II

Course objectives. Students should acquire vocabulary in the fields of mathematics and computer science as well as apply structures typical of ESP (English for Specific Purposes). They should be taught and trained how to read and understand various pieces of literature pertaining to mathematics and computer science, discuss topics in their fields of study and translate simple ESP texts from Croatian into English. Students should also be taught how to individually present a selected topic in English.

Necessary course prerequisites. English for Mathematics/Computer Science Students I.

Syllabus.

History of mathematics: Ancient mathematics, Greek mathematics, Medieval and Renaissance mathematics, Islamic and Indian mathematics, Mathematics since the 16th century (17th-20th century), Current mathematics. Number systems. Algebra. Analytic geometry. Etymology of numbers from 0 to 9. Idioms with numbers 0-9. Fibonacci and Lucas numbers. Thales of Miletus. Ludolph van Ceulen and π .

Storage devices. Basic software: Operating systems. The graphical user interface. A walk through word processing. Spreadsheets. Databases. Faces of the Internet. Creative software: Graphics and design. Desktop publishing. Multimedia. Jobs in computing. Computers tomorrow.

Grammar: Principles and techniques used in writing an abstract of a scientific paper. Revision of tenses. Sequence of tenses. Noun Clauses. Questions. Polite questions. Question tags. Reported speech. Reported questions. Articles. Compounds. Word formation. Prepositions.

Expected learning outcomes.

- to develop language skills (reading, writing, speaking and listening) necessary for receptive and productive use of language in spoken and written discourse;
- to distinguish between, define and understand the basic ESP terminology from the fields of mathematics and computer science, and use it in other contexts;
- to read, analyse and present a more complex text, with special stress placed on nonverbal forms of communication;
- to take part in oral presentations in relation to the given ESP topic, express one's own opinion, write a review;
- to translate more complex texts from English into Croatian and vice versa independently and using appropriate literature (dictionaries, textbooks, Internet sources, websites, etc.);
- to deliver a presentation on a specific topic individually, stressing thereby important elements and details, as well as to use ESP terms correctly and demonstrate the ability to approach his/her own topic analytically and critically;
- to notice, analyse and apply the principles of formation and use of typical structures.

Teaching methods and student assessment. This course is organised through seminars which are obligatory for all students. Various audio-visual teaching aids are used in the course (LCD, PC, DVD), as well as numerous professional journals and books available in the Department's library. From time to time, students are assigned homework or small project tasks, and every student should individually present a selected ESP topic, which altogether affects their final grades. Students' knowledge is continuously assessed by four mid-term exams, two per each semester, and the oral part of the examination takes place at the end of academic year.

Can the course be taught in English: Yes.

Basic literature

1. Ferčec, A Course in Scientific English: Mathematics, Physics, Computer Science, Odjel za matematiku/Elektrotehnički fakultet, Osijek, 2001.
2. R. Murphy, English Grammar in Use, CUP, Cambridge, 1999.

Recommended literature

1. C. Clapham, The Concise Dictionary of Mathematics, OUP, Oxford, 1996.
2. Oxford Dictionary of Computing (Ed. V. Illingworth), OUP, Oxford, 1996.
3. Glendinning, Eric H.; McEwan, J.: Oxford English for Information Technology, Oxford University Press, 2006.
4. Scientific and professional journals in the fields of mathematics and computer science.

German for Mathematics/Computer Science Students II

Course objectives. Students should acquire vocabulary in the fields of mathematics and computer science as well as apply structures typical of GSP (German for Specific Purposes). They should be taught and trained how to read and understand various pieces of literature pertaining to mathematics and computer science, discuss topics in their fields of study and translate simple GSP texts from Croatian into German. Students should also be taught how to individually present a selected topic in German.

Necessary course prerequisites. German for Mathematics/Computer Science Students I.

Syllabus:

Mengen. Menge der rationalen Zahlen. Aussagen über Produkte. Menge der reellen Zahlen. Gleichungen. Hinreichende und notwendige Bedingung. Beweismethoden. Abbildungen. Funktionen. Das Betriebssystem. Anwendersoftware. Programmierung. Vernetzung und Kommunikation. Datensicherheit und Computerviren. Grammatik: Wortbildung. Pronominaladverbien. Die Arten der Sätze (einfache und zusammengesetzte Sätze). Infinitivkonstruktionen.

Expected learning outcomes.

- to develop language skills (reading, writing, speaking and listening) necessary for receptive and productive use of language in spoken and written discourse;
- to distinguish between, define and understand the basic GSP terminology from the fields of mathematics and computer science, and use it in other contexts;
- to read, analyse and present a more complex text, with special stress placed on nonverbal forms of communication;
- to take part in oral presentations in relation to the given GSP topic, express one's own opinion, write a review;
- to translate more complex texts from German into Croatian and vice versa independently and using appropriate literature (dictionaries, textbooks, Internet sources, websites, etc.);
- to deliver a presentation on a specific topic individually, stressing thereby important elements and details, as well as to use GSP terms correctly and demonstrate the ability to approach his/her own topic analytically and critically;
- to notice, analyse and apply the principles of formation and use of typical structures.

Teaching methods and student assessment. This course is organised through seminars which are obligatory for all students. Various audio-visual teaching aids are used in the course (LCD, PC, DVD), as well as numerous professional journals and books available in the Department's library. From time to time, students are assigned homework or small project tasks, and every student should individually present a selected GSP topic, which altogether affects their final grades. Students' knowledge is continuously assessed by four mid-term exams, two per each semester, and the oral part of the examination takes place at the end of academic year.

Can the course be taught in English: No.

Basic literature

1. Autorengruppe, Deutsch – Ein Lehrbuch für Ausländer – Mathematik, VEB Verlag Enzyklopädie Leipzig, 1978.
2. Dreyer-Schmitt, Lehr- und Übungsbuch der deutschen Grammatik, Max Hueber Verlag, München, 2000.

Recommended literature

1. H. Binder, R. Buhlmann, Hinführung zur mathematisch-naturwissenschaftlichen Fachsprache, Teil 1: Mathematik, Max Hueber Verlag, München, 1981.
2. J. Ortmann, Einführung in die PC-Grundlagen, Tandem Verlag, Herne, 1993.
3. Scientific and professional journals in the fields of mathematics and computer science.