Optional Basic Course 4-8: Logic and discrete mathematics

About the course

subject	Den Naturvidenskabelige Bacheloruddannelse / Den internationale naturvidenskabelige bacheloruddannelse
Activity type	Basic course
Teaching language	English
Registration	Registration is happing through stads selvbetjeningwithin the announced registration period, as you can see on the Studyadministration homepage. When registering for courses, please be aware of the potential conflicts between courses or exam dates on courses. The planning of course activities at Roskilde University is based on the recommended study programs which do not overlap. However, if you choose optional courses and/or study plans that goes beyond the recommended study programs, an overlap of lectures or exam dates may occur depending on which courses you choose.
Detailed description of content	**Course runs in Block C** **The course is not created if too few are enrolled** Please contact Torben Braüner (torben@ruc.dk) for more information. Information about the previous edition of the course can be found here: http://webhotel4.ruc.dk/~torben/Spring19DiscreteMath.html
Course material and Reading list	Kenneth H. Rosen, Discrete Mathematics and Its Applications, International Version, 6th edition, Mc-Graw Hill. ISBN-13: 978-0071244749, ISBN-10: 0071244743 The book can be bought a number of places, for example at Amazon: https://www.amazon.com/Discrete-Mathematics-Applications-International-Version/dp/0071244743/ref=sr_1_1?s=books&ie=UTF8&qid=1358745865&sr=1-1&keywords=9780071244749 Beware: The book comes in a number of different editions, it's important that you get hold of the correct version specified above - please check the ISBN number. Further material will be made available at Moodle.
Evaluation- and feedback forms	All courses include formative evaluation during the course based on dialogue between the students and the teacher(s). All courses are also evaluated through a questionnaire in SurveyXact and oral evaluation at the end of the course. The Study Board will handle all evaluations along with any comments from the course responsible teacher.
Administration of exams	Natbach Studieadministration (natbach-studieadministration@ruc.dk)
Responsible for the activity	Torben Braüner (torben@ruc.dk)
ECTS	5
Learning outcomes and assessment criteria	- Knowledge of logic and discrete mathematics as well as example applications of logic and discrete mathematics - Skills to communicate logical and algorithmic reasoning, both oral and written - The competence to apply logic and discrete mathematics as a modelling tool, as well as a specification and communication tool relevant to the Natural Sciences (not at least Computer science)
Overall content	The course will cover propositional- and predicate logic (informal and formal), sets and functions, algorithms, mathematical induction, formal languages.

Teaching and working methods	Survey lectures, group and individual work, including theory building problems and traditional exercises. During the semester the student will have time to work on 2-3 mini-projects based on questions provided by the lecturer and receive feedback.
Type of activity	BC 4-8 course
Form of examination (p1)	Individual oral exam with a starting point in in 2-3 mini projects (based on a problem description provided by the lecturer possibly done by a group. The student begin the exam with a short presentation after which the exam takes place as a dialogue There may be posed questions in any part of the curriculum. Permitted group size: 2-2 students. The character limits of the written product are: For 1 student: 14,400-36,000 characters, including spaces. For 2 students: 14,400-36,000 characters, including spaces. The character limits include the cover, table of contents, bibliography, figures and other illustrations, but exclude any appendices. Time allowed for exam including time used for assessment: 20 minutes. The assessment is an overall assessment of the written product(s) and the subsequent oral examination.. The assessment is individual and based on the student's individual performance. Permitted support and preparation materials for the oral exam: Own mini-projects. Assessment: 7-point grading scale. Moderation: Internal co-assessor.
Form of Re-examination (p1)	Samme som ordinær eksamen
Exam code(s)	Exam code(s) : U26571

Course days:

Hold: 1

Logic and discrete mathematics (NAB/NIB)

time	09-03-2021 12:15 til 09-03-2021 16:00
Teacher	Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time	11-03-2021 12:15 til 11-03-2021 14:00
Teacher	Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   16-03-2021 12:15 til
            16-03-2021 16:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   18-03-2021 12:15 til
            18-03-2021 14:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   23-03-2021 12:15 til
            23-03-2021 16:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   25-03-2021 12:15 til
            25-03-2021 14:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   30-03-2021 12:15 til
            30-03-2021 16:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   06-04-2021 12:15 til
            06-04-2021 16:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   08-04-2021 12:15 til
            08-04-2021 14:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   13-04-2021 12:15 til
            13-04-2021 16:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   15-04-2021 12:15 til
            15-04-2021 14:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   20-04-2021 12:15 til
            20-04-2021 16:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   22-04-2021 12:15 til
            22-04-2021 14:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   27-04-2021 12:15 til
            27-04-2021 16:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics (NAB/NIB)

time   29-04-2021 12:15 til
            29-04-2021 14:00

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics - Exam (NAB/NIB)

time   03-06-2021 08:15 til
                            03-06-2021 18:00

forberedelsesnorm   ikke valgt

forberedelsesnorm D-VIP   ikke valgt

location   27.2-054 - lokale 3 (26)

Teacher   Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics - Exam (NAB/NIB)

time   04-06-2021 08:15 til
                            04-06-2021 18:00

forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.2-054 - lokale 3 (26)
Teacher	Torben Braüner (torben@ruc.dk)

Logic and discrete mathematics - Reexam (NAB/NIB)

time	13-08-2021 08:15 til 13-08-2021 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.2-054 - lokale 3 (26)
Teacher	Torben Braüner (torben@ruc.dk)