

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	Tilmelding sker via stads selvbetjening indenfor annonceret tilmeldingsperiode, som du kan se på Studieadministrationens hjemmeside Når du tilmelder dig kurset, skal du være opmærksom på, om der er sammenfald i tidspunktet for kursusafholdelse og eksamen med andre kurser, du har valgt. Uddannelsesplanlægningen tager udgangspunkt i, at det er muligt at gennemføre et anbefalet studieforløb uden overlap. Men omkring valgfrie elementer og studieplaner som går ud over de anbefalede studieforløb, kan der forekomme overlap, alt efter hvilke kurser du vælger. Registration is happening through stads selvbetjening within 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. The course is not created if too few are enrolled
Detailed description of content	Course runs in Block C 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	Morten Blomhøj (blomhoej@ruc.dk) Torben Braüner (torben@ruc.dk)
Type of examination	Individual oral examination without preparation. The examination will be based on a question that is drawn at the start of the examination.

The oral examination starts by extracting a sub-element from the portfolio.

The examination is conducted as a dialogue based on the randomly drawn sub-topic. During the examination, questions can be asked regarding the entire syllabus. Examination time, including drawing a question and discussion of the examinee's performance. 20 minutes.

Permitted support and preparation materials: All.

Assessment: 7-point grading scale.

Moderation: Internal co-assessor.

Re-examination:

Same as ordinary

ECTS 5

Learning outcomes and assessment criteria

- Knowledge of logic and discrete mathematics as well as an understanding of what occurs in a given application situation
- Skills to be able to both in oral and written communicate logical and algorithmic reasoning
- The competence to be able to apply logic and discrete mathematics as modelling tool and specification and communication tool relevant to contexts within the Natural Sciences (not at least Computer science)

Overall content

The course will cover proposition and predication logic (informal and formal), quantities and functions, algorithms, mathematical induction and formal languages.

Teaching and working methods

The type of instruction switches between overview lectures, group and individual work with theory-building research questions and assignments, different types of written assignments and a number of mini-projects. The mini-projects are based on research questions provided by the lecturer.

Type of course BC 4-8 course

Exam code(s) Exam code(s) : U26571

Course days:

Hold: 1

NAB/NIB: Logic and discrete mathematics

time	10-03-2020 12:15 til 10-03-2020 16:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	12-03-2020 12:15 til 12-03-2020 14:00
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forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	17-03-2020 12:15 til 17-03-2020 16:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	19-03-2020 12:15 til 19-03-2020 14:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	24-03-2020 12:15 til 24-03-2020 16:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	26-03-2020 12:15 til 26-03-2020 14:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt

location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	31-03-2020 12:15 til 31-03-2020 16:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	02-04-2020 12:15 til 02-04-2020 14:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	07-04-2020 12:15 til 07-04-2020 16:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics

time	14-04-2020 12:15 til 14-04-2020 16:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)

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NAB/NIB: Logic and discrete mathematics

time 16-04-2020 12:15 til
16-04-2020 14:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

location 27.1-089 - teorirum 27 (66)

Teacher Torben Braüner (torben@ruc.dk)

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NAB/NIB: Logic and discrete mathematics

time 21-04-2020 12:15 til
21-04-2020 16:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

location 27.1-089 - teorirum 27 (66)

Teacher Torben Braüner (torben@ruc.dk)

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NAB/NIB: Logic and discrete mathematics

time 23-04-2020 12:15 til
23-04-2020 14:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

location 27.1-089 - teorirum 27 (66)

Teacher Torben Braüner (torben@ruc.dk)

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NAB/NIB: Logic and discrete mathematics

time 28-04-2020 12:15 til
28-04-2020 16:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

location 27.1-089 - teorirum 27 (66)

Teacher Torben Braüner (torben@ruc.dk)

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NAB/NIB: Logic and discrete mathematics

time	30-04-2020 12:15 til 30-04-2020 14:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)
Teacher	Torben Braüner (torben@ruc.dk)
Content	Please see the Moodle page of the course

NAB/NIB: Logic and discrete mathematics - Exam

time	11-06-2020 08:15 til 11-06-2020 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)

NAB/NIB: Logic and discrete mathematics - Exam

time	12-06-2020 08:15 til 12-06-2020 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	27.1-089 - teorirum 27 (66)

NAB/NIB: Logic and discrete mathematics - Reexam

time	12-08-2020 08:15 til 12-08-2020 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	11.1-031 - galleri1 (15)