

Week: April 6 – April 12, 2020

## Topic: **Line integral**

The below provided instructions should guide you through studying the topic. For additional explanation, clarification and extra material contact the Lecture/Tutorial teacher by email or the MS-Teams platform for live online consultation (see webpage for the link).

[https://mat.nipax.cz/mathematics:mathematics\\_ii](https://mat.nipax.cz/mathematics:mathematics_ii)

This week we are starting new chapter on line integral. The integral of a scalar function will be explained during the first lecture, while the vector function integral will be discussed in the second lecture. Most of the applications and associated explanations will be left for the next week.

1) Read and learn the explanation from the textbook. Scanned pages can be found on the web page.

[https://mat.nipax.cz/media/mathematics:pages\\_70-83.pdf](https://mat.nipax.cz/media/mathematics:pages_70-83.pdf)

Some of this material is for this week some for the next one.

*Additional material and alternative explanation with many figures and exercises can be found in (free) online available textbooks*

<http://www.math.wisc.edu/~keisler/calc.html>

namely chapter 13 [http://www.math.wisc.edu/~keisler/chapter\\_13.pdf](http://www.math.wisc.edu/~keisler/chapter_13.pdf)

<https://openstax.org/books/calculus-volume-3/pages/1-introduction>

namely chapter 6 <https://openstax.org/books/calculus-volume-3/pages/6-introduction>

2) Take a look at the solved exercises from our collection of examples

questions: [https://mat.nipax.cz/media/line\\_integral\\_1.pdf](https://mat.nipax.cz/media/line_integral_1.pdf)

complete solutions (in Czech): [https://mat.nipax.cz/media/krivkovy\\_integral\\_komplet.pdf](https://mat.nipax.cz/media/krivkovy_integral_komplet.pdf)

3) As a training solve (at least) the following exercises.

450, 452, 453 – line integral of a scalar function

504, 506, 507 – line integral of a vector function

4) As a long term homework, to be delivered at your return to the school (at latest at the end of semester, prior getting the assessment from tutorials), solve all the line integral exercises from sample exams from our webpage

[https://mat.nipax.cz/media/mathematics:ma2\\_exam\\_1\\_en.pdf](https://mat.nipax.cz/media/mathematics:ma2_exam_1_en.pdf)

[https://mat.nipax.cz/media/mathematics:ma2\\_exam\\_2\\_en.pdf](https://mat.nipax.cz/media/mathematics:ma2_exam_2_en.pdf)

[https://mat.nipax.cz/media/mathematics:ma2\\_exam\\_3\\_en.pdf](https://mat.nipax.cz/media/mathematics:ma2_exam_3_en.pdf)

***If you have some part of the homework done, ready to be checked and corrected by us, please scan it to PDF and send it to us by email.  
Don't wait and leave it at the end of semester!***