



Kunnskap for en bedre verden

TMA4130 MATEMATIKK 4N

Lecture 19: Fourier Analysis: Fourier Series

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Important

If you develop respiratory symptoms, please stay home!

Plan for today

1. We complete the topic on even and odd functions from Lecture 18
2. Sum and scalar multiple of Fourier coefficients
3. Half-range expansions
4. Approximation by trigonometric polynomials

References

The material of this lecture was based on Chapter 11.2-11.4 of the book

Advanced Mathematical Engineering by Erwin Kreyszig (John Wiley & Sons, 10th edition, 2011).

Moreover, we recommend the lecture notes by Morten Nome (in Norwegian), who taught the 2019 edition of this course. You can Morten's lecture notes on Fourier series here:

<https://www.math.ntnu.no/emner/TMA4125/2019v/notater/02-fourierrekker.pdf>.

Next Lecture

- ▶ We continue with the approximation by trigonometric polynomials
- ▶ Fourier integral