

Department of Mathematics
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Course	Course Name : Fourier dan Wavelet Transformation
	Course Code : KM184814
	Credit : 2
	Semester : 8

Description of Course	
<p>In this course students will learn about linear space, normed space, and inner-product spaces, Fourier series, Fourier transforms, discrete Fourier transforms, and applications. In learning in the classroom students will learn and be equipped to understand and to be able to explain the material taught in accordance with teaching materials, Besides, given the tasks that lead to self-study and group work.</p>	
Learning Outcome	
PLO 3	[C4] Students are able to analyze simple and practical problems in at least one field of analysis, algebra, modeling, system optimizations and computing sciences
PLO 4	[C5] Students are able to work on a simple and clearly defined scientific task and explain the results, both written and verbally either on the area of pure mathematics or applied mathematics or computing sciences
Course Learning Outcome	
<ol style="list-style-type: none"> 1. Student can present a function (signal) in Fourier expansion, and can show the accuracy of the presentation 2. Students can apply discrete decomposition / reconstruction in signal processing, especially in compression process and denoising data / signals 	

Main Subject

In this course students will study subjects such as linear space, normed space, and inner product space, Fourier analysis: Fourier series, Fourier transformation, discrete Fourier transformation, and application.

Prerequisites**Reference**

1. Boggess, A., Narcowich, F. J., "A First Course in Wavelets with Fourier Analysis", Prentice-Hall, New Jersey, 2001.
2. Folland, G. B., "Fourier Analysis and Its Applications", American Mathematical Society., 2009.

Supporting Reference