

Honours Seminar - October 20th, 2021
Martin Szyld - *Categories for the Learning Mathematician*
Abstract

I will give examples of familiar constructions that one encounters when working with sets, vector spaces, groups, and topological spaces, and explain how we can see them as actually being "the same notion in different categories". No knowledge of Category Theory will be assumed in the talk.

A question asked often by math students is: when should I learn Category Theory? And a good answer, at least in my opinion, is "when you have enough examples to make sense of the definitions". Perhaps my talk may make you realise that you're already at that point.

(Only) if time permits, I will consider the question: why do we study vector spaces using matrices? (spoiler alert: this is an example of an equivalence of categories).