

***To make mathematics in higher education more enjoyable:
An attempt to make students feel differential equations and Fourier series close***

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Differential equations can be described as the dominant peak in the mathematics range. If we focus on teaching how to solve them, we do not have enough time in class to demonstrate the joy and usefulness of differential equations. Using an approach involving the study of demographics based on UN World Population Census data, we provided students with strategies to tackle more complicated differential equations using a classic type of differential equation solved by variable separation methods. When teaching students Fourier series we have employed physical experiments. This presentation will include a discussion of the instructional tasks used and students' responses to the tasks.