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Learning from experience: the realities of developing mathematics courses for an online engineering programme.

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Summary: Rarely do university departments of mathematics redesign their basic mathematics courses. Through developing an online version of our associate degree in engineering in collaboration with Open Universities Australia, we redesigned the first in a sequence of five engineering mathematics courses. The online cohort proved different to our face-to-face experience. We embarked on a process of refining the unit using experiential learning and action research. The 13 week unit is delivered up to four times a year and this paper reviews the first 10 cycles of enhancements over 3 years and unpacks the layers of hypotheses underlying development decisions. Several category themes were identified with a focus on students, teachers and learning activities. Investment in online developments for mathematics can have multiple flow-on impacts for other teaching modes. Good curriculum design, regardless of environment, will always be a cornerstone of effective course development processes.

Classification: U55 M55 D35

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