

## Textbook checklist

**Title:** Using Counter-Examples in Calculus

**Authors:** John Mason, Sergiy Klymchuk

**Edition:** First?

**Publisher:** Imperial College Press

**Price:** ???

**ISBN:** 978-1-84816-360-7

“Using Counter-Examples in Calculus” provides the serious (or, alternatively, mildly sadistic) mathematics lecturer with a cornucopia of counter examples to falsify conjectures and expose sham statements in first year undergraduate calculus. The first chapter explains the use and importance of counter-examples. The second is a brief philosophical discussion on the relative merits of the use of pathological examples. The third chapter is a list of almost 100 “false statements” spanning functions, continuity, differential and integral calculus. Chapter four forms the major part of the book providing detailed counter-examples to statements in chapter three, with open-ended questions for further exploration.

**Aimed at:** Lecturers of first-year calculus courses for mathematicians and keen undergraduates, with a preference for pure mathematics.

**Presentation – layout and clarity:**

The layout is systematic and clear. Each counter example is illustrated with a suitable explanatory graph.

**Would you recommend it?**

An invaluable resource for lecturers committed to toughening up first year problem sheets in mathematics calculus courses.

148 words (excluding section headings).