

Ethics in Maths

Tim Johnson

*RCUK Academic Fellow in Financial Mathematics
Department of Actuarial Mathematics and Statistics, Heriot Watt University
Maxwell Institute for Mathematical Sciences*

*SMSTC
29 October 2022*

0003
THREE



Are we the baddies?

Motivation of the Course

- Mathematicians are increasingly aware of the ethical issues associated with their practice
 - Financial Crisis of 2008
 - “Weapons of Math Destruction”
 - AI and Big Data
- “Are we the baddies”
 - BBC Prime Time drama portrays mathematicians as the baddies
 - Not police, politicians, journalists or spies



Aim of the Course

- Introduce participants to the theory of ethical decision making
 - Less of a focus on mathematicians
 - Previous running of course revealed students were more interested in general ideas than specific issues
 - Submitted essays were all general
 - Will ground the ideas in mathematical practice

Learning Outcomes

- Understand the basis of ethical choices
 - Prerequisites of moral judgement
 - Different ethical frameworks
- Develop critical thinking
 - Decision making is usually hard
 - Highlight some of the pitfalls
 - Generic skill

Not moral instruction

What will actually happen

- Week 1 – Introduction
- Weeks 2-3 – Foundations of Ethics
- Week 4 – (optional) Assessment
- Weeks 5-8 – Ethical frameworks
- Weeks 9-10 Either:
 - Assignment 2
 - Professional Ethics
 - Ethical influences on maths(depending on people's preferences after W5)

Logistics

- Wednesdays 9:30-11:00
 - Probably 9:30-10:30
- Mainly on-line
 - Fairer for non-Maxwell (Edinburgh) participants
 - Easier for me (based Riccarton)
- ~~October 5 should be at Bayes Centre~~

QUESTIONS

t.c.johnson@hw.ac.uk