

BO1.1. History of Mathematics

Sheet 2 — HT21

Isaac Newton on 'analysis'

The main texts for this second part of the reading course are Isaac Newton's 'De analysi' (written in 1699, published in 1711 as *Analysis per quantitatum series, fluxiones, ac differentias*) and his 'Epistola prior' (June 1676). You should read these during **weeks 3** and **4**. By the end of week 3, you will also be sent some extracts from Émilie du Châtelet's commentaries on Newton's calculus which will be for discussion in the class in week 5.

Ahead of the class in **week 5**, please submit a 2,000-word essay (by email) by 9am on Monday of week 5. Here are some suggestions as to what points you might choose to focus on in your research and your essay. Every essay needs some background to set the context. Beyond that, you should NOT expect to cover everything. There is much too much here. Choose one or two points to focus on.

- What was Newton's motivation?
- How does this text fit into the rest of his corpus?
- Which writers did Newton read and refer to?
- In light of 'De analysi', how accurately does the 'Epistola prior' reflect Newton's early findings in the calculus?
- Summarise the material studied.
- What else (briefly) does the text contain?
- When and how were his ideas taken up?
- How far would you read either text as an exposition of calculus, and how do you think Newton's contemporaries might have read them?

When reading and writing about Newton and infinite series, you might find the following article useful:

- Niccoló Guicciardini, 'Gigantic implements of war: images of Newton as a mathematician', in: Eleanor Robson and Jacqueline Stedall (eds.), *The Oxford handbook of the history of mathematics*, Oxford University Press, 2009, pp. 707–735.