Notes and Supplementary Material

The current module is based on Chapter 4 of the reference textbook.

If you like the history of science, we can highly recommend James Gleick's biography of Isaac Newton, where his work in "Opticks" is discussed in historical context (Isaac Newton, Pantheon Books, 2003).

Fourier series, Fourier analysis, and applications of the Fourier transform are the topic of many books in both mathematics and engineering. Below we just mention a selection.

- For a historical perspective, the original book by Fourier, ''Théorie Analytique de la Chaleur'', is interesting. One can see how difficult it was, in the early 19th century, to prove properties that now follow easily from Hilbert space geometry (e.g. orthogonality of harmonic sines and cosines).
- From an engineering perspective, we recommend the ''The Fourier Transform and its Applications'' by R.Bracewell, McGraw Hill, 2000.
- A beautiful book about Fourier analysis is by Thomas Körner, Fourier Analysis, Cambridge University Press, 1988.

For some interesting reads on the algorithmic side of the Fourier Transform you can check the following:

- Gauss and the History of the FFT
- Homepage of FFTW