In our unit, many projects rely on either Signal or Spike2 software, both made by CED. Although the instruction manuals for these programmes are excellent, they are written for a generic audience, since the user base is very broad. In this course, which I developed in 2018, I have tried to give concrete examples that are more applicable to scientists working in the sport and health field. As you can see from the contents below, I have attempted to cover what I see as the key concepts, from data collection right through to programming in Spike2. The course is aimed at students or first time users of the software.

Anyone with JYU login credentials should be able to access the videos by logging into Moodle (https://moodle.jyu.fi/) and searching for Spike2. I hope you find this useful, and I apologise for the fact that you have to listen to my voice so much. George Clooney was unavailable.

Spike2 course contents:

Introduction (absolute basics, for first time users)
• Working with Analogue Data   • Looking around Spike2

Data Collection
• Introduction to Data Collection   • Making Configurations   • Using the Output Sequencer
• The Role of S2R Files   • Examining the Frequency Content of a Signal (FFT)
• Overlaying Multiple Channels   • Textmark Channels   • Auto-Saving

Data Analysis (online/offline analyses using menu/dropdown functionality)
• Working with Cursors   • Filtering   • Channel Process   • Measure to Data Channel
• Waveform Averaging   • X-Y plots

Programming (getting a computer to do the hard work for you)
• Introduction to Programming   • Introduction to Scripts   • Recording a Script
• Equality versus Assignment   • The Importance of the 'View' Command
• Working with Cursors   • Control of Flow Statements   • Writing Functions
• Debugging • Getting Help

Tips and Tricks (random stuff that didn't fit in any other category)
• Order of Operations   • Assignment shortcuts   • Clear the Log Window
• Copy as Text Versus Copy to Spreadsheet   • Using 'Evaluate'   • Using 'Input'
• Naming Channels   • Remove Channel Processing   • Remove Cursors
• Using Resource Files as Templates   • The Script and Sampling Bars

Script examples (the raw files are available on the Moodle page)
• Some Simple Declaration Statements   • Asking a User For Input
• Writing Functions 1 - A Very Simple Example
• Writing Functions 2 - A Slightly More Complicated Example
• Writing Functions 3 - How to Batch Process A Set Of Files
• Equality versus assignment   • Using the 'View' Command
• Flow of Control Statements   • Assignment shortcuts   • Working With Cursors
• Script for sampling H-reflex and M-wave responses
• Convert a Set of Spike2 Files to Matlab Format
• Batch Convert Spike2 Files to Excel Format
• Force and Activation Level Using the ITT Method
• Multiple Cursor Regions Measurements