

# Online training resources

We're always happy to receive suggestions about useful online resources - if you know of something you think should be included in these lists, please get in touch with us at [itsupport@york.ac.uk](mailto:itsupport@york.ac.uk).

## Python

- [Programming with Python - Software Carpentry](#)
- [Research Software Engineering with Python - Alan Turing Institute](#)
- [Introduction to Notebooks with Colaboratory - Google](#)
- [Automated Testing - CodeRefinery](#)
- See [Matt Williams'](#) and [Chrys Woods'](#) course materials for a range of Python courses

## R

- [Programming with R - Software Carpentry](#)
- [R for Reproducible Scientific Analysis - Software Carpentry](#)

## Subject-specific training

- [Ecology - Data Carpentry](#)
- [Genomics - Data Carpentry](#)
- [Social Sciences - Data Carpentry](#)
- [Geospatial Data - Data Carpentry](#)

## Unix/Linux

- [The Unix Shell - Software Carpentry](#)

## Software Engineering (General)

- [CodeCademy - learn to program, online](#)
- [Essential Software Engineering for Research - Imperial College London](#)
- [Introduction to Jupyter and JupyterLab - CodeRefinery](#)

Both Matt Williams and Chrys Woods provide good training materials on a range of research computing topics:

- [Courses - Matt Williams](#)
- [Courses - Chrys Woods](#)

## MATLAB

- [MATLAB Online Training provided by University of York](#)

## Machine Learning

- [Machine Learning Crash Course - Google](#)

## GPUs

- [NVIDIA Accelerated Computing training](#)
- [NVIDIA Deep Learning Institute](#)



## High Performance Computing

- [Introduction to High Performance Computing - ARCHER](#)
  - [Video Lectures](#)
  - [Course Materials](#)
- [Message-Passing Programming with MPI - ARCHER](#)
  - [Video Lectures](#)
  - [Course Materials](#)
- [RCE, an HPC Podcast - RCE](#)

## Version Control

- [Version Control with Git - Software Carpentry](#)
- [Introduction to Version Control with Git - CodeRefinery](#)
- [Using Git to Code, Collaborate and Share - Imperial College London](#)
- [Collaborative Distributed Version Control with Git - CodeRefinery](#)

## ARCHER2

ARCHER2 provide training materials on a wide range of topics, some of which have been highlighted in other sections below. For a full inventory of training materials, see:

- [ARCHER2 Online Training](#)
- [ARCHER2 Virtual Tutorials and Webinars](#)

## Challenges and interactive apps

- [codewars](#) - programming challenges in many languages
- [Kaggle](#) - data science challenges from a wide range of contexts
- [Project Euler](#) - maths challenges that require efficient programming to solve
- [Regex Crossword](#) - crosswords solved with regular expressions (try [Regex 101](#) if you get stuck!)
- [Regex Golf](#) - interactive regular expression challenges (try [Regex 101](#) if you get stuck!)