DataCamp
https://www.datacamp.com/

Level: *Beginner/Intermediate*
Language: *Python or R*
Cost: *Free introductory courses (full access requires $29/month subscription fee)*

Outline: *DataCamp is an online platform for learning data science techniques, with interactive R, Python, Sheets, SQL and shell courses.*

There is a huge range of subjects catered for, using a variety of programming languages and software types. The platform is operated by individuals developing their own courses (some are employees of DataCamp, some are not) and then having these reviewed by DataCamp to ensure these courses meet the necessary standards.

Prerequisites before taking the course?

The platform caters for absolute beginners through to those with a good knowledge who wish to take courses on very specific areas of data science. For example, there are courses on "Introduction to R" as well as something as specific as "Valuation of Life Insurance Products in R" (which is taught by an actuary!).

What subjects can you learn?

There really is something for everyone! While not an exhaustive list, here are a range of examples:

- *Statistical Modelling*
- *Machine Learning*
- *Unsupervised Learning*
- *Data Visualisation*
- *Credit Risk Modelling*
- *R Shiny and R Markdown*
- *Pandas and Matplotlib*
- *Spreadsheet skills using Google Sheets*
- *SQL*
- *Introduction to Git*

The subjects are often presented by experts in that field. For example, the individual who developed a particular package or a practicing expert in a particular area.

How is DataCamp structured?

The route you take is very much up to you, and you can take any course you wish (although suggested pre-requisite courses are shown). The platform offers a range of "tracks" for you to guide a student if they doesn't know where to start and these are based on a particular career or skill set you want to develop.

For example, a "Data Scientist Career Track" is a set of courses covering the skills you might need to become a Data Scientist is available. This track has a significant number of courses involved (around 25 in that example) whereas a Skill Track is more specific and shorter. For example, the "Data Visualisation Skill Track" is only 5 courses and is more targeted to learning that particular area in more depth.

To study a course, the web-based interactive course requires you watch videos and complete exercises using a programming interface that allows you to use actual code. It behaves very much like the programming environment you would use for R or Python. Points are awarded for each exercise you complete correctly, and help and hints are provided along the way. The setup encourages you to visit the site every day to get 250 points and maintain a streak.

There are also projects you can do to put your skills into practice, which do not have a learning target but are more focused on showing how data science would be used in the real world.

There is also an app which allows you to do bite size data science questions on the go. There are courses specifically designed to be mobile friendly, requiring more multi choice answers than coding.

Once a course is completed you gain a certificate of completion which you could add to your LinkedIn profile.

What are the strengths of DataCamp?

- *The sheer range of courses and ability to learn about almost any area of data science in one place.*
- *The interface is very well modern, clean and well presented.*
- *The emphasis is very much on making data science accessible to all and there are lots of "Introduction to..." courses to get new students up to speed*
- *It doesn't favour a particular programming language. There are plenty of courses which use each of R and Python.*
- *From the R perspective, there are individuals involved who are right at the forefront of current R development such as Hadley Wickham.*
- *There are courses for spreadsheets and SQL. The former are still a very valid tool for data science work and can tend to get forgotten in the rush to do lots of coding.*
- *You can take whatever courses you want, there is a lot of flexibility to target very specific areas rather than be tied to a fixed syllabus.*
- *It is very good value, even as a paid subscription, giving access to so much material for a low monthly/annual fee.*
- *No exams or requirement to be assessed. Study can be done whenever a student wants to.*

What things could be improved?

The biggest single drawback for some could be the lack of a formal qualification. A certificate of accomplishment can be added to LinkedIn, but it may not be given as much weight as other courses that involve assessment. For those starting out in their careers, they may want more concrete evidence of their data science skills.

Conclusion

DataCamp has few drawbacks as a way of learning data science, particularly as a way of improving data science skills which doesn't require being assessed formally and allows students to learn in the most flexible way possible. The examples are good to work through, but as with any exercises, they do not present as much of a challenge as solving everyday problems. For that reason, it is a very useful complement to doing practical data science work, as often you can use a particular course to focus on an area you need to learn about.

The platform caters for a wide range of levels of experience and areas of expertise and so almost anyone can gain something from it. Only those who would prefer something with a formal structure, assessment and accreditation may wish to look elsewhere.

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