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## Machine learning and artificial intelligence TM358

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### *Presentation pattern:*

October to June

### **Qualification description**

TM358 is a compulsory module in R38 BSc (Honours) Data Science. It is also available to study on Q62 BSc (Honours) Computing and IT.

### **Module description**

This module will provide students with a firm understanding of the basis of machine learning systems, the fundamental principles on which machine learning systems operate and with a particular focus on deep learning systems. Students will gain practical experience including how to design, train, evaluate, and deploy deep learning systems, through using a number of machine learning techniques with real-world datasets. The module is a compulsory element of the BSc in Data Science as well as an option within various Computing and IT qualifications. Students are expected to have studied M269 prior to studying TM358.

### **Person specification**

The person specification for this module should be read in conjunction with the [generic person specification](#) for an associate lecturer at The Open University.

As well as meeting all the requirements set out in the generic person specification, you should:

- have a relevant degree or equivalent experience in using machine learning systems
- either be able to program in the Python programming language or be able to program in another imperative programming language and be willing to learn Python
- be able to support students in the practical aspects of the module, including a variety of machine learning tools and the use of Jupyter notebooks
- be able to support students understanding machine learning systems as socio-technical systems, including bias in the creation and use of such systems, and how that relates to wider social issues.
- be enthusiastic and knowledgeable about machine learning as a key skill for the 21st century
- be familiar with the ethical and legal issues surrounding the use of data in AI and machine learning

You will be expected to:

### **Additional information**

In addition to marking three tutor-marked assignments (TMAs) you will also have to encourage and actively monitor student engagement on several forum-based activities and discussions, some of which may contribute to assignment marks, and help students prepare

for the end-of-module assessment (EMA). All materials will be on-screen and all tutorials will be delivered online. The EMA, which will include a report of around 1500 words plus a practical element using techniques and tools learnt in the module, will be marked as a separate activity.

*Module related details - a full explanation can be found on the website*

Credits awarded to the student for the successful completion of a module:	30
Number of assignments submitted by the student:	3
Method of submission for assignments:	2
Level of ICT requirements:	3
Number of students likely to be in a standard group:	20
Salary band:	4
Estimated number of hours per teaching week:	4.0

*The teaching and assessment strategy for this module has not yet been approved and therefore the information is subject to change.*