

Suggested Lesson Plan: Students Without Extensive Coding Experience

Module 1: Introduction to AI Programming with Python

At your leisure

Module 2: Intro to Python

- Lessons (Why Python Programming, Data Types and Operators, Control Flow, Functions and Scripting)
 - 1.5 weeks
- Project_1 (using an Image classifier)
 - 1.5 week

Module 3: Numpy, Pandas, Matplotlib

- Anaconda, Jupyter Notebooks
 - 1 week
- Numpy, Pandas, Matplotlib
 - 1.5 weeks

Module 4: Linear Algebra Essentials

- Lessons (Introduction, Vectors, Linear Combination, Linear Transformation and Matrices and Linear Algebra in Neural Networks)
 - 0.5 week
- Labs (Vectors, Linear Combination and Linear Mapping)
 - 0.5 week

Module 5: Neural Networks

- Lessons (Introduction to Neural Networks, Implementing Gradient Descent and Training Neural Networks)
 - 1 week
- Lesson (Deep Learning with PyTorch)
 - 1 week

Module 6: Image Classifier Project

- 2.5 weeks

Notice that in total this sums up to 11.5 weeks. Use the extra time as you please.

Suggested Lesson Plan: Students With Extensive Coding Experience

Module 1: Introduction to AI Programming with Python

At your leisure

Module 2: Intro to Python

- Lessons (Why Python Programming, Data Types and Operators, Control Flow, Functions and Scripting)
 - 1 weeks
- Project_1 (using an Image classifier)
 - 1 week

Module 3: Numpy, Pandas, Matplotlib

- Anaconda, Jupyter Notebooks
 - 1 week
- Numpy, Pandas, Matplotlib
 - 1 week

Module 4: Linear Algebra Essentials

- Lessons (Introduction, Vectors, Linear Combination, Linear Transformation and Matrices and Linear Algebra in Neural Networks)
 - 0.5 week
- Labs (Vectors, Linear Combination and Linear Mapping)
 - 0.5 week

Module 5: Neural Networks

- Lessons (Introduction to Neural Networks, Implementing Gradient Descent and Training Neural Networks)
 - 1 week
- Lesson (Deep Learning with PyTorch)
 - 0.5 week

Module 6: Image Classifier Project

- 1.5 weeks

Notice that in total this sums up to 8 weeks. Use the extra time as you please (Notice that you have 3.5 weeks of extra time if you choose to use it).