Object Oriented Programming and Scripting in Python

Language Basics [Lesson 1]

Introduction
Numbers, strings, etc.
Tuples, lists, dictionaries
Control statements: if, while, for
Functions and parameter passing
List comprehension, dict comprehension and generators
Input/output, modules, exceptions

Object orientation [Lesson 2,3]

Classes, attributes, methods
Inheritance and polymorphism
Virtual slots (properties)
Redefinition of operators
Decorators
Function objects

DMBS [Lessons 4]

Introduction to data bases and SQL (short intro)
Using Python libraries to directly access data bases (psycopg2)
Data bases and object relational mapping (SQLAlchemy)

Scientific calculus [Lessons 5,6]

Library for arrays and matrices (numpy)
Library for scientific calcolus (scipy)
Scientific visualization (matplotlib)

Data mining [Lessons 7]

Library for data mining (scikit-learn)

Reflection and introspection [Lesson 8]

Inspector
Classes and metaclasses (type vs. object)
How to modify classes and objects at runtime

NB The reference version of the language will be Python ≥ 3.6.x.