

School Nova Computer Science 202

Instructor: Oleg Smirnov

The course is designed to follow CS 101/201. Students are expected to have a basic knowledge of all core topics covered in CS Year 1 (see the relevant document for a list of 43 items).

New students are expected to take CS 101 first. Exceptions can be made only on the basis of a test and interview with the instructor.

By taking the course, students are expected to complete regular homework assignments.

CS 202 core topics include:

- Object oriented programming, advanced concepts and techniques
- Code and performance optimization
- Programming basic graphics and user interface
- Introduction to PyGame
- Numerical and scientific Python applications (numpy and scipy)
- Visualizations in Python (matplotlib)
- Working with data and basic data analysis (pandas)
- Machine learning (scikit-learn)
- Introduction to networks and graphs (networkx)
- Introduction to databased management (SQLite)
- Introduction to web development (tbd)

CS 202 additional topics may include:

- Python C extensions (cython)
- Machine learning alternatives to scikit-learn
- Software development version control, GitHub
- Multiprocessing
- GPU accelerated computing