

Programming for Beginners (Python)

基础编程 (Python)

Syllabus

Instructor (教师姓名)

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Email (邮件)

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Location and Time (地点, 时间)

BSN-1101, Sunday 2:45-4:15pm

Course Goals

The goal of python for beginners is to instill you with basic programming skills, help you understand the basic capabilities and structure of software, and prepare you to undertake your own programming projects. One focus will be constructing scripts to automate a collection of (otherwise) tedious tasks, so you can spend more of your time doing the things that you want to do. We'll be learning the Python programming language, which is one of the most popular programming languages for a wide range of tasks from text processing to machine learning.

Learning objectives

1. Given a small (5-10 line) Python program, students should be able to execute the program in their head and correctly predict the outcome.
2. Given a small (5-10 line) Python function, students should be able to provide a natural language description of what the function does.
3. Students should be able to write short (5-10 line) Python programs, including the use of variables, expressions, conditionals, loops, and functions.
4. Students should be able to use built-in Python data structures including strings, lists, and dictionaries.

Required Materials (必需用品)

Laptop with Python software

Software

The use of a Python interpreter for testing code is accepted and encouraged in this course - almost nothing runs the very first time it is written, even when written by experienced software engineers! We'll try to use PyCharm or a interpreter that the student is familiar with.

Textbooks (教材)

Think Python 2nd Edition by Allen B. Downey

Grading (评分标准):

Regular homework is graded with grades A to D, where A indicates most of the answers are correct, B indicates more than half of the answers are correct, C indicates some of the answers are correct, D indicates few of the answers are correct. We'll also have 3 projects to help students understand class materials.

Course Schedule (课程安排)

Below is the material intended to cover for this class. It's up to the instructor to change based on student needs.

Week (周) **Topic (上课内容)**

Week 1 (8/14)	Installing Interpreter, Course Overview
Week 2 (8/21)	The Assignment Statement and Types
Week 3 (8/28)	Scripts and Conditional Execution
Week 4 (9/4)	No Class, Labor Day Weekend 无课, 劳动节
Week 5 (9/11)	Modules and Functions
Week 6 (9/18)	Functions and Graphics
Week 7 (9/25)	String Methods and Iteration
Week 8 (10/2)	While Loops and Random Walks
Week 9 (10/9)	Iteration with While and Logical Maneuvers
Week 10 (10/16)	Lists of Numbers
Week 11 (10/23)	Lists of Strings and Lists Are Objects
Week 12 (10/30)	Dictionaries
Week 13 (11/6)	Introduction to Classes
Week 14 (11/13)	Lists of Objects

Week (周)**Topic (上课内容)**

Week 15 (11/20)	Recursion
Week 16 (11/27)	No Class. Thanksgiving Weekend 无课, 感恩节周末
Week 17 (12/4)	No Class. USF Final Exam 无课, USF 无教室
Week 18 (12/11)	End of Semester Event USF Business Building Room BSN1100 9:00 am - 3:00 pm. Last day of school, Report cards, awards ceremony 学校最后一天