# COURSE INFORMATION

Course Title: **CIS 024C – Python Programming**

Course Number, Section and Reg ID: CIS 024C, 101, 95170

Units: 3 units

Catalog Description:

Prerequisites(s)/Co-requisites:

Semester and Year: Summer 2018

Meeting Location, Times and Days:

|  |
| --- |
|  |

06/18/2018-07/26/2018 Lab Monday, Tuesday, Wednesday, Thursday

04:45PM - 05:50PM, Milpitas Education Center, Room MIL-TECH

Start Date: 6/18/2018

End Date: 7/26/2018

Last date to drop with a refund: 6/24/2018

Last date to withdraw: 6/24/2018

# INSTRUCTOR INFORMATION

Name: Sanjay Dorairaj

Email: sanjay.dorairaj@sjcc.edu

Office Phone: 6692752122

Office Location:

Office Hours:

# REQUIRED COURSE MATERIALS

None

# Catalog Description

Students will study the use of Python, a programming language, to create stand-alone and web-based applications. Students will acquire skills necessary to locate, evaluate, and utilize open source web materials.

# STUDENT LEARNING OUTCOMES

Basic understanding of the Python programming language. Ability to use language constructs such as variables, conditional loops, simple and complex data structures, object oriented programming, plotting and basic website development.

1. Illustrate server-side scripting with client-side scripting using input and output scripts.
2. Differentiate IDE and command line operations used in interpretive and compiler languages.
3. Contrast tuples to lists as applied in database creation, image creation, and recursion concepts.
4. Contrast in-line functions and modular functions.

# COURSE OUTLINE

* Course Introduction
  + Tools - Jupyter Notebook, Github
  + Python Basics - History, Variables and Operators
* Conditionals - if/elif/elseRepetition - for, whileIterators, String Manipulation
* Structured Data- Lists- Tuples- Dictionary
* Working with Files- Opening, Reading, Writing to files- Parsing file content
* Functions and ArgumentsVariable scope wrt functionsRecursion
* Exception Handling- System Exceptions- User defined exceptions
* Working with external librariesPython ModulesPython from the command line \_\_main\_\_ function command line arguments
* Python Classes- Operator overloading- Inheritance
* Introduction to GraphicsPlots and SubplotsBarplots, Line plots, Scatter plots
* Website development fundamentalsusing Apache Flask - model/view/container framework

# CLASS SPECIFIC RULES

How to get value out of this course?

* You don’t need to have a programming background for this course
* You need to be passionate about learning programming
* Attend class and the lab every week
* Be on time to class
* Complete all the homework assignments and projects
* Devote ten hours or more each week to homework assignments and private study
* When in doubt ask questions. If we cannot cover your questions in class, raise them on the Slack channel
* Have your own laptop - it does not matter if it Windows or Mac

**Attendance**

Student will be graded for attendance.

**Grading**

* Attendance and Participation - 10 %
* Assessment 1 – 20 %
* Assessment 2 – 20 %
* Homework – 30 %
* Project - 20%

**Late or Missed Exam Policy**

Please discuss any exceptions with the instructor

# STUDENT ACCESSIBILITY SERVICES

The Americans with Disabilities Act (ADA) is a civil rights statute that prohibits discrimination against people with disabilities. The Student Accessibility Services Program at San Jose City College is designed to allow students with disabilities to fully access and benefit from the general offerings and services of San Jose City College. The SAS office is located in the Student Center, room SC106. Contact Information is as follows:

Phone: 408-288-3746

TTY: 408-294-3447

V-Phone: 408-565-8640

Website: SAS Website (<http://www.sjcc.edu/current-students/support-programs/sas> or see Chapter 5 of the SJCC Catalog)

# STUDENT CODE OF CONDUCT

Please review the following document for information regarding Student Code of Conduct guidelines, principles of discipline, standards of conduct, academic and classroom disciplinary procedures, student grievance procedures, and suspension and expulsion.

Please click here to access the Student Code of Conduct: SJCC Student Code of Conduct (<http://www.sjcc.edu/StudentAffairs/Documents/Student%20Code%20of%20Conduct.pdf>) or see chapter 5 of the SJCC Catalog)

# SEXUAL HARASSMENT/DISCRIMINATION POLICY

It is the policy of the San Jose/Evergreen Community College District to provide an educational environment in which no person shall be unlawfully denied in whole or in part full and equal access to, the benefits of, or be subjected to discrimination in any program or activity of the District. This policy prohibits discrimination on the basis of legally protected categories which include ethnic group identification, race, color, language, accent, immigration status, ancestry, national origin, age, sex, religion, sexual orientation, gender identify, marital status, medical condition, veteran status, physical or mental disability, or on the basis of these perceived characteristics or based on association with a person or group with one or more of these actual or perceived characteristics.

Please click here for further information regarding the district’s Nondiscrimination Policy and Procedure:

SJECCD Sexual Harassment/Discrimination Policy & Procedure (<http://www.sjeccd.edu/Chancellor/Documents/Chapter-3_BP3410_Nondiscrimination.pdf> or see Chapter 5 of the SJCC Catalog)

# CALENDAR/ASSIGNMENTS AND EXAMS

|  |  |  |  |
| --- | --- | --- | --- |
| Day | Lecture | Lab | Notes |
| 6/18 & 6/19 | 1. Course Introduction 2. Tools - Jupyter Notebook, Github 3. Python Basics - History, Variables and Operators | 1. Installation of Anaconda/Jupyter 2. Github Setup and Usage 3. Python - basic operations |  |
| 6/20 & 6/21 | Conditionals - if/elif/else Repetition - for, while Iterators | 1. Continuation of Lab 1 2. Conditionals - if/elif/else 3. Repetition - for, while 4. Iterators |  |
| 6/25 | String Manipulation | 1. String as an array 2. Comparing Strings 3. Searching for substrings 4. Splitting strings |  |
| 6/26 & 6/27 | Structured Data - Lists - Tuples - Dictionary | Creating, Adding, Removing,  Inserting, Deleting,  Searching - Lists - Tuples - Dictionary |  |
| 6/28 | Working with Files - Opening, Reading, Writing to files - Parsing file content | 1. Opening, Reading, Writing to files 2. Parsing file content |  |
| 7/2 & 7/3 | Functions and Arguments Variable scope wrt functions Recursion | 1. Functions with no arguments 2. Function with input arguments 3. Functions with input and output arguments 4. Variable scope |  |
| 7/5 | Assessment 1 |  |  |
| 7/9 | Exception Handling - System Exceptions - User defined exceptions | 1. System Exceptions 2. User defined exceptions |  |
| 7/10 | Working with external libraries Python Modules | 1. Splitting your work into modules 2. Including external modules, numpy and time |  |
| 7/11 | Final Project Introduction |  |  |
| 7/12 | Python from the command line  \_\_main\_\_ function  command line arguments | 1. Creating a main function and executing from the command line 2. Passing command line arguments | FINAL PROJECT SELECTION DEADLINE |
| 7/16 | Python Classes - Operator overloading - Inheritance | 1. Overriding the print and equal methods 2. Demonstrating inheritance using an student class |  |
| 7/17 | Introduction to Graphics Plots and Subplots Barplots, Line plots, Scatter plots | 1. Plotting student hours worked with scores 2. Comparing plots - linear versus logarithmic |  |
| 7/18 | Assessment 2 |  |  |
| 7/19 | Website development fundamentals - model/view/container framework | Website development fundamentals - model/view/container framework |  |
| 7/23/2018 | Website development- Flask 1 | Website development- Flask 1 |  |
| 7/24/2018 | Website development- Flask 2 | Website development- Flask 2 |  |
| 7/25/2018 | Website development- Flask 3 | Website development- Flask 3 | FINAL PROJECT DUE DATE |
| 7/26 | Final Project Presentation |  |  |