BIOF 085 | Intro to Data Science With Python | 3-Day Hands-On Workshop

Overview

Scientists generate more data than ever before. It can be daunting to determine how to extract insights from a mountain of data.

Data science is a relatively new discipline that combines traditional statistics and analytics with programming to produce novel insights, intelligently automated processes, and data-driven decisions. This hands-on course will cover the basics of data science. We will leverage the Python programming language and libraries that come with the Anaconda distribution, which will provide powerful and versatile tools for data analysis.

What You Will Learn

This course will equip you with an understanding of the tools you need to complete a basic data science project using Python.

Students will have the opportunity to apply basic statistical and machine learning methods to datasets of their choice through open-ended independent assignments. A selection of biology-specific analysis tools in Python will be introduced.

Course Outline

This course will give an introduction to the following topics:

* Why Data Science with Python?
* Python Primer for Data Science
* Python Data Science Tools
* Data Wrangling and Cleaning
* Data Visualization
* Statistics and Machine Learning in Python
* Bioinformatics in Python
* Where to Go for Help and Additional Resources

Course Requirements

We will use the [Anaconda](https://www.anaconda.com/download/) (Python 3.7+ version) distribution for this course. Attendees will need a computer with Anaconda successfully installed. If attendees do not come to the pre-workshop session, they will need to complete the day 0 section on Canvas before the start of day 1.

Computer (PC or Mac) and an internet access are required. Simultaneous access to two screens is highly recommended for best learning experience.

Pre-workshop session

March 16, 2021 (TBD) - Will go over Anaconda and module Installation, IDE use, and course logistics. This session is not required but highly encouraged.

Prerequisites

Though not a strict requirement it will be very helpful to have some knowledge of a programming language (R, JavaScript, etc.) and strong general computer literacy, this workshop is fast-paced given the number of days but is also an introduction with the goal of giving you the tools to further your understanding after the course. We assume basic statistics knowledge.

General Training Rate

$1,095

Discounted Training Rate

$895.00 - NIH Community (Trainees, Employees, Contractors, Volunteers, etc.)

$995.00 - Academia, US Government (Non-NIH), US Military

Technology Fee

$60.00

Credit

Although no grades are given for courses, each participant will receive Continuing Education Units (CEUs) based on the number of contact hours. One CEU is equal to ten contact hours. Upon completion of this course each participant will receive a certificate, showing completion of the workshop and 2.1 CEUs.

Refund Policy

100% tuition refund for registrations cancelled 14 or more calendar days prior to the start of the workshop.

50% tuition refund for registrations cancelled between 4 to 13 calendar days prior to the start of the workshop.

No refund will be issued for registrations cancelled 3 calendar days or less prior to the start of the workshop.

Notification

All cancellations must be received in writing via email to Ms. Carline Coote at registration@faes.org.

Cancellations received after 4:00 pm (ET) on business days or received on non-business days are time marked for the following business day.

All refund payments will be processed by the start of the initial workshop.