Syllabus: Introduction to Perl Programming (BOT6935) – Fall, 2015

INSTRUCTOR – GEORGE TILEY

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COURSE DESCRIPTION AND SUMMARY

This class will provide hands on instruction in the basics of Perl scripting. Graduate Students can sign up for 1 or 2 credit hours. Perl is a popular scripting language for biological applications and bioinformatics. This class will provide an introduction to Perl scripting. Class will meet once a week for 2 hours to work on Perl exercises, and students will complete a Perl programming project for the end of the semester.

CLASS

Location / Times: Class meets in Carr 222 Thursdays 12:50 – 2:45 pm (periods 6-7).
TENTATIVE CLASS SCHEDULE (Please check for updates)

WEEK	TOPIC
27-Aug	Introduction/Syllabus
3-Sep	Getting Started / String Analysis
10-Sep	Input & Output
17-Sep	Motifs & Loops
24-Sep	Regular Expressions I
1-Oct	Regular Expressions II
8-Oct	if & while
15-Oct	Arrays
22-Oct	Hash Tables
29-Oct	Subroutines
5-Nov	GenBank / Database Files
12-Nov	Perl Modules
19-Nov	Work on Independent Projects
3-Dec	Project Presentations

PREREQUISITES

This class is open to any graduate students or undergraduates (with instructor permission). Previous experience with Perl or programming is not required.

COURSE MATERIALS

Textbook

There is no official textbook for this class. Most weeks I will provide a written exercise that will include instructions for Perl scripting.   However, there are many good Perl books that you may find useful.   The O'Reilly series "Learning Perl, 6th edition" is one of my favorites. If you do not want to purchase it, the 2nd edition of the book is available as an e-book through the UF library. Other useful, but more specialized, books for learning Perl include "Perl for Exploring DNA" by LeBlanc & Dyer and the O'Reilly book "Beginning Perl for Bioinformatics". The O'Reilly book "Programming Perl" is an excellent reference, but it may not be that helpful when you are just beginning. Also, there are also some great resources for learning Perl available for free on the internet.

Computer

Our classroom does not have computers; you are expected to bring one. The operating system does not matter; you should use what is best for you and your research. You may need to download some free software.

Web Site

We will have a Sakai web site for the class. All assignments and supplemental files as well as example scripts will be posted on this web site.

CREDITS / EXPECTATIONS

Credit

Students may sign up for 1 or 2 credits.

Attendance

Each week we will cover a new set of topics in Perl, and most of these topics will build on things covered in previous weeks. It will be easy to get lost if you miss class. Therefore, attendance and keeping up with the assignments is strongly encouraged.

Assignments / Projects

Most weeks I will give short homework assignments to allow students to practice and develop their Perl skills. I will check the assignments. The goal of this class is to enable students to design and write Perl scripts that will help with his or her work and research. While I will provide some set exercises, students are encouraged to explore and modify these exercises to match their interests. Each student will also do a class project, which will consist of writing a script or multiple scripts that address his or her research interests. I will ask for a short (maximum 1-page) written proposal for the project due November 5. This will include a description of the question or problem the script will address, the input and output, and a brief summary of how the script(s) will be designed. On the last day of class, each student will give a short (5-10 minute) presentation on his or her script project.