Software Carpentry Bootcamp
Saint Mary's University, July 2-3, 2014

The Software Carpentry Project (http://software-carpentry.org/) is a volunteer organization, founded in 1998, that runs short, intensive workshops (called bootcamps) that teach a core set of skills that enhance the efficiency and reliability of computer-based workflow for anyone who uses a computer as a significant component in their research. The Software Carpentry Project runs bootcamps all over the world, and also provides open access material for self-paced instruction.

On July 2-3, 2014, Saint Mary's University hosted a Software Carpentry Bootcamp, led by Dr. Dhavide Aruliah, an experienced Software Carpentry Bootcamp instructor, from the University of Ontario Institute of Technology. Stephanie Gagne, Dalhousie University, served as a second instructor for the bootcamp. Additional technical support was provided by Ross Dickson (ACENET), Andrew Valencik (Saint Mary's University), and Jack Pew (Saint Mary's University). The local organizers for the workshop were Paul Muir and Andrew Valencik, Saint Mary's University.

The bootcamp consisted of short tutorials alternating with hands-on practical exercises; learners worked on their own laptops and each had a working software environment by the time the bootcamp was completed. The primary areas covered by the bootcamp were the Unix shell (and how to automate repetitive tasks), Python (and how to grow a program in a modular, testable way), and Git and GitHub (version control software that allows one to track software or document development and share work efficiently). A pre-assessment survey of the registered learners, provided by Software Carpentry, allowed the teaching team to customize the material to the learning community.

The bootcamp had approximately 40 participants, with another 14 left on the wait list! The intense two day workshop featured hands-on learning by all participants, with enthusiastic participation from the instructors and the technical support team. A large fraction of the participants were graduate students from Saint Mary's and Dalhousie University, but the learning community also included some undergraduates, faculty, and a few industry participants, all local to the Halifax region, except for one undergraduate from Acadia University. There was of course no national/international participation as the point of this sort of outreach activity is to serve a regional base. (That is, other parts of Canada and many other parts of the world host their own bootcamps from time to time.)

As this was an outreach event rather than a scientific conference, it did not feature research breakthroughs or publications.

A post-assessment survey of the bootcamp participants, provided by Software Carpentry, allowed us to obtain feedback on the event. The learners came from a variety of fields such as mathematics, computer science, geology, physics, finance, economics, and neuroscience. The hands-on learning approach with a team of teaching assistants meant that, for the most part, the pace of the coverage of the material could be calibrated to the learning community. There was substantial interest in the local community and the

bootcamp experience appears to have been considered quite valuable by a large majority of the participants.

The bootcamp provided coffee breaks and lunches for 40 learners and six support people for two days. The bootcamp also covered travel expenses for the lead instructor, Dhavide Aruliah. This covered the two days of the bootcamp plus a pre-bootcamp organizational meeting held at Saint Mary's a couple of days before the bootcamp began. The bootcamp received substantial admin and organizational support from the Software Carpentry organization and provided a contribution back to them. Revenues included contributions from a registration fee, the Dean of Science, Dean of Science, Saint Mary's University, and the Department of Mathematics and Computing Science, Saint Mary's University. A detailed budget is provided below.

<u>Revenues: Total: $1833.86</u>

Registration: $678.97

Department of Mathematics and Computing Science, Saint Mary's University: $404.89

Dean of Science, Saint Mary's University: $750

<u>Expenditures: Total: $3683.62</u>

Travel Expenses for Lead Instructor, Dhavide Aruliah: $791.12 (See attached)

Coffee Breaks: $737.61

Lunches: $1154.89

Admin. Support from Software Carpentry: $1,500

<u>Expenditures – Revenues: $2349.76</u> (Requested from AARMS)

<u>AARMS:</u>

    Dhavide Aruliah - Travel Expenses: $791.12

    Coffee Breaks: $737.61

    Software Carpentry (Admin Support): $821.03

<u>Saint Mary's:</u>

    Lunches: $1154.89

    Software Carpentry (Admin Support): $678.97