



PARENTS AND STUDENTS LEARN TO CODE @ STEM LAB LEARN HTML & CSS (WEB-DESIGN) & PYTHON COMPUTER PROGRAMING

February, 2016

Dear Parents/Carers,

This year Computer Club, Robotics Club and Minecraft Club have combined to give students a broader experience within a technology co-curricular. The co-curricular will have a STEM focus. STEM combines the exploration of Science, Technology, Engineering and Maths through practical projects and skill development. The area of STEM has also been a focal area for the Federal Government and is a key component of Malcolm Turnbull's 'Ideas Boom' (<http://www.innovation.gov.au/audience/young-australians>). This co-curricular we be called **STEM Lab**.

Developing skills in computer programming is seen as a necessary skill within STEM. As a result, STEM Lab will be focusing on the development of these skills in Terms 1 and 2. In Term 1 we will learn HTML (Hypertext Mark-up Language) and CSS (Cascading Style Sheets), which will give students a detailed understanding of both the development and construction of websites. The program we will be undertaking to learn these skills is called WebComp. In Term 2, we will progress to Computer Programming. This program is known as the NCSS Challenge (National Computer Science School Challenge).

Both WebComp and the NCSS Challenge are run by the School of Computer Science at Sydney University. These programs are taught through the School of Computer Science's online portal called Grok Learning. Previously, both Parents and Students have enrolled in the NCSS Challenge. This year, Grok Learning has added WebComp for the first time. This is seen as a great opportunity for beginning coders as learning HTML and CSS are considered to be a great stepping stone to the more challenging task of computer programming.

Parents and Students are both invited!

STEM Lab would like to invite both Parents and Students to participate in WebComp and/or the NCSS Challenge. The course is designed for all levels including Beginner to Advanced. Last year we had 14 parents sign up with their son(s). If you are interested in learning how to develop websites, code, or simply refresh your current skills, we would be delighted to have you work alongside your son. Simply add your name to the permission slip below.

How are these courses structured?

Both WebComp and the NCSS Challenge are offered online, so they can be completed at your leisure. They run for 5 weeks (at two different times of the year). Each week a short set of course notes are released, with a small number of activities to put your learning to the test. These notes and activities are accessible from the Grok Learning Online Portal. The portal includes an automated marking system, which analyses the submitted solutions and provides parents, students and teachers with immediate feedback on how they are progressing. While both courses run for 5 weeks, the portal will provide participants with 12 months access to revisit the courses, as well as a number of other online coding based courses and activities.

Participants will have direct access to Lecturers and current Students from the School of Computer Science at the University of Sydney. On completion of the courses, participants will be awarded a certificate of participation. There will also be a range of academic certificates for those who excel in the program.

What are the course dates?

- WebComp: February 22nd to March 26th
- NCSS Challenge: August 1st to September 4th

Do I have to do both courses?

No. You can do either course; however, evidence has shown that learning HTML first can be a great stepping stone to computer programming for beginners. If you miss the start date, you can also come back and attempt to work through the material later on.

Why is it important to code?

Computer programming (also known as coding) is how websites like Facebook and apps like Instagram are made. Knowing how to program is a very powerful and useful skill to have. Steve Jobs (founder of Apple), Mark Zuckerberg (founder of Facebook) and Bill Gates (founder of Microsoft) have all said that students should learn how to code. It’s a skill that not only teaches you how to work with computers, but also teaches you how to think about solving problems with systems.

Current research has also shown that a large portion of future jobs will be based in the area of STEM, with 70% of these jobs requiring the ability to know how to code (Vision for a Science Nation, 2015; STEM: Australia’s Future, Australia’s Chief Scientist Professor Ian Chubb, 2014).

Will my son be provided time and support to work through these courses?

STEM Lab will be providing time for students to come together and work on both WebComp and the NCSS Challenge. This will also allow students to support each other and also access Technology Teachers during this time. STEM Club is on every Thursday afternoon from 3.15 to 5pm in room 23.

Cost of Courses

Both courses have a range of sponsors; including Google, which has ensured that the cost of the course is kept to a minimum. A \$30 enrolment fee provides 12 months access to the Grok Learning Portal and will be billed to your school account. If you and/or your son(s) would like to participate in either or both courses, please complete the slip below and return it to Mr Bailey in person or via email to baileyd@knox.nsw.edu.au.

Want more information


If you would like to read more about WebComp and/or the NCSS Challenge, please visit the Grok Learning Portal at <https://groklearning.com/webcomp/> and <https://groklearning.com/challenge/>.

If you have any questions, please don’t hesitate to contact Mr Daniel Bailey baileyd@knox.nsw.edu.au.

Yours sincerely,



Andrew Grattan
TAS Teacher
Head of Department



Daniel Bailey
TAS Teacher
Assistant Head of Department.

PERMISSION NOTE

By signing the slip below I give permission for my son(s) to be enrolled in WebComp and/or the NCSS Challenge. I understand that the cost of \$30 for each participant from my family will be added to my school account and this will give them access to both courses.

I give permission for the following to be enrolled in WebComp and/or the NCSS Challenge

STUDENT 1

STUDENT GIVEN NAME

STUDENT SURNAME

YEAR GROUP

STUDENT 2

STUDENT GIVEN NAME

STUDENT SURNAME

YEAR GROUP

I would like the following parents/carers

PARENT/CARER 1
GIVEN NAME

SURNAME

EMAIL: COURSE REQUIREMENT

PARENT/CARER 2
GIVEN NAME

SURNAME

EMAIL: COURSE REQUIREMENT

PARENT SIGNATURE

PARENT NAME

DATE