



iTeachCS 2013



Date	Day	Activities	Presenters	Venue	Room	Target Audience
June 14 Friday		<i>University of Calgary CSE Teachers' Symposium</i>	Computer Science Educators of Alberta	Dept of Computer Science University of Calgary		All CSE K-12 & Post- Secondary Teachers
June 15 Saturday						
June 16 Sunday						
June 17 Monday	1 st	Delivering an intermediate Computer Science Course	Shawn Blakey CSE Teacher	Sir Winston Churchill HS Calgary Board of Education	Room 107 [Max 32]	Junior High School & Senior High School Teachers
June 18 Tuesday	2 nd	Delivering an intermediate Computer Science Course	Shawn Blakey CSE Teacher	Sir Winston Churchill HS Calgary Board of Education	Room 107 [Max 32]	Junior High School & Senior High School Teachers
June 19 Wednesday	1 st	Do Androids Dream of Java Games? (Programming Android)	Josh Prowse, Teacher & E-Learning Leader	Lester B. Pearson School Calgary Board of Education	Room 1105	Middle School, Junior High, Senior High School Teachers
June 20 Thursday	2 nd	Do Androids Dream of Java Games? (Programming Android)	Josh Prowse, Teacher & E-Learning Leader	Lester B. Pearson School Calgary Board of Education	Room 1105	Middle School, Junior High, Senior High School Teachers
June 21 Friday	1 st	<i>University of Alberta Iverson Symposium & CSTAAB AGM</i>		Computer Science Centre University of Alberta	Computer Science Centre: Room 3-33	Junior High School & Senior High School Teachers
		Oracle Academy Java Meet-Up.	Janine Loveless	Dept of CS, UofC	Bldg ICT 618B	
June 22 Saturday	2 nd	Oracle Academy Java Programming Meet-Up.	Janine Loveless Java Instructor	Dept of Computer Science University of Calgary	Room 618B Building ICT	Junior High School & Senior High School Teachers
June 23 Sunday						
June 24 Monday	1 st	HTML5 Game Programming with JavaScript and jQuery	Carson Cheng CSE Teacher	Ernest Manning School Calgary Board of Education	Room 2506 (Lab B) [Max 20]	Junior High School & Senior High School Teachers
June 25 Tuesday	2 nd	HTML5 Game Programming with JavaScript and jQuery	Carson Cheng CSE Teacher	Ernest Manning School Calgary Board of Education	Room 2506 (Lab B) [Max 20]	Junior High School & Senior High School Teachers
June 26 Wednesday	1 st	Robotics: Building a Battlebot!	Craig Maynard Robotics Instructor	Southern Alberta Institute of Technology	Room CA117 Aldred Centre	Middle School, Junior High, Senior High School Teachers
June 27 Thursday	2 nd	Robotics: Building a Battlebot!	Craig Maynard Robotics Instructor	Southern Alberta Institute of Technology	Room CA117 Aldred Centre	Middle School, Junior High, Senior High School Teachers

Descriptions of Workshops

University of Calgary CSE Teacher Symposium Hosted By Department of Computer Science at University of Calgary. CSE teachers and faculty from throughout the province of Alberta will engage in break out discussions to discuss the future course of CSE teaching and learning in Alberta. Emphasis will be placed upon discussion and sharing of experiences and concerns among the participants. We will Email and posting each teacher's new (and established) teaching web site.

Delivering an intermediate Computer Science Course. Shawn Blakey, originally from South Africa, taught Computer Studies in Great Britain for 9 years before continuing his CSE teaching career in Canada three years ago.

Implementing a new course, either as a new teacher to an existing program or developing a new course, can be a daunting prospect. This workshop is intended to help us develop the course and tools necessary to implement a successful intermediate Computer Science course.

Working from a template, we will decide on Alberta Education modules to develop a course around, structure the course materials and construct assessments with rubrics. So when the new term or semester starts, we will have a course ready to go that will engage students and have academic integrity.

So often professional development looks at how the technology works and what is possible with that technology. This workshop will look at how we deliver a cohesive Computer Science course to intermediate students. How do we structure the term? How do we balance syntax and skill building with problem solving and open ended projects? How do we construct assessments and develop rubrics? We will leave with a ready to deliver course that can be implemented.

The programming language used will be Java, but we can apply the content to whatever programming language we will use for our medium of instruction.

Do Androids Dream of Java Games? (Programming Android) Josh Prowse is one of Alberta's few teachers with a Computer Science degree.

More and more, software applications--games in particular--are moving to mobile devices like phones and tablets. Experience with these platforms is a great addition to a student's portfolio, whether they are planning to program on a corporate team or pursue their own entrepreneurial ventures.

Wouldn't it be great if our students could leave our CS programs having designed and completed a mobile game that demonstrates their mastery of the curriculum? Wouldn't it be great if we could generate desktop, web-browser, and mobile versions from the same code base? And wouldn't it be great if our Computer Science program didn't have to spend any extra money?

Over the course of this 2-day workshop, we will use the Java programming language and a selection of free open-source tools and development kits to build a graphical user interface (GUI) game potentially involving animation, collisions, sound and scorekeeping. Our finished game will be playable not only on desktop computers and web browsers, but also on Android phones and tablets!

Prerequisites: While the course will be most valuable to participants with a strong understanding of Java and object-oriented programming techniques (as there will be no time to discuss introductory Java language topics) everyone is welcome to attend and follow along and consider the feasibility of using this activity in their own classes.

Java Programming Meet-Up. Janine Loveless is a Java Instructor with the Oracle Academy. The Department of Computer Science, UofC, host this workshop.

Teachers who have completed a course in Java Fundamentals will review development of Java programming knowledge using Java SE7, core APIs used to design object-oriented applications with Java, and using the GridWorld case study to enhance student knowledge of core Java concepts.

HTML5 Game Programming with JavaScript and jQuery. Carson Cheng is Calgary's only CSE teacher with a Master's in Computer Science. Carson monitors industry closely and brings relevancy and high expertise to his students.

Students enjoy learning computing science through game programming, and showing off their work on mobile and other internet devices. The modern tools of the trade in creating mobile web-based Apps is HTML5, a combo of HTML, CSS, and JavaScript. With appropriate guidance, beginning students need only focus on the programming aspect in JavaScript using the jQuery library. Teachers in this course will learn the foundational pieces necessary to facilitate students' learning, by learning details of HTML, the HTML DOM, CSS, JavaScript, jQuery, and how JavaScript can be used on the Java Virtual Machine to create text-based games and programs.

JavaScript is a dynamic, object-oriented language, and the only game in town for creating HTML5 Apps that run on multiple browsers and devices. JavaScript isn't just a browser-based language though, but is in fact used for creating server-side web applications, Apple Dashboard Widgets, Firefox's graphical user interface, etc. jQuery is the most popular JavaScript library in use today, used in over 55% of the web's 10,000 most visited sites, and was created by John Resig, who has since been hired by Khan Academy to produce their Computer Science content (naturally, teaching JavaScript).

Robotics: Building a Battlebot! Craig Maynard has taught Computer Engineering Technology at SAIT Polytechnic in Calgary, Alberta for 30 years. In 1990 Craig inspired digital design students by challenging them to create a SUMO Wrestling Robot. Thus began the now famous Western Canadian Robot Games, which further inspired the Eastern Canadian Robot Games in 2001. Craig currently coaches Calgary high school students in FIRST Robotics Competition (FRC) and has continues in his third decade of exciting high school and post-secondary students in the design, construction and programming of robots.

Robotics is an idea medium to captivate the attention of students and teach important skills such as...

- electronics and mechanical design
- teamwork
- critical thinking
- effective troubleshooting
- design process
- technical document interpretation

This entertaining two day workshop will allow the participants to engage in the exciting world of electronics and robotics by fabricating and modifying a hand-sized battle bot. They will compete in head to head battles with other robots while learning concepts of continuous improvement and cyclical design processes.

Each participant will purchase their own microprocessor powered robot kit and will be shown the fundamentals of electronics fabrication, mechanical design, and gearbox theory as they put together their own combat robot. From there, they will program a basic behavior into the machine using a simple software interface and then have their first round of competition.

Strengths and weaknesses of the design will be discussed and modifications made to improve the chance of our robots success over the course of several battles.

Participants will keep their robots when the workshop is over.