



**COURSE OFFERINGS: SANDS CENTER FOR
ENTREPRENEURIAL LEADERSHIP (CEL)**

GENERAL INFORMATION

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The Sands Center for Entrepreneurial Leadership (CEL) provides unique learning opportunities that empower students to tackle any challenge using entrepreneurial thinking. These classes incorporate technology, design, and entrepreneurship in a hands-on, project-based fashion. At SCH Academy, entrepreneurship is far more than just business. It is a unique way to look at the world: a perspective that will move a student from thought to action—from “I wish this was better” to “I am going to make it better.” The skills and habits of mind that students will acquire through these CEL classes will help them to become entrepreneurial problem solvers.

WHAT CLASSES ARE OFFERED?

Students in 9th grade will be required to take four Entrepreneurial Leadership courses, one per quarter. This sequence of classes will introduce students to a variety of entrepreneurial skills. In 10th grade, students will tackle a CEL Capstone Project—a student-defined project that utilizes key entrepreneurial skills in the pursuit of creating a product or service, a software application, a social entrepreneurial endeavor, or a creative project. In 11th and 12th grade, students can continue their entrepreneurial pursuits through a variety of classes offered by the New Media, Engineering, and History Departments, as well as the CEL Venture Incubator program. CEL classes will meet three times in the 7-day cycle.

REQUIRED COURSES

DESIGN AND FABRICATING

Grade 9; required, meets 2 times per 7 day cycle

In this class students will be introduced to design through active engagement, tinkering, and prototyping. Students will learn to envision, draw, and use the laser cutter to create 2D parts that assemble into a 3D structure. Short projects are designed to introduce students to the laser cutter, vinyl cutter, and silhouette printer while familiarizing students with the necessary computer skills to realize their designs. These skills are studied further in both the Engineering and New Media course in 10th grade.

INTRODUCTION TO MICROPROCESSORS AND ELECTRONICS

Grade 9; required, meets 3 times per 7 day cycle

This CEL course, offered by the Engineering Department, will serve as an introduction for students to the basic concepts of electronics and microprocessors, including the C Programming language. Utilizing the SparkFun Inventor’s Kit and its Arduino UNO microprocessor, students will create a prescribed series of circuit designs and programs, building an understanding of the circuits, their components, and the C Programming language.

RESEARCH, DATA, AND ANALYSIS

Grade 9; required, meets 3 times per 7 day cycle

In a world of information being immediately available, the focus has shifted from accessing information to validating and using it. This CEL course, offered by the Mathematics

Department, will focus on the process of searching for, qualifying, analyzing, and presenting data. Through a series of mini-projects and by using several tools, including statistics, students will learn how to analyze and present data, something they will likely use their entire academic and professional lives.

INTRODUCTION TO APP DEVELOPMENT

Grade 9; required, meets 3 times per 7 day cycle

This course offers students an introduction to learn how to build and deploy iOS applications. Students will learn the basics of sequential and object-oriented programming, basic data structures, and a solid understanding of how an iOS app is constructed. They will learn how iOS applications are designed and developed and use those skills to create several working applications. In addition to the programming skills, students will cultivate and refine real-world thinking skills, including critical thinking, creative problem solving, project management, and collaboration. Students will learn the basics of Xcode and Swift toward mastering the building blocks of all iOS apps. Students can pursue these skills further through coding classes in 10th grade.

CEL CAPSTONE

Grade 10; required, meets 3 times per 7 day cycle

Students will pursue a project of their own design, utilizing the skills that they have acquired through their prior CEL experiences. With the guidance of a lead faculty mentor, as well as subject matter experts, students will work in small teams to design a product or service, a software application, a social entrepreneurial endeavor, or a creative project. The CEL capstone will culminate in a showcase event, where each student team will display, demonstrate, and present their work in a public forum.

ELECTIVES

PERSONAL FINANCE

Grades 11, 12; elective; fall semester; ½ credit, meets 6 times per 7 day cycle.

is an introductory course for students who are interested in learning more about basic money and finance concepts. This course will teach you topics that you are guaranteed to see and experience throughout your lives, from creating a personal budget to borrowing money, to investment and savings strategies. This is not a course about how to pick stocks or get rich quickly. Instead, it is an opportunity for you to tackle real-world financial scenarios and think carefully about the type of future you'd like to build for yourself. By the end of Personal Finance, you will be equipped to think through financial decisions and understand the impact they will have on your life.

VENTURE ACCELERATOR

Grade 10-12; fall/spring semester; elective; ½ credit, variable meeting times per cycle.

Prerequisite: Submission of application prior to enrollment

The Center for Entrepreneurial Leadership's Venture Accelerator (CELVA) is now offered as an elective option for students in grades 10, 11, and 12. This semester-long experience is a forum for students to learn entrepreneurship by doing, where students have the

opportunity to work on real ventures under the guidance and tutelage of accomplished entrepreneurs and professionals. Students will be accepted into this elective by application—submitting for-profit, non-profit, advocacy, and personal project ideas for consideration. Students may use the elective to continue their work on either a pre-existing venture or new venture. Outstanding work within the CELVI elective can result in departmental distinctions and seed funding grants.

SOCIAL ENTREPRENEURSHIP

Grade 10–12; fall/spring semester; elective; ½ credit, meets 6 times per 7 day cycle.

Social Entrepreneurship describes the process of building businesses with a dual mission: to do well and to do good. Unlike traditional non-profits or NGOs, social enterprises do not rely on donations to sustain their work. Instead, they build sustainable business models that address major social issues (think unemployment, food insecurity, access to safe drinking water, or the impact of climate change as examples). In this course, we will take you beyond the bake sale and introduce you to a variety of case study examples of social entrepreneurship in action. We will guide you through the process of establishing a venture to address a social or environmental problem. You will learn the frameworks and strategies to identify opportunities, build a team, and outline your idea. By the end of this course, you will have a completed business plan ready for maximum impact.