



Tohoku International School

Secondary School Course Syllabus

Course Title: Digital Arts: Programming	Teacher: Mr. Zane Clifford Email: zclifford@tisweb.net
Level: Grades 7 through 12	Time Frame: 17 weeks (Semester 1)
Brief Course Description: <p>The key concepts in Programming are information processing, and coding skills. On completion of this course, students will have the background knowledge of computer science and the skills in coding to have a strong foundation for exploring Computer Science in the IB Diploma Programme and beyond. Students will develop their skills in problem-solving and computational thinking.</p>	
Course Philosophy: <p>The computer revolution has completely transformed our world in recent decades. Every aspect of our lives is affected in some way, and knowledge of how computers work and programming skills will only become more important as time goes on. How do computers process information? How can we use computers to help us solve our problems? By answering questions like this, this course aims to give students a solid basis and motivation to further investigate computer science.</p>	
Course Objectives: By the end of this course students will be able to: <ul style="list-style-type: none"> • Create digital drawings using simple shapes and changing their colour and opacity. • Break down a problem into smaller components in order to solve it. • Design and code an interactive experience using Python that interacts in real time with the user. 	
Units of Study: <ol style="list-style-type: none"> 1. Creating Drawings 2. Functions, Mouse Events, and Properties 3. Mouse motion events, Conditionals, and Helper Functions 4. More Conditionals, Key Events, and Methods 5. Complex Conditionals, Key Events, and Methods 6. Groups, Step Events, and Motion 	
Formative Assessments: <p>Assessment will be done online using the Carnegie Mellon University Computer Science Academy Website</p>	
Summative Assessments: <u>Creative Tasks – 60%</u> <p>The course will contain multiple projects for students to complete using the website.</p> <p><u>Quizzes – 30%</u> At the end of every unit, there is a multiple choice quiz completed online.</p> <p><u>Learning Skills – 10%</u> Attendance, organization, completion of course work and the ability to take initiative and work productively in various settings all play a role in student success and are important for achieving the course expectations. Students will be observed throughout the year in order to determine an accurate assessment of these skills, according to the TIS Learning Skills rubric.</p>	
Course Specific Materials Required <ul style="list-style-type: none"> • Student Laptop with wifi access • B5 notebook 	