

COURSE OUTLINE		
<b>TERM:</b> Fall 2018	<b>COURSE NO:</b> VFX 130	
<b>INSTRUCTOR:</b>	<b>COURSE TITLE:</b> Visual Effects Animation I	
<b>OFFICE:</b> LOCAL: <b>E-MAIL:</b>	<b>SECTION NO(S):</b>	<b>CREDITS:</b> 3
<b>OFFICE HOURS:</b>		
<b>COURSE WEBSITE:</b>		

Capilano University acknowledges with respect the Lil'wat, Musqueam, Squamish, Sechelt, and Tsleil-Waututh people on whose territories our campuses are located.

### COURSE PREREQUISITES/CO-REQUISITES

None

### COURSE FORMAT

Four hours of class time per week for a fifteen week semester, which includes an end of term project over the final three weeks. There are no exams scheduled for this course.

### CALENDAR DESCRIPTION

In this course, students will be introduced to the process of animating objects and effects in 3D space. This course will cover animation techniques used in the creation of visual effects shots in film projects. This course will focus on the use of realistic animated effects in film projects and their creation using advanced 3D animation software.

### COURSE NOTE

VFX 130 is an approved Numeracy course for Cap Core requirements.

### REQUIRED TEXTS AND/OR RESOURCES

Byrne, Bill. *The Visual Effects Arsenal: VFX Solutions for the Independent Filmmaker*, USA: Focal, 2009. Autodesk Maya Press. *Learning Autodesk Maya Special Effects*, USA: Sybex, 2009.

### COURSE STUDENT LEARNING OUTCOMES

On successful completion of this course, students will be able to do the following:

- Plan, organize and create an animated effects shot using complex particle and fluid simulations;

- Design and create natural phenomena using 3D simulation software including rain, smoke and fire;
- Animate objects and simulations in a realistic manner;
- Analyze and determine the best approach to creating effects animation for a shot;
- Integrate visual effects and simulations into a shot;
- Perform efficient animation tasks in a specific time period;
- Interact effectively in team environment, showing leadership and responsible work habits.

**Students who complete this Numeracy course will be able to do the following:**

- Apply both analytical and numerical skills to solve problems;
- Summarize and analyze data in quantitative forms;
- Interpret and draw conclusions from an analysis of quantitative data;
- Represent quantitative information in a variety of forms;
- Incorporate quantitative evidence in support of an argument.

**COURSE CONTENT**

**Week 1**

- Introduction to visual effects animation and the language of computer graphics.
- Animation in computer graphics. Working with transforms, centers, and simple deformation.
- Modeling for animation.
- Working with graph editors / dope-sheets.
- Parent child relationships.

**Week 2**

- Keyframe animation versus simulation.
- Compare and contrast.
- Simple destruction.

**Week 3**

- Understanding joints, bones, enveloping and the role they play in production.
- Topology for rigging. Rigging a simple animatable character / prop.
- Animating rigged characters. Interfacing with characters / props.

**Week 4**

- Introduction to rigid body dynamics.
- The language of rigid body dynamics.

**Week 5**

- Animating rigged characters. Interfacing with characters / props.

**Week 6**

- Match moving basics. Acquisition, processing, exporting match-move data to Digital Content Creation.

#### Week 7

- Integration of computer generated elements with matched plates.

#### Week 8

- Introduction to particle systems.
- Particle example exercises.

#### Week 9

- Particle / fluid systems 2.

#### Week 10

- Particle / fluid systems 3.

#### Week 11

- Working with animated object and properties.
- Controlling and manipulation animation key-frames through f-curves and expressions.
- Animation timing principles. Acceleration, deceleration and constant timing.

#### Week 12

- Assembling a complete shot containing visual effects simulated elements.

#### Week 13

- Term group project: Creating a complete visual effects shot; simulations.

#### Week 14

- Term group project: Creating a complete visual effects shot; simulations.

#### Week 15

- Term group project: Project presentation and review.

### EVALUATION PROFILE

Assignment 1	20%
Exercise 1	5%
Assignment 2	20%
Exercise 2	5%
Assignment 3	20%
<u>Term project</u>	<u>30%</u>
<b>Total</b>	<b>100%</b>

Note: Where applicable assignments have been divided into weekly tasks.

**GRADING PROFILE**

A+ = 90-100	B+ = 77-79	C+ = 67-69	D = 50-59
A = 85-89	B = 73-76	C = 63-66	F = 0-49
A- = 80-84	B- = 70-72	C- = 60-62	

**Incomplete Grades**

Grades of Incomplete "I" are assigned only in exceptional circumstances when a student requests extra time to complete their coursework. Such agreements are made only at the request of the student, who is responsible to determine from the instructor the outstanding requirements of the course.

**Late Assignments**

Assignments are due at the beginning of the class on the due date listed. If you anticipate handing in an assignment late, please consult with your instructor beforehand. Unless arrangements with an instructor have been made, late assignments will be penalized at a rate of ten percent per day late up to three days after the due date.

**Missed Exams/Quizzes/Labs etc.**

Make-up exams, quizzes and/or tests are given at the discretion of the instructor. They are generally given only in medical emergencies or severe personal crises. Some missed labs or other activities may not be able to be accommodated. Please consult with your instructor.

**Attendance**

Students are expected to attend all classes and associated activities. A student missing more than three classes without an acceptable reason will not receive credit for completing the course.

**English Usage**

Students are expected to proofread all written work for any grammatical, spelling and stylistic errors. Instructors may deduct marks for incorrect grammar and spelling in written assignments.

**Electronic Devices**

Students may use electronic devices during class for note-taking only, unless otherwise authorized by the instructor.

**On-line Communication**

Outside of the classroom, instructors will (if necessary) communicate with students using either their official Capilano University email or Moodle; please check both regularly. Official communication

between Capilano University and students is delivered to students' Capilano University email addresses only.

## UNIVERSITY OPERATIONAL DETAILS

### Tools for Success

Many services are available to support student success for Capilano University students. A central navigation point for all services can be found at: <http://www.capilanou.ca/services/>

**Capilano University Security: download the [CapU Mobile Safety App](#)**

### Policy Statement (S2009-06)

Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Academic Integrity, Academic Probation and other educational issues. These and other policies are available on the University website.

### Academic Integrity (S2017-05)

Any instance of academic dishonesty or breach of the standards of academic integrity is serious and students will be held accountable for their actions, whether acting alone or in a group. See policy S2017-05 for more information: <http://www.capilanou.ca/about/governance/policies/Policies/>

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances, are prohibited and will be handled in accordance with the Student Academic Integrity Procedures.

**Academic dishonesty** is any act that breaches one or more of the principles of academic integrity. Acts of academic dishonesty may include but are not limited to the following types:

**Cheating:** Using or providing unauthorized aids, assistance or materials while preparing or completing assessments, or when completing practical work (in clinical, practicum, or lab settings), including but not limited to the following:

- Copying or attempting to copy the work of another during an assessment;
- Communicating work to another student during an examination;
- Using unauthorized aids, notes, or electronic devices or means during an examination;
- Unauthorized possession of an assessment or answer key; and/or,
- Submitting of a substantially similar assessment by two or more students, except in the case where such submission is specifically authorized by the instructor.

**Fraud:** Creation or use of falsified documents.

**Misuse or misrepresentation of sources:** Presenting source material in such a way as to distort its original purpose or implication(s); misattributing words, ideas, etc. to someone other than the original source; misrepresenting or manipulating research findings or data; and/or suppressing

aspects of findings or data in order to present conclusions in a light other than the research, taken as a whole, would support.

**Plagiarism:** Presenting or submitting, as one's own work, the research, words, ideas, artistic imagery, arguments, calculations, illustrations, or diagrams of another person or persons without explicit or accurate citation or credit.

**Self-Plagiarism:** Submitting one's own work for credit in more than one course without the permission of the instructors, or re-submitting work, in whole or in part, for which credit has already been granted without permission of the instructors.

**Prohibited Conduct:** The following are examples of other conduct specifically prohibited:

- Taking unauthorized possession of the work of another student (for example, intercepting and removing such work from a photocopier or printer, or collecting the graded work of another student from a stack of papers);
- Falsifying one's own and/or other students' attendance in a course;
- Impersonating or allowing the impersonation of an individual;
- Modifying a graded assessment then submitting it for re-grading; or,
- Assisting or attempting to assist another person to commit any breach of academic integrity.

### **Sexual Violence and Misconduct**

All Members of the University Community have the right to work, teach and study in an environment that is free from all forms of sexual violence and misconduct. Policy B401 defines sexual assault as follows:

Sexual assault is any form of sexual contact that occurs without ongoing and freely given consent, including the threat of sexual contact without consent. Sexual assault can be committed by a stranger, someone known to the survivor or an intimate partner.

Safety and security at the University are a priority and any form of sexual violence and misconduct will not be tolerated or condoned. The University expects all Students and Members of the University Community to abide by all laws and University policies, including [B.401 Sexual Violence and Misconduct Policy](#) and [B.401.1 Sexual Violence and Misconduct Procedure](#).

**Emergencies:** Students are expected to familiarise themselves with the emergency policies where appropriate and the emergency procedures posted on the wall of the classroom.

### **DEPARTMENT OR PROGRAM OPERATIONAL DETAILS**

Visual effects lab hours are offered outside of class times throughout the year. They offer an opportunity for students to work one on one with qualified individuals to sort through exercises, assignments and projects that arise as a result of class deliverables. While attendance is not mandatory, there is a departmental expectation that students attend as many labs as they can in order to maximize learning opportunities.