

COURSE OUTLINE		
<b>TERM:</b> Spring 2027	<b>COURSE NO:</b> DIGI 110	
<b>INSTRUCTOR:</b>	<b>COURSE TITLE:</b> Visual Effects Compositing	
<b>OFFICE:</b> <b>LOCAL:</b> <b>E-MAIL:</b> @capilanou.ca	<b>SECTION NO(S):</b>	<b>CREDITS:</b> 3.0
<b>OFFICE HOURS:</b>		
<b>COURSE WEBSITE:</b>		

Capilano University is named after Chief Joe Capilano (1854–1910), an important leader of the Sk̓wx̓wú7mesh (Squamish) Nation of the Coast Salish Peoples. We respectfully acknowledge that our campuses are located on the unceded territories of the səliłwətał (Tsleil-Waututh), shíshálh (Sechelt), Sk̓wx̓wú7mesh (Squamish), and xʷməθkʷəy̓əm (Musqueam) Nations.

### **COURSE FORMAT**

This class is an in-person class. Classes are four hours per week for a 15-week semester, which includes an end of term project. There are no exams scheduled for this course.

### **COURSE PREREQUISITES**

DIGI 101

### **CALENDAR DESCRIPTION**

In this course, students will learn advanced digital compositing techniques including the importance of shot breakdowns for effective compositing, how and when to use mattes, incorporating 2D and 3D visual elements, colour space and grading, motion tracking and rotoscoping techniques.

### **COURSE NOTE**

DIGI 110 is equivalent to VFX 111. Duplicate credit will not be granted for this course and VFX 111.

### **REQUIRED TEXTS AND/OR RESOURCES**

Brinkmann, Ron. *The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics Second Edition*, USA: Morgan Kaufmann, 2008.

Wright, Steve. *Digital Compositing for Film and Video*, USA: Focal, 2010.

Resource material will be provided by the instructor/s.

### **COURSE STUDENT LEARNING OUTCOMES**

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

- Identify and resolve compositing issues with poor quality footage;

- Composite blue/green screen footage for integration into visual effects shots;
- Apply rotoscoping techniques to add and remove elements from a visual effects shot;
- Apply matchmoving techniques to track objects and images onto live action plates;
- Manage and track a project from pre-production to final composition;
- Identify key duties of a compositor in a film production;
- Work collaboratively on group projects in a production hierarchy.

## COURSE CONTENT

This content will be delivered in the form of lectures, screenings and in class exercises as well as assignments. All course materials will be on elearn and the content will be delivered in-person.

WEEK	TOPICS	READINGS and ACTIVITIES
Week 1	<ul style="list-style-type: none"> <li>• Review Term 1</li> <li>• Identifying the role of a compositor in a film production</li> <li>• Working with colour spaces and colour management</li> <li>• Working with channels (beyond RGBA) depth, motion vectors, displacement</li> <li>• Premultiplication and colour correction</li> <li>• Paint/roto</li> <li>• Keying</li> <li>• Merge math: using garbage masks and keying to combine alphas</li> <li>• 3D space</li> </ul>	
Week 2	<ul style="list-style-type: none"> <li>• Identifying the role of match moving and photogrammetry in visual effects projects</li> <li>• Introduction to 3d space (camera, scene, geometry, navigation)</li> <li>• Tracking moving targets using the camera tracker</li> </ul>	Assignment 1: Match Move Shot
Week 3	<ul style="list-style-type: none"> <li>• Camera tracking film footage continued</li> <li>• Using camera data to solve the camera track</li> <li>• Lens distortion removal, de-grain and re-grain</li> </ul>	
Week 4	<ul style="list-style-type: none"> <li>• Using projections in 3d space to repair/alter footage</li> <li>• Recreating missing film footage using match moving techniques</li> </ul>	
Week 5	<ul style="list-style-type: none"> <li>• Identifying the role of rotoscoping (roto) in visual effects projects</li> <li>• Creating custom mattes using match move techniques</li> </ul>	
Week 6	<ul style="list-style-type: none"> <li>• Rotoscoping and paint - removing wires and markers</li> <li>• Using roto-brushes for custom paint and manipulation</li> <li>• Automating tasks to speed up roto workflows</li> </ul>	Assignment 2: 3D Compositing
Week 7	<ul style="list-style-type: none"> <li>• Rotoscoping, replacing footage problems and animating elements</li> </ul>	

	<ul style="list-style-type: none"> <li>• Match move projections and planar tracking in roto-scoping</li> </ul>	
Week 8	<ul style="list-style-type: none"> <li>• Keying: use of multiple keyers</li> <li>• Matte clean up (paint and roto)</li> <li>• De-noise and sharpen</li> <li>• Dealing with poor quality film footage</li> </ul>	
Week 9	<ul style="list-style-type: none"> <li>• Identifying colour grading</li> <li>• Removing and fixing colour casting problems with film footage</li> <li>• Methods for dealing with poor quality film footage (de-noise and sharpen)</li> </ul>	Assignment 3: Compositing Multi-pass renders
Week 10	<ul style="list-style-type: none"> <li>• Compositing multi-pass 3D renders</li> <li>• Colour correction of 3D renders</li> </ul>	
Week 11	<ul style="list-style-type: none"> <li>• Compositing multi-pass 3D renders</li> <li>• Adjusting lighting and shadows</li> </ul>	
Week 12-15	Visual Effects Shot <ul style="list-style-type: none"> <li>• Weekly review and critique</li> <li>• Final project presentation and review</li> </ul>	Assignment 4: - Complete Visual Effects Shot

### EVALUATION PROFILE

Participation	10%
Assignment 1 - Match Move Shot	20%
Assignment 2 - 3D Compositing	20%
Assignment 3 - Compositing Multi-pass Renders	20%
Assignment 4 - Complete Visual Effects Shot	30%
Total:	100%

### Assignment Descriptions

All assessments will be completed and/or submitted online.

- Assignments – MS Teams
- Final Assignments – copy to class folder on the Bosanas
- Work in progress – upload your video files to SyncSketch for weekly feedback and/or drawovers

All assignments will be included in the calculation of your final grade. Failure to submit assignments may result in failing the course.

### Participation

Participation is evaluated based on regular attendance in classes and labs, active engagement in discussions and projects, demonstrated understanding of assigned readings and coursework, and the frequency and quality of relevant comments, questions, and observations.

### 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**

All assignments must be delivered at the place and time specified by the instructor. Late assignments will only be accepted if prior approval for a late submission date has been given by the instructor.

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

If you anticipate missing an exam/quiz/or lab, please consult with your instructor prior to the scheduled date, so that alternate arrangements can be considered. Accommodation can be made to honour community needs and traditional practices.

**Attendance**

Students are expected to attend all classes and associated activities. Attendance is taken at the start of each class. Students who miss more than 20% of the course will not receive credit. Students are responsible for all material and assignments, even if absent. If circumstances affect attendance or coursework, email the instructor in advance to discuss possible adjustments. Instructors are not required to repeat missed material.

**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 personal electronic devices during class for note taking only.

**On-line Communication**

Please be sure to check your official Capilano University email regularly as all official communication will be sent via this email address only. Additionally, you should be logging on to eLearn/teams 3 to 4 times per week for class updates and/or to engage in learning activities.

**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: <https://www.capilanou.ca/student-services/>

**Capilano University Security: download the [CapU Safe Alert 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 and procedures S2017-05 Academic Integrity for more information:

<https://www.capilanou.ca/about-capu/governance/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 Policy and B.401.1 Sexual Violence Procedure (found on Policy page <https://www.capilanou.ca/about-capu/governance/policies/>)

**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**

### **Continuation Policy**

Students must successfully complete the required and elected 2D Animation (ANIM), 3D Animation (DIGI) or VFX course credits in one term before continuing to the next term.

### **Punctuality**

Punctuality is essential. Students more than 15 minutes late for class will be marked absent.

### **Professional Behaviour**

Students must demonstrate a professional attitude and behaviour toward work, other students, guests, and instructors. Each student should demonstrate reliability, respect for and co-operation with colleagues. A willingness to work calmly and courteously under difficult conditions as well as a determination to achieve first-class work while meeting deadlines is necessary in this course. Students must show respect for equipment and facilities.

**Class Recordings**

Class sessions may be recorded for use within this course only. Recordings may not be shared, reproduced, or uploaded outside the class. If recordings are to be used for any other purpose, students who are identifiable will be notified and their consent requested in advance.

**Online Community and Communication Tools**

All class content will be available through the course on <https://elearn.capu.ca>. All direct student communication will be done via Capilano email/teams.

Software	Link
eLearn	<a href="https://elearn.capu.ca/">https://elearn.capu.ca/</a>
myCapU	<a href="http://www.capilanou.ca/mycapu/">www.capilanou.ca/mycapu/</a>
Zoom	<a href="http://www.zoom.com/">www.zoom.com/</a>
Microsoft Teams	<a href="https://teams.microsoft.com">teams.microsoft.com</a>