FACULTY OF CREATIVE AND CRITICAL STUDIES
DEPARTMENT OF CREATIVE STUDIES

2020 Winter Term 1
Introduction to Computational Art and Design I – credits: 3
MDST 110

The Faculty of Creative and Critical Studies acknowledges that the land on which we are situated is the unceded territory of the Syilx (Okanagan) People.

Dr. Megan L. Smith
megan.smith@ubc.ca
Office hours by appointment

Academic Calendar Entry
MDST 110 (3) Introduction to Computational Art and Design I
Code as material, design principles, mathematics for space and time, computer programming languages for computational art and design. [2-2-0].

Course Format
All FCCS Fall 2020 courses are online.
1 hour synchronous (live) lecture on Canvas with 2 hour remote studio sessions with Faculty and/or TA support.

Slides or video will be available on Canvas.

Assignments and grade feedback available in the course Canvas.

All students must work via Canvas. Other Software and Applications detailed as required.

Because the class is being taught online, some instruction will be done asynchronously. This means you may watch a recorded lecture and then work on your projects while the professor is available (remotely) to help and answer questions.

Additional Student Responsibility

- **update Canvas Notifications Preferences** to receive notifications right away in order to receive all Canvas Announcements, Alerts, and other notifications.

  Note: At this time, there is an ongoing issue where Canvas emails are not being delivered to Hotmail and Outlook email addresses.

- **keep UBC contact information up-to-date** through the Student Service Centre
- **consider using the Canvas Student app** on a smartphone
- **Sign up for UBC Alert** to receive all campus emergency notifications.

Course Overview, Content and Objectives

This course provides the basic skills for exploring computational art and design. The coursework will introduce creative technology applications, programming languages, coding practices, and graphic tools used by artists and designers to make innovative projects. Lectures will detail creative computational projects that have affected social, historical and ethical shifts in culture, while on occasion, influencing a change in society. Design principles will be taught alongside encoding processes to embed these theories in a computer program.

Goal:
- To introduce creative coding, new technologies, artists, designers, and new methods of practice.
- To blend existing graphic design and art practice principles with methods for achieving design decisions using computer languages.
- To explore the application of computational strategies to the art and design process.

Learning Outcomes

After completing this course, students will be able to:
- Discuss cultures of computational art and design practice.
- Describe the different types of programming environments used in computational art and design.
- Adopt a toolkit of algorithms for working with media.
- Demonstrate basic design principles through computational art and design practice.
- Encode creative practice in a computer program.

Evaluation Criteria and Grading

This course is graded on a numeric scale. In order to pass you must achieve a total grade of 50% or greater. To gain points, the following assessments are given over the duration of the course:

Participation	5 %	Attendance, active engagement in group discussions and critiques.
Lab Assignments	50%	Assignment 1 (20%), Assignment 2 (20%), Assignment 3 (10%).
Midterm	15%	Open-book exam delivered through Canvas.
Final Presentation	10%	5-minute lightning presentation: 10 slides per student max. Only 2 slides may be combined for up to 1 minute containing a dynamic visual of final project.
Final Project & Written summary	20%	Submitted via Canvas

Final grades will be based on the evaluations listed above and the final grade will be assigned according to the standardized grading system outlined in the UBC Okanagan Calendar. The total possible grade of an assignment will be reduced by 10% for each day/partial day (including weekend days) the assignment is handed in beyond the due time or beyond a negotiated extension date. Faculties reserves the right to scale grades in order to maintain equity among sections and conformity to University, faculty, department, or the school norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the faculty, department, or school (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,41,90,1014).

Required Readings and Videos

Andrew Richardson, *Data-driven Graphic Design: Creative Coding for Visual Communication*, Fairchild Books, 2016.

Recommended Readings

Shiffman, Daniel, 'Learning Processing', Morgan Kaufman Publishers, 2008.
https://www.processing.org/tutorials/text/

- Processing Tutorials https://www.processing.org/tutorials/
- Rhizome http://rhizome.org/
- Furtherfield http://furtherfield.org/
- EYEBEAM http://eyebeam.org/

Course Schedule: Subject to change - A tentative schedule of the topics to be covered on a weekly basis.

September 14   Week 1   **Lecture:** Introduction to Computational Art & Design
                              Studio: Daniel Shiffman – Hello Processing
                              Homework: -   Chapter 1: Designers & Code
                                               -    Chapter 2: Drawing with Numbers
                                               -    https://processing.org/tutorials/gettingstarted/

September 21   Week 2   **Lecture:** Intro to Programming Environments for Art & Design
                              Studio: Drawing with Code & Landscape Assignment 1
                              Homework: -   Review Chapter 2: Drawing with Numbers
                                               -    Work on Assignment 1
                                               -    https://processing.org/tutorials/drawing/
                                               -    https://processing.org/tutorials/color/

September 28   Week 3   **Studio**: Landscape drawing Assignment 1
                              Group Critique: Landscape Drawing Assignment 1 due.
                              Homework: -   Chapter 3: Growth & Form
                                               -    https://processing.org/tutorials/objects/

October 5   Week 4   **Lecture:** Object Oriented Programming
                              Studio: Art & Nature Assignment 2
                              Homework: -   Review Chapter 3: Growth & Form
                                               -    Assignment 2.

October 12   **Thanks Giving - No classes**

October 19   Week 5   **Studio**: Art & Nature Assignment 2
                              Group Critique: Art & Nature Assignment 2 due.
                              Homework: -   Chapter 4: Dynamic Typography
                                               -    https://processing.org/tutorials/typography/
                                               -    https://processing.org/tutorials/text/

October 26   Week 6   **Lecture:** Encoding design principles & Strings
                              Studio: Design your Type Assignment 3
                              Homework: -   Review Chapter 4: Dynamic Typography
                                               -    Read: Chapter 5: Seeing the World
                                               -    Assignment 3

November 2   Week 7   **Group Critique:** Design your Type Assignment 3 due.
                              Lecture: Computer Graphics – floats & PShape
                              Homework: -   Read: Chapter 5: Seeing the World
                                               -    https://processing.org/tutorials/pshape/
                                               -    Study for Mid-Term

November 9   Week 8   **Mid Term:** During class time
                              Homework: Read Chapter 6: Large & Live External Data

November 16   Week 9   **Lecture:** Data in computer graphics
                                Studio: Mapping a Story - Final Assignment

November 23   Week 10   **Lecture:** Interactivity & Impact
                                Studio: Mapping a Story - Final Assignment

November 30   Week 11   **Final Group Critique and Presentations**

Final Examinations:
No final exam.

The examination period for Term 1 of Winter 2016 is December 5 to 20 inclusive. Except in the case of examination clashes and hardships (three or more formal examinations scheduled within a 24-hour period) or unforeseen events, students will be permitted to apply for out-of-time final examinations only if they are representing the University, the province, or the country in a competition or performance; serving in the Canadian military; observing a religious rite; working to support themselves or their family; or caring for a family member. Unforeseen events include (but may not be limited to) the following: ill health or other personal challenges that arise during a term and changes in the requirements of an ongoing job.

Further information on Academic Concession can be found under Policies and Regulation in the *Okanagan Academic Calendar* http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,48,0,0 .

Academic Integrity:
During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0 for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: http://academic.ubc.ca/support-resources/freedom-expression

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

It is the student's obligation to inform himself or herself of the applicable standards for academic honesty. Students must be aware that standards at the University of British Columbia may be different from those in secondary schools or at other institutions. If a student is in any doubt as to the standard of academic honesty in a particular course or assignment, then the student must consult with the instructor as soon as possible, and in no case should a student submit an assignment if the student is not clear on the relevant standard of academic honesty.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3,54,111,0.

Plagiarism:

Plagiarism is the inclusion of someone else's words, ideas or data as one's own work. When a student submits work for credit that includes the words, ideas or data of others, the source of that information must be acknowledged through complete, accurate, and specific references, and, if verbatim statements are included, through quotation marks or block format. By placing their name on work submitted for credit, the student certifies the originality of all work not otherwise identified by appropriate acknowledgements.

Some examples of plagiarism:

- "Copying & pasting" sentences or phrases or key words from hard copy (books, articles, etc.) or online sources (e-books, online articles, websites, etc.) without placing them in quotation marks or block quote format and citing the source in the body of your essay and on a references page.
- Summarizing, paraphrasing, or using ideas found in secondary sources without citing the source in the body of one's essay and on one's reference page.
- Including statistics or other empirical data collected by another scholar without acknowledging the source in the body of an essay and on a references page.
- Submitting an essay with which one has collaborated or received help from a tutor, classmate, or a friend in the writing or revision process so that it no longer reflects one's own capabilities.
- Falsifying the data and/or ideas by misrepresenting them in paraphrases, quotes, citations, and/or works cited entries. This act can include representing information by pretending that you had found it in a book, article, or other source, or using quotations or paraphrases out of context.
- Submitting the same, or substantially the same, assignment more than once for credit (unless approved by the instructor).
- Purchasing an essay or assignment from an agency that sells such materials for profit.

A student will avoid being charged with plagiarism if there is an acknowledgement of indebtedness:
- whenever they quote another person's actual words
- whenever they use another person's idea, opinion or theory, even if it is paraphrased (written in the student's own words)
- whenever they cite facts, statistics, or other illustrative materials from a published source or a lecture when that material is not considered common knowledge

Avoid plagiarism by:
- allotting enough time to complete one's work before the submission due date.
- taking careful notes so that one can easily keep track of the source of the words, phrases, sentences, paragraphs, concepts, and ideas that one is quoting or paraphrasing in the writing and revision of one's essays.

• learning how to cite secondary sources using citation formats such as MLA or APA and being fastidious in their use during the writing of one's first essay draft and subsequent drafts.

All assignments may be submitted to **Turnitin.com** to verify use of sources and documentation.

For Creative Studies specifically: In order to maintain academic integrity in the visual, digital and performance arts, students should never submit their own work for more than one assessment (self-plagiarism), and always credit the work of others in writing and through verbal acknowledgment during discussions. Include citations for research material, influences, and any pre-existing imagery used to generate your assignments.

<u>**Additional Information**</u>:
Access to FCCS Studios and Equipment Instructions:
https://fccs.ok.ubc.ca/about/studios/

You must do the Covid badge in order to book gear or spaces on campus: (https://canvas.ubc.ca/enroll/3KBYFY)
Doing the course takes approximately 5 mins and informs everyone about the protocols for our studio and lab spaces. This includes booking the space and signing in and out when you use the space. The hope is that with contact tracing and containment, we may not have to shut down completely should a Covid19 case arise.

Once the Covid19 Badge course is completed, students can sign up for a 'gearspace' account using this online form: https://ubc.ca1.qualtrics.com/jfe/form/SV_8CvigCAHRIt9LXn

This will give you access to book out the spaces (and gear) in FCCS. Activation may take approximately 48 hours or longer, so please budget this time into your schedule.

Software:
Options for using Adobe Software for classes:
1. You purchase/rent an Adobe license for the duration of your course (pricing below). Their website lists what operating systems are needed to run the software. If you are majoring in Visual Arts or Media studies, it is expected that you have these capabilities at home. You likely will also want to purchase an external hard drive.
2. You use the remote access system established by UBCO to access on campus computers remotely. Your process will be slowed down if you are using large files and you must follow provided instructions carefully to make it work.
3. You come to campus and use on-campus computers in CCS 141. To do this, you will have to comply with health protocols put in place for those spaces. CCS 141 mac lab has an occupancy capacity limit and needs to be booked through the gearspace booking system. An external drive to store your work is recommended.

ADOBE Prices (subject to change):
Photography package is US $9.99 / month for students

The whole package with all apps is US $52.99 / month (currently there is a promotion for US $19.99 / month for students/teachers for the first year, US $29.99 thereafter)

System Requirements:

For Photoshop & Lightroom the minimum system operating requirements are as follows:

Windows
- Microsoft Windows 7 with Service Pack 1 (64-bit) or Windows 10
- 4 GB of RAM (12 GB recommended)
- 3.1 GB of available hard-disk space for program installation.
- Intel® or AMD processor with 64-bit support; 2 GHz or faster processor

Mac
- macOS 10.13 High Sierra
- 4GB RAM (12 GB recommended)
- 4 GB of available hard-disk space for program installation (cannot install on a volume that uses acase-sensitive file system or on removable flash storage devices).
- Multicore Intel processor with 64-bit support

Adobe Creative Cloud minimum system requirements, overview: https://helpx.adobe.com/ca/creative-cloud/system-requirements.html

Adobe Photoshop minimum system requirements (applicable for Nov. 2019 release): https://helpx.adobe.com/ca/photoshop/system-requirements.html

Adobe Lightroom Classic minimum system requirements (November 2019 release and later [versions 9.x]) https://helpx.adobe.com/ca/lightroom-classic/system-requirements.html

Lynda.com Tutorial Site
There is another great source for tutorials "Lynda." Access to video tutorials through Lynda.com are recommended. Free membership is available through the Okanagan Regional Library. Details on obtaining an ORL membership can be found here: http://www.orl.bc.ca/using-the-library/get-library-card While the normal in-person application process requires a piece of letter mail to verify your address, the online application form since COVID-19 is a self-declaration of residency. Your library card barcode and PIN can then be used to login to Lynda.com through the following URL:http://www.orl.bc.ca/elibrary/elearning/lynda

Aboriginal Programs and Services
The primary goal of the Aboriginal Programs and Services is to provide culturally appropriate services and support to First Nation, Metis and Inuit students. In response to COVID-19, the Aboriginal Programs and Services team is working remotely and can be reached by email (see website); please contact us if you have any questions or inquiries.
Web: http://students.ok.ubc.ca/aboriginal/welcome.html

International Programs and Services
International Programs and Services (IPS) provides advising, transition services and programs for international students, and IPS works to foster an intercultural campus community where differences are embraced and respected and adapting is multidirectional. In response to COVID-19, International Program and Services have put together a page with important resources and frequently asked questions regarding immigration and health insurance.
Web: http://students.ok.ubc.ca/international/welcome.html

Academic Integrity Matters (AIM) Program

Aim is a program that provides help with academic integrity (AI) issues for undergraduate and graduate students. In response to COVID-19, AIM has moved all their appointments online.
Phone: 250.807.9185
Email: csc.okanagan@ubc.ca   Web: http://library.ok.ubc.ca/wrs/aim/

Student Learning Hub: Writing and Research Assistance
Support for your writing, research and online learning is available through the **Student Learning Hub.** Undergraduate students from every discipline, working on any type of written course assignment (or presentation), are welcome. For more information, please visit the Hub's website (https://students.ok.ubc.ca/student-learning-hub/) or call 250-807-9185. See as well http://library.ok.ubc.ca/wrs/wrc/
Online resources and tutorial appointments during COVID-19 are available.

Library Information
The **Library** is available for research support and can be accessed here. The subject librarian for English is Sajni Lacey who can be contacted for one-on-one research help appointments at sajni.lacey@ubc.ca.

UBC Okanagan Disability Resource Centre
All Disability Resource Centre services are being provided remotely. Students should book their exams in the accommodation portal as usual to request their accommodations in the online exam environment. See the Exam Accommodations During COVID-19 page for more information. Students seeking assistance who are already affiliated with the DRC should contact their advisor directly. See our contacts page for staff direct emails. Advisors are meeting with students using Zoom, Skype, and phone.
General inquiries or students new to the DRC can reach us by emailing drc.questions@ubc.ca
Web: http://students.ok.ubc.ca/drc/welcome.html

UBC Okanagan Equity and Inclusion Office
Phone: 250.807.9291
Email: equity.ubco@ubc.ca   Web: https://equity.ok.ubc.ca/

Health & Wellness
Although the clinic and counselling services are open, Health and Wellness's usual walk-in service is not currently available. If you need to access a physician, nurse, or counsellor, call us at: 250 807 9270. We will respond to your request and help arrange a virtual or telephone appointment with the health care provider. We will also decide with you, if you require an appointment in person and, as needed, make arrangements for you to see the nurse or doctor in the clinic. For further information about health services during COVID-19, please visit the website.
Phone: 250.807.9270
Web: students.ok.ubc.ca/health-wellness/welcome.html
Early Alert: https://facultystaff.students.ubc.ca/systems-tools/early-alert

SAFEWALK

Don't want to walk alone at night? Not too sure how to get somewhere on campus? Call Safewalk at
250.807.8076. For more information, visit: http://security.ok.ubc.ca/welcome.html