UNIVERSITY OF CALGARY
FACULTY OF ARTS
DEPARTMENT OF ART AND ART HISTORY
Art 317 – Electronics for Artists
Winter 2024

Course Delivery Format:	*In person*
Instructor: Office: Email: Office Hours: TA Name and Email:	*Dr. J. R. Parker* *AB 606 (403) 220 6784* *jparker@ucalagry.ca* *M 11:00 AM T 12 PM* *none*
Day(s), time(s) and location of class:	*Monday/Wednesday 8:30AM – 11:00 AM*
Course description:	Theoretical and practical applications of basic electronic principles and techniques involving the use of electronics in contemporary art practices. Will include applied experiences with hardware and visual programming environments.
Prerequisites and/or co-requisites:	3 units of courses labelled Art.
Course Objectives:	Some modern artworks (installations, some performance art) use electricity or electronics as an enabling technology. Knowledge of electronics will help an artist imagine and design such works, and practical knowledge of parts and construction methods will allow an artist to undertake these projects without technical assistance. The material presented in this course will allow an artist to design and build artworks that feature electronics. In particular, upon successful completion of this course students will: 1. Understand the basic properties of electricity and the properties of electronic components. 2. Be able to design electronic circuits that control lights and sounds. 3. Understand how to use resistors, capacitors, diodes and transistors. 4. Have a basic knowledge of digital circuit components and design. 5. Be able to use transducers like LEDs, microphones, photodiodes/phototransistors, and others. 6. Will be able to use a microprocessor (Arduino) to replace circuitry, and will be able to write basic programs in that context.
Required Textbooks of Readings:	Web site and online notes. http://www.minkhollow.ca/Art317
Course Schedule:	This course is taught as **inquiry based** and **just-in-time**, so a precise schedule is not available. Course web site: www.minkhollow.ca/parker/Art317

Assignments & Evaluation

Assignment	Description	Due Date	Worth (%)
Assignment 1	Use of illumination in a simple art work	Jan 23	10
Assignment 2	Use of animation or change in an art work.	Feb 14	10
Assignment 3	Including sound in an art work.	Mar 4	10
Assignment 4	Use of motion, projection, or complex existing circuits.	Mar 18	10
Assignment 5	Using sensors in an artwork to allow viewer interaction	Apr 3	10
Final exam	Take-home examination (1 week)	Apr 3	15
In-Studio assignments	Specific to the topics for that week.	Evaluated weekly	35%

Registrar Scheduled Final Exam:	*No*

Models request:	*No*

Assessment expectations:	<u>Guidelines for Submitting Assignments:</u> Assignments can be submitted on paper or by Email. Email header must contain the text "Art 317 assignment solution N", where N is the assignment number. <u>Missed or Late Assignments:</u> Assignments are expected to be on-time unless previous discussed with the instructor. Deadlines could be changed in-class, but will never be advanced. Assignments not handed in will not be graded. Assignments handed in on time can be resubmitted for reassessment within 2 weeks of the due date. <u>Expectations for Writing:</u> Writing skills are important to academic study across all disciplines. Consequently, instructors may use their assessment of writing quality as a factor in the evaluation of student work. Please refer to the Undergraduate Calendar E.2 Writing Across the Curriculum policy for details. Use of AI: AI can be used as a component of an assignment provided you describe what you used and exactly how you used it.
Additional Costs and Information:	Students are expected to have access to a computer to complete their assignments. It is possible to complete the class without software expense, but any extra software needed will be at the student's own expense. ELEGOO UNO Project Super Starter Kit with Tutorial, 5V Relay, UNO R3, Power Supply Module, Servo Motor, 9V Battery with DC, Prototype Expansion Board, ect. for Arduino. $57 *Students will provide a kit of their own electronic parts. Sources include:* In Calgary there is: Solarbotics https://www.solarbotics.com/page/3/?s=arduino&post_type=product&dgwt_wcas=1 #101 3740D-11A Street NE 1-403-232-6268 ELEGOO UNO Project Super Starter Kit with Tutorial $57.99

	https://www.amazon.ca/s?k=ardiono+kit&i=industrial&crid=F6NCHKOFR7VC&sprefix=ardiono+kit%2Cindustrial%2C148&ref=nb_sb_noss

ELEGOO UNO R3 Project Complete Starter Kit with Tutorial for Arduino UNO (63 Items) 79.99
https://www.amazon.ca/ELEGOO-Project-Complete-Starter-Tutorial/dp/B01M9CHF1J/ref=sr_1_2_sspa?crid=F6NCHKOFR7VC&keywords=arduino+kit&qid=1671209476&s=industrial&sprefix=ardiono+kit%2Cindustrial%2C148&sr=1-2-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFDTUZINTNHNDFIVVgmZW5jcnlwdGVkSWQ9QTA4NDc2OTMyTzl1QkoxMVo4RzU2JmVuY3J5cHRlZEFkSWQ9QTA4NDY1OTUySEoxUlNNSkY1NExHJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==

Other online sources:

Newark:
https://www.newark.com/

Electronic Goldmine:
https://theelectronicgoldmine.com/en-ca

Digi-Key:
https://www.digikey.ca/?utm_adgroup=General&utm_source=bing&utm_medium=cpc&utm_campaign=EN_Brand_Digi-Key&utm_term=digkey&utm_content=General&utm_id=bi_cmp-25469353_adg-1296324536030785_ad-81020352327824_kwd-81020514251825:loc-32_dev-c_ext-_prd-&productid=&msclkid=079b94cbdc9919748ff4f7577887349c

SparkFun
https://www.sparkfun.com/

Jameco
https://www.jameco.com/ |
| Portfolios and Assignments: | The Dept of Art and Art History will not assume responsibility for lost or stolen portfolios or course work given to instructors for grading. |
| Studio Procedures: | All studio participants are required to follow the guidelines in the DAAH Studio Usage Regulations and the mandatory Safety Orientation. After reviewing the orientation, participants must complete and return a Safety Questionnaire to the department technicians within one week of the start of classes. Participants who have already completed the orientation within the past year are exempt. The Usage Regulations, Safety Orientation and Safety Questionnaire can be found on the course D2L page and at the following link: https://arts.ucalgary.ca/art-art-history/current-students/undergraduate/standard-operating-procedures-studios-and-classrooms/safety-documents

Please view current updates from RISK and the Covidsafe page links to information on rapid testing, masking rules, vaccination regulations and documentation as well as a FAQs page, which must all be followed while in Studios. https://www.ucalgary.ca/risk/emergency-management/covid-19-response/covidsafe-campus |

Other Important Dates

For more information on term dates, add/drop/swap/withdraw dates from course deadlines and refund/payment deadlines, please see: https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html

Grading Method and Grading Scale

Undergraduate: https://www.ucalgary.ca/pubs/calendar/current/f-1-1.html
- A grade of "C-" or below may not be sufficient for promotion or graduation, see specific faculty regulations.
- The number of "D" and "D+" grades acceptable for credit is subject to specific undergraduate faculty promotional policy.

Percentage	Grade	G.P.V.	Grade Definition
96-100	A+	4.0	Outstanding performance
90-95	A	4.0	Excellent-superior performance, showing comprehensive understanding of subject matter.
85-89	A-	3.7	Approaching excellent performance
80-84	B+	3.3	Exceeding good performance
75-79	B	3.0	Good – clearly above average performance with knowledge of subject matter generally complete.
70-74	B-	2.7	Approaching good performance
65-69	C+	2.3	Exceeding satisfactory performance
60-64	C	2.0	Satisfactory – basic understanding of the subject matter.
55-59	C-	1.7	Approaching satisfactory performance
53-54	D+	1.3	Marginal Pass. Insufficient preparation for subsequent courses in the same subject
50-52	D	1.0	Minimal pass – marginal performance; generally insufficient preparation for subsequent courses in the same subject.
0-49	F	0	Fail – Failure to meet course requirements.

Graduate: https://www.ucalgary.ca/pubs/calendar/current/f-1-2.html
- All grades of "C+" or lower are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements. Individual programs may require a higher passing grade.

Learning Technologies and Requirements:	There is a D2L site for this course which contains required readings and other relevant class resources and materials (d2L.ucalgary.ca). To successfully engage in their learning experiences at the University of Calgary, students taking online, remote, and blended courses are required to have reliable access to the following technology: • A computer with a supported operating system, as well as the latest security, and malware updates • A current and updated web browser • Webcam (built-in or external) • Microphone and speaker (built-in or external) or headset with microphone • Current antivirus and/or firewall software enabled • Broadband internet connection
Academic Standing:	For more information go to http://www.ucalgary.ca/pubs/calendar/current/f.html
Academic Accommodation:	It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The Student Accommodations policy is

	available at https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations. Students needing an accommodation based on disability or medical concerns should contact Student Accessibility Services (SAS) in accordance with the Procedure for Accommodations for Students with Disabilities (https://ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf). Students who require an accommodation in relation to their coursework based on a protected ground other than Disability should communicate this need in writing to their Instructor. SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/
Academic integrity, plagiarism:	Academic Misconduct refers to student behavior which compromises proper assessment of a student's academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar. For more information go to http://www.ucalgary.ca/pubs/calendar/current/k.html or http://www.ucalgary.ca/pubs/calendar/current/e-2.html Additional information is available on the Academic Integrity Website at https://ucalgary.ca/student-services/student-success/learning/academic-integrity
Internet and electronic communication device:	The use of laptop and mobile devices is acceptable when used in a manner appropriate to the course and classroom activities. Please refrain from accessing websites and resources that may be distracting to you or for other learners during class time. Students are responsible for being aware of the University's Internet and email use policy, which can be found at https://ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Acceptable-Use-of-Electronic-Resources-and-Information-Policy.pdf
Deferral of Term work and exams	For more information about deferring a final exam go to https://www.ucalgary.ca/registrar/exams/deferred-exams For more information about deferral of term work go to http://www.ucalgary.ca/pubs/calendar/current/g-7.html https://www.ucalgary.ca/live-uc-ucalgary-site/sites/default/files/teams/14/deferred_termwork-feb-2020_revised.pdf
Intellectual Property & Copyright:	All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (https://ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Acceptable-Use-of-Material-Protected-by-Copyright-Policy.pdf) and requirements of the copyright act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorized sharing of course materials (including presentations, textbooks, posted notes, labs, case studies, assignments, and exams). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy https://www.ucalgary.ca/pubs/calendar/current/k.html

Freedom of Information and Protection of Privacy:	Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary. For more information go to https://www.ucalgary.ca/registrar/student-centre/privacy-policy
Ethics	Whenever you perform research with human participants (i.e., surveys, interviews, or observation) as part of your university studies, you are responsible for following university research ethics guidelines. Your instructor must review and approve of your research plans and supervise your research. For more information go to http://www.ucalgary.ca/pubs/calendar/current/e-5.html or https://www.ucalgary.ca/research/researchers/ethics-compliance/chreb
Student Support:	Please visit this link for important information on: • Wellness and Mental health resources • Emergency Evacuation/Assembly Points • Student Success and more…. https://www.ucalgary.ca/registrar/registration/course-outlines
Arts Students' Centre Program Advising:	Have a question but not sure where to start? The Arts Students' Centre is your information resource for everything in the Faculty of Arts. Call us at 403-220-3580 or email us at ascarts@ucalgary.ca. You can also visit the Faculty of Arts website at http://arts.ucalgary.ca/undergraduate which has detailed information on common academic concerns.
Faculty of Graduate Studies:	For graduate studies email: graduate@ucalgary.ca or call 403 220 4938. Visit the Faculty of Graduate Studies for more details: https://grad.ucalgary.ca/