**UNIVERSITY OF CALGARY**
**FACULTY OF ARTS**
**DEPARTMENT OF ART**

**ART 317 L01**
**Electronics for Artists**
**Winter 2021**
**Lecture: Mon/Wed 8:30 – 9:45**
**Lab: Mon/Wed 9:45 – 11:00**
**WEB BASED**

| | |
|---|---|
| **Instructor:** | *J R Parker* |
| **Office Location:** | *AB 606* |
| **Office Phone:** | *403 220 6784* |
| **E-Mail:** | *jparker@ucalgary.ca* |
| **Web Page:** | *people.ucalgary.ca/~jparker* |
| **Office Hours:** | *M 11:00 T 1:00* |

**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 &/or Co-requisites**
     3 units of courses labelled in Art.

**Objectives of the Course**

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.

**Textbooks and Readings**
Web site and online notes. http://www.minkhollow.ca/Art317

**Assignments and Evaluation**

**Studio assignments: 45%** Due in labs each week.

**Project 1(15%):** Art project involving electronics as a subject.
A painting, a drawing, a sculpture, etc. (Feb 24)
**Project 2 (15%):** Electronic art project of your choice**.** (Apr 20)
**Exam (15%) Final take-home exam.**

**3 Critical incident questionnaires (10%)** No more than one each week, but one per month until April.

### Writing

The written critical incident questionnaires and the documentation that accompanies assignments will be assessed, and coherence, structure, spelling and structural properties of English will be a factor.

You need not pass any specific portion of the course to get a passing grade.

### Registrar-Scheduled Final Exam – NO

**Note:  It is the student's responsibility to keep a copy of or any relevant documentation regarding each submitted assignment.**

Please hand in your assignments directly to your instructor via Email of other agreed on on-line mechanism. If this is not possible, you can use the  drop box outside of AB 608. Assignments that are put into the drop box will be date-stamped and  placed in the instructor's mailbox.

### Late Assignment Policy

*Late assignments can be accepted if it does not affect group work.*

### Additional Information *(if necessary)*

*Students will be responsible for any parts and supplies related to their individual projects. Also, the class will be on-line, and you will need a microphone and video camera.*

1. Arduino project kit.
Last year each group had one, but this year I fear each student will have to get one. Here's a link to the standard kit:
https://www.amazon.ca/Elegoo-Project-Starter-Tutorial-Arduino/dp/B01D8KOZF4/ref=sr_1_5?dchild=1&keywords=arduino+kit&qid=1601833804&sr=8-5

ELEGOO UNO Project Super Starter Kit
$39.99

An option is: https://www.amazon.ca/Smraza-Tutorials-Compatible-MEGA2560-Components/dp/B06XXYVWVJ/ref=sr_1_13?dchild=1&keywords=arduino+kit&qid=1601833804&sr=8-13
Smraza Super Starter Kit Compatible with Arduino  $34.99

You will need a multimeter:
https://www.banggood.com/ANENG-AN8206-Large-Screen-Digital-Multimeter-with-Square-Wave-Output-Voltage-Current-Continuity-Measurement-hEF-measurement-p-1592649.html?rmmds=search&ID=224&cur_warehouse=CN
$9.37

https://www.goldmine-elec-products.com/prodinfo.asp?number=C9008
 Super Range DT820D Accurate Digital Multimeter

14.95 US

Circuit simulation software is free:
https://www.ti.com/tool/TINA-TI
and
https://sourceforge.net/projects/circuit/

Other tools such as pliers and wire cutters can be found at any department store (Canadian Tire, etc)

## Course Activities

Lecture schedule will be available at http://www.minkhollow.ca/Art317

## Grading Method/Grading Scale:

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

**Internet and Electronic Communication Device Information**
https://ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Acceptable-Use-of-Electronic-Resources-and-Information-Policy.pdf

Electronic devices will be used in this course. Cell phones are permitted, but do not engage in conversations in the class.

## Portfolios and Assignments

The Department of Art will not assume responsibility for lost or stolen portfolios or course work given to instructors for grading.

**Studio Procedures** – N/A

**Academic Accommodations**

The student accommodation policy can be found at https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations.

Students needing an Accommodation because of a Disability or medical condition should communicate this need to Student Accessibility Services 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 needing an Accommodation based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the course instructor.

**Academic Standing**

For more information go to http://www.ucalgary.ca/pubs/calendar/current/f.html

**Deferral of Exams and Term work**
It is possible to request a deferral of term work or final examination(s) for reasons of illness, accident, family or domestic affliction, or religious obligations.  Please check with Enrolment Services if any of these issues make it impossible for you to sit an exam or finish term work by stated deadlines.

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

**F.O.I.P.**

For more information go to https://www.ucalgary.ca/registrar/student-centre/privacy-policy

**Writing and Plagiarism**

Writing skills are not exclusive to English courses and, in fact, should cross all disciplines. The University supports the belief that throughout their University careers, students should be taught how to write well so that when they graduate their writing abilities will be far above the minimal standards required at entrance. Consistent with this belief, students are expected to do a substantial amount of writing in their University courses and, where appropriate, members of faculty can and should use writing and the grading thereof as a factor in the evaluation of student work. The services provided by the Writing Support Services can be utilized by all undergraduate and graduate students who feel they require further assistance.
For more information go to
http://www.ucalgary.ca/ssc/writing-support
or
http://www.ucalgary.ca/pubs/calendar/current/e-2.html

Using any source whatsoever without clearly documenting it is a serious academic offense. Consequences include failure on the assignment, failure in the course and possibly suspension or expulsion from the university. Visual art projects submitted for course credit must be produced by the student specifically for this class. Students must not submit projects if credit has or will be provided for it in another class. This includes re-worked assignments from previous or concurrent courses, unless permission is provided in writing by the instructor. Additionally, the student is asked to be mindful of using visual sources from the internet, ensuring that that material is not derived from any on-line or other available source, and that appropriate copyright permission is granted, when required.

**Campus Mental Health Resources**
[SU Wellness Centre](#) and the [Campus Mental Health Strategy](#)

**Campus Security and Safewalk**

Call 220-5333 anytime.  Help phones are located throughout campus, parking lots and elevators; they connect directly to Campus Security - in case of emergency, press the red button.

For more information go to [https://live-risk.ucalgary.ca/risk/campus-security/your-safety/safewalk](https://live-risk.ucalgary.ca/risk/campus-security/your-safety/safewalk)

**Emergency Evacuation**

For more information go to [https://www.ucalgary.ca/risk/emergency-management/evac-drills-assembly-points/assembly-points](https://www.ucalgary.ca/risk/emergency-management/evac-drills-assembly-points/assembly-points)

**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](http://www.ucalgary.ca/pubs/calendar/current/e-5.html)
or
[https://www.ucalgary.ca/research/researchers/ethics-compliance/chreb](https://www.ucalgary.ca/research/researchers/ethics-compliance/chreb)

**Instructor Intellectual Property and Copyright Legislation**
Course materials created by the instructor (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the same course section and term may be allowed under fair dealing. Check with the instructor if you have any questions about sharing materials with classmates.

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](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](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 instructor notes, electronic versions of textbooks, etc.).
Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

**Lockers** – N/A

**Student Misconduct**

For more information go to [http://www.ucalgary.ca/pubs/calendar/current/k.html](http://www.ucalgary.ca/pubs/calendar/current/k.html)

**Student Ombudsman**

For more information go to [http://www.ucalgary.ca/ombuds/](http://www.ucalgary.ca/ombuds/)

**Student Union**
For more information go to [http://www.su.ucalgary.ca/](http://www.su.ucalgary.ca/)

**Faculty of Arts Program Advising and Student Information Resources**

Have a question but not sure where to start? The Arts Students' Centre is your information resource for everything in the Faculty of Arts.  C all us at 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.

For program planning and advice, contact the Student Success Centre at 403-220-5881

For registration (add/drop/swap), paying fees and assistance with your Student Centre, contact Enrolment Services at 210-ROCK [7625].