1. **Course:** CPSC 601.28: Creative Programming for Digital Media

   **Lecture Sections:**
   L05, TR 12:30-13:45, MS 680A, Oksana Kryzhanivska, AB 623, okryzhan@ucalgary.ca
   Office Hours: By Appointment

   **Course Website:** None.

   Computer Science Department Office, ICT 602, 220-6015, cpsc@cpsc.ucalgary.ca

2. **Prerequisites:** Consent of the Department
   (http://www.ucalgary.ca/pubs/calendar/current/computer-science.html#3620)

3. **Grading:** The University policy on grading and related matters is described in sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

   - Project Proposal: 10%
   - Assignment 1: 20%
   - Assignment 2: 20%
   - Project Presentation: 15%
   - Creative Project: 35%

   This course will not have a Registrar's Scheduled Final Exam.

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar. Section 3.6. It is the student’s responsibility to familiarize themselves with these regulations. See also Section E.6 of the University calendar.

5. **Scheduled Out-of-Class Activities:** REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME ACTIVITY. If you have a clash with this out-of-class activity, please inform your instructor as soon as possible so that alternative assignments can be arranged.

6. **Course Materials:**
   Processing: Creative Coding and Generative Art in Processing 2, Ira Greenberg, Dianna Xu & Deepak Kumar, *Springer* (Recommended)
   Processing 2: Creative Programming Cookbook, Jan Vantomme, *Packt Publishing Limited 2012* (Recommended)
   Generative Art, Matt Pearson, *Manning Publications 2011* (Recommended)

   **Online Course Components:** None.

7. **Examination Policy:** Not applicable. Students should also read the Calendar, Section G, on examinations.

8. **Approved Mandatory and Optional Course Supplemental Fees:** None.

9. **Writing across the Curriculum Statement:** In this course, the quality of the student’s writing in the weighted components of the course will be a factor in the evaluation of these components. See also Section E.2 of the University Calendar.
10. **Human Studies Statement**: Students will be expected to participate as subjects or participants in projects. See also Section E.5 of the University Calendar.

11. **OTHER IMPORTANT INFORMATION FOR STUDENTS:**

   a) **Misconduct**: Academic misconduct (cheating, plagiarism, or any other form) is a very serious offense that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under Section K, Student Misconduct to inform yourself of definitions, processes and penalties.

   b) **Assembly Points**: In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on assembly points which can be found in each classroom and building.

   c) **Student Accommodations**: Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities available at [http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf](http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf). Students needing an Accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Computer Science, Dr. Ben Stephenson, by email bdstephe@ucalgary.ca or phone 403-220-6781.

   d) **Safewalk**: Campus Security will escort individuals day or night ([http://www.ucalgary.ca/security/safewalk/](http://www.ucalgary.ca/security/safewalk/)). Call 403-220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

   e) **Freedom of Information and Privacy**: This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also [http://www.ucalgary.ca/secretariat/privacy](http://www.ucalgary.ca/secretariat/privacy).

   f) **Student Union Information**: VP Academic (403) 220-3911 suvpaca@ucalgary.ca, SU Faculty Rep (403) 220-3913 science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca, Student Ombuds Office: (403) 220-6420 ombuds@ucalgary.ca, [http://ucalgary.ca/provost/students/ombuds](http://ucalgary.ca/provost/students/ombuds).

   g) **Internet and Electronic Device Information**: You can assume that in all classes that you attend your cell phone should be turned off unless instructed otherwise. All communications with other individuals via laptop computers, cell phones or other devices connectable to the internet in not allowed during class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

   h) **U.S.R.I.**: At the University of Calgary feedback provided by students through the Universal Student ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses ([www.ucalgary.ca/usri](http://www.ucalgary.ca/usri)). Your responses make a difference – please participate in USRI surveys.

Department Approval__________________________________________Date________________________

*A signed copy of this document is kept on file in the Computer Science Main Office ICT 602*
### CPSC 601.28 Percentage to Letter Grade Conversion Table

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
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<td>80-84</td>
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<td>B-</td>
<td>70-74</td>
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<td>65-69</td>
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<td>D</td>
<td>40-49</td>
</tr>
<tr>
<td>F</td>
<td>0-39</td>
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</tbody>
</table>
Week 1 | September 8
- Introduction to the course, getting started with Processing
- Structure and the coordinate system

Week 1 | September 10
- Analyzing a problem
- Variables, methods, control
- Math, events, inputs

Week 2 | September 15
- Drawing in 2D, lines and curves, shapes, colours
- Images, animation

Week 2 | September 17
- Data structures, arrays, lists

Week 3 | September 22
- Strings, text, curves, reading text files
- Assignment 1 introduction

Week 3 | September 24
- Trigonometry and transformations

Week 4 | September 29
- Introduction to 3D, space, cameras, lights, primitives

Week 4 | October 1
- Introduction to classes and objects, custom 3D objects
- Assignment 1 due

Week 5 | October 6
- Simple 3D math

Week 5 | October 8
- Shaders
- Discussion of project proposals

Week 6 | October 13
- Recursion, noise, and generative techniques
- Project proposals due (including project anatomy and write-up)

Week 6 | October 15
- Video, manipulation, filters

Week 7 | October 20
- Introduction to computer vision techniques
Week 7 | October 22
- Loading, playing audio, visualization

Week 8 | October 27
- Generating Audio (guest lecture)

Week 8 | October 29
- Digital sound and composition (guest lecture)

Week 9 | November 3
- Electronics, sensors, devices, interaction
- Assignment 2 introduction

Week 9 | November 5
- Libraries for Processing, exporting files

Week 10 | November 10
- Reading days - no class!

Week 10 | November 12
- Physics libraries
- Assignment 2 due

Week 11 | November 17
- Vectors and Forces

Week 11 | November 19
- Biological systems part 1

Week 12 | November 24
- Biological systems part 2

Week 12 | November 26
- Biological systems part 3

Week 13 | December 1,3
- Discussion, feedback and presentations of the finished final project.

Creative project due at midnight on December 5.