

**University of London International Programmes**  
**Computing and information systems and Creative computing**  
**CO1112 Creative Computing I: Image, Sound and Motion**  
**Coursework assignment 1**  
**2017-18**

**Aims**

The aims of coursework assignment 1 are:

- To introduce you to doing reading and writing in an appropriate academic context, including presenting coherent argument.
- To develop your understanding of the theoretical concepts and practical deployment of the ideas of chance and randomness in art.
- To begin to develop your practical experience of programming using *Processing*.
- To begin to develop your knowledge and understanding of colour and shape in the context of visual art; and in the context of practical implementation in code.
- To give you the opportunity to combine various techniques you have learned about during the course to produce a creative artefact.
- To develop your experience of research and referencing.

**Part 1: Randomness and chance in art**

The concept of randomness is one which you will almost certainly have come across already, and one which you will encounter in future work, both in the Creative Computing degree and in other areas. Some of the ideas are elusive and require attention and thought to get to a deeper understanding of what is involved, and also to get to know some of the ways in which randomness is implemented in computational terms.

The first part of this coursework requires you write an essay, of a maximum length of 3000 words, about randomness and chance in art. Get a reasonable understanding of how randomness has been and may be used in the making of art, and how this is different to chance. Also take a look at the work of Jackson Pollock (mentioned in the subject guide) and of Sol LeWitt – particularly those aspects that connect with randomness – and think about this work, and other work in a similar vein, and the possible connections with computational creativity. There is also material in the subject guide about Brownian motion, and about Perlin noise, that relates to concepts of randomness which will help your understanding of this area. So the broad brief is this – an essay that incorporates all or some of: randomness and chance; these in the context of art and digital art; and the work of Pollock and LeWitt, and others.

Some pointers for your essay: do not simply summarise a range of material about randomness; do not try to describe the use of randomness in every kind of artistic domain; do not make excessive use of popular articles, or web pages, rather than more appropriate academic material. All of these will result in weaker work which will get low marks.

In the first paragraph, you should outline the specific focus your essay is going to take. Your essay should then deliver this, making use of proper academic texts such as book chapters, journal and conference papers. While it is sometimes appropriate to use more general web

pages, an essay that is based entirely on these will result in lower marks. An essay that does not have a central point (or points) it is trying to make will also result in lower marks. It is up to you how you constrain the focus, and marks awarded will reflect the understanding shown as well as the clarity of argument presented. Note that a good essay may be less than 3000 words; however it must demonstrate thought, depths and insights, and should show that you have engaged with the topic in a way that is not simply superficial.

### **What to submit for this part**

Submit your essay as part of the single pdf file for your written work (see **What to Upload to the VLE**, below) containing your written answers to all of the questions in this coursework.

**[35%]**

## **Part 2: Colour**

This part of the coursework involves a practical implementation, using *Processing*.

Chapter 6 of Volume 1 of the subject guide discusses shape, and Chapter 1 of Volume 2 of the subject guide discusses colour. You will need to familiarise yourself with the material in both of these, as a starting point.

Within the *Processing* Example sketches you will find an example that draws a number of shapes in a moving formation. There is also a collection called `CreateShapes`; we are interested in particular in the one called `PolygonPshapeOOP3`. This is provided on the VLE or you may simply use it from the *Processing* examples. There is also a tutorial, discussed by Daniel Shiffman – found at <https://processing.org/tutorials/pshape/> – which explains the concepts in more detail. You will see that there is a lot of use of the *Processing* `random()` function in this sketch.

You are required to do three primary things for this part of the coursework. First, take the code for `PolygonPshapeOOP3`, figure out what it is doing and how it works, and include additional comments within the code file to explain this. Save the commented version as `Colour.pde`, to be used for other aspects of this part as well. Secondly, write a short discussion of the way that randomness is used in this sketch. This discussion does not need to be longer than one or two paragraphs. Finally, add a colour aspect to the shapes, to be included in a random way (also adding appropriate comments). You should then extend your discussion to comment on the way you have incorporated the colour randomness. Note that you do not need to use the `random()` function; you may incorporate randomness in any way you choose, but your discussion must explain which choices you have made, and why, and the impact of these on the effectiveness of the colour inclusion.

### **What to submit for this part**

Submit the following:

- in the single pdf file for your written work:
  - Your brief discussion of the randomness in the original sketch (prior to your adding of colour).
  - Your discussion on how you included a random aspect in the colour incorporation.
- In a zip file called `YourName_SRN_CO1112cw1_Part2.zip` (see **What to Upload to the VLE**, below) a folder called `Colour` which contains your code extension as above, and incorporates the commenting required. This folder must also contain all of the files needed to run the sketch, once the folder has been retrieved from the zip archive.

**[20%]**

### Part 3: Extended exploration

The final part of this coursework is open-ended. You are required to work creatively with the concept of randomness, incorporating concepts from the earlier parts of the coursework, to produce a sketch with impact.

You can extend your sketch from Part 2, or you can start with a new sketch that develops concepts you covered in your essay, or you may have found something especially interesting in the reading you did towards the essay – either may inspire a sketch or an artefact.

You may include an interactive aspect, or an animation aspect if you wish, or you may investigate colour or shape more deeply, but the overriding requirement is an exploration or exposition of randomness. The more creative or technically challenging your work, the higher the marks you will obtain for this part, but it is essential that the creativity or technical work is clearly linked to the brief given here.

Do not simply add things like animation or sound, just for fun, or 'to add interest'. Anything you include must be there for a reason, and the reason must be connected to the requirements of the coursework, which are about randomness.

#### What to submit for this part

- In a zip file called *YourName\_SRN\_CO1112cw1\_Part2.zip* (see **What to Upload to the VLE**, below) a folder called `Exploration`, containing your `Exploration.pde`. This folder must also contain all of the files needed to run the sketch, once the folder has been retrieved from the zip archive.
- In the single pdf file for your written work, an explanation of the motivation for this sketch, and also a critique of its impact. Learning how to appropriately critique work is an important part of the creative computing degree; look at examples of previous courseworks if you are unsure of how to do this. You should discuss the exploration or demonstration of randomness that you've submitted, and include a brief mention of things you could have done better, or other ways the work could be extended in the future.

**[45%]**

**[Total 100%]**

#### What to upload to the VLE

- A single pdf document of your written assignment submission, containing your written answers to all the questions and discussions as specified above. The file should be named using the following convention: *YourName\_SRN\_CO1112cw1.pdf*, where *YourName* and *SRN* are your full name as it appears on your student record and your UoL student number respectively. Make sure you include in-text citation and a reference section at the end of this part (not included in the word count). Ensure it is clear which section of your submission is answering which question.
- A zip file called *YourName\_SRN\_CO1112cw1\_Part2.zip*, containing one directory called `Colour`. This directory should contain your `Colour.pde` file with the modifications made in Part 2 of the coursework, as well as any additional files needed to run the sketch.
- A zip file *YourName\_SRN\_CO1112cw1\_Part3.zip*, containing one directory called `Exploration`, which contains all `.pde` file(s) and any associated data files for the sketch you developed for Part 3. The main `.pde` file should be called `Exploration.pde`.

## Important notes

**Citation and referencing:** It is important that your submitted assignment is your own individual work and, for the most part, written in your own words. You must provide appropriate in-text citation for both paraphrase and quotation, with a detailed reference section at the end of your assignment (this should not be included in the word count). Copying, plagiarism and unaccredited and wholesale reproduction of material from books or from any online source is unacceptable, and will be penalised (see: [How to avoid plagiarism](#)).

**Copying code from other sources:** It is a normal aspect of programming to look at other people's code to get inspiration on how to solve a problem. This might extend to directly copying code obtained from elsewhere into your own program. If you do this, you should include a comment in your code to say which part has been copied, and where it came from, acknowledging the original author or source. While looking at and using existing code can be a good way to learn appropriate style, you should ensure you use high quality examples that exhibit good technical ability and programming style.

**For Part 2,** make sure you indicate which parts of the code are yours, and which come from the example you have been asked to use.

**For Part 3,** and in future courseworks, you will get *much* more out of a coursework if you write all of the code yourself, rather than mostly copying code from elsewhere. That way, you can be sure that you really understand what the code is doing! Of course, if the sketch you develop is an extension of what you did in Part 2, then there will be some proportion of code that comes from the given example; however we expect to see a substantial amount of your own work too, to make an effective extension and further development.

**Finally,** check very carefully that your zip files contain all of your code before you submit them. We strongly encourage you to try unzipping the files into a blank temporary directory on your own computer before you submit them, to check that it contains all of your .pde files, as well as any data files that might be necessary. It is **essential** that examiners can run your code from the archive extraction – and we do not accept additional files after the deadline.

**[END OF COURSEWORK ASSIGNMENT 1]**