1. **Course Title** *(English)*: Concepts of space

2. **Course Code:**
   SM2224

3. **Course Aims & Objectives:** This interdisciplinary course considers the nature of space by using concepts from both art and mathematics. Although many of the topics are mathematical in nature, it is mainly designed for creative artists. The first topic concerns the mathematical issue of “higher dimensions”, which will be studied with reference to the novel *Flatland*. Students will also review the work of various modern artists who have engaged with the question of higher dimensions, such as for instance Marcel Duchamp. Students will also consider basic concepts in topology, such as gluing and orientability, and their influence on artists like M. C. Escher. The next topic will involve a basic introduction to non-Euclidean geometries. The problem of dimensions will then be reconsidered, with reference to fractal geometry. An elementary introduction to special and general relativity will conclude the course. Since this course is especially designed for artists, student assignments will be creative projects made in response to the mathematical topics discussed in class.

4. **Units:** 3

5. **Level:** B

6. **Keyword Syllabus:** Higher dimensions; the method of coordinates; Marcel Duchamp; non-Euclidean geometries; topology; dimension theory; fractal dimension; special and general relativity.

7. **Teaching pattern:**
   - **Duration of course:** 1 semester
   - **Suggested lecture/tutorial/laboratory mix:** 3 hours combining lecture and workshop.

8. **Assessment pattern:**
   - **100% Coursework**
   - **Grading pattern:** Standard (A+AA-…F)

9. **Pre-requisites:** *(please quote course code & title)*

10. **Pre-cursor:** *(please quote course code & title)*

11. **Equivalent Courses:** *(please quote course code & title)*

12. **Key References:**


**Returned by:**

Name: Dr. Hector Rodriguez  
Department: School of Creative Media  
Extension:  
Date: June 27, 2005