**Grande Prairie Regional College**
**Department of Fine Arts**

F.01

***Interactive and Digital Design***

**DD 1160 (1-0-2)**
**Digital Imagery - 3D I**

**1. Instructor:**

Lane Borstad
Office: L125
Phone: 539-2836
Email: Lane@Borstad.com or Borstad@GPRC.ab.ca
Web: http://Mercury.GPRC.ab.ca/Lane

**2. Time** TBA.

**3. Location** TBA

**4. Prerequisite** None
Priority will be given to students enrolled full time in the Interactive Digital Design Program.

**5. Course Description**
This course and its sequel DD 1170 are designed to give students an introduction to the theory and practice of three dimensional computer generated images (CGI). Students will model animate and render photorealistic images suitable for animation, game development, and/or video.

Note: DD 1160 and DD 1170 are not programming courses. They are designed for students interested in learning to use existing tools for creating 3 dimensional images, developing personal expertise with those tools, and understanding the resulting aesthetic.

**6. Course Objectives**
Students will:
a. Acquire an solid understanding of the concepts and principles of 3D object creation.
b. Develop skills in the use of specific computer tools applicable to 3D CGI.
c. Produce a portfolio of work which demonstrates their knowledge and expertise.

**7. Topics** (will include but are not limited to)

Major emphasis will be placed upon:

Modelling basics of point, line, and polygons
Organic shapes with spline curves, NURBS and Boolean operations.
Text effects using PostScript and TrueType font

Rendering of photorealistic images
Materials and surface treatments such as textures, reflection, refraction, transparency, specularity and bump mapping
Photographic and atmospheric effect such as motion blur, depth of field and fog.

The following topics will be introduced in AR 1160 and expanded upon in AR 1170

Animation via keyframe-based animation
Inverse Kinematics for character animation
3D morphing

Particle animation

**8. Assignments**

Assignments will be designed develop skills and expertise in the use of the appropriate tools for creating 3D CGIs. A portfolio of work that culminates in one major project will be required.

**9. Evaluation**

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| Term assignments | 40% |
| Final portfolio | 50% |
| Participation | 10% |

Note: More than 10% absenteeism may constitute a failure, except for medical or extenuating circumstances, in which case a doctor's letter will be required.