

Grande Prairie Regional College
Department of Fine Arts

WOP

Interactive and Digital Design

DD 1170 (1-0-2)
Digital Imagery - 3D II

1. **Instructor:** Lane Borstad
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2. **Time** TBA.
3. **Location** TBA
4. **Prerequisite** DD 1160 Digital Imagery - 3D part 1
Priority will be given to students enrolled full time in the Interactive Digital Design Program.

5. **Course Description**

DD 1170 is a studio art course in which students will develop expertise in the creation and animation of three dimensional computer generated images (CGI). This course is project based and a continuation of DD 1160. It is designed to extend the skills which students acquired in that course by applying those skills to major collaborative projects.

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 a significant level of expertise in the use of specific computer tools applicable to 3D CGI.
- c. Learn to work in a collaborative team environment
- d. Produce a portfolio of work which demonstrates their knowledge and expertise.

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

The following topics were introduced in DD 1160 and will be expanded upon.

Modelling basics of point, line, and polygons

Organic shapes with spline curves, NURBS and Boolean operations.
Text effects using PostScript and TrueType fonts

Rendering of photorealistic images

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

Major emphasis will be placed upon:

An introduction to project design and management for animation

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

8. Assignments

Projects and assignments will be designed to develop skills and expertise in the use of the appropriate tools for creating 3D CGIs and provide students with an opportunity to collaborate on larger projects. Possible collaborations will include students from the Visual Arts program, the Music component of Digital Design Studies and/or Computer Sciences. A portfolio of work which demonstrates the student's growth, level of expertise acquired and contribution to collaborative projects will be required.

9. Evaluation

Progress reports	35%
Final portfolio	45%
Participation	20%

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.