Graphics, Modeling, and Art PhD Examination

Area Introduction

Graphics, Modeling, and Art concerns itself with the computer-based representation and implementation of (1) shape and geometry; (2) dynamics, motion, and behavior; and (3) aesthetic design. Our common core areas within GMA are (geometric) *modeling* and *graphics*. *Modeling* deals primarily with 2D and 3D geometry, and *graphics*, with the pipeline process of rendering and animating models.

The Graphics, Modeling, and Art PhD Examination is based on the area that is common to the above three topical areas: *Computer Graphics*.

Relevant Course

CAP 5705 – Computer Graphics

This course may not teach all of the topics in the Reading Material, due to time limitations; however, the student will be expected to have a thorough knowledge of this material.

Examination

Six questions will be developed, and the student will be expected to answer any four of the six questions.

Reading Material

Books

* Shirley, P. and Shirley, Peter, "Fundamentals of Computer Graphics", A.K. Peters Ltd
* Angel, Edward and Rigney, James, "Interactive Computer Graphics: A Top-Down
* Approach with OpenGL", Addison-Wesley
* Foley, van Dam, Feiner, and Hughes, "Computer Graphics: Principles and Practice", Addison-Wesley
* Hearn and Baker, "Computer Graphics with OpenGL", Prentice Hall
* Hill, F. S., "Computer Graphics using OpenGL", Prentice Hall