GEOS 2410-501/803 - GEMSTONES, Spring 2006

Course Outline

Date	Topic
01/10, 01/12	Introduction, Video tape; Definitions; Origins
01/17, 01/19	Host rocks; Geology and mining
01/24, 01/26	Properties of Gemstones; Crystallography
01/31, 02/02	Optical microscope; Refractometer, etc.
02/07, 02/09	Enhancements, Substitutes (synthetics and simulants), cutting, Shaping and polishing; Evaluation, Cleaning and care of gems and gemstones
02/14, 02/16	Diamonds
02/21, 02/23	Corundums (ruby, sapphires)
02/28, 03/02	Beryls (aquamarine, bixbite, emerald, goshenite, heliodor, morganite); Topazes, **Mid-term**
03/07, 03/09	**Spring Break**
03/14, 03/16	Apatite, Cordierite (Iolite), Garnets; Tourmalines, Zoisites
03/21, 03/23	Chrysoberyls, Quartzes, Zircons; Opals
03/28, 03/30	Peridot; Spinels, Spodumenes; Andalusite, Scapolite, Feldspars
04/05, 04/07	Azurite-Malachite, Chryscolla, Turquoise; Lapis Lazuli, Jade (jadeite, nephrite)
04/12, 04/14	Local field trip; Local field trip
04/19; 04/21	Faceting demonstration; Review
04/26	**FINAL**

Grading Procedure

Pop tests (minimum 6 count)	30%
Mid-term	20%
Final	50%

Instructor: Dr. James L. Carter (FO2.218A; 972 883-2455); jcarter@utdallas.edu
Office Hours: Tuesday/Thursday - 5:00 p.m. to 5:25 p.m., and by appointment
Texts: Simon & Schuster's Guide to Gems and Precious Stones; Handouts; Readings
Lecture Room: FO 2.604
Lecture/Lab Time: Tuesday/Thursday - 5:30 p.m. to 8:15 p.m.
Pre-requisites: None

This course focuses on some important minerals, mineraloids, and rocks used as gemstones and gems, and discusses their characteristics and properties, crystallography, history, lore, intrigue, geological settings, mining, synthetics, simulants, and cleaning and care. Gems will be studied with various instruments including optical microscope and refractometer.