COURSE INFORMATION

Description
Survey of computer graphics. Image representation, formation, presentation, composition and manipulation. Modeling, transformation, and display of geometric objects in two and three dimensions. Representation of curves and surfaces. Rendering, animation, multi-media and visualization. Fluency with vector mathematics (e.g., from MATH 234 or a linear algebra class) is recommended. Enroll Info: None

Prerequisite(s)
(MATH 222 or MATH 276) and (COMP SCI 367 or 400) or graduate/professional standing or declared in the Capstone Certificate in Computer Sciences for Professionals

Instruction Mode
Classroom Instruction

Section Level Com B
False

Department: COMPUTER SCIENCES
College: Letters and Science

Canvas Course URL
https://canvas.wisc.edu/

2020 Spring (1204) [1204]
Term Start Date: Tuesday, 21-Jan-2020  Term End Date: Monday, 1-Jun-2020

Location and Schedule: Van Vleck Hall B130 TR 2:30 PM-3:45 PM
CRN: 266021402

How the Credit Hours are Met
This class meets for two 75-minute class periods each week over the semester and carries the expectation that students will work on course learning activities (reading, writing, problem sets, studying, etc) for about 3 hours out of classroom for every class period. The syllabus includes more information about meeting times and expectations for student work.

INSTRUCTORS AND TEACHING ASSISTANTS

Instructor
Michael GLEICHER
GLEICHER@CS.WISC.EDU

Instructor Availability
See the instructor's web page or course web for office hours. See the course web for instructions on how to best communicate with the instructor.

TA Office Hours
See the course web page for TA office hour information and instructions on how best to contact the TAs.
GRADING AND COURSE MATERIALS

Course Learning Outcomes (CLOs)

1. Develop interactive graphical applications using web-based technologies. [S7747]
2. Develop graphics programs using different kinds of graphics APIs. [S7748]
3. Use coordinate systems and transformations to model objects hierarchically and prepare them for viewing. [S7749]
4. Select and use shape modeling techniques, such as meshes and parametric curves, to describe and display various kinds of objects and phenomena. [S7750]
5. Use appearance modeling techniques, such as surface shading, texture and lighting, to create object appearances. [S7751]
6. Summarize the methods used by graphics hardware and apply these concepts in software that uses the hardware effectively. [S7752]
7. Identify the issues in discrete representations (e.g., images) and use processing methods to implement solutions. [S7753]

Grading

The final grade will consider exams, online quizzes, and programming assignments/workbooks. Participation in class and in online forums may be considered in edge cases.

Discussion Sessions

N/A

Laboratory Sessions

N/A

Required Textbook, Software, & Other Course Materials

There is no required textbook. Reading materials will be provided online.

Students will be expected to use open source software tools (web browsers and web development tools).

EXAMS, QUIZZES, PAPERS & OTHER MAJOR GRADED WORK

Exams, Quizzes, Papers & Other Major Graded Work

There will be a midterm (given in an evening time slot), a final exam (in the official University time slot), online quizzes, and regularly (generally weekly) workbooks. Details will be provided on the course website.

Homework & Other Assignments

There will be a series (generally once a week) assignments that may have the form of interactive workbooks and online quizzes.

ACADEMIC POLICIES

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ACADEMIC INTEGRITY

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

McBurney Disability Resource Center syllabus statement: “The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA.”

DIVERSITY & INCLUSION

Institutional statement on diversity: “Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.”

RELIGIOUS OBSERVANCES

UW faculty policy states that mandatory academic requirements should not be scheduled on days when religious observances may cause substantial numbers of students to be absent. Refer to the university’s Academic Calendar for specific information.