

Computer Graphics

Department of Mathematics and Computer Science

Semester: 2020 Fall

Instructor Details

Instructor: Henry Kang

Office: 318 ESH (Express Script Hall)

Phone: 314-516-5841 E-mail: <u>kangh@umsl.edu</u>

Homepage: http://www.cs.umsl.edu/~kang

Class Times & Location: Online

Course Details

Course description

Prerequisites: CMP SCI 2261. Covers the theoretical foundation and algorithms for computer graphics. Students learn the basics of graphics programming for modeling, rendering, and animation of 2D and 3D objects. Vector and raster graphics, and different displays devices are also discussed. A brief discussion of special graphics hardware, such as GPU, may be presented.

Topics to Cover

- Graphics Programming Basics
- User Interaction in Computer Graphics
- Geometric Modeling and Transformations
- Camera control, Viewing and Projection
- Rendering, Shading, and Texture Mapping
- Basics of Computer Animation

Text (recommended but not required)

- "WebGL Programming Guide" by K. Matsuda, R. Lea, Addison Wesley.

Course grading

We will use the standard 10% grading scale: 90% and above gives A, 80% and above B, 70% and above C, 60% and above D, else F. Grades will be curved at the instructor's discretion.

Item	Weight
Quizzes	10%
Test 1	15%
Test 2	15%
Assignments	60%



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Course schedule (tentative)

Week	Topics to cover
Module 1	2D Programming basics
Module 2	Transformations
Module 3	Animation/Coloring
Module 4	Imaging/GUI
Module 5	3D Programming basics
Module 6	Lighting
Module 7	Texture Mapping

Learning mode

Asynchronous Online – All course materials and video lectures will be posted online, which students may view/study at their convenience. Also, all assignments/tests will be posted online, which must be turned in before the specified deadlines. For any questions, please email the instructor or use discussion board on Canvas.

Policy

- The course materials, assignments, and important announcements will be posted on the course webpage.
- Programming assignments must be submitted electronically by 11:59PM on the specified due date.
- Assignments will not be accepted after the deadline and there will be no make-up tests. Special circumstances should be individually discussed with the instructor and prearranged at least one week before the test.

UMSL Course Policies (some of which may not apply to online courses)

- 1. Participation (expectations)
 - It is vitally important that our classroom environment promote the respectful exchange of ideas. This
 entails being sensitive to the views and beliefs expressed during discussions whether in class or online.
 Please speak with me before recording any class activity. It is a violation of University of Missouri policy
 to distribute such recordings without my authorization and the permission of others who are recorded.
 - Turn off beepers, cell phones, and other devices during class. Adherence to the Student Conduct Code is expected.
 - I am committed to insuring a positive learning environment by respecting that University policy (p. 66): http://www.umsl.edu/~studentplanner/index.html.
 - Your success in this course will heavily depend on your ability to communicate, engage and participate
 in all course activities. Successful completion of this course requires that a student keep up with all
 assignments, quizzes, projects and tests.
 - If you are unable to participate in the scheduled class activities, you must notify the instructor within the
 week of that class module. An unexcused failure to engage or participate with the class will be counted
 as an absence; unexcused absences may result in failure. The instructor reserves the right to make



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judgment to accept and/or make—up assignments missed because of failed participation in the course activities.

2. Academic Integrity/Plagiarism

- Students are responsible for being attentive to and observant of campus policies about academic honesty as stated in the University's Student Conduct Code (p. 60): http://www.umsl.edu/~studentplanner/index.html
- To avoid accusations of academic dishonesty, please submit all written work to the Turnitin system before finalizing what you submit for evaluation. Check information about The Writing Center @UMSL that is linked to MyGateway Home.
- Plagiarism is the use of another person's words or ideas without crediting that person. Plagiarism and cheating will not be tolerated and may lead to failure on an assignment, in the class, and dismissal from the University. View this campus policy here: http://www.umsl.edu/services/academic/policy/academic-dishonesty.html
- 3. Mandatory Reporting: Under Title IX, all UMSL faculty, staff, and administrators (with limited exception) are obligated to report any incidents of sexual harassment, sexual misconduct, sexual assault, or gender discrimination to the Student Affairs office and/or other University officials. This ensures that all parties are protected from further abuses and that victim(s) are supported by trained counselors and professionals. Note: There are several offices at UMSL (e.g., Counseling Services, Health Services, Community Psychological Service, Center for Trauma Recovery, and Student Social Services) whose staff are exempt from Title IX mandated reporting, when the information is learned in the course of a confidential communication.
- 4. Access, Disability and Communication
 - Students who have a health condition or disability, which may require accommodations in order to
 participate effectively in this course, should contact the **Disability Access Services Office.** Information
 about your disability is confidential.
 - 144 Millennium Student Center

Phone: (314) 516-6554

Website: http://www.umsl.edu/services/disabled/

 If you have difficulty communicating in English with the instructor of this course, contact the Office of International Students and Scholar Services:

Phone: (314) 516-5229Email: iss@umsl.edu

Website: http://www.umsl.edu/~intelstu/index.html

Student Support and Services

Technical Support

 My Gateway (Blackboard): If you have problems logging into your online course, or an issue within the course site, please contact the **Technology Support Center**:

Phone: (314) 516-6034



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Email: <u>helpdesk@umsl.edu</u>

Website: http://www.umsl.edu/technology/tsc/

• Wimba: If you have any questions regarding Wimba Classroom and Wimba Voice Tools, contact the Faculty Resource Center:

Phone: (314) 516-6704Email: frc@umsl.edu

Website: http://www.umsl.edu/technology/frc/

Outside normal office hours, you may also contact Wimba for 24/7 assistance:

Phone: (866) 350-4978

Email: technicalsupport@wimba.com

• Academic Support

- The Online Writing Lab: At our My Gateway site, students can send their papers to our tutors, who will
 read them and send them back with suggestions. Students can also access SafeAssign, which identifies
 quoted material in their essays.
 - Visit the online Writing Lab page on MyGateway to submit drafts online.
 - We try to respond within 48 hours, but it may take longer, so allow ample time.
- NetTutor: Online tutoring in many subjects is now available through NetTutor. In your courses on MyGateway, click on Tools and select NetTutor® to log in.

• Student Services

- The Center for Student Success offers assistance tailored to specific student needs.
 - 225 Millennium Student Center

Phone: (314) 516-5300Email: css@umsl.edu

Website: http://www.umsl.edu/services/css/

Departmental Tutoring

- o The department offers tutoring for up to Cmp Sci 3130, and occasionally for other courses
- Check MyGateway organization CSTutoring.