

**EE 5360 Computer Vision
Spring 2023**

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Course Days/Time: MW 10:30 – 11:50 AM

COVID Precautions: I highly encourage you to be both vaccinated and to wear a mask whether you are vaccinated or not, when appropriate. **I am vaccinated**, but I will still be wearing a mask at UTEP based on present conditions. I mostly do not wear a mask right now because I feel that after I was vaccinated, I caught COVID, and COVID cases are down, that I am safe enough. But COVID is tenacious, and with new variants, even vaccinated people are getting sick. Via empirical evidence, and some scientific, both the vaccines and masks help a lot. So please wear a mask in class to protect your classmates and professors, when appropriate. Most of your professors are old enough that a COVID infection could be very bad news. Another consideration, particularly for this class, is that I am the only one that can teach this class, and if I get sick, it may be quite hard to finish the class. Like in other areas in ECE, there are no easy substitute professors. So protect me, and the rest of the ECE professors, so that we can teach the full semester.

Office Hours: My office is not setup well to have face-to-face office hours. I will try the following. You can come by my office and call (747-6972) and we can arrange something. If we need to meet, my plan is to exit my office and we can meet in the big open area outside my office or perhaps a conference/class room. Most available times are M 1 – 4 and Th 12 - 2.

Catalog Description: Fundamental concepts associated with the construction of meaningful descriptions of physical objects from images; including image segmentation, two-dimensional and three-dimensional representations, knowledge representation, matching and inference.

Prerequisite: No prerequisite info required. Class is self-contained.

Textbooks: Various textbooks and other material will be used as reference material.

Topics: The term computer vision has many definitions. For some it is a synonym for image processing approaches (edge detection, image deblurring, filtering, etc.) while for others it is a way of utilizing concepts from animal vision to create image understanding (target presence, target tracking, etc.). In this course image processing will be a minor aspect and the latter will be emphasized. The course will also cover ideas concerning how the processing done by animal eyes and brains can be utilized in creating image understanding algorithms. Further, the course will also include concepts about how our brain generates image understanding. This course will be self-contained and no prerequisite

information will be expected. However, a general knowledge of image and signal processing is beneficial and will increase the overall understanding of computer vision that a student will have after this course.

Grading: Based on two equally-weighted tests (total of 67% of grade) and two equally-weighted presentations (total of 33% of grade). A 4 to 0 grading scale will be used for test grading.

- 4: concept is understood,**
- 3: concept is mostly understood,**
- 2: concept is halfway understood,**
- 1: concept is mostly not understood, and**
- 0: concept is not understood.**

Some test scores between two of the above are given. Professional attempt is expected at presentations, but as long as this occurs, the grading is very straightforward; a good presentation scores full credit. Class participation may be taken into account and could have a positive effect on your final grade. In general, an average performance of 3.5 to 4 will earn an A, 3 to 3.5 a B and so on. Any questions concerning test scores must be brought up within two days after the test is returned. Any tests not picked up within a week of the end of the semester, will be shredded. Any questions concerning final grades should be brought up within one week of grades being posted to Goldmine.

Course materials copyright statement: All materials in this course (including but not limited to recordings, assignments, notes, handouts, quizzes, exams) are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. You may not further disseminate (i.e., share, send or post) any class materials/resources outside of this course. Doing so may result in disciplinary action.

Absence Policy: Make-up work is in general not possible and effort should be made to attend every class. Thus, professor should be informed of any problems with attendance **at least a week prior to any absence** to allow for rescheduling of work for the entire class. In the event that an emergency or sudden sickness occurs, **inform the professor as soon as possible**. In such cases an oral quiz/exam may be administered to make-up a quiz/exam. A physician's note or a similar document may be required prior to such a make-up.

Accommodation under the ADA:

If you feel you may have a disability that requires accommodation, contact the Center for Accommodations and Support Services at 747-5148, go to room 106E Union, or e-mail cass@utep.edu.

Academic Dishonesty: “Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the *Handbook of Operating Procedures*, and available in the Office of the Dean of Students and the homepage of the Dean of Students at www.utep.edu, may result in sanctions ranging from disciplinary probation, to a failing grade in the work in question, to a failing grade in the course, to suspension or dismissal, among others.” (Quote from the Undergraduate and Graduate Catalog)

Exam/Quiz Etiquette

Unless an exception has been approved by the instructor in advance, the following will be enforced during exams/quizzes:

- 1) No caps, hats, or similar can be worn during quizzes/exams.
- 2) Ears must be visible. Generally, no device can be plugged into or on ears.
- 3) Only standard, basic prescription eyeglasses can be worn. No sunglasses.
- 4) Only T-shirts and other standard, simple shirts, and jeans and other simple pants or shorts are allowed. Simple blouses as well as dresses and skirts, can be worn for a quiz/exam. No cargo pants/shorts. No coats, hoodies, or similar can be worn during quizzes/exams. No heavy clothing layering is permitted, but a simple cardigan-type sweater may be worn with approval.
- 5) No book bag is permitted at the desk during exam/quiz.
- 6) All quizzes/exams are closed book and closed notes.
- 7) No watches, calculators, cell phones, tablets, laptops or other electronics allowed at desk during quiz/exam.
- 8) Medical equipment may be allowed with instructor permission.
- 9) Only pencils and an eraser are allowed. Pencils must be standard, hand-sharpened types (Bring several to quiz/exam.). Only small erasers (3” x 1” maximum size) are allowed. No pens or mechanical pencils.
- 10) Water bottles and other drinks are not allowed without instructor permission.
- 11) Bathroom breaks are not allowed. If you need to go to the bathroom during exam, you must turn in your exam. A return to continue the test is not allowed. Go to bathroom before test.