

Gebze Institute of Technology
Department of Computer Engineering

CSE 665/463

Computer Vision
Syllabus

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Current and other useful information about this course will be kept on
<http://www.bilmuh.gyte.edu.tr/~akgul>

Required Textbook

- [Introductory Techniques for 3-D Computer Vision](#), Trucco and Verri

Course Prerequisites

Some calculus and linear algebra knowledge is required. Fluency in C and C++ programming language is required. If you do not satisfy these conditions, please talk to the instructor.

Other good books

- “Computer vision: A Modern Approach,” [David A. Forsyth](#), [Jean Ponce](#)
- “Machine Vision” by Ramesh Jain, Rangachar Kasturi, Brian G. Schunck

Grading

The course grade will be determined approximately as follows:

- Midterm: 25%
- Final: 35%
- Homeworks: 30%
- Paper presentation: 10%

Class participation and attendance might give you an extra grade if it is close.

Homeworks are due by 23:59 on due date. 10% of the maximum grade will be deducted for each day late. If there is a situation which prohibits you from turning in your homework on time, talk to me before the due date.

Attendance

Attendance is required. You are responsible from all the subjects covered in the class.

Class email list

I will form a class email list for the announcements. Please send an email to the TA email with the subject line 'CSE665/463 email registration' so that I can send you class related messages.

Announcements

All the class related announcements will be made in class, at the class web page or by the class email list. Students are required to monitor the class web page regularly.

Honor Code

You should not misrepresent someone else's work as your own. Do not use work from someone else. All cases of confirmed cheating will be reported for disciplinary action.

Topics to Be Covered

- Introduction: What is computer vision
- Images and image formation
- Edge detection and image segmentation
- Line and curve detection
- Camera calibration
- Recovering 3D shapes
 - Stereo
 - Shape from shading
 - Shape from texture
- Motion
 - Optical flow
 - Object tracking
- Object recognition and verification