

**King Saud University**  
**College of Engineering**  
**Electrical Engineering Department**

EE429: Selected Topics in Communications and Signals "Machine Vision" Second Semester: 1429/1430
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**Instructors:** Dr. Mohamad Rizon, Office 2C27

**Textbook:** "Introduction to Machine Vision" by Ramesh C Jain, Rangacher  
Kasturi, Brian G Schunck, 1995

**Course outline:**

<b>Main Topics</b>
Major components of a Machine Vision System
Image Geometry, Image Acquisition
Binary Image Processing, Region Segmentation,
Region Merging, Region Splitting, Region Growing, Image filtering
Edge Detection Techniques
Object Recognition, Feature Extraction
Applications of Machine Vision Systems: Inspections Systems, Bin Picking Systems, Biometric Systems, Security Systems

**Evaluation:**

- 10 % Tutorial
- 20 % First mid-term exam
- 20 % Second mid-term exam
- 10 % Quiz + Attendance
- 40 % Final Exam

**Attendance policy:**

According to KSU policy, every student should attend at least 75% of the course classes (including the tutorials). Those who fail to fulfill this condition will fail in the course.