

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
ELECTRICAL ENGINEERING DEPARTMENT**

**EE410 - DIGITAL IMAGE PROCESSING
(072)**

INTRODUCTION

The field of digital image processing deals with acquiring, transmitting, manipulating and analyzing images. There are many widespread real life applications for this growing field in the industry, business, medicine, education, security and many other areas. In fact, there exists great reliance on digital images nowadays in improving the quality of life and the efficiency of doing any business. Engineers and computer scientists are expected to be familiar with this area especially with the widespread use of the Internet and electronic transactions.

MAJOR TOPICS

The main topics for this course include:

- Digital image modeling and representation.
- Image formation: scanning, digitization, sampling, quantization, etc.
- Operations, transforms.
- Enhancements, smoothing, and reconstruction techniques.
- Restoration and filtering methods.
- Segmentation: edge and boundary detection, feature extraction.
- Compression and encoding
- Color & multi- image processing.
- Applications: Multimedia, videoconferencing, computer vision, etc.
- Ethical and legal issues

WHO SHOULD TAKE THE COURSE

This course is Suitable for students with majors in EE, ICS, COE, SE, &MPHYS

OFFERED in 072

DAYS : Sunday & Tuesday

TIME : 11:00AM -12:15PM

PREREQUISITE

Senior standing or consent of the instructor

INSTRUCTOR:

Dr. Omar A. Al-Suwailem

Office: 9-242 ,

Phone: 4686 or 2040

e-mail: swailem@kfupm.edu.sa

<http://faculty.kfupm.edu.sa/ee/swailem>