



TURKISH REPUBLIC
FIRAT UNIVERSITY
COLLEGE OF TECHNOLOGY
DEPARTMENT OF SOFTWARE ENGINEERING

COURSE SYLLABUS
YMT567 Medical Imaging and Analysis Techniques

Location: Lecture and Lab: Software Engineering Building

Class meeting times:	Lab meeting time:	Instructor:	Teaching Assistant
Tuesday, 13:15-16:00	-	Prof. Dr. Engin AVCI	-

Office hours: Please see the notice board outside each faculty member's office.

Course description: This course includes topics on Computed Tomography (CT), Magnetic Resonance Imaging (MRI), ultrasonic imaging (Ultrasound Imaging), nuclear imaging (PET, SPECT), medical images, image quality problems and remedies, analysis of medical images to be compressed medical images, the classification of medical images, and three-dimensional image processing.

Course objectives: This course addresses the advanced medical imaging and analysis techniques such as medical image thresholding, medical image segmentation, etc. The main aim of this course is to provide a strong technical foundation through the development of medical imaging and analysis techniques skills and concepts. In particular this course is concerned with a) gaining factual knowledge related to the syntax and grammar of medical imaging and analysis techniques topics, b) learning fundamental principles and structures in a modern medical imaging and analysis techniques topics, c) development of specific skills and competencies in medical imaging and analysis techniques topics, and d) the development of problem solving skills.

Prerequisite: Prerequisites: eligibility for YMT111, MAT161, FIZ111, basic keyboarding, and PC skills.

Textbook Digital Image Processing (3rd Edition) by Rafael C. Gonzalez, Richard E. Woods. Pearson Education Limited.



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Course requirements:

Assignments: Students will be required to complete six programming assignments. Students will be given two weeks to complete each assignment. Five of the assignments will count towards the final grade, giving student the option to drop their lowest graded assignment.

Exams: Three exams, including the final exam, will be given. Students will be given at least one week's notice of the exam dates. All examinations are written examinations. There are no make-up examinations available for any student. If a student has an excused absence exam, the University Regulation will be applied.

Grading plan: Assignments	15%
First exam	15%
Second exam	15%
Lab	25%
Final exam	30%

≥ 90	\Rightarrow	A
≥ 80 but < 90	\Rightarrow	B
≥ 70 but < 80	\Rightarrow	C
≥ 60 but < 70	\Rightarrow	D
< 60	\Rightarrow	F

Class participation

In accordance with the university policy, regular attendance is required; however, no points will be awarded or subtracted based on your attendance. You are responsible for all material covered in every class, regardless of whether you attended or not. It is your responsibility to obtain notes, assignments, etc., from fellow class members if you miss the class.



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Academic dishonesty

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The university and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials. No cheating on an examination or assignments is allowed; a score of zero will be given to the student if such a case occurred.

Rules of conduct

Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Please turn off or mute your cellular phone and/or pager before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking among each other at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a, minimally, a directive to leave class or being reported to the Dean of Students for disciplinary action in accordance with university policy.

Visitors in the classroom

Occasion visiting of classes by responsible persons is allowed with prior arrangement with the instructor, as long as it does not interfere with the registered members of the class or the educational process.

Disabilities

According to the university policy, accommodation request must be initiated by the student. A student seeking for an accommodation should go to the Dean of Students for instructions.



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Religious Holidays

An institution of higher education shall excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.