



University of Tehran
School of Electrical and Computer Engineering

Course:	8101001– Fault tolerant control									
Course type:	EE*						CE*			Credit: 3
	Com	E	P	B	Con	D	SW	HW	IT	
	Required	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Elective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Level:	Undergraduate <input checked="" type="checkbox"/> Graduate <input type="checkbox"/>									
Co-requisite(s):	None.									
Prerequisite(s):	Modern Control									
Prerequisite by topic:	Linear Algebra, State Space									
Textbook(s):	[1] Model base Fault diagnosis techniques, s.x ding, springer 2008									
Coordinator:	Abbasian, Professor, School of ECE									
Goals:	To understand the fault diagnosis, isolation and also compensation as well.									
Outcome:	Upon successful completion of the course, students will be able to 1. Fault definition 2. Model base and signal based fault diagnosis 3. Noise, disturbance and uncertainty in close loop 4. Robust observers 5. Parity space 6. Signal based fault diagnosis									
Topics:	1) Introduction to Fault in linear systems 2) Model base methods for fault diagnosis 3) Fault isolation methods 4) Data fusion for fault diagnosis 5) Signal based methods for fault diagnosis and isolation									
Computer usage:	MATLAB									
Assignments:	3to 4 homework assignments									
Projects:	1,2 projects									
Grading:	Assignments: 20 % Projects: 20 % Presentation: 30% Final exam: 30 %									

Further readings:	[1] Data-driven Fault diagnosis techniques, s.x ding, springer 2008
Prepared by:	Abbasian, Professor, School of ECE
Date:	23 August 2017

*EE: Electrical Engineering		CE: Computer Engineering	
Com	Communications	SW	Software
E	Electronics	HW	Hardware
P	Power	IT	Information Technology
B	Bioelectronics		
Con	Control		
D	Digital System		