

COURSE TITLE	TE142427: Dynamic of Nonlinear Systems Credits: 2 ELECTIVE COURSE
LEARNING OBJECTIVES	Students are able to analyze and synthesize nonlinear dynamical systems.
COMPETENCY	<ul style="list-style-type: none"> • The students are able to analyze nonlinear control systems. • The students are able to synthesize nonlinear control systems.
SUBJECTS	<ul style="list-style-type: none"> • System and Vector Norm • Solution Existence and uniqueness • Lyapunov Stability and its stability region • Input to state stability, and Input to output stability • Passivity • Sliding Mode Control • Backstepping
MAIN REFERENCES	<ul style="list-style-type: none"> • H. K. Khalil. <u>Nonlinear Systems</u>, 3rd Edition. Prentice-Hall, 2002 • S. S. Sastry. <u>Nonlinear Systems: Analysis, Stability, and Control</u>. Springer-Verlag, 1999. • Isidori. <u>Nonlinear Control Systems</u>, 3rd Edition. Springer, 1995. • M. Vidyasagar. <u>Nonlinear Systems Analysis</u>, 2nd Edition. Prentice-Hall, 1993.
OPTIONAL REFERENCES	-
PREREQUISITE	Linear System Theory