ENGINEERING SYSTEMS TECHNOLOGY (ETST) -SURVEYING PROGRAM Map

"I" = Introduces the concept
"R" = Reinforces or contributes additional information
"E" = Emphasis (assumes level of mastery)

		General Education Courses							Core Courses					ETST Track Courses																																
	Program Student Learning Outcomes **Students will be able to:**	ENGL 1010 Composition I	Applied Technical Math I	Applied Technical Math II	Physics for technology	Intro. to Renewable Energy	Social Science Electives	Social Science Electives	Intro. to Electromech. Systems	Intro to Manufacturing Process	Intr. to Robotics and control	Introduction to Digital systems	Automation Systems	Instrumentation& process Cont.	Intro. to Computer Networking	Engineering App. of Computers	Electrical Systems I	Electronic Devices and Circuits	Electrical Power Systems	Introduction to Wireless Networks	Electrical Systems II	Energy Industry Safety	Intro. to Energy Utility Industry	Energy Industry Practicum	Intro. to Engineer & Tech	Engineering Graphics	Mechanical Systems I	Intro. to Statics and Dynamics	Industrial Materials	Mechanical Systems II	Blue Print Reading and Machine Handbook	Precision Measurement and Geometric Tolerancing	CNC Manufacturing I	Advanced Solid Modeling	Computer Aided Manufacturing (MasterCam)	CNC Manufacturing II	3D Modeling and Protyping	CNC Manufacturing Capstone
		ENGL 1010	MATH 1750	MATH 1760	PHYS 1050	PHYS 1070	SSE	SSE	ETEE 1050	ETME 1020	ETME 1010	ETEE 1800	ETME 2150	INST 1010	CSCO 1850	ETEE 1100	ETEE 1500	ETEE 1120	ETEE 2390	ETEK 1500	ETEE 2500	ETUT 1050	ETUT 1120	ETUT 2500	ENGR 1020	ENGR 1030	ETME 1500	ETME 1510	ETME 2930	ETME 2500	ETCN 1100	ETCN 1200	ETCN 1300	ENGT 2090	ETCN 2100	ETCN 2200	ETCN 2300	ETCN 2500
	General Education and Core																																												
1	Analyze technical problems, propose solutions and document with written and oral reports	I	I	I	I	I	I	I	I	R	R	R	E	R	R	R	R	R	R	R	E	R	I	E	R	R	E	R	R	E	R	R	R	R	R	R	R	E
2	Employ technology for communications, data collection, analysis, simulation and control.	I	I	I	I	I	I	I	I	R	R	R	R	R	R	R	R	R	R	R	E	R	I	E	I	R	E	R	R	E	I	R	R	R	R	R	R	E
3	Use basic project management skills, project team work and ethical behavior	R					R	R	I	I	R	R	R	R	R		R			R	E	R		E	I		E			E									E
4	Use, analyze and troubleshoot basics of electrical and mechanical system components		R	R	R	R			I		R	R	R	R	R	R	E	R	R	R	E	I	I	E	I		R	I	R	E		R		R	R	R	R	E
5	Use the basic manufacturing methods, measurements, automation and quality control		R	R	R	R				I	R	R	R	R						R					I	I	R	R	R	E	I	R	R	R	R	E	E	E
	Electrical Track - ETET																																											
6	Apply electrical technology design, analysis and trouble shooting principles		R	R	R	R	R	R	I		R	R	R	R	R		R	R	R	R	E				I															
7	Analyze passive electrical circuits and active electronic circuits		R	R	R	R			I		R	R	R	I		R	R	R	R		E																			
8	Employ electrical components and control technology for overall system performance		R	R	R	R			I		R	R	R	I	R	E	R	R	E	R	E				I															
9	Code PLCs and micro controllers for networking and system control applications		R	R					I		R	I	R	I	R	E				R	E																			
	Mechanical Track - ETMT																																											
10	Apply engineering design and project management principles						R	R	I	I	R	R	R	I	R										I	R	R	R	R	E									
11	Use SoildWorks CAM and apply it to engineering graphics and mechanical design									R															I	R			E										
12	Apply the basics of engineering materials, structures and to mechanical design		R	R	R					R	R													I	I	R	R	R	E									
13	Code PLCs and micro controllers for networking and system control applications		R	R					R		R	R	R	R	R	E													E									
	Energy Utility Technology Track - ETPT																																											
6	Apply electrical technology design, analysis and trouble shooting principles		R	R	R	R	R	R	I		R	R	R	R	R		R	R	R	R		I	I	E															
7	Analyze passive electrical circuits, active electronic circuits and power systems		R	R	R	R			I		R	R	R	I		R	R	R	R	R		I	I	E															
8	Employ electrical components and control technology for overall system performance		R	R	R	R			I		R	R	R	I	R	E	R	R	E	R				E															
9	Code PLCs and micro controllers for networking and system control applications		R	R					I		R	I	R	I	R	E				R				E															
	CNC Manufacturing Technology Track - ETCT																																											
18	Use SoildWorks CAM and apply it to engineering graphics and mechanical design		R	R						I	R		R													I	R		E		I	I		E				E
19	Read blue prints, perform component measurements and utilize the machine handbook		R	R						R	R		R													I					I	I	I	R	R	R	E	E
20	G-code program, setup CNC machines, select appropriate tooling and fixtures		R	R	R				I	R	R	R	R													I					R	R	I	R	R	R	E	E
21	Design for additive manufacturing and utilize 3D printers for rapid prototyping		R	R	R				I	R	R	R	R													I					R	R	R	R	R	R	E	E