Program Skills (Program Level)

Code MUP08a

College: Engineering Department: Civil and Environmental Engineering Program: Civil Engineering

SO						
(e)	**(d)**	**(c)**	**(b)**	**(a)**		
An ability to identify, formulate, and solve engineering problems	***The ability to function on multidisciplinary teams***	***An ability to design a system, component or process to meet desired needs within realistic constraints***	***An ability to design and conduct experiments, analyze and interpret data***	***An ability to apply Knowledge of mathematics, science and engineering***		
Solutions creativity alternatives	Presentation and workload contribution	Developing a design strategy	Laboratory safety procedures	Apply mathematical and scientific principles to formulate models and systems relevant to civil engineering	Kpi(1)	kpi's
Practical problem solving using theoretical concepts	Preparation for group meetings	Use of approaches	Experimental plan of data gathering	solve computer engineering problems by using the concepts of integral and differential calculus and/or linear algebra	Kpi(2)	
Predict and defend problem outcomes	Cooperation	Developing solutions	Data documentation	appropriate engineering interpretation of mathematical and scientific terms	Kpi(3)	
The uses of appropriate resources needed to solve problems	Sharing credit of success	Understanding how areas interrelate and demonstrates ability to integrate prior knowledge into a new problem	Development and implementation of logical experimental procedures	Translates academic theory into engineering applications	Kpi(4)	

SO							
(k)	**(j)**	**(i)**	**(h)**	**(g)**	**(f)**		
Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	***A knowledge of contemporary issues***	***A recognition of the need for and an ability to engage in lifelong learning***	***The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context***	***An ability to communicate effectively***	***An understanding of professional and ethical responsibility***		
Lab procedure	knowledge of current events in the computer engineering discipline	Independent learning	Awareness of current trends and events	Articulation of ideas	Civil Engineering code of Ethics understanding	Kpi(1)	kpi's
experimental plan of data gathering	Current job market	Assignment completion	Historical aspects of engineering solutions	The organization of the written materials	In class discussions and exercises on ethics and professionalism	Kpi(2)	
Data documentation	Ability to discuss major political issues at national, state and local levels	Continuous improvement	Technical periodicals	Oral presentation delivery	Ethical behavior among peers and faculty	Kpi(3)	
Development and implementation of logical experimental procedures		Capability to think for one's self	Personal Perspective in civil engineering	Presentation details and appropriate technical content for the time constraint and the audience	Personal responsibility for his/her actions	Kpi(4)	

Note:

- Despite there are 89 KPI's that can be used, course teacher will be asked to use 4 for each SO
- College of Engineering is following ABET Criteria

a	An ability to apply Knowledge of mathematics, science and engineering
b	An ability to design and conduct experiments, analyze and interpret data
c	An ability to design a system, component or process to meet desired needs within realistic constraints
d	The ability to function on multidisciplinary teams
e	An ability to identify, formulate, and solve engineering problems
f	An understanding of professional and ethical responsibility
g	An ability to communicate effectively
h	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
i	A recognition of the need for and an ability to engage in lifelong learning
j	A knowledge of contemporary issues
k	Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice