RE-EE360: RUBRIC FOR EVALUATING PROGRAM OUTCOME E
"AN ABILITY TO IDENTIFY, FORMULATE AND SOLVE ENGINEERING PROBLEMS"

Performance Indicator	Exemplary 4	Satisfactory 3	Developing 2	Unsatisfactory 1
Ability to Identify Problems Related to Power Components	Fully able to understand and identify problems in power components like machines and transformers	Reasonably able to understand and identify problems in power components like machines and transformers	Not quite able to understand and identify problems in power components like machines and transformers	Poor ability to understand or identify problems in power components like machines and transformers.
Ability to Formulate Problems involving Electromechanical Devices	Quite able to formulate problems involving electrical machinery or other components of power system	Reasonably able to formulate problems involving electrical machinery or other components of power system	To some extent able to formulate problems involving electrical machinery or other components of power system	Poor ability to formulate problems involving electrical machinery or other components of power system
Ability to Apply Theoretical Concepts to Solve Problems	Quite able to apply class room or book knowledge to solve engineering problems involving electromechanical devices	Able to apply class room or book knowledge to solve engineering problems involving electromechanical devices	Somewhat able to apply class room or book knowledge to solve engineering problems involving electromechanical devices	Not able to apply class room or book knowledge to solve engineering problems involving electromechanical devices

Notes:
1) This rubric, RE-EE360, is to be used for program outcome (a) assessment for EE360 *lectures* only.
2) Evaluation of students' performance using this rubric is to be reported using the corresponding excel file **RE-EE360-Section (xxx)-yyy.xls**.
3) Before sending the filled excel file, please rename it using the following naming codes: **xxx** = section number and **yyy** = current semester code. Example: **RE-EE360 Section (01)-081.xls**.
4) Evaluation of students' performance using this rubric is based generally on: H.W. assignments, quizzes, major exams, design project, and *especially* the final exam.

RE-EE380: RUBRIC FOR EVALUATING PROGRAM OUTCOME E
"An ability to identify, formulate and solve engineering problems"

Performance Indicator	Exemplary 4	Satisfactory 3	Developing 2	Unsatisfactory 1
Ability to model a physical problem into an equivalent system format	Quite able to express the physical system in a block diagram, signal flow graph or state space form and use necessary tools in each case to find the equivalent transfer relation between the input and output.	Reasonably able to express the physical system in a block diagram, signal flow graph or state space form and use necessary tools in each case to find the equivalent transfer relation between the input and output.	Not quite able to express the physical system in a block diagram, signal flow graph or state space form and use necessary tools in each case to find the equivalent transfer relation between the input and output.	Poor ability to express the physical system in a block diagram, signal flow graph or state space form and use necessary tools in each case to find the equivalent transfer relation between the input and output.
Ability to analyze the system, understand its behavior and quantify its performance	Quite able to use numerical means (Matlab) as well as analytical means to obtain performance measures (second order dominant pole approximations, rootlocus) of the system and assess its stability (routh-horowitz method)	Reasonably able to use numerical means (Matlab) as well as analytical means to obtain performance measures (second order dominant pole approximations, rootlocus) of the system and assess its stability (routh-horowitz method)	Can, to some degree use numerical means (Matlab) as well as analytical means to obtain performance measures (second order dominant pole approximations, rootlocus) of the system and assess its stability (routh-horowitz method)	Poor ability to use numerical means (Matlab) as well as analytical means to obtain performance measures (second order dominant pole approximations, rootlocus) of the system and assess its stability (routh-horowitz method)
Ability to modify the behavior of the system to attain a desired performance	Has good understanding of how to use and tune feedback loops (position feedback, velocity feedback) compensators (lead, lag).	Has reasonable understanding of how to use and tune feedback loops (position feedback, velocity feedback) compensators (lead, lag).	Has some understanding of how to use and tune feedback loops (position feedback, velocity feedback) compensators (lead, lag).	Has poor understanding of how to use and tune feedback loops (position feedback, velocity feedback) compensators (lead, lag).

Notes:
1) This rubric, RE-EE380, is to be used for program outcome (a) assessment for EE380 *lectures* only.
2) Evaluation of students' performance using this rubric is to be reported using the corresponding excel file **RE-EE380-Section (xxx)-yyy.xls**.
3) Before sending the filled excel file, please rename it using the following naming codes: **xxx** = section number and **yyy** = current semester code. Example: **RE-EE380 Section (01)-081.xls**.
4) Evaluation of students' performance using this rubric is based generally on: H.W. assignments, quizzes, major exams, design project, and *especially* the final exam.

RE-EE411: RUBRIC FOR EVALUATING PROGRAM OUTCOME E
"AN ABILITY TO IDENTIFY, FORMULATE AND SOLVE ENGINEERING PROBLEMS"

Performance Indicator	Exemplary 4	Satisfactory 3	Developing 2	Unsatisfactory 1	Score
Ability to identify specific project objectives	The project objectives have been clearly and fully identified. They are in line with the project definition	The project objectives are identified.	The program objectives are stated but not completely identified.	The project objectives are missing or not clearly identified .	
Ability to apply engineering knowledge to plan the project tasks	Able to fully and successfully apply the engineering knowledge gained in the class room to the problem solving indicated by the steps of the project design	Able to apply the engineering knowledge gained in the class room to the problem solving indicated by the steps of the project design	Able to apply the minimum of engineering knowledge gained in the class room to the problem solving indicated by the steps of the project design	Not being able to apply the engineering knowledge to the problem solving indicated by the steps of the project design	
EE graduates will be able to solve problems encountered during the course of the project	The project has been successfully formulated and completed. Results are well presented.	The project has been completed. There is room for improvement.	The project has not been fully completed.	Major parts of the project are missing	

Number of Students:

Notes:
1) This rubric, RE-EE411, is to be used for program outcome (e) assessment for EE411 *senior design projects*.
2) Evaluation of students' performance using this rubric is to be reported using the corresponding excel file **RE-EE411-Section (xxx)-yyy.xls**. This will be based on the data obtained from the individual projects.
3) Before sending the filled excel file, please rename it using the following naming codes: **xxx** = section number and **yyy** = current semester code. Example: **RE-EE411 Section (01)-082.xls**.
4) Evaluation of students' performance using this rubric is based on the project final report and the final presentation of the group.