

PROFESSIONAL ENGINEER

Summary Statement

These are the competency Units and Elements. These elements must be addressed in the Summary Statement.

Competency Element	A brief summary of how you have applied the element	Paragraph number in the career episode(s) where the element is addressed
PE1 KNOWLEDGE AND SKILL BASE		
PE1.1 Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	Observed the current manufacturing process of DesMichels to identify opportunities to increase efficiency of the process and help lessen reworking. Investigated root causes of the problems. Suggested solutions to address the problems identified.	CE 1.7, 1.8, 1.9, 1.10, 1.12
	Documented the current system of University Hotel by means of information system tools. Created a computerized information system using structured analysis. Weighed and formulated design improvements that will benefit the end-users.	CE 2.6, 2.7, 2.9, 2.10
	Created a detailed work procedure for the Capacity Planner role at Integrated Microelectronics Incorporated.	CE 3.7, 3.8, 3.9, 3.10 3.11, 3.12
PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	Evaluated solutions suggested using Cost-Benefit Analysis and Payback period.	CE 1.12, 1.13
	Formulated a new information system by studying data elements, data flows and with use of Normalization.	CE 2.09, 2.10, 2.11
	Standardized major report formats sent by the Capacity Planner.	CE 3.09, 3.10, 3.11
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline.	Used graphic tools (Detailed Activity Diagrams, Cross Functional Flowcharts) to visualize the Systems and Procedures for DesMichels.	CE 1.08, 1.10
	Utilized techniques (Data Flow Diagrams, Data Dictionary, and Transform Descriptions) to break down details that must be known for the Information Systems of the University Hotel.	CE 2.6, 2.7, 2.8
	Exploited concepts (Line Utilization, Forecasting, and Production Scheduling) in activities related to Manufacturing Operational Planning as part of the IMI Capacity Planner role.	CE 3.09, 3.10, 3.11

PE1.4 Discernment of knowledge development and research directions within the engineering discipline.	Suggested creation of a database and automation of forms for the new logical information system for University Hotel. Helped fixing errors and bugs as part of the development of the new Integrated Microelectronics Incorporated Traceability System.	CE 2.9, 2.12 CE 3.10
PE1.5 Knowledge of contextual factors impacting the engineering discipline.	Realized that one root cause of the problem is distant facility location (Systematic Layout Planning) for the departments of Product Design Development at New Manila, Quezon City while the Master, Tool Making Unit and Prototype Production are done at Antipolo City. The team and DesMichels agreed that this root cause is business management related, thus area of study must be shifted to where the team can produce a realistic and practical solution to the problems. Identified the role of a Capacity Planner with respect to other Planning Team Members by the construction of the Capacity Planner Work Procedure under the knowledge of Manufacturing Operational Planning.	CE 1.10, CE 1.11 CE 3.2, 3.3, 3.4, 3.5
PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline.	Redesigned the Sample Request Form (SRF) used by DesMichels to remove unnecessary information and organize data presented on the SRF. Planned activities to be done with regards to certain deadlines thru creation of a Gantt chart that will monitor progress throughout the creation of the project study. Recommended creation of a database and automation of forms for the new logical information system for University Hotel to help save the environment by reducing the use of papers.	CE 1.10, 1.11 CE 1.6, 2.5, 3.6 CE 2.9, 2.12

PE2 ENGINEERING APPLICATION ABILITY		
PE2.1 Application of established engineering methods to complex engineering problem solving.	Used Ishikawa Diagram to look at the DesMichels problem of long processing time for prototype production and high reject rate for prototyping production by helping find causes. The causes are then verified whether true root causes or not true root causes.	CE 1.9, 1.10
	Analyzed the current logical information system of University Hotel by creating First Level, Second Level, and Third Level Data Flow Diagrams to help exhaust the basic data or manageable elements that ran through the system. Information obtained was used in the creation of a new logical information system.	CE 2.6, 2.7, 2.8, 2.11
	Opted to use activity diagram rather than using basic flowcharting in the creation of the work procedure of IMI Capacity Planner role to avoid uncertainty and vague information.	CE 3.8, 3.12
PE2.2 Fluent application of engineering techniques, tools and resources.	Created Cross Functional Flowcharts to illustrate and document the occurrence of the delays in prototyping experience by DesMichels.	CE 1.10, 1.11
	Described the current information system of University Hotel by: illustrating data flow diagrams; explaining data store dictionary, expounding the data transform descriptions.	CE 2.5, 2.6, 2.7, 2.8
	Determined the scope of the IMI Capacity Planning work procedure by frequency of tasks and reports generated.	CE 3.5, 3.7
PE2.3 Application of systematic engineering synthesis and design processes.	Formulated the new logical information system of University Hotel by looking first in a general view until going to the specifics for each functional element of the designed system (First to Fourth Level Data Flow Diagram).	CE 2.10, 2.11, 2.12
	Designed the IMI Capacity Planning work procedure wherein there exists a balance of flowcharts, texts and images for better and easier understanding.	CE 3.8, 3.12

PE2.4 Application of systematic approaches to the conduct and management of engineering projects.	Lead the team in conducting improvements study for Prototype Production Department and Product Development Unit on DesMichels Corporation and Information Systems Improvement for University Hotel Accommodation and Services. Responsibilities include: (1) distributing tasks evenly to all team members (2) coordinating with the organization for schedule of visits and interviews (3) documenting current system (4) leading the team in analyzing the problem (5) helping in formulating and evaluating proposed solutions (6) managing implementation plans (7) presenting the outcome of the study to the organization	CE 1.5,2.4
PE3 PROFESSIONAL AND PERSONAL ATTRIBUTES		
PE3.1 Ethical conduct and professional Accountability.	Exercised leadership to guarantee the projects will yield positive solutions and within the time and resources allocated. Encouraged team members to enthusiastically contribute to the accomplishment of project goals and acknowledged their contributions.	CE 1.4,1.14, 2.4, 2.12 CE 1.7, 1.14, 2.7, 2.8, 2.11
PE3.2 Effective oral and written communication in professional and lay domains.	Prepared and presented early project developments with organization management teams for discussion and guidance. Displayed phenomenal knowledge of flowcharting techniques used in all conducted improvement projects and created work procedure.	CE 1.6, 2.5 CE 1.8, 1.10, 2.7, 2.10, 3.8, 3.12
PE3.3 Creative, innovative and pro-active demeanor.	Redesigned the Sample Request Form (SRF) accomplished by employees in making designs by simplifying fields and minimizing the probability of inaccurate inputs. Tackled small responsibilities of the Capacity Planner in one major section of the work procedure so as information is organized.	CE 1.10, 1.11 CE 3.12

PE3.4 Professional use and management of information.	Performed observations and documented process flows used in the analysis phase of projects completed. Verified data used in making standardized reports sent by Capacity Planner are reliable and accurate by checking specific measures presented on the report before using them instantly.	CE 1.07, 1.08, 1.09 CE 2.05, 2.06, 2.07, 2.08 CE 3.9, 3.10, 3.11
PE3.5 Orderly management of self and professional conduct.	Chose projects that can benefit the most from the improvement project and would have high impact. Demonstrated interest to life-long learning development by providing areas of further study alongside the improvement project. Accepted the task of doing the IMI Capacity Planner work procedure even though I left the position already in order to help organizational goals and objectives.	CE 1.1, 2.1 CE 1.14, 2.12 CE 3.6
PE3.6 Effective team membership and team leadership.	Accepted the role of being the team leader for the improvement project for both Prototype Production Department and Product Development Unit on DesMichels Corporation and Information Systems Improvement for University Hotel Accommodation and Services. Pursued expert assistance and professional advice when come across complex problems in the analysis phase of the improvement project for DesMichels. Proposed and agreed upon by the team a methodology on how to effectively document the current logical system of University Hotel Accommodation and Services. Gained confidence and trust that I can finish creating the whole IMI Capacity Planner work procedure thru proper time management.	CE 1.5, 1.15, 2.4, 2.13 CE 1.10 CE 2.5, 2.6, 2.7, 2.8 CE 3.6