SLO Presentation

NPD
Date: 09-15-2022

ISLO

Civic Engagement

• Students will develop values and beliefs in their role as a member of local, national and global societies to promote truth, fairness and goodwill to others. They will use the democratic process to further their values and beliefs and recognize and accept differing perspectives based on cultural diversity. They will engage in actions which provide service to others and have a positive impact on their local community.

Communication and Expression

• Students will demonstrate the ability to effectively and appropriately communicate their thoughts and ideas both in written and oral forms. They will develop verbal and non-verbal delivery skills, in an appropriate manner, to communicate their ideas as well as evaluate the ideas of others in a wide variety of contexts.

Critical Thinking and Quantitative Reasoning

• Students will demonstrate the ability to recognize assumptions within an argument and actively and skillfully analyze underlying reasoning to develop a conclusion. They will apply qualitative and/or quantitative analysis to solve problems, predict outcomes, test hypotheses, and explore alternatives in an ethical manner.

Information Literacy

• Students will demonstrate the ability to determine when gathering additional information is necessary. They will use appropriate resources and technologies to locate, evaluate and incorporate the information when developing supporting arguments and drawing conclusions. Students will also develop the ability to understand any legal, ethical or social issues regarding the use of information.

Personal Knowledge and Responsibility

• Students will develop the necessary skills to define, maintain and complete their personal educational goals. They will learn to work independently to accomplish personal goals toward realizing their full potential academically, physically and emotionally whether for personal enrichment, further education or career advancement.

Technology

NPD

Automotive Aftermarket Product Development--Cert

• Students take a product through the stages of new products development.

• Students create a design presentation.

• Students design products for OEM and aftermarket automotive or autobody products.

• Students evaluate the feasibility of the rapid prototyping products of their choice.

• Students produce a cost-effective plan for an automation product of choice.

• Students produce portfolio for a new design.

• Students select a plan for manufacturing and procurement.

New Product Development and Fabrication--Cert

• Students create a design presentation.

• Students develop machine tool technology based fabrication plans.

• Students evaluate the feasibility of the rapid prototyping various products.

• Students produce a cost-effective plan for an automation product.

• Students produce a portfolio of new design technology for the production of new products.

• Students select a plan for manufacturing and procurement.

• Students take a product through the stages of new product development.

New Product Development and Fabrication--Degree

• Students create a design presentation.

• Students develop machine tool technology based fabrication plans.

• Students evaluate the feasibility of the rapid prototyping various products.

- Students produce a cost-effective plan for an automation product.
- Students produce a portfolio of new design technology for the production of new products.
- Students select a plan for manufacturing and procurement.
- Students take a product through the stages of new product development.

CSLO

NPD100 - Product Development in a Global Economy

- Student take a product of their choice through the stages of new product development by documenting it in a journal
- Produce a portfollio of new design
- Justify their strategies for product plan, customer needs/evaluation, product specification, concept generation, concept selection, product design and for manufacturability and procurement for a product of their choice
- Recognize the best product development process for the product of their choice
- List patent processing steps for the product of their choice
- Produce product specifications for a product of their choice.

NPD101 - Innovation Using Rapid Prototyping

- Student evaluate the feasibility of a rapid prototyped product of their chocie
- Student identify the steps required to retrieve a previously created solid model of moderate complexity using rapid prototyping software, apply the appropriate settings, and comprehend the rapid prototyping process.
- Student understand the different processes to finish and decorate a product of their choice
- Student list advantages and drawbacks of various rapid prototyping fabrication processes
- Student evaluate scaling methods for final product fabrication
- Student can cite benefits of plastic, composite, and metallic materials for scaled up production

NPD102 - Quality Systems for New Product Development

- Student produce a document describing a sample procedure for a product or tooling of their choice
- Student produce a data collection strategy for their product or tooling.
- Student present a graphical representation of their data with appropriate quality improvement strategies
- Student demonstrates how overall product development costs can be reduced when quality is infused early into the design process
- Student recognizes the advantages of team dynamics in new product development
- Student contrast different types of quality costs in new product development

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NPD103 - Tooling and Materials for New Product Development

- Student produce a viable tooling design for a product of his choice
- Student prepare a document that includes a tooling plan, product needs evaluation, product specification and materials to be used
- Student select a plan for manufacturability and or procurement

NPD105 - Mechatronics Integration in New Product Development

- Student produce a portfollio for a new design
- Student produce a plan indiciating how their new deisgn will be connected to the control box or a panel
- Student learn how to obtain commercial quotations for hte selected solution
- Student creates bill of materias for their new design
- Student is capable to distinguish between analog and digital component of their design
- Student creates a presentation of their design to their peers for review.