

Southern Polytechnic State University
Industrial Engineering Technology Department
Certificate in PRODUCTION DESIGN

The primary objective of the *Certificate in Production Design* is to provide training and education to members of the Industrial Engineering field in the measurement and analysis of work and in the design or improvement of facilities. Students can complete the requirements in 3-4 semesters. These courses may also be applied toward completing a B.S. degree in Industrial Engineering Technology upon acceptance to SPSU.

The certificate will be offered on campus, through distance learning, and over the Internet.

Admission Requirements:

Applicants must meet all undergraduate admission requirements.

Required Courses:

IET 2432	Engineering Product and Process Cost Estimating I	3
IET 3322	Work Measurement and Ergonomics	4
IET 3334	Production Inventory Control	3
IET 3433	Engineering Product and Process Cost Estimating II	3
IET 4422	Plant Layout and Materials Handling	4
IET 4451	Systems Simulation	3
	TOTAL	<hr/> 20

NOTE: All prerequisite must be met to take a required course. Prerequisites are listed in the current SPSU undergraduate catalog.

Descriptions for Required Courses:

- IET 2432 Engineering Product and Process Cost Estimating I 3-0-3
The course includes the study and practice of basic double entry accounting, including development of basic financial statements. It also includes the development and study of cash flow statements.
- IET 3322 Work Measurement and Ergonomics 2-6-4
This course will focus on work design and ergonomics in manufacturing. Topics will include work methods and production processes to improve operator effectiveness and reduce production costs. Techniques studied include operation analysis, motion study, work sampling, time study, line balancing and ergonomic applications.
- IET 3334 Production and Inventory Control 3-0-3
The concept of a basic production and an inventory control system are central to this course. Material requirements planning and master production scheduling are covered. Inventory planning from outside vendors or internal production is considered. Various forecasting techniques are examined.
- IET 3433 Engineering Product and Cost Estimating II 3-0-3
A study of cost measurement related to manufacturing and non-manufacturing sectors through cost measurement and control in job order, process, standard and variable costing systems. Content includes the recording and control of material, labor and overhead costs absorption and direct costing, budgeting and cost volume profit and analysis.
- IET 4422 Plant Layout and Materials Handling 2-4 -4
This course is a study of the planning process for the construction of new physical facilities and improvement of existing facilities.
- IET 4451 Systems Simulation 2-3-3
An in-depth study of simulation as applied to manufacturing, inventory and distribution systems. Topics include basis simulation and system – modeling techniques, random sampling procedures, production, production modeling, simulation, inventory modeling/simulation and system evaluation. Emphasis will be upon hands-on simulation of various operations using SLAM II, a PC based general purpose simulation program and SIMFACTORY graphical simulation program.