

SERVICE ENTERPRISE ENGINEERING, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

Service sector represents over 80% of the economy and represents over 70% of jobs in the U.S. Service enterprises constitute a wide range in terms of labor intensity, information intensity, and prevailing productivity. Examples of service enterprises include hospitals, retailers, banks, financial institutions, and airlines. This minor is designed for students interested in learning about applying industrial engineering techniques to service enterprises. Students completing this minor will gain an understanding of applying industrial engineering and operations research tools for modeling, analysis, design and control of service enterprises.

In addition to the stated courses for the minor, students in IE pursuing this minor may be required to take the prerequisites for the courses listed for the Service Cluster. Students in HPA, HDFS and any other major will require MATH 220 as a prerequisite for IE 405. IE 405 and IE 322 (or an equivalent course in probability and statistics) are prerequisites for IE 460.

What is Service Enterprise Engineering?

Service Enterprise Engineering is the study, design, and implementation of new systems that improve the processes and efficiencies of the service sector, in which 80 percent of the U.S. workforce is employed. The minor answers a critical need for operational expertise in health care and human service fields. Students completing this minor will gain an understanding of applying industrial engineering and operations research tools for modeling, analysis, design and control of service enterprises.

You Might Like This Program If...

Most applicable for those students in industrial engineering, health policy administration, and human development and family studies, this minor gives students the ability to apply industrial engineering techniques to processes in hospitals, nonprofit organizations, retailers, banks, financial institutions, airlines, and more.

Program Requirements

Requirement	Credits
Requirements for the Minor	18

Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10>). In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

Code	Title	Credits
Prescribed Courses		
<i>Prescribed Courses: Require a grade of C or better</i>		
IE 460	Service Systems Engineering	3

IE 478	Retail Services Engineering	3
--------	-----------------------------	---

Additional Courses

Additional Courses: Require a grade of C or better

Select 6 credits from Engineering Cluster: 6

IE 302	Engineering Economy	
IE 322	Probabilistic Models in Industrial Engineering	
IE 323	Statistical Methods in Industrial Engineering	
IE 330	Engineering Analytics	
IE 402	Advanced Engineering Economy	
IE 405	Deterministic Models in Operations Research or MATH 484 Linear Programs and Related Problems	
IE 424	Process Quality Engineering	
IE 467	Facility Layout and Location	
IE 468	Optimization Modeling and Methods	
IE 480W	Capstone Design Project	

Select 6 credits from the Service Cluster: 6

HDFS 311	Human Development and Family Studies Interventions	
HDFS 455	Development and Administration of Human Services Programs	
HPA 332	Health Systems Management	
HPA 433	Administration of Hospital and Health Service Systems	
HPA 442	Long-Term Care Management	
HPA 475	Health Care Quality	

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

University Park

Vittal Prabhu

Professor & Charles and Enid Schneider Faculty Chair in Service Enterprise Engineering
Harold and Inge Marcus Department of Industrial and Manufacturing Engineering
348 Leonhard Building
University Park, PA 16802
814-863-3212
vxp7@psu.edu

Career Paths

Over 60 percent of graduating industrial engineering students have started their careers in the service sector. Industries that have hired include consulting, retailing, supply chain, logistics, distribution, transportation, government, entertainment, financial analyst, revenue management, and health care services.

Contact

University Park

HAROLD AND INGE MARCUS DEPARTMENT OF INDUSTRIAL AND
MANUFACTURING ENGINEERING

310 Leonhard Building
University Park, PA 16802

814-865-7601

psuie@psu.edu

<http://www.ime.psu.edu/index.aspx> (<http://www.ime.psu.edu/>)