COURSE DETAILS

97700   Manufacturing System Management and Improvement   (6 credits)

Objectives

1. To enable students to gain ability in manufacturing system management.
2. To enable students to gain ability in manufacturing system development.
3. To enable students in practical application of clean technology and sustainable production with manufacturing system management.

Course Description

Manufacturing system categories, manufacturing planning, production control, supply chain and logistics management, decision making in purchasing and manufacturing, decision making in manufacturing and manufacturing manpower allocation, production wastes management, production variables management, production problem-solving process, manufacturing system improvement by productivity management, manufacturing clean technology, or mass and energy balance diagrams, product life cycle cost estimation, energy management in factory, sustainable production, study and analysis of manufacturing problems, morals and ethics in manufacturing system management and improvement.

97701   Statistics and Research Methods in Industrial Technology   (6 credits)

Objectives

1. To enable students to gain knowledge and insight in the concept of statistics and research methods in industrial technology.
2. To enable students to have skills and experience in industrial technology research.
3. To enable students to plan for a research in industrial technology.

Course Description

Knowledge regarding research methodology, statistics, parametric and non-parametric statistics, research models, research process, identification of population and sample, research tool preparation, tool quality test, data collection, data errors control, statistics selection for data analysis, model of data analysis, research methodology in industrial technology, drafting a research project in industrial technology and principles in research analysis and criticism.

97702   Machine Design and Automation System   **(6 credits)**

Objectives

1. To enable students to analyze, design and select machine in industrial production.

2. To enable students to analyze, design and select automation system in industrial production.

Course Description

Needs analysis in manufacturing system, production rate, function and specification of manufacturing machine, conceptual design for machine operations, analysis of possible alternative design, machinery details design, selection of machine components and machine parts design, design for easy maintenance, automation system design and automatic machinery control, manufacturing robot system, control system in industrial production, assembly and test of manufacturing machinery functions including machine specification design and inspection of manufacturing machinery.

97703   Sustainable Packaging Production System   **(6 credits)**

Objectives

1. To enable students to analyze and design packaging production system.

2. To enable students to select materials for packaging and for value added products.

3. To enable students to integrate packaging production system in sustainable way.

Course Description

Materials production technology, materials processing for sustainable packaging production, factors affecting selection of packaging materials including mechanism of gas and liquid permeability, analysis of marketing concepts and consumers' psychology to seek opportunity for sustainable packaging design covering Ergonomics, universal design covering various groups of consumers including senior people, packaging design with the life circle concept and life circle assessment as guideline, printing-packaging production technology and production line, clean technology, industrial ecosystem, production control, increasing efficiency and effectiveness in the supply chain, traceability technology, factors affecting packaging quality in goods distribution system, dynamics packaging, relationship between printing-packaging production technology and filling.

97704   Technology and Quality System in Food Industry   **(6 credits)**

Objectives

1. To enable students to gain insight and understanding in concepts, principles and regulations related to technology and quality system in food industry.

2. To enable students to analyze and apply technology and innovation in food industry.

3. To enable students to apply principles and quality management standards, hygiene and food safety in food industry.

Course Description

Concepts and principles related to technology and innovation for work development in food industry covering post-harvest process, converting, packaging and distribution with emphasis upon production application and products development in food industry, concepts regarding quality, hygiene and food safety as well as related international concepts and application of international management related with quality, hygiene and safety of products in production industry and food services.

97705   Neo-material Design and Application in Industry   (6 credits)

Objectives

1. To enable students to analyze and design neo-material in industry.
2. To enable students to apply neo-material in industry.

Course Description

Analysis techniques and material design in industry, factors affecting material application in industry, production technology and system in industry, techniques and innovation for analysis and inspection of material property in industry, environment-friendly quality control and production standards for material production in industry, life cycle of materials in industry, neo-material design technology, neo-material production process, industrial waste disposal management system, sustainable integration of design and application of materials in industry.

97797   Independent Study (Industrial Technology)   (6 credits)

Objectives

1. To enable students to have skills and experience in seeking knowledge for their own use by learning from subjects offered in curriculum and from other useful sources related to industrial technology.
2. To enable students to study and conduct a research on industrial technology problems and/or the topics of their special interest relevant to current work.

Course Description

Selection of problems for analysis or research on industrial technology, writing independent study project, proposal of independent study project, analysis of literature or papers related to the chosen topics, data collection, data analysis and synthesis, conclusion and writing independent study report.

97798   Thesis (Industrial Technology)   (12 credits)

Objectives

1. To enable students to select problems for research thesis.
2. To enable students to survey and analyze literature related to thesis title.
3. To enable students to design research thesis.
4. To acquire knowledge and skills in writing and submitting a research project.
5. To enable students to develop instrument for quantitative research.
6. To enable students to develop instrument for qualitative research.

7. To enable students to collect, analyze and submit data for thesis.

8. To enable students to present and defense thesis.

9. To enable students to write a complete thesis report.

10. To enable students to write a research report for publication.

Course Description

Selection of problems for research thesis, survey, analysis of literature review, research design, writing and submitting thesis project, development of instrument for thesis in both quantitative and qualitative research, data collection, data analysis, submission of thesis data, presentation and defense in thesis examination, writing a complete thesis report and writing a research report for publication.

97799   Graduate Professional Experience in Industrial Technology   (6 credits)

Objectives

1. To enable students to gain more knowledge and share professional experience.

2. To enable students to enhance positive attitude towards profession.

3. To enable students to develop leadership in profession.

4. To enable students to develop skills in problems solving and team work.

5. To enable students to promote morals, ethics and professional code of ethics.

Course Description

Sharing knowledge and experience in industrial technology, self-development for proper personality as academic leader in profession, promoting human relations, skill development in solving problems and team work, development of morals, ethics as well as appropriate professional code of conducts in industrial technology.

99703   Strategic Information and Communication Technology   (6 Credits)
Management

Objectives

1. To gain knowledge and insight in principles and theories regarding Strategic Information and Communication Technology Management.

2. To be practical application of knowledge in Strategic Information and Communication Technology Management.

Course Description

Vision, trend in information and communication technology development, concepts and principles, implementation in organization, management process for information and communication technology in organization, related professional organization, management and audit governance, information and communication technology infrastructure, strategic information systems planning, procurement and development, pay-off assessment of information and communication technology, strategic use of information technology for competition, resources management in information and communication technology on budget and finance, personnel, technology, information and communication technology service support included service request management, service desk,

incident management, problem management, change management, and risk and security management problems, service level agreement, information and communication technology strategic applications for efficiency increase and competition capacity, ethics frame in using information and communication technology.

99705   Information and Communication Technology Security   (6 Credits)

Objectives

1. To gain knowledge and insight in principles and theories regarding computer network security.

2. To gain knowledge and insight in principles and theories regarding computer network administration.

3. To be practical application of knowledge in computer network security and administration.

Course Description

Threats and vulnerability of computer network systems, principles of security technology, security administration policy, security methodology, standard, legal and ethic issues regarding computer network security, computer network and infrastructure administration processes, computer network administration technologies and tools, computer network traffic monitoring, logging, analyzing, and case studies.

99707   Geographic Information System and Applications   (6 Credits)

Objectives

1. To gain knowledge and insight in principles and theories regarding Geographic Information System and Applications.

2. To be practical application of knowledge in Geographic Information System and Applications.

Course Description

Principles and theories regarding Geographic Information System and Applications, components, data characteristic, classification and operation of Geographic Information System, procedure for analyzed spatial data, basic techniques for creating digital maps, technology and tools for development, management, and applications of Geographic Information System for decision making as well as case study of Geographic Information System in various fields.

99708   Research Methodology and Tools in System Development   (6 Credits)

**   for Information and Communication Technology**

Objectives

1. To gain knowledge and insight in principles and theories regarding research methodology and tools in system development for Information and Communication Technology.

2. To be practical application of knowledge in research methodology and tools in system development for Information and Communication Technology.

Course Description

Principle of research in information and communication technology, research topics, problem analysis, requirement gathering techniques, analysis, design, policy, system implementation, modeling, evaluation, maintenance, tools in system development, project management, project planning, project resources management, case studies of research in information and communication technology, research conclusion/discussion, publication in conferences and journals and ethics of researchers.

99709   Digital Business and Applications   (6 Credits)

Objectives

1. To gain knowledge and insight in principles and theories regarding Digital Business and Applications.
2. To be practical application of knowledge in Digital Business and Applications.

Course Description

Principles and theories regarding Digital Business and Applications, startegies, models, infrastructure and type of Digital Business, digital products, design, development, management for applied Digital Business , reliable transaction system, cash payment system, marketing and services through digital media, mobile commerce, social media and digital business, transaction security , technology and tools, innovation for digital business, laws and ethics regarding digital transactions as well as case study of Digital Business in various fields.

99710   Mobile Wireless Technology and Application   (6 Credits)

Objectives

1. To gain knowledge and insight in principles regarding mobile wireless technology.
2. To gain knowledge and insight in applications regarding mobile wireless technology for digital services.

Course Description

Principles and theories of mobile wireless technologies, short range mobile wireless technology, broadband communication technology, operation of mobile wireless systems, overview of future mobile wireless systems provided for voice, video, data, and multimedia services, clustering, mobile wireless network system management and resource providing, mobile wireless computing technologies, digital service systems on mobile wireless platform, basic programming for mobile devices, data access in mobile wireless systems, applications and case studies.

99711   Big Data Analytics for Business   (6 Credits)

Objectives

1. To gain knowledge and understanding the principles and theory for big data analytics for business.
2. To be applied knowledge of big data analytics for business.

Course Description

Principles and Concept of Big Data, Big Data Classification, Distributed Computing, Big Data Management Technologies, Text Mining in Big Data Analytics, Theory of Social Network Analysis, Social Network Analysis Tools includes the Case study for Business Applications.

99797   Independent Study   (6 credits)

Objectives

To be able to study or research on interested topic of information and communication technology.

Course Description

Selection of problems for conducting a study or research, project writing, project proposal, analysis of literature review, compilation and analysis of data, submission of research or study results.

99798   Thesis (Information and Communication Technology)   (12 credits)

Objectives

1. To enable students to select problems for research thesis.
2. To enable students to survey and analyze literature related to thesis title.
3. To enable students to design research thesis.
4. To acquire knowledge and skills in writing and submitting a research project.
5. To enable students to develop instrument for quantitative research.
6. To enable students to develop instrument for qualitative research.
7. To enable students to collect, analyze and submit data for thesis.
8. To enable students to present and defense thesis.
9. To enable students to write a complete thesis report.
10. To enable students to write a research report for publication.

Course Description

Selection of problems for research thesis, survey, analysis of literature review, research design, writing and submitting thesis project, development of instrument for thesis in both quantitative and qualitative research, data collection, data analysis, submission of thesis data, presentation and defense in thesis examination, writing a complete thesis report and writing a research report for publication.

99799   Graduate Professional Experience in Information and   (6 Credits)
**   Communication Technology**

Objectives

1. To gain additional knowledge and experiences apart from distance education   system.
2. To develop professional leadership in information and communication technology.
3. To promote teamwork.
4. To develop information and communication technology skills.
5. To promote professional attitudes of consciousness, ethics and morality.

Course Description

Analysis, organization management of information and communication technology, development of communication skills, problem solving, management, applications of information and communication technology for management, development of professional leadership, teamwork, promotion of professional attitudes of consciousness, ethics and morality.

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