COURSE DETAILS

Master' Degree

99705   **Network Automation and Cyber Security**   **(6 Credits)**

Course Learning Outcomes

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

2. To gain knowledge and insight in principles and theories regarding network automation and cyber security.

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

Course Description

Network Protocol Principles, Network Operating System Configuration, Software Design Principles for Network Automation, Software Development for Network Automation, Network Automation Infrastructure, Network Automation Management and Applications, Cybersecurity Concept, Security and Risk Management of Communications and Networks, Internet of Things for Cybersecurity, Cybersecurity Policies and Standards, Cybersecurity Design and Management, Network Automation Applications for Security, Cybersecurity Laws and Personal Data Protection, Big Data Analytics In Cybersecurity, and Case Studies.

99708   **Research Methodology and Tools in System Development**   **(6 Credits)**
            for Digital Technology

Course Learning Outcomes

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

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

Course Description

Principle of research in Digital 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 Digital Technology, research conclusion/discussion, publication in conferences and journals and ethics of researchers.

99710   Communication Technology and Infrastructure Ecosystems   (6 Credits)

Course Learning Outcomes

1. To gain knowledge and insight in principles regarding communication technologies.
2. To gain knowledge and insight in infrastructure ecosystems and architectures of communication networks.
3. To apply communication technologies and infrastructure ecosystems for digital services.

Course Description

Principles and theories of communication technologies, mobile wireless technologies, wired technologies, infrastructure ecosystems and architectures of communication networks, data computing, radio frequency resource management, IoT ecosystems, infrastructure and service discovery protocols for IoT, sensor networks and actuators, machine-to-machine communication, the integration of communication technologies and tools for ecosystems, the next-generation digital technology platforms and cloud systems for applications, hybrid architecture and advanced technologies for design and digital service development.

99711   Data Science and Big Data   (6 Credits)

Course Learning Outcomes

1. To gain knowledge and understanding of the principles and theory of data science and big data.
2. To apply knowledge of data science and big data.

Course Description

Principles of data science and big data. Data analytics, statistics and programming for data scientists. NoSQL database, principles and predictive analytic for data scientists. Data mining, machine learning, deep learning and artificial. Natural language processing, principles of business intelligence and business analytics. Principles of data analytics and presentation includes the case study.

99712   Artificial Intelligence and Applications   (6 Credits)

Course Learning Outcomes

1. To gain knowledge and understanding of the principles and theory of Artificial Intelligence.
2. To be applied knowledge of Artificial Intelligence.

Course Description

Principles and Concept of Artificial Intelligence, Problem solving in Artificial Intelligence, Computer Architecture for Artificial Intelligence, Machine Learning, Deep Learning, Neural Network, Text Analytics and Natural Language Processing, Real-time Data Analytics, Speech Recognition, Computer Vision, Bioinformatics, Intelligence Analysis, Cyber Security, Data Analytics Visualization and Case study.

99713 Strategic Digital Technology Management   **(6 Credits)**

Course Learning Outcomes

1. To gain knowledge and understanding of the concepts and principles of Strategic Digital Technology Management.
2. To be able to apply Strategic Digital Technology Management.

Course Description

Concepts and principles of digital technology-based organizational transformation, reference model, strategic planning and digital technology strategy, strategic alignment of digital technology with business strategy, designing enterprise architecture, design thinking process, service design for a better experience, sustainable value-creation of service innovations for users, application of digital technology, digital marketing, digital transactions, digital platforms, digital readiness, digital maturity, assessment framework for organizational status, digital technology standards and governance, data governance, service management, change management, and case studies of the digital transformation of the public and private sectors.

99714 Cyber-Physical System and Applications   **(6 Credits)**

Course Learning Outcomes

1. To gain knowledge and insight into principles regarding cyber-physical systems technology.
2. To gain knowledge and understanding of applications of cyber-physical systems technology for digital innovation in various fields.

Course Description

Fundamentals, principles, and concepts of cyber-physical systems, Artificial intelligence technology for cyber-physical systems, Interaction and service management interfaces of cyber-physical systems, Control and design of cyber-physical systems for intelligence and automation, Cloud computing for cyber-physical systems, Cyber-physical system standards, and applications of cyber-physical systems for digital innovation in various fields.

99797 Independent Study   **(6 credits)**

Course Learning Outcomes

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)**

Course Learning Outcomes

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.
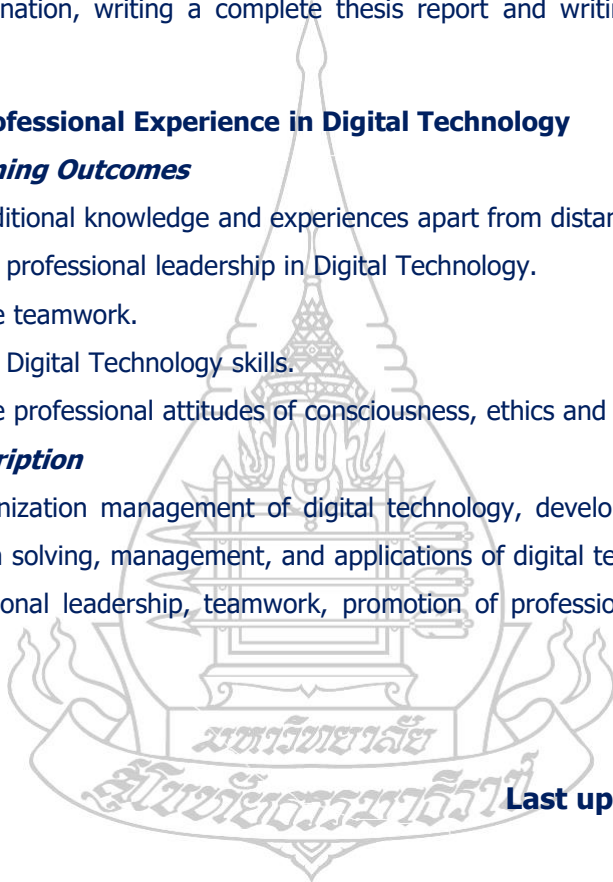
99799   Graduate Professional Experience in Digital Technology   (6 Credits)

Course Learning Outcomes

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

Course Description

Analysis, organization management of digital technology, development of communication skills, as well as problem solving, management, and applications of digital technology in case studies, development of professional leadership, teamwork, promotion of professional attitudes, ethics and morality.

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