



Evidence UI GreenMetric Questionnaire



University : Songkhla Rajabhat University
Country : Thailand
Web Address : www.skru.ac.th

[6] Education and Research (ED)

[6.1] Number of Courses/Subjects Related to Sustainability Offered

Corse code	- Corse name	- Description
5012481	Environmental Management Technology for Agriculture	The relationship between nutrients, soil, water, and environmental factors related to plant growth, soil quality improvement management, irrigation techniques, nutrients for plants, and application of technology in management, improving the environment for plant growth, and expressing awareness of the importance of agricultural environment management to address global warming
5172481	Low-Carbon Agricultural System and Wastes Utilization	Principles of agricultural waste material management for carbon reduction and volatile acid compounds, e.g., clean technology, 3R principles, and principles of processing agricultural waste materials; value-added management of agricultural waste materials with appropriate technology; carbon footprint, and expressing management of agricultural waste materials with environmentally friendly production processes
5172482	Bio-agricultural Productions	The importance of agricultural biological products, e.g., bioproducts, plant extracts, principles of agricultural biological product development, application of agricultural biological products, and expressing awareness in the production of biological products in accordance with sustainable resource management
5172581	Agricultural Chemicals and Their Effects on The Environment	Various types of significant agrochemicals, the rate of application, and the correct and appropriate method of use, assessing the impact of agricultural chemicals on the environment, and expressing awareness of using environmentally friendly processes instead of chemicals

5172681	Integrated Organic Farming System	Principles of organic farming, principles of integrated agricultural systems, King's Science, designing the integrated organic farm system, planning, and land management, and household accounting for farmers; accepting the application of modern technology, but preserving the sufficiency economy philosophy
5133104	Agricultural Technology Transfer and Extension	Theories and principles of agricultural extension, learning and communication processes for technology transfer, planning and evaluation for sustainable agricultural extension, comparison of agricultural information and technology extension, adoption process, innovation of target groups, media usage for agricultural technology transfer.
5072582	Food Products for Health	Principles of healthy food product development: development of healthy food products from agricultural products, e.g., homeopathic food, vegetarian food, macrobiotic foods, and dietary supplements; laws related to claims of active ingredients that affect health; labels of health food; product quality control of products as specified standards, and expressing the safety of food products for health
5201181	Logistics and Supply Chain in Agriculture	Principles of logistics management and agricultural supply chains; principles of logistics network design; and product management in agricultural supply chains propose guidelines for the management, transportation, and distribution of agricultural products suitable for products and market needs, and expressing a positive attitude toward managing the distribution of products and services
5001181	Biology for Agriculture	Structure and functions of living cells, basic biochemical and biomolecular mechanisms related to the growth process and genetic transmission of living organisms, analysis of the relationship between energy transfer and agricultural ecosystems, and operating the gadget with scientific tools to carry out fundamental biological laboratories, and expressing awareness of academic accuracy
5203181	Modern Agricultural Entrepreneurs	Principles of agribusiness administration, concepts, and techniques for entrepreneurship in agribusiness, agribusiness model, writing a presentation of an agricultural business plan, and expressing confidence in one's potential as an agribusiness entrepreneur

5061110	General Fisheries	The benefits of aquatic animals, species diversity, and the economic significance of fisheries in Thailand. Fundamental principles of aquaculture, inshore and offshore fishing in Thai waters, marine economy exclusive economic zone, aquatic animal conservation, fisheries laws, and regulations governing fishing activities.
5061302	Water Quality Management and Environmental Science	Environmental science in aquaculture: the interrelationship between aquatic animals and their environment, the significance of water quality in aquatic animal production, techniques for water quality analysis, and the application of technology for sustainable water quality control in aquatic animal production.
5062117	Integrated Fish Farming with Aquaponics	Principles and application of technology for integrated fish and crop farming, including fish broodstock preparation, nursery plant preparation for joint cultivation, materials, equipment, system and greenhouse design, maintenance, basic monitoring of nutrient quantities and water quality, along with the nitrification process.
5063610	Agricultural and Fishery Waste Utilization	Type of wastes, factors affecting the amount of wastes, principle of good waste management, guidelines for handling and utilization of wastes, development of value added products or economically valued new products, and related laboratories.
5043504	Techniques of Specific Animal Husbandry	
5131101	Standard and Quality Systems of Livestock	The importance of quality and standard of livestock products, good agricultural practices (GAP), farm biosecurity management, laws and agreements related to standards and quality of livestock products, field trips.
5201101	Livestock Business Entrepreneurship	Definition, importance and concepts of agribusiness operations related to livestock, models of livestock business operations, basic knowledge of agricultural economics in Livestock business operations, Management of corporate administration, marketing, finance, business plan and laws related to livestock business, Livestock Business Entrepreneurship and the application of technology in the management of livestock business.

5181603	Animal Production and Farm Management TechnologyAnimal Production and Farm Management Technology	Co-requisite: 5181604 Animal Production and Farm Management Technology Laboratory Condition and livestock system, importance of livestock, breeds, animal breeding, breed development, manufacturing planning, livestock farm management and technical management in animal husbandry, importance factors in production, integrated animal husbandry and the trend of animal production industry.
5181604	Animal Production and Farm Management Technology Laboratory	Co-requisite : 5181603 Animal Production and Farm Management Technology Practice breeding, production and management of livestock farms and animal husbandry techniques
5181402	Feed Technology	Definition, importance of the animal feed, general animal feed industry, analysis, animal feed quality evaluation, raw material characteristics in animal feed, production processes, storage and usage in animal feeding, calculation for food ration in accordance with the needs of different animals at different stages
5053105	General Animals Health and Sanitation	Study on animal disease characteristics, factors that influence diseases, study and practice on various diseases and parasites that occurs in livestock, disease acts and epidemics, contagiousness between humans and animals, diagnosis and prevention of various diseases, sanitation, animal health act, and related laboratories
5191301	Animal Hygiene	The importance of animal hygiene and sanitation, sanitation in livestock farm, principle of epidemiology, zoonosis, the important infectious disease of cattle, pigs, goats and poultry, primary treatment and disease prevention, livestock health management.
5001117	Agricultural Basic Science	Co-requisite: 5001118 Agricultural Basic Science Laboratory Cell and cell division, the structure and physiology of animal, reproduction and growth of animals, Mendel's law, microorganisms, essential elements for living organisms, matter and state of matter, solution and its properties, chemical

		equilibration, chemical reaction in agricultural ecosystem and acid and base.
5103701	Sustainable Food Business Management	Study of value chain management in the food business from the manufacturing process to consumers, business strategy, marketing strategy, environmental analysis in the food business, the advancement of knowledge and technology related to the food business, the adaptation of food business operators under the risks and uncertainties to maintain a sustainable business operation.
5101501	Entrepreneurship in Food Business	General knowledge about operating a food business, concept of being a food business entrepreneur, components of operating a food business, models in food business operations, analysis of environmental factors in food business operations, guidelines for creating basic SMEs businesses, general knowledge about business plans and the philosophy of the Sufficiency Economy in operating a food business, Ethics of food business operators and laws related to food business
5073101	Agricultural and Food Products Standard and Quality Assurance	Importance of quality, regulation and standard of agricultural and food products, good agricultural practice (GAP), good manufacturing practice (GMP), hazard analysis critical control point (HACCP) for agricultural and food production, document system for safety management, quality management system; 5S, QCC, KAIZEN, TQC, TQM, 7 wastes, etc, quality tools, quality assurance system; Halal, ISO, etc, field trip
5103503	Food Product Development Laboratory	Co-requisite : 5103502 Principles of Food Product Development Practical laboratory related to systematic of product development, creation and screening new product's ideas, development of product's ideas, prototype product development, consumer testing, presentation of product from the development project.
5102001	Personality Development for Work	Important and concepts of personality, internal and external personality development techniques, the use of suitable suit for roles and duties in the work performance, social etiquette and socialize, managing the image of an ethical and reliable food entrepreneur and producer, individual personality

		assessment, personality training and improvement for a career in food product management technology.
5102101	Salesmanship and Negotiation in Food Business	Introduction to selling, sales management, sales planning, promotion, negotiation strategies, problem-solving and barriers to negotiation, customer relationship management, evaluation and Action control, and sales ethics, Practical laboratory related to sales, sales management, promotion and negotiation, problem solving and barriers to negotiation, customer relationship management, evaluation and control in the food business, and practical laboratory.
5102503	Production Management in Food Business	Co-requisite : 5102504 Production Management in Food Business Laboratory Importance of production management, location selection, machine in food processing, plant layout and process line, raw material management, machine management, manpower management, production management, performance index for production and others related to production management.
5103103	Logistics and Food Supply Chain Management	Importance of supply chain management and logistics in the food business, planning, raw material procurement, production and quality management in the supply chain, inventory management and warehousing, transportation and distribution, information technology and coordination in the supply chain, traceability, cost analysis of logistics activities and measurement index for decision-making in food business and industries.
5103403	Food Packaging Technology	Evolution of packaging and packing materials, the role and function of packaging, properties of packaging materials, product label and principles in food packaging labeling, principle of packaging design, the case studies and the related demonstrations both conceptually and practical laboratory.
5103501	Sensory Evaluation Technique	Sensory attributes and perception of taste, odor, appearance, hearing and texture, the factors affecting sensory evaluation, selection and training of panelists, types of sensory evaluation, applications of sensory tests for product quality control and product development and statistical analysis of data from sensory evaluation, the related demonstrations both conceptually and practical laboratory.

5102701	Work-based Learning in Food Product Management Technology I	Students practice systematically for food management technology in the workplace that the institution required. The practicing contents consist of the basics of food production and sale, under the advisors at the workplace by many kinds of evaluation such as time attendance, performance appraisal report by the supervisors at work and report of the practical learning.
5101004	Entrepreneurial Mindset for Food Business and Service	Co-requisite : 5101005 Design Thinking for Food Business and Service Laboratory Entrepreneurship in the age of digital technology transformation, good entrepreneurial skills, social innovation, detection of business opportunities, concepts and principles of food and service innovation by design thinking, creative thinking processes, idea generation for design, the art of food and beverage decoration for modern entrepreneurs
5101005	Design Thinking for Food Business and Service Laboratory	Co-requisite : 5101004 Entrepreneurial Mindset for Food Business and Service Practice on creating innovative food and service concepts by design thinking, various creative techniques, and transmitting creative forms by practice and creative dissemination, practice techniques for designing and decorating food and beverages to stand out
5101111	Food and Nutrition	Nutrients, food and nutrition about chemical reactions and biochemistry in human body, energy and nutrient needs, nutritional status, nutrition labels, food consumption for good health
5101501	Entrepreneurship in Food Business	General knowledge about operating a food business, concept of being a food business entrepreneur, components of operating a food business, models in food business operations, analysis of environmental factors in food business operations, guidelines for creating basic SMEs businesses, general knowledge about business plans and the philosophy of the Sufficiency Economy in operating a food business, Ethics of food business operators and laws related to food business

5101003	Personality Development for Work in Food Business	Important and concepts of personality, internal and external personality development techniques, the use of suitable suit for roles and duties in the work performance, social etiquette and socialize, good supervisor, psychology of working with others, managing the image of an ethical and reliable food entrepreneur and producer, individual personality assessment, personality training and improvement for a career in food innovation and business management
5101502	Salesmanship and Negotiation in Food Business	Basic knowledge about sales, sales management, sales planning, sales promotion, negotiation strategies, solving problems and obstacles in negotiations, customer relationship management, evaluation and control operations, sales ethics, practice sales, sales management, sales promotion, and negotiation, solving problems and obstacles in negotiations, customer relationship management, control and evaluation in the food business
5101205	Food Processing Technology	Co-requisite : 5101206 Food Processing Technology Laboratory Food quality changes and spoilage, principles and food processing and technology: thermal process, drying, freezing, fermentation, food additives and hurdle technology, packaging, storage, yield calculation and production cost
5101109	Culinary Science	Characteristics, composition, buying technique, handling of food raw materials and seasonings, kitchen tools and equipment, quality changes of food during preparation and cooking, the related chemical reactions, growth of microorganisms in food, scientific principles in cooking, cooking methods, packaging, storage and practical laboratory
5101002	Sparkling up Innovative and Food Business Ideas	Business initiative related to the innovative and food business, creation of awareness and inspiration of entrepreneurship and career in food business and opportunities creating in the food business
5101601	Bakery Business	Co-requisite : 5101602 Bakery Business Laboratory Properties and functions of ingredients, selection of raw materials tools and equipment for bakery products, bakery product production techniques and cake decorating, bakery

		product development Technology, packaging technology, costing, quality control and inspection, business trends and bakery products, production and sales management
5071302	Food Processing Sanitation and Food Laws	
5071302	Food Processing Sanitation and Food Laws	
5073101	Agricultural and Food Products Standard and Quality Assurance	Importance of quality, regulation and standard of agricultural and food products, good agricultural practice (GAP), good manufacturing practice (GMP), hazard analysis critical control point (HACCP) for agricultural and food production, document system for safety management, quality management system; 5S, QCC, KAIZEN, TQC, TQM, 7 wastes, etc, quality tools, quality assurance system; Halal, ISO, etc, field trip
5071403	Basic of Food Processing	Raw material management, principles and techniques in cooking, extraction, separation, mixing, minimal processing, food preservation by fermentation, use of salt, use of sugar, use of chemicals, use of refrigeration, freezing, storage, modification of atmospheric conditions in food storage, food packaging and related laboratories
5073412	Food For Health Products Technology	The meaning, evolution and trends of healthy food production. Functional food and, bio-organic food, vegetarian food, macrobiotic, food supplemented products, technology of functional food production, innovation in healthy and functional foods, effect of processing on nutrients of food, food law, health claim and nutritional labels of healthy foods, and related laboratories
5073504	Food Product Development and Packaging	Principles of product development, product development process, creating and screening new product concepts, prototype development, development of formulas and processes, product testing, sensory evaluation for food product development, consumer survey and shelf life assessment, role of packaging, the types and qualities of packaging materials, selection of suitable packaging for food, food packaging and nutrition labeling, packaging design, and related laboratories

5073604	Entrepreneurship in Agriculture and Food Business	Concept of agriculture and food entrepreneurship, new entrepreneurs, business opportunity assessment, business feasibility analysis, setting business plans, marketing strategies and analysis, production management, financial management, organizations management, related laws, government services for agriculture and food business
5074501	Agricultural and Food Innovation for Community	Field studies on success and problems in agriculture and food and related activities from nearby communities, analyzing and discussing the problems leading to agricultural and food innovation creation for quality of community improvement, transfer the knowledge of the agricultural and food innovation to the community
5073201	Food Microbiology	
5071501	Food Engineering	Units and dimensions, mass and energy balance, heat transfer, fluid mechanics, mechanical separation, mixing and reduction, evaporation, distillation, psychrometric charts, drying, refrigeration, heat for sterilization, extraction, filtration and related laboratories
5172481	Low-Carbon Agricultural System and Wastes Utilization	Principles of agricultural waste material management for carbon reduction and volatile acid compounds, e.g., clean technology, 3R principles, and principles of processing agricultural waste materials; value-added management of agricultural waste materials with appropriate technology; carbon footprint, and expressing management of agricultural waste materials with environmentally friendly production processes
5172681	Integrated Organic Farming System	Principles of organic farming, principles of integrated agricultural systems, King's Science, designing the integrated organic farm system, planning, and land management, and household accounting for farmers; accepting the application of modern technology, but preserving the sufficiency economy philosophy
5013170	Organic Fertilizer Production	Co-requisite : 5013171 Commercial Organic Fertilizer Production Laboratory Study meaning, importance, types and forms of organic fertilizers, organic fertilizer production process, utilization of organic fertilizers, differences between plants using organic fertilizers and plants using chemical fertilizers, using organic

		fertilizers with chemical fertilizers, organic fertilizer standards, organic fertilizer testing, packaging preparation and distribution
5173415	Plant Bio Product	Definition, importance of plant bio product, types of the active ingredient, collection, preparation and extraction of plant samples, plant bio product production technology and utilization such as biologics for household and food industry, sanitary ware ,and bio pesticides.
5163170	Local Crops and Crop Utilization	Varieties and Thai' ways of life from the past to the present, the four factors, traditions, arts, cultures and religions, plant taxonomy and basic botanies, wisdoms related to Thais major plant species, problems and solutions to a decrease of the varieties of local plants.
5011170	Soil and Fertilizer Technology	Co-requisite : 5011171 Soil and Fertilizer Technology Laboratory Basic concepts of soil and fertilizer, soil properties, soil problems, soil degradation and solutions, plant nutrients, fertilizer, fertilizer usage, soil and water conservation technologies.
5013670	Soilless Culture Technology	Definition, history and importance of soilless culture, soilless culture system, factors affecting the growth of soilless culture, nutrient solution and preparation, cultivation, soilless culture management and marketing.
5172482	Bio-agricultural Productions	The importance of agricultural biological products, e.g., bioproducts, plant extracts, principles of agricultural biological product development, application of agricultural biological products, and expressing awareness in the production of biological products in accordance with sustainable resource management
5172581	Agricultural Chemicals and Their Effects on The Environment	Various types of significant agrochemicals, the rate of application, and the correct and appropriate method of use, assessing the impact of agricultural chemicals on the environment, and expressing awareness of using environmentally friendly processes instead of chemicals
5002171	Climate and Water Management for Agriculture	General knowledge on climate changes. The impact of climate change on agriculture. Progress on the effects of climate changes in Thailand. Meaning and importance of water management for crop production, soil, water and plant

		relationships, irrigation systems, crop production by modern irrigation technologies, and the business related to irrigation systems for crop production.
5172270	Post-harvest Technology	Co-requisite : 5172271 Post-harvest Technology Laboratory Roles and importance, damage and factors affecting quantity and quality of crops, physiological changes, harvest index, harvesting, quality and standard of crops, diseases and insect pests, packaging, and good practices for the produce.
5082170	Plant Pest Management Technology	Co-requisite : 5082171 Plant Pest Management Technology Laboratory Basic concepts of plant pests, damage, pest management and technology usage in preventing and controlling plant pests.
5133172	Agricultural Product Processing Technology	Types of agricultural products, post-harvest management, raw material management and preparation, principles of food processing such as thermal processing, drying, freezing, curing, etc.
5133104	Agricultural Technology Transfer and Extension	Theories and principles of agricultural extension, learning and communication processes for technology transfer, planning and evaluation for sustainable agricultural extension, comparison of agricultural information and technology extension, adoption process, innovation of target groups, media usage for agricultural technology transfer.
5002172	Farm Managements	Management principles and economic theories applied to farm management, farm size and characteristics, factors determining farm types, good agricultural practices, planning, farm records and farm accounting systems, agricultural credit management. management of agricultural machinery Farm operations control and monitoring, farm performance analysis, decision-making principles under risk and uncertainty, and various farm management tours.
5172170	Seed Production	Co-requisite : 5172171 Seed Production Laboratory Seed production, harvesting, storage and commercial seed production in Thailand.

5202171	Agribusiness Entrepreneurship	Definition, importance and the concept of agribusiness management, business models and basic knowledge of agricultural economics in business operations, management of administration, marketing, financial, agribusiness plan. relevant law. Applying technology to agribusiness management, new entrepreneurship and the adjustment of entrepreneurs
5043504	Techniques of Specific Animal Husbandry	
5062117	Integrated Fish Farming with Aquaponics	Principles and application of technology for integrated fish and crop farming, including fish broodstock preparation, nursery plant preparation for joint cultivation, materials, equipment, system and greenhouse design, maintenance, basic monitoring of nutrient quantities and water quality, along with the nitrification process.
5073101	Agricultural and Food Products Standard and Quality Assurance	Importance of quality, regulation and standard of agricultural and food products, good agricultural practice (GAP), good manufacturing practice (GMP), hazard analysis critical control point (HACCP) for agricultural and food production, document system for safety management, quality management system; 5S, QCC, KAIZEN, TQC, TQM, 7 wastes, etc, quality tools, quality assurance system; Halal, ISO, etc, field trip
5073412	Food For Health Products Technology	The meaning, evolution and trends of healthy food production. Functional food and, bio-organic food, vegetarian food, macrobiotic, food supplemented products, technology of functional food production, innovation in healthy and functional foods, effect of processing on nutrients of food, food law, health claim and nutritional labels of healthy foods, and related laboratories
5074501	Agricultural and Food Innovation for Community	Field studies on success and problems in agriculture and food and related activities from nearby communities, analyzing and discussing the problems leading to agricultural and food innovation creation for quality of community improvement, transfer the knowledge of the agricultural and food innovation to the community
5173605	Integrated Farming Management	Principles of integrated farming systems, planning and land management of integrated farming systems, introduction of integrated farm management, principle and theories of

		economic for integrated farm management, processing and value-added products, utilization of by-product in integrated farming, recording of farm operation and accounting managements, and related laboratories
5013602	Fertilizers and Application Techniques	
5073407	Food Processing Technology	Principle and processing techniques such as thermal processing, drying, concentration, irradiation, microwave, extrusion, high pressure, food additive, hurdle technology and aseptic processing, processing parameters that influence the food product qualities, food packaging, modern food processing innovation, and related laboratories
5073504	Food Product Development and Packaging	Principles of product development, product development process, creating and screening new product concepts, prototype development, development of formulas and processes, product testing, sensory evaluation for food product development, consumer survey and shelf life assessment, role of packaging, the types and qualities of packaging materials, selection of suitable packaging for food, food packaging and nutrition labeling, packaging design, and related laboratories
5073604	Entrepreneurship in Agriculture and Food Business	Concept of agriculture and food entrepreneurship, new entrepreneurs, business opportunity assessment, business feasibility analysis, setting business plans, marketing strategies and analysis, production management, financial management, organizations management, related laws, government services for agriculture and food business
5173107	Plant Propagation and Breeding Techniques	Benefits and importance of plant propagation, factors related to plant propagation, plant propagation procedures and techniques, benefits and importance of plant breeding, concepts in genetic principles of plant breeding, procedures and techniques for self-pollinated and cross-pollinated crops, and related laboratories
5063413	Technology and Development of Aquatic Animal Health	Pathogenic factors, types, symptoms, prevention, elimination and treatment of diseases, aquatic animal immune system, diagnosis techniques, national news and information on epidemiology and aquatic animal health, aquatic animal health

		monitoring system and farm sanitation standards and aquaculture export enterprises, and related laboratories
5003111	Laws Concerning Animals and Livestock	Laws and act related animal and livestock relating to killing, selling, transporting, exporting and importing, husbandry, wildlife preservation and protection act and other act.
5043301	Large Ruminant Production	Study and practice on the importance and production system of large ruminant production such as beef cattle, dairy cattle and buffalo, commercial large ruminant production by focusing on the suitability of the local, varieties and selection, beef cattle housing and equipment, feed and feeding, various farm management system, factors associated with the farm management, production planning, the administration and management of farming techniques at different stages, marketing of large ruminant, and related laboratories
5053105	General Animals Health and Sanitation	Study on animal disease characteristics, factors that influence diseases, study and practice on various diseases and parasites that occurs in livestock, disease acts and epidemics, contagiousness between humans and animals, diagnosis and prevention of various diseases, sanitation, animal health act, and related laboratories
1002401	Education Administration and Quality Assurance in Education	Analyze the context of the strategic policy for the preparation of plans and educational development programs and communities, design; implement the quality assurance in education work that is consistent with educational institutions. With knowledge of educational administration, information system for school administration, quality assurance education, and the philosophy of sufficiency economy to create immunity for learners, educational management of educational institutions at each level and type of education by using a variety of learning management processes to develop oneself to have a good attitude, right base on country, stable life, work, career, good citizenship, understand the world context wisely, modern society and keeping pace with changes.
1002502	Instructional	Instructional plan and management in nature of major to develop learners to be an intellectual and innovator, enhancing student learning, attending and accepting individual differences

		among students, creating activities and learning atmosphere for promoting students happiness in learning; awareness in learners' well-being, integrating knowledge, content, curriculum, teaching science and digital technology in instruction by using learning theories, instructional innovation for skills development in the 21st century, integrated instruction, integrated instruction on sufficiency economy philosophy, content and language integrated learning, integrated instruction on media and learning resources in local community, digital technology media, inclusive education, coaching, classroom management, designing and lesson plan writing, micro-teaching, practicum in real situation; to be a responsible and committed person in developing learners fulfil their potential.
1002503	Learning Management Science and Classroom Management	Design and manage natural learning in major fields that can develop learners to be intellectual, cognitive and innovative, promote learning, empathize and accept individual learners' differences, organize activities and create a learning atmosphere. Learn to make learners happy in learning, aware of the health of learners, Organize activities and create a learning atmosphere for learners to be happy in learning, be aware of the health of learners, integrate knowledge course content, curriculum, teaching science, philosophy of sufficiency economy and holistic digital technology, application of knowledge about learning theory, innovative learning management to develop skills in the 21st century, class management class atmosphere media and learning resources in local communities, assessment of student learning, inclusive education, design and writing of learning management plans, micro-teaching practices
1001502	Educational Philosophy and Curriculum Development	Analyze educational philosophy, concepts, theories, basic information in society multicultural change, types of courses elements of the school curriculum development process, planning, design and curriculum development, application of educational philosophy and basic concepts in basic education curriculum development, early childhood education curriculum and the natural curriculum of the major that is consistent with

		the context of educational institutions and communities both in the country and global citizens
1002902	Internship 2	Behave as a good example with morality and conduct according to professional ethics, working as a teacher assistant with a mentor by planning content design, media and technology, measurement and evaluation according to the learning strand in each course, integrated knowledge in educational administration, innovation design, implementation of educational quality assurance in accordance with each level of education, manage quality learning and create a learning atmosphere for students to enjoy, cooperate with parents to develop and help students to have desirable characteristics, analyze and present guidelines for self-development to be a professional teacher who is able to adjust to keep up with the change of both professional teaching and core major sciences, participate in projects related to promoting conservation of culture and local wisdom and bringing results from learning in educational institutions to evaluate after action review (AAR) reflecting on an individual basis, and exchange knowledge in the form of professional learning community (PLC) to develop oneself to keep up with changes.
1162301	Basic Economics	Explain meaning, importance and history of economics. Analyze production theory, consumer behavior, market, price theory, national income, financial, treasury, international trading, cooperative system. Apply the Sufficiency Economy Theory. Analyze changes in Thai and global economics.
1161502	Thailand Geography	Analyze Thailand geography in aspect of morphology, population, economics, social, natural resources and environment. The relationship with geographic factors in global scale. Analyze spatial distribution and relationship between factors. Do practice in the field trip.
1163608	Local Study	Explain meaning, importance and history of local, custom, tradition and cultural heritage. Analyze local beliefs. Analyze civilizations influence and local wisdom via sociology procedure.
1163606	Thailand and The World Economy	Search for information, analyze, summarize principles of economic Thailand's economic structure and world economic

		system thai economy character and world economy of today and their trends in the future globalization and changes of economics system. the relations between trade, finance and world economics affecting thailand. economic integration, and essential economic integration
4143401	Electronics for Physics Teacher	Conductivity of conductors, insulators, properties and applications of resistors, capacitors and inductors, band theory, to introduction semiconductor, diodes and transistors, basic electronic circuits. ICs and microcontrollers, using proper query process and practices for using in the learning management
4143604	Environmental Science	Do field trips to study about local context, wisdom and natural resources. Study real living, social, environment, local life, local environment conservation. Apply the knowledge to design school science curriculum. Science learning management with local wisdom according to local and learner context
4142701	Energy Technology	The state of energy now and in the future, energy sources, renewable energy, geothermal energy, water energy, natural gas, petroleum, biomass energy, solar energy, nuclear energy, fossil fuel, energy technology and utilization, economical energy saving, the process of searching and practice according to the course content for learning management
4222201	Analytical Chemistry for Teachers	Pre-requisite : 4221101 Basic Chemistry for Teacher Analytical chemistry fundamental both qualitative and quantitative, Statistics for analytical chemistry, quantitative analysis by weight including by volume, chemical analysis using equipment and involved technology by small scale chemistry and applied the principle of green chemistry for analysis practice in the related topic through the laboratory experiment
4224703	Chemistry and Community Products for Teachers	The explore of local herb, study of important substance consist of product which is necessary in daily life, production, herbal drying processing and the utilization of herbs production in daily life or agricultural product, organic farming by scope integration and application of applied chemistry content with local context and skilled related content through the laboratory experiment

4142605	All System in Earth Science	The earth elements and correlation, change of internal and surface of the earth, geohazard, mineral resources, geologic and application, earth energies balance, celestial phenomena, could formation, ocean current, climate change and effect on living things and environment, weather forecast. Scientifically explain the phenomena
1073310	Integrated Learning Experience for Children Under Three Years Old	Study and analyze related ideas and theories, domestic and international research, the quality assurance system and the Sufficiency Economy Theory which consistence with social, community and local context. Study domestic and international research. Apply knowledge and lesson planning according to Whole Brain Approach Multiple Intelligence: WBMI. Practice in using quality assurance indicators evaluation form. Use case studies, experience and other procedures to analyze, evaluate, plan and design classroom that support learning according to under three years old brain function. Design research-based learning experience plan for the children which correlate with the indicators, the Sufficiency Economy Theory, social, community and local context.
1073501	Family and Community Participation in Early Childhood Education	Influence of family, community and local to the children present and future living. Roles of parents, community and local in the children take caring and right. Lesson learn about community way and the development. Study domestic and international research, case studies, experience and other procedures to analyze, plan and design co-operation with parents, community and local according to the Sufficiency Economy Theory, brain function and social, culture and local context. Design evaluation form. Apply the designed activities to individual, small group and large group to reflect result to improve the activity to holistic develop each individual child with the participation. Use reflective thinking to develop skills in program design to cooperate with family, community and local.
1084201	Resource Room for Exceptional Children in the Mainstream	
1051102	Developmental Psychology	Analyzing principles and theories in human development to design projects/activities enhancing physical, mental, social and

		intellectual growth suitable to each age level, taking into account needs of education institution, community and locality.
1052301	Human Relations for Teachers	
1112206	Regional Literature	Characteristics and types of local literature in different regions in the history The form of content writing, concepts, practice, analysis of local literature of various regions such as tales, legends, folk songs and the relationship of local literature to society and culture.
1543409	Local wisdom and Thai way of life	Meanings and an importance of local wisdom of Thai ways of life, categorise Thai wisdom, study changes of local wisdom and Thai ways of life emphasising on southern local wisdom
4461211	Fundamentals of Environmental Science	Basic knowledge of environmental science, ecology, conservation of natural resources and environments, environmental pollution, present environmental situation and concept of sustainable environmental management
4461212	Environmental Ecology	Basic knowledge of ecology and the relationship between ecology and the environment knowledge about the ecosystem energy and energy transfer in ecosystem, limiting factors, population, social life, change replacement application of ecological knowledge to environmental problems for sustainable environmental management, fieldwork on factors affecting environmental quality
4462301	Energy and Environment	Sources and types of energy, technology for energy production, the use of energy, the relationship of energy and the environment and quality of life, principles and methods of energy conservation and environmental management, the current situation and energy crisis, impacts and preventions of energy issues on environment, laws, regulations and policies related to energy
4463201	Environmental Management	Current environmental situation, environmental change impacts, principles of environmental management, system analysis, propose environmental plan and policy; study of environmental management standards system, regulations of environmental management system, planning and preparation

		of environmental management standards, and other management standards system related to environment; study relationship between environment and economy using economic analysis, role of economics in preventing environmental issues and pollution control; environmental law in Thailand and abroad; act, royal act, rule, regulation and legislation on public health, environment, occupational health and other related laws; fieldwork
4463202	Marine and Coastal Science	Fundamentals of oceanography and coastal regions, maritime zone, marine and coastal resources and ecosystems, conservation and utilization of the area, marine and coastal pollution, natural threats, integrated marine and coastal management, coastal management tools, fieldwork, case studies of marine and coastal managements
4463203	Solid Waste Management	Basic knowledge of community solid waste, hazardous waste, infectious waste, marine debris and microplastics, survey and study of quantity and type of solid waste, laboratory analysis of solid waste composition; study of collection, transportation, methodology and technology in solid waste disposal; environmental impact from solid waste, processes to promote public participation of solid waste management at the source, solid waste management in Thailand and abroad, solid waste management approaches, recycling of solid waste, and law and legislation relating to solid waste management
4463205	Urban Environmental Management	Urban landscapes, urban planning, urban factors and infrastructures, water supply, urban pollution and solution, sources of pollution, problems of urban environments, scientific solution guidelines, pollution management, urban development, building laws, public participation, urban environmental management and case studies
4463206	Watershed and Songkhla Lake Basin	Principles, objective and importance of watershed and Songkhla Lake Basin (SLB) geomorphology, watershed and SLB ecosystem, wetlands in SLB, cause and prevention of pollution in watershed and SLB, community approach and sociology in watershed and SLB, tools for integrated watershed and SLB management, sustainable development guidelines for

		watershed and SLB, case studies of watershed and SLB conservation and restoration, fieldwork
4463301	Water Pollution and Analysis	Source and causes of water pollution, effects of pollution in the water, laboratory analysis of water quality in physical, chemical and biological parameters, water quality assessment and effluent quality standards
4463302	Wastewater Treatment	Composition of wastewater, selection of wastewater treatment systems to appropriate for the area condition, types of wastewater treatment system, effluent characteristics and effluent standards from industries and communities, control of wastewater treatment systems, wastewater laboratory and laws relating to water pollution from industrial sectors
4463303	Air and Noise Pollution	Characteristics and sources of air and noise pollution, impacts on humans and the environment, sampling and measuring in air and noise pollution, air and noise pollution laboratory, air and noise pollution control, air and noise quality standards, laws related to air and noise pollution control
4463304	Environmental Technology	Principles, regulations and technologies for prevention, control and restoration of environmental problems such as life cycle assessment (LCA), clean technology including selection of appropriate remediation technologies for environmental pollutants, fieldwork
4464201	Environmental Impact Assessment	Principles and methodology of environmental impact assessment (EIA), rules and regulations, environmental change by project; physical, biological, economic and social environmental impact prediction; health impact analysis, environmental quality indicators, planning and monitoring, mitigation measures, prevention and control over possible impacts to resources and environment by project; public participation, precaution, changing, preparation of EIA reports, fieldwork and case studies
4464301	Environmental Innovation	Concepts and approaches of environmental innovation, fundamentals of innovation system, innovative thinking, innovation management, creative to environmental innovation, technology and development in innovation, fundamental concepts of being entrepreneur, a case study of revolution in environmental innovation, fieldwork

4462105	Natural Disaster and Global Environmental Change	Study of type, cause, incidence and impact of natural disaster and global environment change either by human actions and spontaneous, and case studies
4461112	Environmental Physics	Density, specific gravity, liquids, fluids, oscillations and waves, properties of waves, reflection, refraction, interference and diffraction, light waves, sound, heat, electro-magnetism, radiation, radioactive substances, study of characteristics, properties, changes, and related to the environment and experiment
4461113	Basic Environmental Chemistry	Knowledge of fundamental chemistry, environmental chemistry, environmental phenomena, reasons, factors and reactions leading to environmental (soil, water and air) contamination, principles of sampling and principles of methods in environmental (soil, water and air), impacts on ecosystem and human and chemical safety in laboratory
4461114	Environmental Biology	Basic knowledge of biology; cell structure and chemical compounds of living cells, growth and reproduction, classification of organisms including; microorganisms plants and animals, role of organisms in ecosystem, applications of microorganisms and plants for environmental improvement, and utilizing of living organisms for biological index of environmental qualification practice of basic techniques in the study of living things and the use of microorganisms for environmental improvement and environmental quality indicators
4462102	Soil Science	Importance of soil, soil formation, soil laboratory, physical, chemical and biological characteristics of soils, factors influence soil enrichment, soil organisms, organic matter and nutrient cycling
4463305	Instruments for Environmental Analysis	Principle of instruments for environmental analysis, sampling and sample preparation, environmental laboratory analysis by spectroscopic instruments related to spectrum absorption and emission of atom molecules and separation, for example, ultraviolet-visible spectrophotometer, infrared spectrometer, atomic absorption, atomic emission, mass spectrometer, gas chromatography, and liquid chromatography

4463306	Environmental Geographic Information System	Principles of Geographic Information System (GIS) and remote sensing technology; suitable metrology and technology applied for environmental data surveys from both primary and secondary sources (for example aerial photo, satellite image, varies type of maps and fieldwork studies); study of data management, manipulation, analysis and evaluation in various environmental by GIS, GIS laboratory
4463501	Research Methodology and Ethics in Environmental Science	Basic knowledge of research, research methodology, research ethics, statistics for research, selecting a research topic, writing a research proposal, research reports, research articles, research presentation, practices, and researchproposal defense to perform research in course of research in environmental science
4464401	Occupational Health and Safety	The occupational health and safety principles, occupational diseases, ergonomics, accidents and occupational hazards, principles and techniques to evaluate hazards in the workplace, hazard control, occupational health and safety legislation, occupational health and safety standards in internationally and nationally, fieldwork
4464501	Research in Environmental Science	Performing of research according to the defensive research proposal to present knowledges in environmental science under advisor supervision; defending the research to committees
4464604	Cooperative Education in Environmental Science	Job training as a temporary employee, capabilities to write the report, present the progression and present the results and outcomes of the assigned project; learning to solve problems in workplace, adjust themselves to organization culture, and apply knowledges and skills derived from curriculum for effective training
4521101	Principle of Statistics	The meaning, uses and roles of statistics; principle of probability; probability distribution of random variable; statistical estimation, hypothesis testing
4232201	Analytical Chemistry I	Introduction to analytical chemistry; data analysis; concentration units; chemical equilibria; principles of quantitative analysis by gravimetric and volumetric analysis; theory of acid-base, precipitation, complex-formation and oxidation-reduction titrations

4232505	Fundamental Organic Chemistry	Pre-requisite : 4231101 Chemistry I Basic principles of structures and general properties; types of organic reactions; nomenclature; preparation and important reactions of hydrocarbons; aromatic hydrocarbons; organohalogens; alcohols; phenols; ethers; amines; aldehydes; ketones; carboxylic acids and derivatives
4382103	Agricultural Ecology	4381101 Biology in Agriculture 4381102 Biology Laboratory in Agriculture Structures and functions of ecosystem, energy transfer and nutrient cycles, environmental factors for living growth, bio-control, agricultural pollution and management, and laboratory experimentation related the contents/ field work
4382303	Sustainable Animal Husbandry	Basic knowledge of economic animal husbandry, type of animal husbandry, animal husbandry, selection and propagation, disease and prevention, planning and farm management for quality control and cost reduction
4382305	Water Management Technology for Agriculture	Water, water cycle, soil water and plant relation such as drip irrigation and sprinkler irrigation, planning and design, agricultural watering system, various watering systems, water measurement equipment, water content and application of various technologies for agricultural water management
4382307	Microbial Technology for Agricultural Innovation	4382101 Microbiology in Agriculture 4382102 Microbiology Laboratory in Agriculture Utilization of microorganism for Improvement and development in agricultural system, increasing product value, quality control, microbial for value addition of agricultural products and waste utilization
4383302	Integrated Farming System	Integrated agricultural systems between, plantation and animals husbandry; plants and plants, plants and animals, and animals and animals, planning and agricultural system management for

		suitable environment management; labor, capital, land, production factors and natural resources efficientay
4383304	Sustainable Farm Business Management for Smart Farmer	Definition and method of macroeconomics and Buddhist economics concerning the farming and the agricultural sector, the financial system, international trade, agricultural policy, central market, contract market, the Agricultural Futures Exchange of Thailand (AFET), sustainable farm business management, the value addition of agricultural products, supply chain, standard of agricultural product, the immunity creation according to the sufficiency economy concept, tools for creating a production efficiency, farm accounting, enterprise accounting, tax for entrepreneurs and financial planning
4383311	Renewable Energy in Agricultural Systems	The world's energy situation and energy problems, exploration and procurement of renewable energy sources, energy transformation technologies and analysis of renewable energy from sources such as solar, wind, water and biomass, etc. energy development and innovation from alternative energy sources suitable for agriculture
4383312	Network and Community Organizing Jobs	Buddhist economics, holistic development and community mechanism, pluralist democracy, social structures and networks, social capital, social dynamics, an overview of community management, community management process, strategic planning and taking action for building collaborative networks in sustainable agriculture and field work
4383313	Sustainable Agriculture Tourism Management	Significance of sustainable agriculture tourism, components, types and activities on agricultural tourism, knowledge on home stay and farm stay activities, trends of sustainable agriculture tourism, contacting the relevant agencies and promoting the marketing of sustainable agriculture tourism and laboratory experimentation related the contents/ field work
4384303	Value Added of Agricultural Wastes	Type, characteristics, quantity and qualities of wastes in an agricultural production and industrial agriculture, collection, transport and disposal of agricultural wastes, technologies and innovations to process, add value and utilize agricultural wastes, case study on product design, development and marketing to add value and utilize agricultural wastes

4384502	Field Experience of Entrepreneurs in Agricultural Innovation for Sustainability	4834501 Preparation for Field Experience of Entrepreneurs in Agricultural Innovation for Sustainability Training entrepreneurs in agricultural innovation for sustainability; goals and business plans creation, farms typing, provide in area, capital, and tools, farms operations using agricultural innovations, farm accounting, harvesting, distribution, analysis and evaluation
4382301	Soil Doctor	Importance of soil, physical and biological features of soil, soil fertility, soil survey, soil ecology, soil nutrition, soil and plant relationships, diagnostic of abnormal plant from nutrition, chemicals and bio-fertilizer study, soil pollutions affecting in agriculture and environment, Geographic Information System and soil databases
4383201	Occupational Health and Safety in Agriculture	Study about occupational health and safety in agricultural operations, pollution, disease and accidents cause from work and preventioncontrol, improving working conditions according to the strategic principles, introduction to occupational health and safety management, signs and safety symbols in agricultural work, protective device, first aid laws and agencies related to occupational health and safety
4383203	Agricultural System Management and Logistics	Fundamentals of agricultural system management and quality control, determine the suitable agricultural area, planning and quality control of produce, management of production, inventory, warehouse, labor, capital, land including production factors and logistics management
4384301	Smart Farm	Development and trends in smart farm technology, principles of electric circuits, principles of interfacing devices, detection sensors, programmable controllers and development of control circuits in farm production
4384306	Agricultural Climatology and Meteorology Technology	Condition of the atmosphere, factors affecting climate change, influence of climate on growth and the development of plants and animals, climate of major economic crops and agricultural ecological zones of Thailand, meteorological forecasting for agriculture, climate-modifying technology for agriculture and field operations

4383308	Processing and Agricultural Product Development	The benefit and importance of processing and development of agricultural products, spoilage of agricultural product and control, product processing, research and development of agricultural product for value addition, shelf life extension and preservation, selection and packaging design, and food sanitation
4373206	Agricultural Biotechnology	Biotechnology in utilization of beneficial microorganisms for agriculture; microorganisms for soil improvement; plant growth promotion; plant pest control; genetic engineering techniques for plant and animal modification; agroindustry; microorganisms for ecological and environmental improvement; laboratories that corresponding with the context in the lecture
4383401	Research in Agricultural Innovation for Sustainability	Analysis of agricultural problems, research topic development, searching, data collection, references, proposal writing, statistical analysis research ethics and academic presentation
4222201	Analytical Chemistry for Teachers	Pre-requisite : 4221101 Basic Chemistry for Teacher Analytical chemistry fundamental both qualitative and quantitative, Statistics for analytical chemistry, quantitative analysis by weight including by volume, chemical analysis using equipment and involved technology by small scale chemistry and applied the principle of green chemistry for analysis practice in the related topic through the laboratory experiment
4224703	Chemistry and Community Products for Teachers	The explore of local herb, study of important substance consist of product which is necessary in daily life, production, herbal drying processing and the utilization of herbs production in daily life or agricultural product, organic farming by scope integration and application of applied chemistry content with local context and skilled related content through the laboratory experiment
4231701	Chemical Safety	Introduction of chemical safety; fire ignitions; stability of chemicals; storage, usage and disposal of toxic chemicals; danger of radioactive substances; safety equipments; laboratory safety and administration for safety
4234701	Laboratory and Factory Quality Management	General principles of laboratory and factory quality management according to ISO/IEC 17025, ISO-9001 or other

		involved standards for testing and calibration laboratory; and laboratory and factory quality assurance
4222701	STEM Education	Practice integration link and activities design follow by STEM education in content of principle rule and theory in science subject (physics chemistry and earth space astronomy), the linked in content of 4 subjects, scientific practice, reasonable analysis, application in science and mathematics concept for phenomenon's prediction in difference context, using, management, accessto technology, invention design, creation of technology applying from science and mathematics knowledge, and other cost-effective technologies
4223701	Media Creation and Chemical Innovation	The Importance and concept of the production, equipment and media invention for schooling and chemical laboratory made from glass wood plastic metal including equipment repair, media and chemical equipment invention involving simple electronics, chemical media production using computer program, the use of audio-visual equipment, chemical small scale equipment and chemical production using material from local and its application for learning activities management
4224501	Natural Products Chemistry for Teachers	Classification and chemical structures of the constituents from natural products, biosynthetic pathways of the natural products, extraction, isolation, purification, identification of pharmacologically active compounds, biological activities, toxicology, the application of benefits by having intergrated scopes, adapt to the local context, and practice in the related topic through the laboratory experiment
4224702	Polymer Chemistry for Teachers	Fundamental of polymer, structures, nomenclature, properties, classification of polymers, polymerization reactions, commercial polymers, products from various types of polymers, technological advances used for polymer products development, the use of polymers and affectation with the integration of the scope and application of applied chemical content, and practice in the related content through the laboratory experiment
4332109	Ecology	Pre-requisite : 4331120 Biology I The meaning and scope Ecology, limiting factors, Adaptation of

		organisms, The cycle of substance, Environmental factors, Ecological succession, living relationship, Populations and communities of organisms, Pollution and natural resource management
4333116	Systematics and Biodiversity	Pre-requisite : 4331122 Biology II Systematics and classification of organism, plant and animal taxonomy, phylogeny, biodiversity, benefits and loss of biodiversity, future trends, situation and conservation
4333506	Plant Cell and Tissue Culture Technology	Pre-requisite : 4331122 Biology II Principles and techniques in plant cell, tissue and organ culture; factors effect to growth and development of cell and tissue to seedlings; utilization and application of micropropagation, plant breeding, secondary metabolite synthesis, in vitro preservation, and conservation
4333703	Marine Ecology	Pre-requisite : 4332109 Ecology Structure and function of marine ecosystems, technical studies on environmental factors that control organisms living in marine ecosystem, relationship of marine organisms, primary production, nutrient cycling, human impacts on the marine environment and practices
4334203	Economic Botany	Plant structure and function, relationship between plant structure and usage, category, origin, distribution and conservation of economic plants for food, medicinal plants, textile, ornamental, rubber and oils, field study and practices
4372201	Industrial Fermentation	Pre-requisite : 4371101 Microbiology and 4371102 Microbiology Laboratory Industrial microorganism; isolation and screening of microorganism; microbial strain improvement; optimum conditions for fermentation process; fermentation process and control of bioreactor; microbial growth kinetics and metabolite production; study in detail of microbial products such as enzymes, bioenergy, and industrial chemicals; health care products and fermented food; applications of microorganisms in

		agriculture and environment, by highlighting the new techniques in biotechnology that can improve the efficiency of these industries; laboratories that corresponding with the context in the lecture; field trips
4373304	Waste Utilization and Treatment in Agro-Industry	Waste management hierarchy; clean technology; basic principles of biological conversion of waste; bioproducts from waste utilization in various agro-industries; principles of wastewater treatment; wastewater treatment system; laboratories that corresponding with the context in the lecture; field trips
5172481	Low-Carbon Agricultural System and Wastes Utilization	Principles of agricultural waste material management for carbon reduction and volatile acid compounds, e.g., clean technology, 3R principles, and principles of processing agricultural waste materials; value-added management of agricultural waste materials with appropriate technology; carbon footprint, and expressing management of agricultural waste materials with environmentally friendly production processes
5172482	Bio-agricultural Productions	The importance of agricultural biological products, e.g., bioproducts, plant extracts, principles of agricultural biological product development, application of agricultural biological products, and expressing awareness in the production of biological products in accordance with sustainable resource management
5172581	Agricultural Chemicals and Their Effects on The Environment	Various types of significant agrochemicals, the rate of application, and the correct and appropriate method of use, assessing the impact of agricultural chemicals on the environment, and expressing awareness of using environmentally friendly processes instead of chemicals
2531106	Community dynamics and Cultural changes	Definitions of changes, characteristics, and process of changes in community in social, cultural, economic, environmental, political and governmental aspects, trend of globalization with a variety of changes, contributing factors of changes in community and society, dynamics and adaptation of community at present time, a number of problems of changes of community and culture, and case studies on dynamics of community and cultural changes

2531108	Social Capital Development	Definitions, significance, concepts, theories, principles, approaches, and guidelines in developing social capital, roles and duties, responsibilities, applications of human capital, financial capital, cultural capital, natural resource capital, organizational capital, community capital, and social capital as well as an analysis of measures, issues, and obstacles for applications of social capital in community and society development
2531109	Sufficiency Economy Philosophy and Community Development	Philosophy, backgrounds, definitions, principles, and concepts of sufficiency economy, an analysis of application of sufficiency economy philosophy at individual, family, organization, community and country levels, guidelines in operating the principles of sufficiency economy, new theory agriculture, and royal's projects; the roles of sufficiency economy in community development for an analysis based on the principles of sufficiency economy philosophy and community development to offer directions of application for community development
2532212	Community Study and Technic in Community Development	Definitions, necessities, benefits, types, techniques, and methods for different studies on community in terms of physical, structure, relationship system, including potential of community in economic, social, environmental, political, governmental, and cultural aspects; techniques and instruments for studies on community and cooperation with community using case studies
2532409	Community Based Tourism	Definitions, significance of tourism, concepts, relevant theories relating to the principles of tourism in community, roles of community, effects of tourism on ways of life, and ecosystem in community, tourism management, preparation and community development for tourism in community
2532411	Community Business and Social Entrepreneurship	Definitions, objectives, roles, and forms of community business; an analysis of opportunities in business investment and business environment, marketing strategies, community products and selling channels, production and supply chain management, organization management, financial and accounting management, social enterprise, social innovation, and business ethics

2533225	Innovation for Community Development	Definitions, concepts, theories, necessities, elements of innovation creation, key principles, processes of innovation creation, goals and enhancement of community learning innovation using case studies on learning innovation creation of successful community
2531706	Citizens and Social Responsibility	Learning of basic principles of governance in a democratic system and thaw administration. The meaning of citizen in democracy. Realization of being citizen, volunteers, self-development to be a citizen in the democratic system and social responsibility by learning through practice
2533921	Case Management for Social Protection	Concepts of social protection, security for living, rights protection, and Thailand's driving direction facing with the changing situations of the world to create a social protection system. The individual management and provide opportunities for youth, women, family, helpless people, aging people, poor people, children old people, disabled people and everyone to be able to live with a dignity in the society and to be self-reliance in the long term period
2593101	Disaster Study	
2593213	Environmental Education	Environmental education concept, environmental management system, human relations with the environment, environmental problems, participation, conservation principles, environmental ethics, local environment case studies, fieldwork required
2593214	Sustainable Resource Management	Sustainability resource management concepts, sustainability model, a well-balanced relationship among economy society and environment, sustainable development, conservation, sustainable environmental management approach
2593215	Environmental Impact Assessment	environmental impact assessment approaches, impact forecast, environmental risk assessment, Geospatial Information System to Environmental Impact Assessment report ; Physical environment resources, biophysical Environment resources, Human Use Value, quality of life
2593425	Geoinformatics for GIS in Smart Cities	Smart city concept, Digital Mapping, spatial data analysis, database management and attribute data, distribution data analysis, GIS map layers for smart cities

2593428	Geoinformatics for Environment Management	Types of natural resources and environment, relationship between human and environment, resource utilizations, pollution and environmental management, environmental laws, Modelling, case of Geoinformatics for environment management
2582206	Non - Violence and Conflict Management	Concepts of non - violence and conflicts, evolution of conflict management processes, characteristics, types, and grounds of conflict leading to political violence, how to manage conflicts, the role of peaceful means, to find ways to manage conflicts peacefully
2583104	Administrative Ethics	Meaning of ethics and realize ethical values, ethical judgment as well as professional ethics by using the dharma as the management principle which leads to the nurture of all parts of life for good city management, applying ethics to various relevant contexts which leads to being a valuable citizen in society
2583412	Sustainable Urban Planning and Development	Principles, concepts, and types of urban; urbanization; urban analysis and management; sustainable development concepts, planning and development of public services for the city towards sustainability, community survey, creating a city development project related policy and plans of global to local
2583509	Knowledge Management for Sustainable Development	Meaning, concept, theory of knowledge management, local knowledge management process to be a learning society, knowledge creation through social capital integration, community economy, local knowledge, and field management practice on project management, community survey by using knowledge management as a base for sustainable local development
2583612	Human Rights and Judicial Process	Philosophy, concepts, and theories regarding basic rights of persons, human rights-related organizations and important human rights issues, judicial process of human rights
2531706	Citizens and Social Responsibility	Learning of basic principles of governance in a democratic system and thaw administration. The meaning of citizen in democracy. Realization of being citizen, volunteers, self-development to be a citizen in the democratic system and social responsibility by learning through practice

2531901	Professional Ethics in Social Work	Ethical principles, meaning, importance, philosophy, theories of ethical professions on social work in working, ethics for honors, human understanding, appreciate humanity, dignity, and existence. Empowerment of target groups for social work performance and good governance in social work. Fundamental problems of ethics in religious dimension. Human rights principles, people's rights, patients' rights, community's rights, legally social welfare rights involving with social welfare performance. The effects of ethical problems , learning the case study of roles social workers, ethics in social work performance, governance mechanism, controlling, promoting and developing ethics in working
2531903	Gender and Feminist in Global Society	Concepts of gender, feminism, social movement processes for equality creating, the sexual fairness including thinking and doing methods, protecting political rights, economy, and society. The development of women in social welfare and social work including social development, equality, fairness of women in the context of Thai social change and world circumstances including learning the case study of women's roles in social welfare and social work
2532915	Self-Management for Social welfare	Meanings, element, principles, and concepts of self-management concepts of sufficiency economy, new theories, and self-reliance applied to self-management for living in the social aspects, economy, politics, cultures, environment, and mind
2533921	Case Management for Social Protection	Concepts of social protection, security for living, rights protection, and Thailand's driving direction facing with the changing situations of the world to create a social protection system. The individual management and provide opportunities for youth, women, family, helpless people, aging people, poor people, children old people, disabled people and everyone to be able to live with a dignity in the society and to be self-reliance in the long term period
1552636	English for Community-Based Tourism	English usage to promote community-based tourism e.g., giving information, creating tour itineraries, promoting local identities, local wisdoms, agricultural area, local products and enterprises,

		telling community stories, cultures, people' s ways of life, attractions and field trip
1553503	English for Elementary School Teachers	
1553504	English for Enhancing Tourism in Community	Vocabulary and expressions used in tourism business through audio/ visual on-offline materials in the aspects of accommodations, restaurants, souvenir shops, tourist attractions, transportation including domestic travel in communities
1553702	English Integration in Local Context	Fundamentals of research methodology: both quantitative and qualitative designs in the field of English; Community-based research and/or community services
1541217	Reading for Life and Social Development	Principles and methods to develop reading for life and society from publications, online medias, practice reading both documentaries and fictions
1543409	Local wisdom and Thai way of life	Meanings and an importance of local wisdom of Thai ways of life, categorise Thai wisdom, study changes of local wisdom and Thai ways of life emphasising on southern local wisdom
1642505	Songkhla Studies and Social Communication to Drive The Policy of Songkhla to The World Heritage	The study of Songkhla in historical dimensions, archeology, landscapes, morphology, landscape, culture, way of life, conservation approaches and development; Promoting the participation of all sectors in the process of applying for the World Heritage registration with effective communication processes through fieldwork
1643519	Preservation of Historical and Cultural Resources	The guidelines and principles for the conservation of the historical and cultural resources; the use of information technology media to promote conservation and development of places and historical resources to enhance the local values
3083322	Arts of Voice Usage and Creative Design for Audio Program	Pre-requisite : 3083319 Digital Audio Media Program Production Speech techniques and voice using for various communicating of feeling, thinking, planning, creative design process, for audio program, practice speaking in studio and real situation include audio media production for community
3083527	Tourism and Health Communication	Concepts, meaning, importance, tourism and health problems situation analysis, role of mass communication for developing and promoting tourism, include preventing and health solving,

		practical media in various platforms for tourism and health communication
1181201	Nora: Local Dance	Definition, Categories, Timeline, and Performance Components Nora's Dancing Style, Learn the Fundamental Nora Dance and The Significance of the Nora Show.
1181202	Folk Dance in 4 Regions	Definition, Types, History, Elements of Performance Practice Northern region folk dances such as Fhon Lep, Rabum Kep Bai Cha, etc., and Central region folk dances such as Ten Kum Rum Kyo, Rum Yei, etc. In the Northeast, there are dances such as Serng Pong Lang, Lum Phloen, etc., and in the South, there are dances such as Rong Ngeng, Li Ke Pa, etc. Folk dance's significance in four regions. Design for folk performance in four different regions.
2101103	Southern Thai local Arts	Format; development; aesthetics; values; genres; characteristics of the southern arts in visual arts, performing arts, music and literature.
2171148	Thai Folk Dance I	Contexts relating to Thai Folk Performances of 4 Parts of Thailand: North, Central, Northeast, and Southern, such as social, culture, value, and usage, including studying the history of performance, costume, song, style of dance gesture, occasion to perform and practice the Thai Folk Performance of 4 parts, both Original and New Adjust.
2172160	Nattayarangsan Dance	Rabam Nattayarangsan's history, performance composition, and methods include Rabam Batic, Rabam Koayor, Rabam Karnta Bucha, Rabam Lanklong, Rabam Kabpleang Kang Raue Yoa, and Rabam Jabkang Rongseedang, among others.
2172246	Performing Arts and Event Management	Principles of administering and managing various performances, including event management, including the study process of development to creative thinking further to create valuable innovation and have value-added practice in managing a performance.
2173248	Light and Sound Performance Design and Management	Management principles; concept; process of designing a creative light and sound performance based on a community's identity and performing in public, including academic service to society.

2173249	Performing Arts for Cultural Tourism Management	Style: performance methods that adhere to the heritage tourism management systems of Thailand and Foreign countries; practice performing for heritage tourism.
2173250	Local Wisdom of Performing Arts Management	Principles of Local Wisdom Management by learning from local sages on conservation, inheriting, developing, and presenting Southern Local Wisdom in the Performing Arts to sages and the public.
2173450	Performing Arts and Community Development	Study concept analysis, definition, duty, responsibility, consciousness, and relationship of the local community with performing arts; recognize the creation process; performing arts productions to local development; community participation; learning exchange; and use performing arts productions as a tool to raise the potential of the local community.
2174608	Creative Dance and Performance	Creating Narttayarangsarn dance with complete dance elements inspired by local way of life and culture.
2112103	Introduction to History of Arts	Introduction to history of art, styles, and art movements from pre-history to the 20th Century. Criticism, aesthetic comparison, development of beliefs, and styles of art in each period.
2113212	Decorative Sculpture	
2113801	Arts Business	Knowledge and understanding of the art business, its characteristics, and structure. Conducting the trade in art in arts seen from the context of curators, art dealers, collectors, and artists. Taste and marketing trends towards domestic and international markets. Knowledge and guidelines for small and medium entrepreneurs: business planning, cost estimation, law, copyright, and ethics of entrepreneurs towards corporate social responsibility.
2113319	Batik Painting	The practice of batik painting by learning process through study and procedure activity of batik painting.
2331108	Design Thinking	Creative problem-solving concepts, human-centered design, data analysis, brainstorming, prototype-making and result testing for create the design innovation
2332116	Design Entrepreneur	The study of effective entrepreneur qualifications, theories and guidelines for small and medium-sized enterprise management, marketing principles, customer behavior, market segmentation,

		price strategies, distribution channels for design working and design business model
2332405	Textiles and Leather Design Techniques	The study of fabric pattern and leather creation techniques, pattern design, natural dyeing, pattern making practicing and sewing for creating textiles and leather works for various products, field work not less than 20 hours
2332422	Natural Dyeing Technique	The study of natural colors, natural dyeing processes and techniques, fabric pattern creation from natural dyeing for various product designs
2333211	Packaging Design	The study and practice of packaging design from basic principles, procedure, processes, materials, manufacturing processes, distribution, storage, include environmental factors affecting design
2333212	System and Management for Product Design	The study and practices for product design system management, system planning, price calculation, damage reduction, production problem solving and marketing research for the production values
2153103	Ritual Music	
2153109	Thai Music for Hotel and Tourism	Types, features, opportunities, and channels in management of Thai music activities for hotel and tourism; observation, data collection, and practice of Thai music in business establishments of hotel and tourism.
2163402	Folk Music Culture and Community	Format, Development, Aesthetics Values, The genres, and characteristics of the southern music for field work community through the process of learning the music.
2153705	Thai Music Business	
2163106	The Beatles Study	The history and background of the Beatles, their works, their influence on the development of the social circle. The Beatles' musical concept towards the development of popular bands in Thai and global society.
2163410	Creative for Classical Music	Music creation by applying southern folk music culture to classical music. and exhibiting works to the public
3643801	Management of Community Account	Pre-requisite: 3641111 Principles of Accounting I The definition, category and importance of community account, community finance, Volunteer in the community accounting management, Bringing the concept of sufficiency economy

		philosophy applied in the community accounting management with regard to ethics and social responsibility, As well as, principles, importance of research, types of research, identifying research topic, research objective, population and sample, assumptions and Hypothesis testing, tools for data collection.
3643311	Information System Audit and Control	Using computers in accounting processing, internal control in computerized systems, computer fraud and preventive control, risk assessment and internal control, reliable analysis of information processing, techniques and audit programs for computerized accounting systems and audit software.
3642701	Business Finance	
3631112	Economics for Business	Economic concepts for business decision making and business forecasting, budget and profit planning, application of Sufficiency Economy Philosophy, economic indicators, fiscal policy and monetary policy, the effect of macroeconomics situation change to the business.
3641111	Principles of Accounting I	Knowledge of accounting, financial reports and conceptual frameworks for financial reporting, accounting equations and transaction analysis, accounting principles and methods on double accounting principles, recording on accounting cycle, performance measurement criteria and account adjusting, closing entry and working papers, preparation of financial statements for service business and trading business, code of accounting profession.
3563214	Challenges for Entrepreneurs	Introduction of challenges for entrepreneur, challenging environment for entrepreneur, barrier for entrepreneur, Women entrepreneur issue, careers and youth entrepreneur, border trading of entrepreneur, and green product and energy, hostile environment
3563126	Innovation and Change Management	Concepts and theories of innovation management, business environment effecting innovative creation, innovative creation process, intellectual property management, innovative organization, concepts and theories of change management, change management process, transformational leadership and strategic change management

3631112	Economics for Business	Economic concepts for business decision making and business forecasting, budget and profit planning, application of Sufficiency Economy Philosophy, economic indicators, fiscal policy and monetary policy, the effect of macroeconomics situation change to the business.
3502206	Business Law	Business law concerning organization establishment, civil and commercial law on person, legal acts and specific contracts, financial instruments law and intellectual property law about business activities
3561103	Entrepreneurship with Modern Management	Qualification and type of entrepreneur, concepts and evolution of management and organization, the business environment, ethics in global business management, management duties and processes, concept of organization change, and business management tools.
3543111	Social and Environment Marketing	Pre-requisite: 3541103 Principles of Marketing Concepts of social and environmental marketing, social and environmental problems, green marketing principles, market management processes, corporate social and environmental responsibilities, analysis of the social and environmental marketing, consumer behaviors considering issues of societies and environments, social and environmental marketing planning and applications
3543116	Local Entrepreneur Marketing	Pre-requisite : 3541103 Principles of Marketing Entrepreneurship concepts, local operator types, processes of gaining advantages in marketing competitions, supply chain relationships, marketing techniques in local business, competitor analysis, technology in local marketing management, applications of the sufficiency economy concepts emphasizing on marketing theories to solve situational problems, a marketing project based on real data collection and data analysis
3543108	Electronic Marketing	
3541103	Principles of Marketing	Basic concepts and marketing functions, marketing environments, marketing information system and marketing research, consumer behaviors, market segmentations, target

		market Determinations and product positioning, marketing mix, digital marketing, marketing for societies, and marketing ethics
3543306	Sales Management	Pre-requisite : 3541103 Principles of Marketing Sales management concepts , sales management procedures, sales forecasts, organization structures of sales department, sales staff management , art of sales, sales personnel and customer relationships, social responsibilities, and sales ethics
3603109	Business Ethics and Corporate Social Responsibility	Principles. concepts and theories of ethics, relationship between business and ethics, good governance, responsibility to social and environment involve internal and external organization, international ethical standards in business and code of conduct, philosophy of sufficiency economy based administration, case study of ethics and corporate Social Responsibility
3603107	Strategic Human Resource Management	Pre – requisite : 3601001 Human Resource Management Concepts theories of strategic human resource management, the role of strategic human resource management in the digital age, analysis of the internal and external environment of the organization, human resource management approaches for different business strategies, mergers and acquisitions, downsizing, international expansion and labor market segmentation, contemporary issues in human resource management, corporate social responsibility, good governance, morals, ethics and human resource management ethics
3603208	Strategic Human Resource Managemaent	
3603203	Managing Workforce Diversity	Labor diversity management concepts influence of labor diversity in age, gender, race, religion, and culture on diversity issues. comparative analysis of management approaches to diversity in organizations and able to draw a variety of resources to create a competitive advantage for the organization
3622205	Sustainable Community-Based	Definition, concepts, types, and principle of sustainable tourism management, planning and development for sustainable

	Tourism of Songkhla Lake Basin	community based tourism management, community potential analysis, creating co-operation together with Songkhla Lake Basin community, and effects of tourism toward community.
3622404	Agricultural Tourism Management	Definition, significance and history of agricultural tourism, the aims and basic concept about agricultural tourism management, sustainable agricultural tourism management, development and promotion of agricultural tourism, the agricultural tourism network was created for student to practice or study.
3624209	Tourism Planning and Development	Principles and tourism development plan, tourism resources survey, tourism development policy, problem analysis, potential assessment and carrying capacity, conservation for tourism attractions and development, sustainable tourism management and cooperation with the workplace.
3622402	Marine Tourism Management	Definition and scope of marine tourism, role of marine tourism on tourism industry of Thailand, type of marine tourism activities in Thailand, safety and environmental impact management caused by marine tourism, career/business related to marine tourism, observe activities about marine tourism activities in Thailand or neighboring countries.
3624108	Professional Ethics and Laws for Tourism Industry	Concepts, significance, and theory of business ethics. Effects of business ethics on persons, organizations, and societies. Professional ethics, roles and responsibilities of tourism and service industry towards customers and society. Laws concerning tourism and service industries.
3081115	Laws and Ethics of Communication Arts	Human rights, privacy rights, freedom of expression, copyright, computers and digital media laws, laws and media regulations, including ethics and code of conduct for various media in digital age
3083322	Arts of Voice Usage and Creative Design for Audio Program	Pre-requisite : 3083319 Digital Audio Media Program Production Speech techniques and voice using for various communicating of feeling, thinking, planning, creative design process, for audio program, practice speaking in studio and real situation include audio media production for community
GES406	World Knowledge	Explore lifestyles in the fast changing world. The understanding of the relationship between nature, human and all other things

		are also included. The use of energy in daily life and ecosystem as well as the knowledge of World science leading to the change towards sustainable lifestyles will be discussed.
3632217	Natural Resource and Environmental Economics	An analysis of economic theories for determining natural resources and environmental problems, the optimal use natural resources, the rationale for government intervention to optimally allocate natural resources, externality cost theory and the market failure, basic concepts and methodology of economic evaluation of natural resource and environmental goods and services using market and non-market approach
3632216	Project Planning and Feasibility	Definition and type of planning, planning process, planning stakeholder analysis, business project analysis with no time adjustment, business project analysis with time adjustment, discount factor selection, net present value, cost-benefit ratio, internal rate of return, environmental project appraisal by using cost-benefit analysis, cost-effectiveness analysis and risk management
3632401	Development Economics	Concepts and theories about economic development, National development goals, National development strategy, Development indicators, Context of changes and factors affecting development, level of Development plans, National Economic and Social Development Plan, Mechanisms for driving the country's economic development, Evaluation of development according to the national development plan
3632404	Management of Community Enterprise	Understand the concept, structure of resource capital and community enterprises, business plan preparation, development of resource grants for community enterprise management, the case study can be used to create understanding of problems and to make recommendations for community enterprise management
3681403	Local Resource for Business	Local community resources, local community knowledge, community products, trend and problem of community products, to build a sustainable business from local resources.
3681402	Introduction to Business Operation	Meaning and importance of business, type of businesses, business organization model, component of doing business: management, accounting, marketing, human resource management, business documents, business taxation, business

		ethics, business for society, problems in business and case study.
3681301	Marketing for Entrepreneurs	Basic concepts of marketing, meaning and importance of marketing, consumer behavior, marketing feasibility, environmental marketing of entrepreneurs, market segmentation, target market selection, product placement, marketing mix strategies including product, pricing, distribution domestic and international market channels, social marketing concepts and methods, and case study.
3653304	Business Ethics and Corporate Social Responsibility	Principles, concepts and theories of ethics, relationship between business and ethics, governance, organization responsibilities to business stakeholders, philosophy administration of sufficiency economy, implementing corporate ethics guidelines in the organization and career by case study analysis, ethical issues, social and environment responsibilities.
3651123	Entrepreneur for Modern Business	Characteristics, personality, and essential skills of a modern trade entrepreneur. Enhancing creativity and using innovation for business development the idea of creating products or services to meet the needs of consumers. analysis of competition within the industry Ethics and social responsibility
3652221	Modern Marketing	Principle marketing, consumer behavior as changing world, target marketing, marketing mix, product innovation, digital marketing, Social and environmental marketing
3611101	Principles of Information System	
3614601	Innovative Business Management	Concept, theories, and meaning of innovation. Impact of technology to business management. Type of technology innovation, level of newness, innovation management process, application of innovation in business and ethics in innovative business practice.
5511103	Industrial Chemistry	Chemical stoichiometry, atomic structures, chemical bonding in various compounds, chemical thermodynamics and electrochemistry, include basic knowledge about chemical and environmental, chemical in industry.
5511313	Industrial Pollution and Control	Types of industrial pollutions, air pollution, waste water, solid waste, and hazardous waste. sources, cause and effects of pollution. waste control. treatment and disposal methods.

		environmental management system. waste reduction. environmental laws.
5661107	Industrial Materials	Basic of industrial materials, material type, material properties, benefits of the material, principles of production and production processes for industrial materials. Applications of the material, new of industrial materials such as steel, light materials, nano materials and bio materials, Including and impact environmental materials
5511305	Safety and Occupational Health in Industry	Principles of occupational health and safety, procedure, safety and occupational health rules. International standard on safety and occupational health. Principles and techniques of safety and occupational health in the workplace.
5511309	Quality Control and Productivity	Concept and philosophy of quality control and productivity, modern quality management, ethics in management, quality and productivity, quality control and quality assurance, the application and management tools, and statistical quality control and productivity, the use of quality tools for continuous quality improvement in order to create a quality assurance systems and productivity for the organization.
5511421	Information Technology and Computers	Information management, the internet, modern communications and information technology for the industry, applications of information technology in management, trends of future information technology changes, protection against harm or threats from the use of information technology, laws and ethics related to the use of computers, responsibility for the use of information technology to the whole society
5662501	Industrial Productivity	Importance of increasing productivity, principles and techniques for increasing labor productivity and reducing waste in industrial processes. techniques for analyzing causes of failures and the root cause of problems practice in the case study of finding problems or topics in increasing productivity. writing project plans problem tracking editing or suggesting solutions simulation or corrective action and summary as well as creating standards for sustainable practices
5682302	Management of Energy and Industrial Environment	Importance of energy, non-renewable energy, and alternative energy, environmental impacts from energy use, energy technology, energy laws, saving and conserving energy,

		environment, pollution control, and environmental management for sustainable development.
5682301	Industrial Management Technology for Community Development	Industrial management technology practice by social engineering concept applications and industrial management science for problem-solving in community development.
5681201	Industrial Productivity	The principle, concepts, and importance of productivity, cost and waste, productivity measurement, techniques and method for productivity, efficiency, and effectiveness. innovation applies principles to increase productivity in industrial applications concepts.
5571206	Energy Conservation and Renewable Energy	Renewable Energy, the national energy conservation, measurement operation, energy consumption analysis, energy economics calculations, energy conservation, energy prediction, and local renewable energy development
5572209	Renewable Energy System	Energy systems and renewable energy resources. The trend of using renewable energy in Thailand. Renewable energy in various forms such as solar energy, wind energy, and biomass energy. Geothermal energy, biogas, energy from municipal waste, wave energy, hybrid system, smart grid, and the use of alternative energy in various forms
5572303	Electrical Machines and Control	
5671313	Smart Farming	Co-requisite : 5671314 Smart Farming Practice Components of a smart farm, smart farm design, IoT device and communication system in a smart farm, smart farm control, technology for smart agriculture tracking, environment measurement system, renewable energy systems in intelligent buildings to increase productivity, reduce costs, and raise the standard of agriculture at smart farm, case studies of real-world smart farm
6034205	Packaging System	Principles and techniques of packaging system. Functions and importance of packaging system in industry. Properties of materials used in packaging. Planning and analysis of packaging system focusing on value-added, recycling and proper waste

		management. Management and control of product returns. Duty and responsibility of supply chain organizations
6033504	Purchasing Management and Entrepreneur	Role of purchasing and procurement. Raw materials procurement policy. components and finished goods. Selection and evaluation of supplier. Purchasing and reporting planning. Relationship management between organization and supplier. The conceptual of being an entrepreneur, business start-up, the principle component of business operation, Business environment analysis and corporate social responsibility
6034402	Lean Manufacturing	Conceptual framework of lean production wasteland analysis push and pull system workload average work according to kaizen standards, timely production techniques to prevent mistakes, rapid production model changes
5671103	IoT Technology and Smart System	IoT technology and smart system theory, Microcontroller, sensor, communication protocol, electrical energy, cloud computing, data storage, digital dashboards, and case study about IoT and applied IoT technology for development innovation, ethical and social issues on information technology
5671313	Smart Farming	Co-requisite : 5671314 Smart Farming Practice Components of a smart farm, smart farm design, IoT device and communication system in a smart farm, smart farm control, technology for smart agriculture tracking, environment measurement system, renewable energy systems in intelligent buildings to increase productivity, reduce costs, and raise the standard of agriculture at smart farm, case studies of real-world smart farm
3662220	Marine Tourism Management	The history, evolution, models of water and marine tourism, types of water and marine transportation, general characteristic of Thai sea, water and marine tourism destinations in Thailand, ecosystem and marine lives, fundamental of underwater archeology, introduction to swimming and diving, introduction to boat skills, organizations, roles and duties of the water transport employees, models of marine tourism, vocabulary relating to water and marine tourism, case study, study visit and practicum outside of the classroom

GESS305	Young Entrepreneurship	Modern business options, business preparation, innovation and business management. Financial provision, business environment analysis, trends of economy and markets in Thailand 4.0 are also focused.
GES408	Online Business Management	Stimulate the online business startup inspiration. Discuss the online market directions and trends, online business financial instruments, online business media designs, online business data analysis and online business logistic systems.
GEN1102	King's Philosophy for Sustainable Integration	Enhancing knowledge, understanding of various sciences from a variety of situations, and applying the knowledge to make decisions and solve problems by studying the royal policy of King Rama X (His Majesty King Maha Vajiralongkorn Bodindradebayavarangkun), the philosophy of sufficiency economy, new theory agriculture, principles of His Majesty's development works, royal development study centres, royal development projects, royal principles and theories from royal development projects, the nine progression principles based on King Rama IX's philosophy
GEN1204	Sustainable Lifestyles	Raising awareness of social responsibilities, and adapting to sustainable lifestyle concepts by applying basic knowledge in natural resources and environment, natural resource conservation, climate change management, sustainable development and future economy to analyze related situations
GEN1103	Social Engineer for Local Development	Solving problems by developing social skills through social engineering processes, namely logical thinking skills, communication skills, coordination skills to work with others without any conflicts and mobilize local resources, solving problems based on local database, integrating and applying the knowledge and social engineering skills in daily life and local development by innovation skills
EDSO002	The King Wisdom for Local Development	Apply the royal working guideline, self-sufficient concept, and sustainable development in their daily lives, study concepts and principles of the royal projects, as well as analyze the intelligent learning approach for pilot community development based on the king wisdom and the integrated participation with related sectors

GESC406	World Knowledge	Explore lifestyles in the fast changing world. The understanding of the relationship between nature, human and all other things are also included. The use of energy in daily life and ecosystem as well as the knowledge of World science leading to the change towards sustainable lifestyles will be discussed.
GESC403	Modern Lifestyle and Environment	Apply the fundamental knowledge of science and technology to analyze the situations of natural resources, environments and disasters to raise responsibility awareness for natural resources, and environments, including natural resource conservation and disaster management to be in accordance with modern lifestyles.
GESS304	The King's Philosophy for Sustainable Development	The King's philosophy for sustainable development focusing on the study of the principles based on the royal policy of King Rama X (His Majesty King MahaVajiralongkorn Bodindradebayavarangkun). Meaning, principles, theories and practices of the King's Philosophy derived from the Royal Projects of King Rama IX (His Majesty King Bhumibol Adulyadej) are discussed. The core principles of understanding, accessibility and development and philosophy of sufficiency economy are also studied. The 23 principles of His Majesty's works, integrated applications of the 9 progression principles based on King Rama IX's philosophy are also practiced by attending field trips for local development.

Description:

Above is a list of the courses that have had changes approved through SKRU's Curriculum Refresh programme which aims to embed sustainability into all course and module content offered by the University. The list also includes courses with sustainability already embedded, and those that include the Sustainability in Practice Certificate as part of the core curriculum.

Total number of courses with sustainability embedded for courses running in 2025 : 306