B) Smart City and Sustainable Development

5605205   การบริหารจัดการข้อมูลสารสนเทศสำหรับเมืองอัจฉริยะ   3 (3-0-6)

           Smart City Information Management

This course introduces the data components pivotal to smart city services, encompassing the technological nuances of data collection. Students will delve into data modeling approaches tailored for smart city planning and management. Students will have a clear grasp of the development process integral to the city's operating system.

5605206   การจัดการระบบการเดินทางและการขนส่งแบบอัจฉริยะ   3 (3-0-6)

           Smart Mobility Management

This course explores smart mobility, encompassing autonomous vehicles, smart logistics, smart highways, and mobility-as-a-service. It emphasizes algorithmic knowledge and application development to address real-world challenges. Students gain hands-on expertise in crafting smart mobility solutions, preparing them for practical implementation in this dynamic field.

5605208   โมเดลทางธุรกิจและองค์กรสำหรับเมืองอัจฉริยะ   3 (3-0-6)

           Business and Organizational Models for Smart Cities

This course delves into the diverse business and organizational models shaping the landscape of smart cities, encompassing start-ups, social enterprises, non-profits, traditional businesses, and more. Through an interactive learning approach, students will grasp how to pinpoint opportunities, analyze citizen behavior, assess project feasibility, and collaborate effectively with industry, government, and community stakeholders. By the end of this comprehensive journey, learners will be equipped with practical skills in market analysis and strategies to secure funding for their innovative ideas.

5605301   โมเดลเสมือนจริงและการสร้างข้อมูลแบบจำลองในเมืองอัจฉริยะ   3 (3-0-6)

           Digital Twin and Building Information Modeling in Smart City

This course aims to develop students' skills and know-how on the implementation of digital twin technology and building information modeling (BIM) for smart city solutions. The course provides concepts of geographic information system (GIS) for spatial data analysis; the course provides technical knowledge on the usage of spatial data collection technologies and approach to input the data into the spatial data modeling framework; The course provides hand-on workshop to experiment the data survey and building of digital twin or BIM of a selected study area.

5605403   เมืองอัจฉริยะและการพัฒนาเมือง   3 (3-0-6)

           Smart City and Urban Development

The course consists of two interacting components including Smart City concept and Urban development approach. The course aims to provide students the grasp of the trend and structure of smart city technology and its applications in different domains e.g., smart mobility, smart energy, smart government, smart education. The course will include Introduction to the concept of smart city from the technology perspectives, strategy and planning approach, business opportunity, to urban policy formation.

5605405   เทคโนโลยีและการประยุกต์การเชื่อมต่อเมืองอัจฉริยะ   3 (3-0-6)

           Technologies and Applications to Connect Smart Cities

This course addresses the fundamentals of several advanced communications technologies and applications for the current and future smart cities, also known as connected cities or digital cities. This course discusses fundamentals of some of these advanced information and communications technologies (ICT) for the smart cities, which have made these cities connected or digital cities of the present and the future.

5606206   เทคโนโลยี โลกาภิวัตน์ และ การพัฒนาที่ยั่งยืน   3(3-0-6)

           Technology, Globalization and Sustainable Development

This course delves into sustainability's multifaceted dimensions, highlighting its connections to economic growth, global politics, and environmental factors. Students explore the complex interplay between global economic shifts, employment conditions, and environmental concerns within the context of globalization, technology, and trade. By course end, participants will examine mechanisms to harmonize development, environment, and employment interests.

5606207   ความยั่งยืนในการบริการสาธารณะ   3 (3-0-6)

           Sustainability in Public Service

This course delves into the intricate world of governance and its multifaceted components, shedding light on aspects like policy formulation, nuanced taxation approaches such as SDG tax and Robot tax, and the pivotal roles and responsibilities inherent within the government sector. Through the curriculum, students will explore sustainable safety nets and broaden their understanding to encompass essential public goods like health, education, and security. Students will have a comprehensive grasp of the foundational elements underpinning governance and public infrastructure.

5606301*   หลักสำคัญสำหรับการพัฒนาที่ยั่งยืนเพื่อการสร้างวันพรุ่งนี้ที่ดีขึ้น   3 (3-0-6)

           Building a Better Tomorrow: The Essentials for Sustainable Development

This course delves into the foundational theories and practical applications of Sustainable Development, encompassing diverse areas, illustrative case studies, and the evolving trends in sustainable advancement. Through an immersive learning approach, students will explore the multifaceted dimensions of sustainability and its real-world implications. Students will be adept in both the theoretical underpinnings and emerging practices shaping the future of sustainable development.

5606302   การเปลี่ยนผ่านทางเศรษฐสังคมเพื่อความยั่งยืน   3 (3-0-6)

           Socioeconomic Transformation for Sustainability

This course explores how companies can embrace the opportunities that are arising. Students will learn about the evolution of sustainability within organizations in the areas of integrated reporting, social and environmental impact creation, and responsible investment. Students will become familiar with recent sustainability frameworks, including the SDGs (Sustainable Development Goals) and gain an understanding of how digitization can enable companies to become more successful while contributing to the SDGs.

5606303*   จริยธรรมในการปฏิบัติ: การร่างนโยบายและการปกครองที่ยั่งยืน   3 (3-0-6)

           Ethics in Action: Shaping Sustainable Policy and Governance

This course provides a comprehensive exploration of both global and national policy frameworks. Students will delve into the nuances of multi-stakeholder engagements and global governance structures. Students will have a thorough understanding of the ethical considerations shaping policy and the profound impacts of these decisions on diverse stakeholders.

5606304*   จุดมุ่งหมายและผลกำไร: กลยุทธ์เชิงธุรกิจเพื่อความยั่งยืน   3 (3-0-6)

           Profit with Purpose: Business Strategies for Sustainability

This course delves into the realms of Corporate Social Responsibility and Corporate Social Investment, offering insights into the intricate dynamics of Social Enterprises and the Non-Governmental Organizations sector. Through an integrated learning approach, students will explore the strategies, challenges, and impacts associated with these domains. Students will have a holistic understanding of the intersection between corporate initiatives and their broader societal implications.

5606305*   จากการเปลี่ยนแปลงสภาพอากาศสู่แผนการดำเนินการ   3 (3-0-6)

Climate Change: Climate Change to Action Plans

This course focuses on Climate Change, covering topics like Greenhouse Gas Inventory, mitigation, and adaptation strategies. It provides a comprehensive understanding of climate-smart approaches and practical applications, preparing students to tackle global climate challenges effectively.

5606306*   การแก้ปัญหาอย่างชาญฉลาดเพื่อโลกที่ยั่งยืน   3 (3-0-6)

Smart Solutions for Sustainable World

This course delves into the utilization of technology as a tool to address pressing sustainable challenges in the real world. Through hands-on learning and case studies, students will explore innovative technological solutions tailored for sustainability. Students will be adept at harnessing technology to devise impactful solutions for sustainable development.

5606307*   การวิวัฒนาทางพลังงาน: แนวโน้ม ความท้าทาย และขอบข่ายในอนาคต   3 (3-0-6)

Energy Evolution: Trends, Challenges and Future Horizons

This course provides an in-depth exploration of energy management, diving into facets such as energy economy, efficiency, and the intricacies of energy modeling. Students will navigate through the complexities of the energy cycle, composition, and the potential of renewable energy sources. Students will be well-versed in both the current landscape and emerging trends shaping the future of energy.

5606308   นวัตกรรมเพื่อเป้าหมายการพัฒนาที่ยั่งยืน   3 (3-0-6)

Innovation for the Sustainable Development Goals

This course delves into the United Nations' 17 Sustainable Development Goals (SDGs), emphasizing their interconnectedness and equipping students to address global challenges such as climate change, responsible consumption, gender equality, and pandemics. Through discussions, group work, and guest speakers, students explore specific issues and design innovative solutions using design thinking principles, fostering the skills and knowledge needed to contribute to a sustainable future.