

ACU-OER Contents HANDBOOK



Ministry of Education



KERIS

KOREA EDUCATION AND RESEARCH
INFORMATION SERVICE

Title	Korean Reading		
Category	Humanities	Course	Language
Objective	-		
Description	Students will learn various expressions and vocabulary that can be used in daily lives.		
Keyword	Korean, Where, How, When, What		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	Korean
Name	Eunseon Na	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>]	Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-			
Textbook	-			



Weekly Plan

Week	Subject	Description
1	Is this bulgogi?	In this lecture, students will learn how to ask a question about the name of an object.
2	Where is the computer?	In this lecture, students will learn how to ask a question about the position of an object.
3	What is your phone number?	In this lecture, students will learn how to ask a question about the phone number.
4	What sports do you like?	In this lecture, students will learn how to ask a question about favorite sports.
5	Bibimbap is not so spicy.	In this lecture, students will learn how to make an expression about foods and flavor.
6	What will you order?	In this lecture, students will learn how to make expressions about menu ordering.
7	I studied economics.	In this lecture, students will learn how to introduce their major subject.
8	Midterm Exam	
9	I'm going to my section chief to obtain the sign-off.	In this lecture, students will learn how to explain the purpose of their action.
10	I was absent because my work ended up so late.	In this lecture, students will learn how to explain excuse of their actions.
11	I will help you.	In this lecture, students will learn how to offer and ask for help.
12	Do you think it will rain in the afternoon?	In this lecture, students will learn the expressions about maps and the necessary time.
13	I'm planning to go on a trip with my friends.	In this lecture, students will learn the expressions about the weather and climate.
14	-	In this lecture, students will learn the expressions about traveling.
15	Final Exam	

Title	Korean Listening		
Category	Humanities	Course	Language
Objective	-		
Description	Students will learn various expressions and vocabulary that can be used in daily lives.		
Keyword	Korean, Where, How, When, What		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	Korean
Name	Hyeonjeong Shin	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	My name is Ddui.	In this lecture, students will learn how to introduce themselves.
2	Do we need to go to school on Saturday?	In this lecture, students will learn how to ask various questions.
3	My father teaches students in a high school.	In this lecture, students will learn how to introduce their family members.
4	How is your Korean study going?	In this lecture, students will learn how to express their ideas about studying.
5	I enjoy K-pop.	In this lecture, students will learn the expressions about their hobby.
6	The food is delicious and cheap.	In this lecture, students will learn the expressions about food and taste.
7	How long does it take from here to Busan?	In this lecture, students will learn how to ask the necessary time of a trip.
8	Midterm Exam	
9	It was homecoming day on Saturday.	In this lecture, students will learn the expression about homecoming day.
10	What tests do we have tomorrow?	In this lecture, students will learn the expressions about semester exams.
11	I'm going home now.	In this lecture, students will learn the expressions about planning.
12	I brought my passport, but I don't have my identity card.	In this lecture, students will learn the expressions about administration.
13	High heels are more uncomfortable than sneakers, but they are prettier.	In this lecture, students will learn the expressions about shopping.
14	I visited the Traditional Village, and it was very interesting.	In this lecture, students will learn the expressions about Korean Traditional Village
15	Final Exam	

Title	Case Study of Socio-economic Development of Korea		
Category	Social Sciences	Course	Economics & Finance
Objective	The goal of this course is to construct a conceptual and active paradigm for development of Asian countries through understanding successful factors and policies of Korean economic development.		
Description	-		
Keyword	Economics, Economic Growth, HRD, Education Policy, Health System		



Provided by

University	ASEAN Cyber University		
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Basic Economic Theories I	Learn to Understand the Basic Theories of Economics
2	Basic Economic Theories II	What Spurs Economic Growth and What's the Cost of It?
3	An overview: A miracle of the South Korean Economy	How Did South Korea Get To Economically Thrive Against All the Odds? (1)
4	Economic Development Policy for Rapid Growth	How Did South Korea Get To Economically Thrive Against All the Odds? (2)
5	Private Sector Development	Let's Find Out the Secrets of Private Sector Development of Korea
6	Land and Water Development for Agriculture	How did Korea successfully raise money for implementing land and water development in such a short period of time?
7	Promotion of Agricultural Cooperatives	Learn to Understand the Introduction and Promotion of Agricultural Cooperative
8	Midterm Exam	
9	Development of Korea's Rural Areas and the Saemaul Movement	How did Koreans accomplish the rapid economic growth in such a short period?
10	Educational Development for Augmentation of Human Capital	Let's learn about Korea's HRD policies which enabled its economic growth
11	Achieving Literacy through Universalization of Primary Education	How did Koreans achieve such a high percentage of literacy?
12	Vocational Education and Training System for Skilled Workforce	Let's learn about Korea's vocational education
13	Development of Rural Health System	Let's find out secrets of Korea's development of rural health system
14	National Immunization Program for Children	How did Korean government manage to provide immunization services despite a low level of awareness?
15	Final Exam	

Title	Understanding of Civil Engineering		
Category	Engineering	Course	Engineering
Objective	The goal of this course is to improve learner's understanding of civil engineering by providing basic knowledges, theoretical frames for the concepts, trends, and actual specific application.		
Description	-		
Keyword	Efficiency, Safety, Sustainability, Construction, Reutilization		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Structural Mechanics	Why is structural mechanics so important?
2	Geotechnical Engineering	How do you stabilize the ground, which is the foundation for every construction?
3	Hydrology and Hydraulics	Let's dig deep into hydrology and hydraulics, fields which are becoming ever more crucial as climate changes become more inevitable
4	Rail transport	What types of railway transportation are around us what are their pros and cons?
5	Tunnel and Bridge	We are going to look at the technology for bridges and tunnels
6	Airport and Harbor	We are going to look at the technology for airports and harbors
7	Water Resources	As water resources are limited and demand is increasing, we inevitably face some serious problems. How do we solve them?
8	Midterm Exam	
9	Water supply & sewerage engineering	Learn about water supply and sewerage facilities
10	Policies for Urban Development in South Korea	Learn and understand the problems and solutions from urbanization and development
11	Geospatial engineering	What is geospatial engineering and how do we apply it in the actual construction?
12	Transportation Planning and Engineering	Let's learn about transportation in general, and figure out how to balance 'supply' and 'demand' of the transportation system
13	Traffic Operations and Safety	Let's learn how to manage traffic operations safely and efficiently
14	Construction industry policy of Korea	For our last lesson, let's learn about construction industry policies in Korea
15	Final Exam	

Title	The Use and Meaning of Color		
Category	Art, Music & Physical Education	Course	Art & Culture
Objective	The goal of this course is to expose students to the practical use of colors in the context of actual life, such as interior, color treatment, product marketing, and other uses of colors.		
Description	-		
Keyword	Color, Emotion, Image, Light, Vision		



Provided by

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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	The color pyramid & its symbols	What is the Color Pyramid?
2	The Association and the Symbol of Colors 1	Let's learn about the relationship between color and emotion (1)
3	The Association and the Symbol of Colors 2	Let's learn about the relationship between color and emotion (2)
4	Emotions and Psychological Effects of Colors	How are emotions associated with colors?
5	Color Image-making	How does color affect our personal images?
6	The Environment and Colors	Learn about the relationship between colors and environment
7	A Painter's Psychology by Analyzing Colors	Let's look at colors used in paintings
8	Midterm Exam	
9	Art Therapy and Color Therapy	Painters usually live longer. Why?
10	Recognizing Colors	Let's learn to understand the process of perceiving colors
11	The Notion of Colors	How does the interaction between colors affect our color perception?
12	Characteristics and Emotions of Colors	How Colors are used in Marketing
13	Contrasting Effects of Colors	What is color contrast and how and where do we use it in daily lives?
14	Color Arrangement	Color schemes: Which color to use and not to
15	Final Exam	

Title	Dynamic Korean Exciting Hallyu		
Category	Humanities	Course	History
Objective	<ul style="list-style-type: none"> Familiarize yourself to Korean daily culture through Hallyu keywords and culture. Understand the fundamentals of Korean culture through examining the characteristics of older Korean culture as well as modern culture. Learn how to speak Korean by studying various situations and how to communicate appropriately. 		
Description	The goal of this course is helping students understand the key characteristics of Korean culture in the Hallyu contents such as TV dramas, K-pop, entertainment shows. The subjects in this course are categorized as follows: Korean food, health, personal relationship, pop culture, greeting manners and language, fashion, markets(shopping), plays and sports, travel and transportation, family, housing, occupations and work culture and campus life.		
Keyword	Korean culture, Korean language, Hallyu, Traditional Korea, Modern Korea		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Discussion (10), Assignment (20), Class Participation (10)		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Introduction to Dynamic Korean, Exciting Hallyu	Course overview
2	Korean Food Culture	Learning the culture of Korea about Food
3	Koreans' Interpersonal Relationship	Interpersonal relationship in Korea
4	Traditional Medicine and Health Care	Culture about medicine and health care in Korea
5	Korean Pop Music and the Stars	Studying about K POP and Idol group
6	Greeting Manners in Korea	Various greeting manners in Korea
7	Koreans' Fashion	About fashion industrial and cultural mainstream in Korea
8	Midterm Exam	
9	Korean Markets	Looking around what kind of typed market exist in Korea
10	Koreans' Play Culture	Chance to see how Korean's take a chill
11	Tourist Attractions in Korea	Attractions appeal to foreigner tourist in Korea
12	Families in Korea	Life about Korean's family
13	Houses in Korea	Many style of Korean's house and their culture
14	Korean Culture at Campus	Lifestyle of Korean university students
15	Korean Culture at Work	Korean's culture in their workplace
16	Final Exam	

Title	e-learning Advanced		
Category	Engineering	Course	Computer Science
Objective	The Purpose of this course is to improve competencies for IMS advanced e-Learning content creators on e-Learning content development.		
Description	-		
Keyword	E-learning, Development, LMS, IMS, Content		



Provided by

University	ASEAN Cyber University		
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Learning Theory	Defined of learning and 3 ways of approach for learning
2	Understanding of Online Teaching and Learning	In this chapter, we will look into the features, types and tools, for developing, of online learning
3	Curriculum Analysis	For development the online learning, study basic stuff which is curriculum analysis
4	Interface Design for e-Learning	A well-made e-learning course is the one that not only offers the best content but also is equipped with various design elements
5	Designing Learning Flow	There are four steps to apply teaching models to the learning flow for e-learning content
6	Adobe Captivate 8 (1)	How to update to 8.0.1
7	Adobe Captivate 8 (1) v2.0	
8	Adobe Captivate 8 (1) v3.0	Teaching few things about Adobe Captivate
9	Instructional Strategies	Instructional theories have been evolving in many ways based on learning theories, such as Behaviorism, Cognitivism, and Constructivism.
10	Designing Instructional Messages	Will study how to create the messages for instructional purposes
11	Adobe Captivate 8 (2)	How to integrate captivate with Moodle LMS
12	Various Techniques for E-learning, Multimedia Content Development	How will you make e-learning contents?
13	Evaluation	View other type of evaluation and how to apply at E-learning
14	Imbuing Motivation on e-Learning	Each of us has different reasons for learning, however, call all of the reasons learning motivation. And will study the way to imbue the motivation in E-learning
15	Manuscripts	What manuscripts mean in e-learning and how to write it
16	Designing Interactive e-Learning	What interaction signify in e-learning and means to activated it
17	Managing e-Learning Content Development Project	Foundation for control the general planning and managing the e-learning content development project

Title	The Past and Future of Korean Art		
Category	Humanities	Course	History
Objective	-		
Description	This lecture will shed light on the characteristics of the modern Korean culture as well as its connection to the origin so this lecture will serve as a good guide for the accurate understanding of Korean arts for ASEAN states.		
Keyword	Korea, Art, Music, Architecture, Dance		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Understanding of Korean Art	What is the art and reasons of Korean wave
2	Mural paintings of Goguryeo, the largest kingdom in the Korean history	Art history of Goguryeo
3	Artworks of Silla, hard to reproduce with advanced science	Artwork of Silla
4	Koryo celadon, an earthen jade	Earthen jade of Koryo
5	Paintings of Joseon, which described the Joseon Dynasty	Art and life of Joseon dynasty
6	Architecture art of Gyeongbokgung Palace where the kings lived	Explanation of Gyeongbok palace
7	Korean art in the world	Korean artist who are famous in these days
8	Midterm Exam	
9	Contemporary Korean architecture in harmony with surroundings	Architecture as an art
10	Overview of Korean traditional music	Summary of Korean traditional music
11	Evolution of Korean traditional songs and modern music	Overview from traditional to trendy music of Korea
12	Korean's favorite, traditional folk song	Korea's folk song
13	Traditional Korean dance for expressing of Hahn and Shinmyeong, unique Korean sensibilities	Picture of traditional Korean dance
14	Korean artists in the world	World-class Korean artist
15	Final Exam	

Title	Operating System		
Category	Engineering	Course	Computer Science
Objective	The goal of this course is not only to grasp basic principles of computer system, but to develop capability to put OS functions into use when developing various application programs. We aim to learn OS Functions such as Process Management, Memory Unit Management, File Management, and I/O Management.		
Description	-		
Keyword	Operating System, I/O, Process, Scheduling, Memory		



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University	ASEAN Cyber University		
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Operating System Concepts	What is Operating System?
2	Input/Output Management	The Way to Mastering Input/Output Management
3	Process Concept and Control	The Way to Mastering Process Concept and Control
4	Process Scheduling	The Way to Mastering Process Scheduling
5	Process Synchronization and Concurrent Programming	The Way to Mastering Process Synchronization and concurrent programming
6	Deadlock	The Way to Mastering Deadlock Avoidance
7	Management of Main Memory Unit Composition of Virtual Memory Unit	The Way to Mastering Main Memory Unit
8	Midterm Exam	
9	Composition of Virtual Memory Unit	Learn to Understand the Composition of Virtual Memory
10	Management of Virtual Memory unit (1)	The Way to Mastering Management of Virtual Memory
11	Management of Virtual Memory unit (2)	Lecture on Virtual Memory Management
12	File System	Study of Directory and File Management
13	Disk Scheduling	Lecture on seek time optimization
14	Distributed Operating System	Lecture on Distributed System
15	Final Exam	

Title	Electrical Power Plant Engineering		
Category	Engineering	Course	Engineering
Objective	-		
Description	Students will learn various types of traditional and alternative energy and will be able to evaluate the power plant for each energy production.		
Keyword	Energy, Power plant, Traditional energy, Alternative energy, Sustainable energy		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to Electrical Power Plant	Students will be able to define and classify the types of electrical power plants.
2	First Law of Thermodynamic Power Plant	Students will be able to understand the energy equation of a power plant cycle.
3	Second Law of Thermodynamic Power Plant	Students will be able to evaluate the power plant performance with its mass flow rate, pressure, and temperature.
4	Coal Fired Power Plant (Part 1)	Students will be able to define the worldwide coal situation and its powers.
5	Coal Fired Power Plant (Part 2)	Students will be able to identify the emission control strategies.
6	Diesel Power Plant	Students will be able to classify the types of internal combustion engine.
7	Gas Turbine Power Plant	Students will be able to classify the types of gas turbine power cycle.
8	Midterm Exam	
9	Nuclear Power Plant (Part 1)	Students will be able to calculate the amount of energy from nuclear fission.
10	Nuclear Power Plant (Part 2)	Students will be able to describe the role of the basic elements in a typical nuclear reactor.
11	Hydro Power Plant	Students will be able to explain the site selection process of a hydropower project.
12	Solar Power Plant	Students will be able to explain and classify the solar power plant system.
13	Solar Thermal Power Plant	Students will be able to compare the concentration and non-concentration solar thermal power plants.
14	Wind Turbine Power Plant	Students will be able to examine the appropriate site for wind farm with the optimal power generation.
15	Final Exam	

Title	ICT for Development		
Category	Engineering	Course	Engineering
Objective	The linkage between information and communication technologies (ICTs) and the achievement of the Millennium Development Goals (MDGs) appears at times clear and at other times fuzzy. But the linkage exists and it merits elaboration and explanation. This module invites readers to explore the various dimensions of the linkage through case studies of ICT applications in key sectors of development in Asia Pacific countries. The module also highlights key issues and decision points, from policy to implementation, in the use of ICTs to meet development needs. The aim is to foster a better understanding of how ICTs can be used for social and economic development, and to equip policy makers and programme managers with a development-oriented framework for ICT-based and ICT-supported interventions in a range of social sectors.		
Description	This course identifies the basic concept of ICT and examines its utilization in various fields such as risk management economical anticipation and e-government operation		
Keyword	ICT4D, e-Government, Disaster response, Information security, Financial resources		



Provided by

University	ASEAN Cyber University		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Discussion (10), Assignment(20), Class Participation (10)		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	The Linkage between ICT Applications and Meaningful Development	The Linkage between ICT Applications and Meaningful Development
2	ICTD Policy, Process and Governance 1	This lecture identifies the policy of ICT4D and its utilization in economical and political fields.
3	ICTD Policy, Process and Governance 2	This lecture identifies the policy of ICT4D and its utilization in economical and political fields.
4	e-Government Applications 1	This lecture identifies the application of ICT in the field of e-Government.
5	e-Government Applications 2	This lecture identifies the application of ICT in the field o e-Government.
6	ICT for Disaster Risk Management	This lecture examines the application of ICT in disaster response and relief.
7	ICT Trends for Government Leaders 2	This lecture identifies the application of ICT in modern organization connection.
8	Midterm Exam	
9	Internet Governance	This lecture examines the current scope of internet governance and the problems it is faced with.
10	Network and Information Security and Privacy	This lecture identifies the current trend of information security and examines the methodology of its improvement.
11	ICT Project Management in Theory and Practice	This lecture suggests the ideal procedures of ICT project management.
12	Options for Disaster Risk Management 1	This lecture identifies the investigations made considering the application of ICT4D.
13	Options for Disaster Risk Management 2	This lecture identifies the investigations made considering the application of ICT4D.
14	ICT for Disaster Risk Management	This lecture identifies the basic concept of risk management and examines the application of ICT to risk management.
15	Final Exam	

Title	e-Business		
Category	Social Sciences	Course	Social Sciences
Objective	Students will understand what e-business and cloud service applications are used in enterprises today and how to build and manage them so that they enable enterprises to increase revenues and reduce costs while minimizing risks.		
Description	The lecture examines the shifting trend of E-Business and E-Market as the content within the cloud service gains greater value through the SaaS.		
Keyword	E-Business, E-Market, Content, Cloud Service, SaaS		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Discussion (10), Assignment (20), Class Participation (10)		
Textbook	Articles from academic and industry journals		




Weekly Plan

Week	Subject	Description
1	Information system and E-Business	This lecture explains the details of information system and its relationship between the E-Business from the viewpoint of the enterprise and the world wide web.
2	E-Commerce	This lecture explains the success factors of E-Commerce through the E-Retailing system, E-Marketplace, and the content service with the customer care.
3	B2B E-Business	This lecture explains the B2B E-Business by comparing the B2C market to B2B market and giving examples of various managements.
4	E-Business and Business Transformation	This lecture explains the reason of business transformation through the concept of value chain, along with the architecture and the application model of a business.
5	Cloud Computing	This lecture explains how the world wide web has changed the 1-to-1 model into 1-to-Global model and promoted the cloud computing to the leading delivery model.
6	Use cases of Cloud services	This lecture explains the details of cloud computing and how they are applied in the form of cloud drivers and cloud adoption.
7	Cloud service Industry	This lecture examines the various positions that constitute the cloud services and its future outlook.
8	Midterm Exam	
9	Virtualization and IaaS	This lecture identifies the virtualization service and its maturity model, along with the modeling of IaaS (Infrastructure as a Service) with the OS (Open Stack).
10	Cloud Service Architecture	This lecture defines the principles of Cloud services within the boundaries of its layers, market, value chain, and architecture.
11	SaaS and PaaS	This lecture examines the SaaS (Software as a Service) within the boundaries of its requirements, architecture, development, and management.
12	Mobile and Social cloud	This lecture defines the current IT trend which is developing from the mobile SaaS into the mobile cloud and its use cases in social business.
13	SaaS development	This lecture identifies the innovation of SaaS and its effectiveness in technology adoption, product development, and software engineering.
14	Cloud service adoption process	This lecture suggests an ideal process of cloud service adoption.
15	Final Exam	

Title	Practical English		
Category	Humanities	Course	Language
Objective	This course focuses on learning the essential elements and the basic process of writing		
Description	This course introduces grammatical and expressional skills of writing on a specific topic.		
Keyword	Introduction, Daily lives, Social issues, Opinions, Paragraph edition		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Discussion (10), Assignment (20), Class Participation (10)		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introducing Ourselves and Others I	Students can introduce themselves and others.
2	Introducing Ourselves and Others II	Students can introduce themselves and others.
3	Living from Day to Day I	Students can express their ideas about daily lives.
4	Living from Day to Day II	Students can express their ideas about daily lives.
5	The World Around Us I	Students can express their ideas about surrounding world.
6	The World Around Us II	Students can express their ideas about surrounding world.
7	Review	
8	Midterm Exam	
9	Exploring Social Issues I	Students can express their ideas about social issues.
10	Exploring Social Issues II	Students can express their ideas about social issues.
11	Keeping in Touch with Family and Friends I	Students can express their ideas about interpersonal connection.
12	Keeping in Touch with Family and Friends II	Students can express their ideas about interpersonal connection.
13	Expressing Opinions	Students can express their opinions with their own words.
14	Review	
15	Final Exam	

Title	ASEAN Studies		
Category	Social Science	Course	Economics & Finance
Objective	-		
Description	This lecture talks about ASEAN's role and position in the world.		
Keyword	ASEAN, Regionalism, Cooperation, Economy, Development		



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University	ASEAN Cyber University		
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Name	KERIS	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	What is ASEAN?: Its Historical Background and Basic Understanding	Introduce the ASEAN
2	ASEAN's Regionalism	Difference between other national association and ASEAN
3	Share Identity in Southeast Asia	What factor can make Southeast Asia combine together
4	ASEAN's Socio-Cultural Community: Civil Society and Environmental Sustainability	Introduce the concept of civil society an reason for the emergence and increasing salience
5	ASEAN Security Cooperation, Peace and Conflict Management Measures	Explain the principles, processes and practices by which ASEAN addresses common security issue in the region
6	ASEAN's Economic Competitiveness through Progress in Economic Integration	Explain AEAN's economic competitiveness and understand the effect of regional economic integration
7	The Role of Business in ASEAN Economic Integration	To find out the importance of SME's
8	Midterm Exam	
9	Human development: Education and Human Resources development	Understand the importance of education and human resource development
10	The political development in ASEAN: Democracy, Governance, and Rule of Law	Explain various aspects of political development and its components in developing countries
11	Cultural identity and ASEAN Popular Culture	Understand the diversity of culture, identity and popular culture
12	ASEAN and Human Right	Explain key regional developments, protection of human rights
13	Trans-national Crimes in ASEAN	Discuss development case studies concerning action against transnational crimes in the region
14	ASEAN External Relations: From Major Powers to International Organizations	Explain the provisions of the ASEAN Charter regarding ASEAN external relations
15	Final Exam	

Title	e-Learning Basic		
Category	Engineering	Course	Computer Science
Objective	The goal of this lecture is to enhance understanding of theoretical background necessary for e-learning contents production.		
Description	-		
Keyword	e-Learning, Team Building, Evaluation, Test, Instructional Design		



Provided by

University	ASEAN Cyber University		
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Name	KERIS	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Orientation	Orientation
2	Understanding of e-Learning	Introduction to e-Learning
3	Team building and understanding the process of content development	Let's learn about participant's roles in team building. How does the content development get accomplished?
4	Instructional Design	Why is instructional design so important and how to do it?
5	Academic Achievement Evaluation	What kinds of ways are there in evaluating academic achievements and what are their pros and cons?
6	Role of SME in content development	What are some crucial roles of SME when designing a new lecture?
7	The Role of Instructional Designer in Content Development	What are some crucial roles of ID when designing a new lecture?
8	Tips for developing content	Now, let's learn some valuable tips for designing a lecture

Title	Korean - Reading		
Category	Humanities	Course	Language
Objective	-		
Description	Students will learn various expressions and vocabulary that can be used in daily lives.		
Keyword	Korean, Where, How, When, What		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	Korean
Name	KERIS	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Is this bulgogi?	In this lecture, students will learn how to ask a question about the name of an object.
2	Where is the computer?	In this lecture, students will learn how to ask a question about the position of an object.
3	What is your phone number?	In this lecture, students will learn how to ask a question about the phone number.
4	What sports do you like?	In this lecture, students will learn how to ask a question about favorite sports.
5	Bibimbap is not so spicy.	In this lecture, students will learn how make an expression about foods and flavor.
6	What will you order?	In this lecture, students will learn how to make expressions about menu ordering.
7	I studied economics.	In this lecture, students will learn how to introduce their major subject.
8	Midterm Exam	
9	I'm going to my section chief to obtain the sign-off.	In this lecture, students will learn how to explain the purpose of their action.
10	I was absent because my work ended up so late.	In this lecture, students will learn how to explain excuse of their actions.
11	I will help you.	In this lecture, students will learn how to offer and ask for help.
12	Do you think it will rain in the afternoon?	In this lecture, students will learn the expressions about maps and the necessary time.
13	I'm planning to go on a trip with my friends.	In this lecture, students will learn the expressions about the weather and climate.
14	-	In this lecture, students will learn the expressions about traveling.
15	Final Exam	

Title	Korean - Speaking		
Category	Humanities	Course	Language
Objective	-		
Description	Students will learn various expressions and vocabulary that can be used in daily lives.		
Keyword	Korean, Where, How, When, What		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	Korean
Name	KERIS	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Is there a desk?	In this lecture, students will learn the expressions that could be used in a classroom.
2	What are you buying?	In this lecture, students will learn the expressions that could be used in a grocery store.
3	How many family members do you have?	In this lecture, students will learn the expressions about family.
4	Where are you going?	In this lecture, students will learn how to ask questions about destination.
5	Let's order kalguksu.	In this lecture, students will learn the expressions that could be used in a restaurant.
6	When is the Korean Language exam?	In this lecture, students will learn the expressions about dates.
7	What did you do during the vacation?	In this lecture, students will learn the expressions about experience.
8	Midterm Exam	
9	How was the weather yesterday?	In this lecture, students will learn the expressions about the weather and climate.
10	What will you do after graduation?	In this lecture, students will learn the expressions about future plans.
11	Why were you late today?	In this lecture, students will learn how to explain the excuse for being late.
12	What do you usually do on weekends?	In this lecture, students will learn the expressions about weekend plans.
13	Which department do you want to work in?	In this lecture, students will learn the expressions that are used in a typical business interview.
14	What are your symptoms?	In this lecture, students will learn the expressions that can be used in a hospital.
15	Final Exam	

Title	Basics in smartphone Game development		
Category	Engineering	Course	Computer Science
Objective	-		
Description	The lecture explains the basics in smartphone game development and its actual application in Unity 3D program.		
Keyword	Game, Unity3D, Script, Function, Game object		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
Name	KERIS	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Introduction of Unity3D	This lecture provides instructions for the installation of Unity3D program and its features.
2	Unity3D Interface	This lecture explains the functions of menus that Unity3D utilizes.
3	Game object	This lecture explains how the application of various game objects must be done by Unity3D program.
4	Texturing	This lecture explains how the texturing and detail creation must be done by Unity3D program.
5	Animation System	This lecture explains how various animation system is applied in the game by Unity3D program.
6	Camera, Light and Particle	This lecture explains how the settings are applied in the game in order to manage the camera, light, and particle system by Unity3D program.
7	NGUI Introduction	This lecture explains how NGUI program can create various game utilities.
8	Midterm Exam	
9	Script, Variables, Frame Function	This lecture explains how script, console, variables, and debug is utilized by Unity3D.
10	Control Statements and Functions Used in Game Development1	This lecture explains how various functions are used in the program to control game objects by Unity3D.
11	Control Statements and Functions Used in Game Development2	This lecture explains how various functions are used in the program to control game objects by Unity3D.
12	Developing Games 1	This lecture explains how actions can be visualized and detected in the game by Unity3D.
13	Developing Games 2	This lecture explains how resources and scripts can be applied in the game by Unity3D.
14	Distribution	This lecture explains how the distribution and installation of the game can be done in various operating systems.
15	Final Exam	

Title	SEAMOLEC and SEAMOLEC MOOC		
Category	Social Sciences	Course	Social Sciences
Objective	-		
Description	This course introduces SEAMOLEC and SEAMOLEC MOOC.		
Keyword	SEAMOLEC, SEAMOLEC MOOC, ACU, ASEAN MOOC, e-learning		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	SEAMOLEC and SEAMOLEC MOOC	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	SEAMOLEC and SEAMOLEC MOOC	This course introduces to SEAMOLEC and SEAMOLEC MOOC.

Title	Innovating Higher Education Pedagogy for the Digital Age		
Category	Social Sciences	Course	Social Sciences
Objective	-		
Description	You can learn innovating higher education pedagogy for the digital age on this lecture.		
Keyword	ACU, higher education, pedagogy, digital age, e-learning		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Ho Sinn Chye	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Innovating Higher Education Pedagogy for the Digital Age	Innovating Higher Education Pedagogy for the Digital Age

Title	OER Copyright Understanding CCL		
Category	Social Sciences	Course	Social Sciences
Objective	-		
Description	This lecture introduces to OER and CCL as the OER Copyright.		
Keyword	ACU, CCL, OER copyright, copyright, e-learning		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Vorasuang Duangchinda	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	OER & Copyright: Understanding CCL	This lecture introduce to OER and CCL as the OER Copyright.

Title	e-Learning Course development process Roles of e-Learning Project team		
Category	Education	Course	Education & Teacher Training
Objective	-		
Description	The goal of this lecture is to learn the overall process of e-Learning course development and instructional design in order to cooperate effectively.		
Keyword	ACU Project, e-Learning Expert Training, Instructional design, Content development, Trend in e-learning		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Youngran Joung	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	e-Learning course development process & Roles of e-Learning project team Part.1	This topic is about ADDIE Model and instructional design.
2	e-Learning course development process & Roles of e-Learning project team Part.2	This topic is about the roles of e-Learning project team and instructional designer.

Title	2018 ASEAN Univ. ACU Service invitation training		
Category	Engineering	Course	Computer Science
Objective	The goal of this lecture is to introduce the overall constructure and composition of ACU System in order to support using ACU system LMS and OER.		
Description	-		
Keyword	ACU Project, e-Learning Expert Training, ACU Cloud, ACU System, ACU LMS		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Hyungjin Kim	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	2018 ASEAN Univ. ACU Service invitation training	This material explains overall information of ACU system.

Title	Introduction of ACU Projects cloud-based systems		
Category	Engineering	Course	Computer Science
Objective	The goal of this lecture is to introduce the overall constructure and composition of ACU system in order to support using ACU system LMS and OER.		
Description	-		
Keyword	ACU Project, e-Learning Expert Training, ACU Cloud, ACU System, ACU LMS		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Hyungjin Kim	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction of ACU Projects cloud-based systems	This material explains overall information of ACU cloud system.

Title	Policy Dialogue on Teaching and Learning in Higher Education		
Category	Education	Course	Education & Teacher Training
Objective	-		
Description	Policy dialog on teaching and learning in higher education		
Keyword	ACU Project, e-Learning Expert Training, Korean Higher education, Policy dialogue, Higher education		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
Name	Jeungyun Choi	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Policy dialogue on teaching and learning in higher education	This materials explains Korean higher education and policy dialogue on teaching and learning.

Title	Policy Dialogue on Teaching and Learning in Higher Education		
Category	Education	Course	Education & Teacher Training
Objective	-		
Description	Policy dialog on teaching and learning in higher education		
Keyword	ACU Project, e-Learning Expert Training, Korean Higher education, Policy dialogue, Higher education		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
Name	Jeungyun Choi	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Policy dialogue on teaching and learning in higher education	This materials explains Korean higher education and policy dialogue on teaching and learning.

Title	Trends in Higher Education for e-Learning and OER		
Category	Education	Course	Education & Teacher Training
Objective	To learn teaching/learning methodology and trends in higher education in order to apply the teaching and learning(in the classroom)		
Description	ACU Project, e-Learning Expert Training, Pedagogy, e-Learning, OER		
Keyword	ACU Project, e-Learning Expert Training, Korean Higher education, Policy dialog, Higher education		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
Name	Milee Ahn	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Trends in Higher education for e-Learning and OER Part. 1	This materials explains Korean higher education and policy dialogue on teaching and learning.
2	Trends in Higher education for e-Learning and OER Part. 2	This topic explains overall information of online/flipped/blended learning.

Title	Trends in Higher Education for e-Learning and OER		
Category	Education	Course	Education & Teacher Training
Objective	To learn teaching/learning methodology and trends in higher education in order to apply the teaching and learning(in the classroom)		
Description	ACU Project, e-Learning Expert Training, Pedagogy, e-Learning, OER		
Keyword	ACU Project, e-Learning Expert Training, Korean Higher education, Policy dialog, Higher education		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
Name	Milee Ahn	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Trends in Higher education for e-Learning and OER Part. 1	This materials explains Korean higher education and policy dialogue on teaching and learning.
2	Trends in Higher education for e-Learning and OER Part. 2	This topic explains overall information of online/flipped/blended learning.

Title	Trends in Higher Education for e-Learning and OER		
Category	Humanities	Course	Philosophy
Objective	-		
Description	<p>We cannot let the pre-modern way of thinking and the institutional environment of the 20th century determine whether students in the 21st century will learn or not. Project ASEAN Cyber University presented a challenge to HEI in the ASEAN region, which affects normal teaching and learning practices. Among the challenges that students already face, in particular the pressure of internationalization of university rankings, socio-economic relevance and quality improvement, these challenges can be summarized from the perspective of tension or dilemma-resolved problems, but can be ended by strategic choices determined by university leadership at various levels. There is a tension between equality of access to universities and higher education resources, quality and quantity rankings, social justice, global technology sets, and individual needs. As a cross-border collaborative project, ASEAN Cyber University can provide one of the solutions to the unresolved goals faced by each university. Interests are understood and desirable strategies are established for change. Given the diversity of content already donated to knowledge holders or potential knowledge providers in the ASEAN region, the key will be how to successfully manage these talents in a multilateral atmosphere.</p>		
Keyword	Higher Education, ASEAN Cyber University, AUN Lesson, Higher education		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Choltis Dhirathiti	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		

Title	A Proposal for the Establishment of ASEAN Cyber University (ACU) based on Participatory Development Model between Academia Industry and Governments		
Category	Humanities	Course	Philosophy
Objective	-		
Description	The announcement was made to sketch the tentative model of the ASEAN Cyber University (ACU) (ACU to enhance the quality and accessibility of higher education and to provide e-Learning-based courses to meet the social and industrial needs of the ASEAN region). This model emphasizes the development of structures and materials in participation. Example: A long-term vision and plan for ACU registration in accordance with the Korea-ASEAN industry-academic joint effort can ignite discussions and actions on how to achieve educational vision and goals through innovative media and methodologies to revitalize the economy and social ecosystem.		
Keyword	ASEAN Cyber University, Model, Strategy participatory development mode, ASEAN		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Kyungsim Yeon	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		

Title	Online Education 25 Years of the Open Universities Australia Experience		
Category	Humanities	Course	Philosophy
Objective	-		
Description	The digital revolution has caused a great deal of confusion in personal and professional life with the Millennial generation, who can curate their lives in ways that were previously impossible. The impact on education, especially higher education, was profound as students were able to learn and acquire professional qualifications in a variety of formats. The emergence of online learning has opened short-term and full-time degrees to people who have previously failed to properly serve in universities (e.g., full-time workers responsible for consideration). People who live at home and in local and remote locations. Open University Australia (OUA) was founded in 1993 as a private company owned by Monash University. It was established to provide quality college education to students in Australia. The Partnerships Government-owned Media Organization, founded with funding from the Australian government between nine universities and the Australian Broadcasting Corporation, is currently owned by the Foundation University and provides access to 1,384 complete online subjects and 170 online undergraduate and graduate degrees offered by 12 universities to 367,250 students. This presentation discusses the models used in OUA and the insights gained.		
Keyword	Open University, Australia, OUA Credit exchange, Future education		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Susan Elliott	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		

Title	Online Education in Policies for Higher Education Development in VietNam		
Category	Humanities	Course	Philosophy
Objective	-		
Description	In early 2017, MoET submitted to issue Decision No117 / QD-TTG, which is considered a master plan for applying ICT to education. The Online Higher Education Ministry first guided official documents on the minimum conditions under which online educational activities can be carried out effectively. In particular, the new draft of the Higher Education Act aims to regulate some conditions under which diplomas can be accepted and credits exchanged. Online education for related policy higher education is expected to grow strongly and better support traditional education in Vietnam.		
Keyword	Online Education, Vietnam higher education, Education policy		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Nguyen Hoai Nam	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		

Title	The Long Run Impact of MOOCs		
Category	Humanities	Course	Philosophy
Objective	-		
Description	According to Amara's law, we tend to overestimate the impact of new technologies in the short term, but in the long run, we tend to underestimate them, but in the case of MOO and many other universities too.		
Keyword	Mooc, New technology, Delft University of technology, Higher education		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	W.Evan Valkenburg	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		

Title	2019 ACU e-Learning Expert Training outcomes report		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This video is a presentation to share the results of the 2019 ACU e-Learning Professional Training at CLMV member universities.		
Keyword	ACU e-Learning expert training e-Learning		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	ASEAN Cyber University	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Sketch Video	These videos are the presentations for sharing outcomes of the 2019 ACU e-Learning Expert Training by CLMV member universities on 29th, April on Seoul, Republic of Korea.
2	Outcomes report (ITC from Cambodia)	This video is the presentation for sharing outcomes of the 2019 ACU e-Learning Expert Training by ITC(Institute of Technology of Cambodia) from Cambodia.
3	Outcomes report (NIPTICT from Cambodia)	This video is the presentation for sharing outcomes of the 2019 ACU e-Learning Expert Training by NIPTICT(National Institute of Posts Telecommunications and ICT) from Cambodia.
4	Outcomes report (NUOL from Laos)	This video is the presentation for sharing outcomes of the 2019 ACU e-Learning Expert Training by NUOL(National University of Laos) from Laos.
5	Outcomes report (UT from Myanmar)	This video is the presentation for sharing outcomes of the 2019 ACU e-Learning Expert Training by UT(University of Technology) from Myanmar.
6	Outcomes report (UIT from Myanmar)	This video is the presentation for sharing outcomes of the 2019 ACU e-Learning Expert Training by UIT(University of Information Technology) from Myanmar.
7	Outcomes report (HUST from Vietnam)	This video is the presentation for sharing outcomes of the 2019 ACU e-Learning Expert Training by HUST(Hanoi University of Science and Technology) from Vietnam.

Title	2019 ACU e-learning Conference		
Category	Education	Course	Education & Teacher Training
Objective	-		
Description	2019 ACU Conference		
Keyword	Educational Paradigm, Value of e-learning, Thai MOOC, Project Oriented Learning (POL), Teaching Intercultural, RISS		



Provided by

University	ASEAN Cyber University		
Country	Korea 	Language	English
Name	Sunggi Baik, Hyekyung Yang, Wan Zuhainis Saad, Thapanee Thammat, Hnin Aye Thant, Teri Rose Dominica Roh, Mary Catherine Ariosa, Jeannie Pang, Kittituch Orisoon, Kyeongsim Yeon	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Challenge and Opportunity of Higher Education in the Age of Digital Revolution	Recent development in digital technology and internet transforms conventional lecture-oriented teaching institutes into student-centered learning platforms, which revolutionized educational paradigms resulting in conceptual as well as practical approaches including flipped classroom, massive open on-line courses (MOOC), project-based learning, adaptive learning, etc. Such changes pose significant threats as well as unprecedented opportunities for higher education, particularly in the developing countries as the mobile internet becomes widely available. A few issues and challenges facing higher education institutions will be raised and discussed focusing on the key issues, namely, curriculum development reflecting social changes and future trend of ASEAN countries undergoing drastic changes in political and socio-economic systems, and global trend and implementation strategy of ICT infrastructure within higher education institutes.
2	Value and Quality of Development Cooperation in Higher Education Sector in ASEAN Countries	This presentation discuss the common value of development cooperation in higher education sector especially focusing on e-learning in ASEAN countries while stacking some issues of quality in the process of delivery and implementation followed by introduction of value and quality issues in several KOICA projects which was conducted in ASEAN partner countries in the perspective of policy maker.
3	Innovation Teaching and Learning in Higher Education in Malaysia	There is a significant trend towards e-learning across the globe because of its potential to increase learning effectiveness and flexibility for the learner. This is the foundation required for students to be able to engage in higher order thinking skills, equipped them with the 21st century skills and eventually to develop self-directed learners. Redesigning learning strategies to enhance students' engagement for effective and meaningful learning in a virtual learning environment are emphasized. Twenty-first century skills that include collaboration, creativity, communication, connection, critical thinking and problem solving are crucial for learners. This immersive environment is not simply based on virtual environment but the Learning and the Doing became one and the same. It is hoped that this experience will foster a community of innovators to share the passion for technology in learning and help to motivate success.

To be continued on the next page

Week	Subject	Description
4	Creative MOOCs for Higher Education: Perspectives from Thai MOOC	Massive Open Online Courses (MOOCs) are a new trend in higher education. They use disruptive technology and Open Educational Resources to manage online instruction for an unlimited number of learners. MOOCs can be used for formal education, informal education, non-formal education, and Continuing Professional Development (CPD) for lifelong learners. They can also serve as supplementary materials for other forms of instruction, i.e. blended learning, and flipped learning. This presentation, Creative MOOCs for higher Education: Perspectives from Thai MOOC, outlines three key points including (1) MOOC trends, (2) Case of Thai MOOC which will be focused on the Thai MOOC project as the national digital learning platform for the lifelong learning of the Thai citizens established in 2017, at present, there are more than 100,000 active members and 300 courses (mooc.thaicyberu.go.th), and (3) Future direction which is in line with a current global disruptive technology trend in higher education focusing on MOOCs and open education as evidenced by lifelong learning. The information gained can be used as guidelines for the MOOCs learning design and development. It can also be used as a case study for further development in both policy and concrete practice regarding the current global educational technology trend.
5	Project Oriented Learning (POL) Activities for Innovative Technology and Creative Classroom	Today technologies are changing day by day. We need to transform the classroom activities: passive learning to active learning becoming innovative and creative classroom. Integrating POL Activities in classroom, students can get the deeper understanding the content knowledge and promote the development of work readiness skills. Project-oriented learning helps learners develop skills to work in a knowledge-based, highly technological world. By bringing real-life context and technology to the curriculum through a project-oriented learning approach, learners are encouraged to become independent workers, critical thinkers, and lifelong learners. This POL Activity promotes student's choice, autonomy and decision making. I will discuss about following topics: (1) What is Project-Oriented Learning? (2) Why Project-Oriented Learning? (3) What are some best practices around project-oriented learning? (4) Project-oriented learning is authentic learning (5) The role of the instructor changes in project-oriented learning. (6) The role of the learner changes in project-oriented learning. (7) What steps should I take to do project-oriented learning? (8) What other resources can help me with project-oriented learning?
6	Teaching and Learning Experiences of an ASEAN Professor In English Language Teaching	ASEAN professors in Korea represent a wide range of disciplines, including medicine, nursing, hotel and restaurant management, food technology, international business, and foreign language teaching, among others. This presentation highlights the experiences of an ASEAN professor in the field of English language teaching (ELT) in Korea. This is still an uncommon phenomenon due to issues in native-speakerism and other institutional constraints. While the circumstances and concerns of ASEAN professors can vary greatly depending on the discipline, regional location, professional disposition, and so on, the presentation will mainly draw attention to topics of shared interest such as teaching, pursuing graduate education and research, and job applications.
7	Intercultural Communicative English Language Teaching: Addressing the Changing Landscape of Korean Classrooms	Intercultural communicative competence (ICC) is seen as one of the key competencies in the 21st century (UNESCO, 2013), so one of the ultimate goals in English language training programs is to educate learners to become intercultural speakers who can deal with linguistic and cultural complexity and take part in multicultural situations (Tran & Seepho, 2016). However, the integration of intercultural content into English language education is still ignored in the Korean context. Within the current context of globalization, the issue of delivering ICC through Intercultural Communicative Language Teaching (ICLT) approach for learners has been identified as one of the ultimate goals in the field of English language education (Byram, 1997; Deardoff, 2009; Fantini, 2000; Lázár et al., 2007 in Tran and Seepho, 2016). English language education should equip learners with the knowledge of intercultural communication and the ability to use it effectively in order to bridge cultural differences and achieve more harmonious and productive relations (Samovar, Porter, & McDaniel, 2012 in Tran and Seepho, 2016). Unfortunately, the reasons for the teachers exclusion of culture and intercultural communication in English language education are: more interest in the practical aspects of communication" (Onalan, 2005, p. 217 in Tran & Seepho, 2016); not enough time to talk about cultural elements due to a demanding curriculum (Gonen & Saglam, 2012; Hong, 2008 in Tran & Seepho, 2016); the lack of adequate training on how to incorporate culture in the teaching practices as well as how to measure learners' IC and changes in their attitudes as a result of culture teaching (Gonen & Saglam, 2012 in Tran & Seepho, 2016) With the constant rise of ASEAN international students in Korean universities in the past couple of years ("ASEAN Students in Korea: By Visa Type and Nationality (2018)," 2018), it is imperative that professors in Korean universities are introduced to Intercultural Communicative Competence (ICC) so as to refine their teaching approach to Intercultural Communicative English Language Teaching (ICELT) in order to address the changing landscape of a Korean university (ESL/EFL) classroom.

To be continued on the next page

Week	Subject	Description
8	Riss International and Korean Studies	RISS International http://intl.riss.kr has been open to everyone around the world since 2006. RISS International is a service with an embedded comprehensive search engine that allows researchers to search and access full-text versions of about 1.5 million theses and 5.5 million journal articles published in the Republic of Korea. The International Library Loan (ILL) services of RISS International are free to member institutions, where a limited and amount of materials can be accessed. This paper introduces RISS International services with data composition and the major features including ILL. Any academic institution outside of the Republic of Korea can become a member institution of RISS International free of charge. This paper presents RISS International with its new interface which launched in July 2019 along with the major changes in functions and operation policies. This paper also presents user trends and two exemplary cases of RISS International member institutions. Furthermore, this paper concludes with the future directions for the betterment of RISS International and welcoming its future members from ASEAN academic institutions
9	Challenges and Opportunities ASEAN-Korea Collaboration in Higher Education	Nowadays the world is now changing faster than the previous rating and has become much more globalization than in earlier years, leading to increasing level of economic competition and socio-political cultural information. Learning in the new transformational era is changing as students now expect to get most of their information from many sources both tangible and intangible sources such as books, digital sources, and experiences. Many researches show that ASEAN students are apparently not able to make effective of this. However, many ASEAN universities have strategies to broaden international relationship among ASEAN countries as well as other countries especially Korea. The future of ASEAN's higher education institutions will have stronger relationship in academic collaboration. This presentation will describe Challenges and Opportunities among ASEAN countries and Korea in next decade and trend of collaboration.
10	A Model for Establishing the ASEAN Cyber University (ACU) and its implementation Strategies: A New Platform for International Education in Higher Education between ASEAN and Korea	This presentation is to introduce the proposed model of ACU and its implementation strategies as well as the journey reaching to the proposal. Global society requires changed perspectives and activities with diverse and innovative ideas and advanced technologies in pursuit of shared perspectives and sustainable development. In response to the changes, ASEAN and Korea are required to define their cooperative relations and carry out feasible and practical actions between them. In this respect, the research has been conducted to design a platform model of higher education and cooperative actions for enhancing accessibility and employability in cooperation with academia-government-private sectors in the ASEAN and Korea based on the achievement of cyber universities. Also, considering educational environment and recent progress on cooperative actions, this model presents a phased-approach to materialize the structure and courses of the higher education institute under the umbrella of ACU. Starting from transferring and recognizing the credits among the participating entities, the ACU is expected to be an independent higher education institute for awarding a degree via intermediate stage of ACU Program.

Title	2018 ACU e-learning Conference		
Category	Education	Course	Education & Teacher Training
Objective	-		
Description	2018 ACU Conference		
Keyword	Educational Paradigm, Value of e-learning, Thai MOOC, Project Oriented Learning (POL), Teaching Intercultural, RISS		



Provided by

University	ASEAN Cyber University		
Country	Korea 🇰🇷	Language	English
Name	Choltis Dhirathiti, Kyungsim Yeon, Susan Elliott, Nguyen Hoai Nam, W.F. van Valkenburg	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Engaging with Universities in the ASEAN Cyber University Project Lessons Learned from the AUN Experience	We cannot let the pre-modern mindset and the 20th century institutional settings dictate how the 21st century students are learning or not learning. The Project ASEAN Cyber University has presented a challenge to HEIs in the ASEAN region affecting the "normal way of teaching and learning on top of the challenges they are already facing notably the pressure from university ranking internationalization socio-economic relevance and quality improvement. These challenges could be summed up in terms of a tension or dilemma an unresolved problem but can be ended by the strategic choice decided by the university leadership at various levels In between academic excellence of the university and the equal access to higher education resources there is a tension between quality and quantity ranking and social justice and global skill sets and individual needs ASEAN Cyber University as a cross-border collaborative project could offer one of the solutions a means to an unresolved end facing each university if mutual interests are understood and desirable strategies for change are in place. Given the diversity of contents already deposited in the knowledge owners or the potential knowledge providers across the ASEAN region perhaps the key is how to manage those talents successfully within the multilateral atmosphere.
2	A Proposal for the Establishment of ASEAN Cyber University (ACU) based on Participatory Development Model between Academia Industry and Governments	This presentation is to sketch out a tentative model of ASEAN Cyber University (ACU) for strengthening the quality and accessibility of higher education and providing e-Learning based courses responding to social and industrial needs in the ASEAN region. This model highlights participatory development of the structure and substances (e.g. curricula accreditations registration of ACU based on the joint efforts between Academia Industry and Government in ASEAN and Korea. With the long-term vision and plan this model can ignite the discussion and actions how to accomplish the educational vision and goal by innovative media and methodologies for boosting economic and social ecosystem tailored for the ASEAN region and people.


To be continued on the next page

Week	Subject	Description
3	Online Education 25 Years of the Open Universities Australia Experience	The digital revolution has caused great disruption within our personal and professional lives with millennials able to curate their lives in a way that was previously impossible. The impact on education particularly higher education has been profound with students able to learn and achieve professional qualifications in many different formats. The advent of online learning has opened short and full-degree courses to people previously poorly served by universities such as those in full-time work those with caring responsibilities at home and those living in regional and remote locations. Open Universities Australia (OUA) was formed in 1993 as a private company originally owned by Monash University. It was formed to provide students across Australia's regional areas with access to high quality university education. With funding from the Australian Government, a partnership was formed between 9 universities and the Australian Broadcasting Corporation the government owned media organization. Today it remains owned by the foundation universities and provides access to 1,384 fully online subjects and 170 online undergraduate and postgraduate degrees delivered by 12 universities to 367,250 students. This presentation will discuss the model used by OUA and the insights gained.
4	Online education in policies for higher education development in Viet Nam	Early 2017 the MoET submitted to issue Decision No117/QĐ-TTg that is considered as a Master plan of applying ICT in education. In this document one of the targets set for higher education is to form some effective models of cyber university. In order to guide necessary conditions for implementing online higher education the first time the MoET guided in an official document about minimum conditions in which online education activities can be conducted effectively. Especially the new draft law of higher education is intended to regulate some conditions in which recognition of diplomas and credit exchange can be performed. With the preparation in related policies online education in higher education is expected to grow strongly and support better for traditional training in Viet Nam.
5	The long run impact of MOOCs	According to Amara's Law we tend to overestimate the impact of a new technology in the short run, but we underestimate it in the long run. This is also the case for MOOCs. In this presentation Willem van Valkenburg will show the long run impact of MOOCs for Delft University of Technology and many other universities.

Title	Mobile Computing		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This course aims to provide students with theoretical background they need for mobile computing. This course covers a variety of mobile computing application technologies and wireless communications as well as the basic concepts of mobile computing.		
Keyword	Mobile Computing, Mobility, Network, GSM, IP		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	Vietnamese
Name	Tran Hoang Hai	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to mobile computing	Understand the basic concepts of mobile computing.
2	Adaptive computing	Let's learn about adaptive computing. What does it do and how is it applied to mobile computing?
3	Tools and Frameworks Designed to develop mobile Applications	Let's learn about Android and iOS and try to build a basic mobile application.
4	Tools and Frameworks Designed to develop Server & Desktop Applications	What is N-Tier framework and how is it used? Learn to understand XML and its application in mobile computing.
5	Local Management	Understand location management in mobile computing, GSM, and mobile IP.
6	Handoff/ Handover in Mobile Computing	Understand the Handoff/Handover issues in mobile computing.
7	Data Dissemination and Management	How the data is disseminated in mobile computing? Understand related techniques.
8	Midterm Exam	
9	Data Management in Mobile Computing	How do we and manage data in mobile computing on wireless networks?
10	Context-Aware in Mobile Computing	What is context awareness? How do we use contextual information to applications in mobile computing?
11	Middleware System in Mobile Computing	Understand basic concepts of middleware in mobile computing.
12	Wireless Networks Security & Approaches	What are major security issues in mobile wireless networks and how to counter strike them?
13	Security in Wide Area Networks	How do we securely protect our information in wide area networks?
14	Global Positioning System & Service Location	In our last class, we are going to look into the basic concepts of GPS and its uses in mobile applications.
15	Final Exam	

Title	Introduction to ICT		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This course introduces the basic concepts of IT. We also deal with programming languages that students want to understand and learn more, especially C languages.		
Keyword	Information, Operating System, Network, C Language, Structure		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Nguyen Thi Thu Huong	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Basic Concepts of ICT	In this lecture, we will mainly learn about the history of computer. Also, we are going to deal with the basic concepts of information and information processing.
2	Representation of information in computers	In this lecture, we are going to learn about positional notation and various numeric conversions.
3	Computer Organization	Today's lesson explains about computer systems and the basic components comprising it.
4	Algorithm	What is an algorithm and how do we write a solution of algorithm?
5	Computer Software	Let's learn about computer software and programming languages.
6	Computer Networks	In this lecture, we are going to learn about computer networks and the Internet
7	Operating Systems	In this lecture, we are going to learn about the basic concepts of Operating Systems and some typical OSs
8	Midterm Exam	
9	An Overview of C Language	Today, we are learning about C Language which is the most commonly used programming language in the world.
10	Data Types and Epressions	What are some standard data types and how are they different with each other?
11	The Control Flow	Let's learn how to deal with the control flow of you program by studying basic statements of C Language.
12	Arrays and Pointers	What is an array and why is it so important? How do we refer to the address to each variable? Let's learn about arrays and pointers.
13	Functions	Let's learn about the basics of C functions and its usage.
14	Structures	In our lesson, we are going to cover what the structure is and how to use it.
15	Final Exam	

Title	Program Language Java		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This course aims to use JAVA to improve students' skills in troubleshooting logic thinking and object-oriented programming skills.		
Keyword	Java, Syntax, Object, Class, GUI		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Vu Thi Huong Giang	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction	In this lesson, we are dealing with the basics of programming and Java.
2	Java Syntax Basics I	Let's learn to understand the Java syntax basics and their semantics for writing a program.
3	Java Syntax Basics II	In this lecture, we are going to dig deeper into the syntax and the semantic of Java language.
4	Encapsulation and Class Building	How do we declare a class and its members? Let's learn about the application of object-oriented principles in Java
5	Object Initialization and usage	Let's learn how to initialize and use objects in Java
6	Aggregation and Inheritance	In today's lecture, we are going to look at the aggregation and the inheritance.
7	Inheritance	Now, Let's take a closer look into Inheritance.
8	Midterm Exam	
9	Polymorphism and Generic Programming	Let's learn to master the polymorphism technique and understand the Java generic programming.
10	Utility Classes and Collections	In this lecture, we are going to learn about various utility classes such as Wrapper class and Math Class.
11	Exception Handling	In this lecture, we will learn about exception. What's the definition of it and how do we handle it?
12	Input and Output Operations	Let's try and understand the concept of an I/O stream.
13	GUI and Event Programming I	What is GUI Programming? Let's learn about it and challenge in writing demo AWT applications.
14	GUI and Event Programming II	For our last lecture, we will learn how to create a menu in an AWT program and do some actual programming using Swing.
15	Final Exam	

Title	Program Language Java		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This course aims to use JAVA to improve students' skills in troubleshooting logic thinking and object-oriented programming skills.		
Keyword	Java, Syntax, Object, Class, GUI		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Vu Thi Huong Giang	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

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15	Final Exam	

Title	Introduction to Circuit Theory and Laboratory		
Category	Natural Sciences	Course	Physics
Objective	The student will analyze the various devices used to design electronic circuits and systems (Op Amps, Diodes, BJTs, and FETs) and learn how to design circuits with them. The laboratory sessions help students to practice the skills at checking the work of Op Amps, Diodes, BJTs, and FETs and measuring the basic properties of circuits.		
Description	This course analyzes electronic circuits such as the math amplifier diode BJT and FET and the various devices that design the system, and learns how to design circuits using them.		
Keyword	Diode, BJT, FET, Cascade, Op Amp		



Provided by

University	Hanoi University of Science and Technology		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Assignment (20), Assessment (50), Assignment (20), Class Participation (10)		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction - Diode applications	Let's learn about the configuration, operation, and measurement of different applications of diode
2	Bipolar Junction Transistor Biasing (1)	Let's look at the basic transistor operation & configuration
3	Bipolar Junction Transistor Biasing (2)	After this lecture, you will be able to understand the operating point, the basic transistor bias configuration, and how to design a simple BJT amplifier circuit
4	Bipolar Junction Transistor Modeling	Today, we are going to talk about the BJT modeling and important parameters such as Z_i , Z_o , A_v , & A_i
5	BJT Small Signal Analysis	After this lecture, you will be able to analyze the small signal on different circuits using different models
6	Field effect Transistor (FET)	Understand and recognize the two types of FET: JFET and MOSFET
7	FET Biasing	Now that we've looked through the basic concepts of FET, Let's move on and learn about the basic FET configurations and operation
8	Midterm Exam	
9	FET Small Signal Analysis	At the end of this lecture, you should be able to analyze FET AC amplifier networks using transistor models
10	Effects of load resistance and source resistance	How does the load impedance and source impedance affect the system? What if they're combined? Let's talk about it.
11	Compound Configuration	How do we integrate stages and blocks to form a larger circuits? Let's try and understand the structure and operation of variety of circuits connection
12	Operation Amplifier	Let's learn about the basic characteristics of op-amp
13	Op-amp applications	What types of op-amp applications are there? Let's learn about the circuits and operations of each of them
14	Application Circuits	In our last lesson, we are going to learn about the basic steps of designing a circuit
15	Final Exam	

Title	Distributed System		
Category	Engineering	Course	Computer Science
Objective	The course give student main knowledge about Distributed System, including principles and paradigms such as: Process management, Communication, Naming, Time and coordination, Replication, Fault tolerant and Distributed securities.		
Description	This lesson will explain what distributed systems are and how to create programming.		
Keyword	Programming, Computer, System, Distributed Software		



Provided by

University	Hanoi University of Science and Technology		
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Discussion (10), Assignment (20), Class Participation (10)		
Textbook	<ul style="list-style-type: none"> · A. S. Tanenbaum, M. V. Steen "Distributed Systems: Principles and Paradigms", Prentice-Hall, 2002 · G. Coulouris, J. Dollimore, T. Kinberg, "Distributed systems : Concepts and Design", Addison-Wesley, 2006 		




Weekly Plan

Week	Subject	Description
1	Distributed Systems	Understand the evolution of the computing device of the user's viewpoint
2	Component, Types and research topics	Basic knowledge about distributed systems components
3	Model and Architecture	Explain basic knowledge about systems architectures and system models
4	Processes and threads	Explain processes and threads, code migration, role of virtualization
5	Communication	Explain bout Processes exchange information, remote procedure protocol and message oriented
6	Communication (2)	Explain about the role of message oriented and stream-oriented communication
7	Naming(1)	Explain about flat nave mechanism
8	Midterm Exam	
9	Naming (2)	Knowledge about structured naming mechanism and attributed naming
10	Synchronization (1)	Knowledge about synchronization and logical clock
11	Synchronization (2)	Knowledge about mutual exclusion and election algorithms
12	Consistency and replication (1)	Explain about consistency, replication and how these mechanisms work
13	Consistency and replication (2)	Explain about replica management and how consistency protocols work
14	Fault Tolerance	Knowledge about fault tolerance and resilience
15	Final Exam	

Title	Essential of Management		
Category	Social Sciences	Course	Economics & Finance
Objective	It aims at equipping students with the most essential knowledge, skills for leading and managing in production and business organizations and others in different fields. Besides, students are likely to have ability of identifying work of an efficient manager.		
Description	In this course, students will learn how to organize a plan and how to manage something.		
Keyword	Management, Organization, Feedback, Leader, Planning		



Provided by

University	Hanoi University of Science and Technology		
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Quiz/Discussion 10), Assignment (20), Class Participation (10)		
Textbook	MSc Nguyen Quang Chuong, "The Lecture notes of Essentials of Management", Bachkhoa Publishing House, 2010.		




Weekly Plan

Week	Subject	Description
1	Introduction to management	The concept, essence and the role of management in organizational efficiency
2	The evolution of management thought	Explain the emerging trends and issues in today management
3	Planning functions	Understand planning and the role of planning
4	Building strategies	Explain about strategies and discuss why strategies are important to organizations
5	Organizational Environment	Describe what organizational environment is
6	The principles and the process of planning	Identify bases and principles of planning
7	Organizing Function	Describe what organizing function is
8	Midterm Exam	
9	Authority in organization	Describe what chain of command, authority and responsibility are
10	Human resource management	Explain about what human resource management is
11	Leading function	Explain about essential concepts and role of leading function
12	Leadership theories and styles	Explain about different styles and approaches to leadership
13	Controlling function	Identify types of controlling and control systems
14	Management information	Determine fundamental issue on organizational information
15	Final Exam	

Title	Electronic Engineering		
Category	Engineering	Course	Engineering
Objective	<p>Upon completion this course provides students with basic knowledge on electronic components: semiconductor diodes and its applications, bipolar junction transistor and its application, field effect transistor, analog integrated circuits, digital integrated circuit, ... After completing this course, students should be able to:</p> <ul style="list-style-type: none"> · Understand about types of electronic components and their applications. · be able to analysis different types of electronic components · design a simple circuit to implement a specific function. 		
Description	In this lecture, we talk about the basics of electronic theory and principles needed to know how semiconductors work.		
Keyword	Junction, Amplifier, Signal, Semiconductor, Oscillator		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Assessment (50), Quiz/Discussion (10), Class Participation (20)		
Textbook	Do Xuan Thu, Electronics Engineering Textbook, Science and Technology Publishing House, 17th Edition, 2009		




Weekly Plan

Week	Subject	Description
1	Introduction to Electronic Engineering	Knowledge of voltage, current, power, and the components that make up electronic
2	Semiconductor Diodes	Understand about semiconductors and two kinds of doped semiconductor circuit
3	Bipolar Junction Transistor	This lesson provides student with basic knowledge on bipolar junction transistor and its application
4	Amplifiers (1)	Discuss the concept of gain and the general model of a voltage amplifier
5	Amplifiers (2)	Understand about operational multistage amplifiers and analyse methods for inter-stage coupling
6	Operational Amplifier	Understand about how does it structure and what is its properties and applications
7	Oscillator	State the function of the oscillator
8	Midterm Exam	
9	Pulse circuits	Knowledge of square wave
10	Square Signal Generator	Understand the operation of monostage/astable multivibrators and Schmitt triggers
11	Triangle signal generator	Understand of triangular wave and generator
12	Fundamentals of logic algebra and logic elements	Knowledge of logic signals the basics of digital logic thinks
13	Typical combinational logic elements	Describe the action of XOR and XNOR logic gates
14	Representation of a logic function and Minimization	Understand how to represent a logic function in three way
15	Final Exam	

Title	Linux and Open Source Software		
Category	Engineering	Course	Computer Science
Objective	-		
Description	The course identifies the basic concepts of OSS and Linux and suggests application to management and configuration.		
Keyword	OSS, Linux, File system, Management, Configuration		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Truong Thi Dieu Linh	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduces about Open Source Software	This lecture explains the basic concept of OSS (Open Source Software) and identifies the comparison of OSS and CSS (Close Source Software).
2	Introduction to Unix and Linux	This lecture defines the operating system and refers to Linux and Unix as its application.
3	Study of Linux installation procedure and consideration points	This lecture explains installation and identifies the role of partition in the installation process.
4	Study of Linux files system	This lecture explains the file system and the factors that must be considered when identifying file system.
5	User account and permissions	This lecture defines users and groups and explains their role in the file system.
6	Study of Linux Threads and tasks	This lecture explains the characteristics and the processing of threads.
7	Study of Linux Boot processing	This lecture defines the boot loader and its application to the Linux system.
8	Midterm Exam	
9	Study of Linux software management	This lecture identifies the process of software installation and its packaged form.
10	Study of Linux storage data device management	This lecture examines the logical disk and the terms that are concerned when managing the disk.
11	Automation of Administration Work	This lecture explains the concept of automation in administration work and its relationship with cron.
12	Log management	This lecture identifies the concept of log and explains the configuration of log system.
13	Data Backup	This lecture identifies the process of data backup and its types of command.
14	Shell programming	This lecture examines the shell system and its application of command.
15	Final Exam	

Title	Science Research Methodology		
Category	Education	Course	Education & Teacher Training
Objective	-		
Description	This course deals with scientific concepts such as scientific technology, technology, scientific research, scientific research methodology, classification of scientific research methods, logic of research process, especially analysis of research methods used in writing graduate papers.		
Keyword	Science, Research, Methodology, Process, Question		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Le Huy Tung	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Basic concept	This lecture defines the relationship between science, technology, and knowledge and explains the concept of research.
2	Basic Concept 2	This lecture defines the objectives of science research as well as the ethics of research.
3	Science research method: Observational Research	This lecture refers to method and methodology and suggests various kinds of research, including the observation method.
4	Science research methodology: Document Analysis	This lecture explains the expert opinion method and the necessary factors while reading the documents.
5	Science research method: Survey Research Method	This lecture explains the principles and the factors that constitute the survey research method.
6	Science research method: Experimental Research	This lecture explains the principles and the factors that constitute the experimental research method.
7	Science research method: Simulation and Modeling	This lecture explains the principles and the factors that constitute the modeling and simulation research method.
8	Midterm Exam	
9	Science research method: Expert Opinion and Mathematical	This lecture explains the principles and the factors that constitute the expert and mathematical research method.
10	Logic of research process: Topic Research Selection	This lecture examines the logic of research process and the sources of research questions.
11	Research Proposal and Research Plan	This lecture explains the proposal and planning of research.
12	Scientific Hypothesis	This lecture defines the features of hypothesis and its process of forming.
13	Research Report Writing	This lecture explains the rules and procedures of research report writing.
14	Final Exam	

Title	Linux and Open Source Software		
Category	Engineering	Course	Computer Science
Objective	<ul style="list-style-type: none"> The principle and characteristics of human-computer interaction, such as direct manipulation, usability affordances, and interaction design heuristics. The workflow for designing and evaluating user-centered designs, from need finding to prototyping to evaluation. The current state of research and development in human-computer interaction, such as augmented reality, wearable devices, and robotics. 		
Description	<p>This course is an introductory course on human-computer interaction. It does not presuppose any earlier knowledge of human computer interaction, computer science, or psychology. The class covers three broad categories of topics within human-computer interaction:</p> <p>(a) the characteristics of the good design and bad design based on usability and user-experienced goals; (b) process of interaction design and (c) the techniques for designing and evaluating user-centered systems.</p>		
Keyword	Human Computer Interaction, Interaction Design, Usability, User Experience (UX), Interface Metaphor		



Provided by

University	Hanoi University of Science and Technology		
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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	Yvonne Rogers (2011), Interaction Design: Beyond Human-Computer Interaction, John Wiley & Sons Inc		




Weekly Plan

Week	Subject	Description
1	Introduction to Interaction Design	This material explains the definition of ID.
2	Goals and Principles of ID	This material explains the concept of usability goals and user-experienced goals.
3	Understanding the conceptual model	This material explains interaction design models.
4	Conceptual Models based on Activities	This materials explain various types of conceptual models which is based on activities.
5	Conceptual Models based on Objects	This materials explain about object-based conceptual model and what kind of conceptual models is/are suitable to use for developing system.
6	Practical issues on interaction design process	This materials explains the practical issues of ID.
7	Lifecycle models	This material explains different life cycle models and can choose suitable life cycle model depend on the kinds of system.
8	Midterm Exam	
9	Identifying needs and establishing requirements	This material explains how requirements are important.
10	Data Gathering Techniques	This material explains different kinds of requirement gathering techniques.
11	Data interpretation and Task description	This materials explain the hierarchical task analysis.
12	Prototyping	This materials explain how to create the prototype design.
13	Using scenarios in conceptual design	This materials explain the design conceptual model using scenarios.
14	Evaluation for interaction design	This materials explains how to evaluate the interaction design of case study.
15	Final Exam	

Title	Basic Electrical Engineering		
Category	Natural Sciences	Course	Physics
Objective	-		
Description	This course is designed as a basic course for students from different engineering branches. It deals with the following two fundamental parts of electrical engineering: Electric circuits. Basic concepts on electric circuits sinusoidal currents methods of electric circuit analysis three-phase circuits Electric machines. Basic concepts on electric machines transformer induction machines synchronous machines, DC machines.		
Keyword	AC circuit, Electrical, Power, Transformer, Motor		



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University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	Vietnamese
Name	Nguyen Nga Viet	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Fundamentals of Electric Circuits	1.1. Circuits 1.2. Electrical Parameters 1.3. Circuit Elements 1.4. KCL and KVL
2	AC Network	2.1. Sinusoidal Voltages and Currents 2.2. RMS value 2.3. Sinusoidal Signal Representation 2.4. Fundamental AC Circuits 2.5. AC Power 2.6. Power Factor Correction
3	AC Network Analysis Methods	3.1. AC Equivalent Circuits 3.2. Branch Current Method 3.3. Mesh Current Method 3.4. Node Voltage Method 3.5. Principle of Superposition 3.6. None-Sinusoidal Periodic Sources
4	Three-Phase Power	4.1. Introduction 4.2. Wye Configuration 4.3. Delta Configuration 4.4. Power in 3-Phase AC Circuits 4.5. Three-Phase Power Measurement
5	Three-Phase Power Analysis	5.1. Balanced Three-Phase Circuit Analysis 5.2. Unbalanced Three-Phase Circuit Analysis
6	Introduction to Electrical Machines	6.1. Definitions and Classification 6.2. Basic Electromagnetic Laws in Electrical Machines 6.3. Principles of Rotating Machines 6.4. Magnetic Circuits 6.5. Materials for Electrical Machines 6.6. Heat Transfer and Cooling
7	Transformer Construction and Model	7.1. Introduction 7.2. Transformer Construction 7.3. Working Principle of Transformer and Ideal Transformer 7.4. Non-Ideal Transformer Model 7.5. Equivalent Circuit
8	Midterm Exam	
9	Transformer Operation	8.6. Transformer Tests 8.7. On-Load Transformer 8.8. Three-Phase Transformers 8.9. Transformers in Parallel 8.10. Special Transformers
10	Induction Machine Construction and Model	9.1. Introduction 9.2. Construction 9.3. The Rotating Field 9.4. Principle of Operation 9.5. Mathematical Model 9.6. Equivalent Circuit
11	Induction Motor Operation	10.1. Energy-Conversion Efficiency 10.2. Induction Motor Torque 10.3. Three-phase Induction Motor Starting 10.4. Speed Control 10.5. Extra topics 10.6. Two-Phase Induction Motor 10.7. Single-phase induction motor
12	Synchronous Machines	11.1. Introduction 11.2. Construction (Alternators) 11.3. Alternator Operation 11.4. Armature Reaction in Alternator 11.5. Alternator on Load (Mathematical Model) 11.6. Power Developed in Salient-Pole Synchronous Generator 11.7. Voltage Regulation and External Characteristics 11.8. Parallel Operation of Alternators 11.9. Synchronous Motors
13	DC Machinery Construction and Working Principle	12.1. Introduction 12.2. The Construction of DC Machines 12.3. Operating Principles 12.4. Magnetic Field and Induced Voltages 12.5. Electromagnetic Power and Torque 12.6. Commutation and Sparking
14	DC Generators and DC Motors	13.1. DC Generators 13.2. DC Motors
15	Final Exam	

Title	Advanced Management		
Category	Social Sciences	Course	Economics & Finance
Objective	-		
Description	This course covers a wide range of the basics of management and leads into issues expanded on in other courses offered by the Management Group. The course introduces the ideas of: the development of contemporary management practices, industrial relations and human resource management, making decisions and managing operations in organisations, managing the relationship of the organisation to its environment planning and strategy, directing the organisation setting objectives structure and responsibilities, innovation entrepreneurship and intrapreneurship, managing and leading groups, managing cross-culturally and in an international environment.		
Keyword	Global, Market, Management, Employment, Entrepreneurship		



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Name	Le Hieu Hoc	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	The dynamic new workplace	This lecture identifies the background and the progress of a new type of capital and economy and its capital.
2	Environment and diversity	- Environment and competitive advantage - Customer-driven organizations - Quality-driven organizations - Internal environment and organizational culture - Diversity and multicultural organizations
3	Global dimensions of management	- International management and globalization - International business challenges - Multinational corporations - Culture and global diversity - Management across culture
4	Ethical behaviour and social responsibility	- What is ethical behaviour? - Ethics in the workplace - Maintaining high ethical standard - Social responsibility - Organizations and society
5	Planning and controlling	- How and why managers plan - Types of plans used by managers - Planning tools, techniques and processes - Organizational control processes - Organizational control systems
6	Strategic management	- Sustainable strategic competitiveness - The strategic management process - Strategies used by organizations - Strategy formulation - Strategy implementation
7	Organizing	- Organizing as a management function - Traditional organization structures - Developments in organization structures - Organizing trends
8	Midterm Exam	
9	Human Resources Management	- Diversity and the primacy of people - Human resource management - Attracting a quality workforce - Developing a quality workforce - Maintaining a quality workforce
10	Leading	- The nature of leadership - Leadership traits and behaviours - Contingency approaches to leadership - Issues in leadership development
11	Motivation and rewards	- What is motivation? - Content theories of motivation - Process theories of motivation - Reinforce theory of motivation - Motivation and compensation
12	Teams and teamwork	- Teams in organizations - Trends in the use of teams - Team processes and diversity - Decision making in teams - Leading high-performance teams
13	Communication and interpersonal skills	- The communication process - Improving communication - Perception - Communication and conflict management - Negotiation
14	Entrepreneurship and new venture	- The nature of entrepreneurship - Entrepreneurship and small business - New venture creation - Entrepreneurship and business development
15	Final Exam	

Title	Cryptography Theory		
Category	Engineering	Course	Data Analysis & Statistics
Objective	The purposes of the course are for students to be equipped with knowledge on coding ensuring data protection and security as well as basic knowledge for the students to study further on cryptography algorithms and applying in reality.		
Description	The course introduces the students coding ensuring data protection and security as well as basic knowledge to study further on cryptography algorithms.		
Keyword	Cryptography Theory, Introduction, concepts and characteristics, concepts, different components, English, Vietnamese		



Provided by

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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (5), Examination (60), Assignment (25), Discussion (10)		
Textbook	Christof Paar (2010), Understanding Cryptography, Springer-Verlag Berlin Heidelberg		




Weekly Plan

Week	Subject	Description
1	Introduction to cryptography	This material explains about Introduction to cryptography
2	Mathematics Fundamentals for Cryptography	This material explains about Mathematics Fundamentals for Cryptography
3	Classical Cryptosystems	This material explains about Classical Cryptosystems
4	The Data Encryption Standard (DES)	This material explains about The Data Encryption Standard (DES)
5	The Advanced Encryption Standard	This material explains about The Advanced Encryption Standard
6	Pseudorandom Number Generators	This material explains about Pseudorandom Number Generators
7	Stream Ciphers	This material explains about Stream Ciphers
8	Midterm Exam	
9	Introduction to Public-Key Cryptograph	This material explains about Introduction to Public-Key Cryptograph
10	RSA Cryptosystem	This material explains about RSA Cryptosystem
11	Hash Function	This material explains about Hash Function
12	Digital Signature	This material explains about Digital Signature
13	Key Establishment	This material explains about Key Establishment
14	Public Key Infrastructure	This material explains about Public Key Infrastructure
15	Final Exam	

Title	Biomaterials		
Category	Engineering	Course	Engineering
Objective	The course aims to equip learners with knowledge on characteristics and specialties of material groups used in medical-biology, biological reactions of the body to implanted materials, researches and orientation for future works.		
Description	The subject provides basic and updated knowledge on characteristics, creation technology and specific applications of main material groups used in medical-biology as well as biological reactions and testing, evaluating methods.		
Keyword	Biomaterials, types of materials, protein structure, protein adsorption, properties of materials, medical implant		



Provided by

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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (60), Assignment (20), Discussion (10)		
Textbook	M. Kuno (2004), Introduction to Nanoscience and Nanotechnology: A workbook		




Weekly Plan

Week	Subject	Description
1	Introduction to Biomaterials	This material explains about Introduction to Biomaterials
2	Materials classification: Polymer and Silicone Biomaterial	This material explains about Materials classification: Polymer and Silicone Biomaterial
3	Materials classification (continue) Medical fiber and biotextile, Hydrogel and natural materials	This material explains about Materials classification (continue) Medical fiber and biotextile, Hydrogel and natural material
4	Materials classification: Metals, Ceramic, Composite	This material explains about Materials classification: Metals, Ceramic, Composite
5	Materials classification: Bioresorbable and bioerodible materials - Natural materials	This material explains about Materials classification: Bioresorbable and bioerodible materials - Natural materials
6	Materials classification: Nonfouling surfaces and Physicochemical Surface	This material explains about Materials classification: Nonfouling surfaces and Physicochemical Surface
7	Materials classification: Pyrolytic Carbon and Composite materials	This material explains about Materials classification: Pyrolytic Carbon and Composite materials
8	Midterm Exam	
9	Some Background Concepts of biomaterials science	This material explains about Some Background Concepts of biomaterials science
10	Background concepts: Cells and their Functions	This material explains about Inflammation, wound healing and immune response to materials
11	Inflammation, wound healing and immune response to materials	This material explains about Inflammation, wound healing and immune response to materials
12	The complement system, systemic toxicity and hypersensitivity	This material explains about The complement system, systemic toxicity and hypersensitivity
13	Blood-materials interaction and other host responses	This material explains about Blood-materials interaction and other host responses
14	Background Concepts: Cell injury, Tissues and the Extracellular matrix	This material explains about Background Concepts: Cell injury, Tissues and the Extracellular matrix
15	Final Exam	

Title	Fluid Mechanics		
Category	Engineering	Course	Engineering
Objective	Students are equipped with knowledge on the balance and moving of the fluid as well as relative regulations of force to moving objects in liquid environment.		
Description	Fluid mechanics introduces the primary characteristics of liquid, gas, doing research on statics, kinetics, dynamics of liquid and status of fluids; calculating real fluids, border layers, pipe hydraulics and basic calculations of fluid pumping system.		
Keyword	Fluid Mechanics, fluid, static fluid, Stream function, Bernoulli equation		



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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (40), Assignment (30), Discussion (20)		
Textbook	Quang Vu-Duy (2005), Fluid mechanics, CPH		




Weekly Plan

Week	Subject	Description
1	Introduction	This material explains about Introduction
2	Fluid Statics (part 1)	This material explains about Fluid Statics (part 1)
3	Fluid Statics (part 2)	This material explains about Fluid Statics (part 2)
4	Fluid kinematics	This material explains about Fluid kinematics
5	Practice exercises 1	This material explains about Practice exercises 1
6	Fluid kinetics (part 1)	This material explains about Fluid kinetics (part 1)
7	Fluid kinetics (part 2)	This material explains about Fluid kinetics (part 2)
8	Midterm Exam	
9	Flow of incompressible fluid in Pipes	This material explains about Flow of incompressible fluid in Pipes
10	Flow of compressible fluid	This material explains about Flow of compressible fluid
11	Practice exercises 2	This material explains about Practice exercises 2
12	Fluid flow about immersed bodies	This material explains about Fluid flow about immersed bodies
13	Dimensional analysis and law of similarity	This material explains about Dimensional analysis and law of similarity
14	Fluid machinery	This material explains about Fluid machinery
15	Final Exam	

Title	Numerical Methods for Chemical Engineering		
Category	Engineering	Course	Engineering
Objective	The goals of the course are for students to master methods of modeling processes and primary equipment of chemical and food technology, programming by Pascal, C++ languages.		
Description	The course is about methods of equation solutions, equation sets (linear, non linear), modeling and methods of modeling solutions to processes in chemical technology.		
Keyword	Numerical Methods, Matlab, Pascal, methods for solving nonlinear, Number of mass transfer unit to define, mathematical		



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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (50), Assignment (20), Discussion (20)		
Textbook	Nguyễn Bin (2001), Các quá trình và thiết bị trong công nghệ hoá chất và thực phẩm T 1, 3, 4, NXB Khoa học và Kỹ thuật, Hà Nội		




Weekly Plan

Week	Subject	Description
1	Methods for solution of equation and equation system: Method for solution of linear equation systems	This material explains about Methods for solution of equation and equation system: Method for solution of linear equation systems
2	Case study: mass balance equations: Multi stage evaporators	This material explains about Case study mass balance equations: Multi stage evaporators
3	Non-linear equation and equation systems	This material explains about Non-linear equation and equation systems
4	Application: Mass balances and phase equilibrium equations of distillation column; Heat exchanger: modeling, algorism, programming;	This material explains about Application: Mass balances and phase equilibrium equations of distillation column; Heat exchanger: modeling, algorism, programming
5	Method for definite integrals: Trapezoid method, Simpson method	This material explains about Method for definite integrals: Trapezoid method, Simpson method
6	Defining of number of mass transfer unit for 2 components distillation column	This material explains about Defining of number of mass transfer unit for 2 components distillation column
7	Defining of number of mass transfer unit for absorption column	This material explains about Defining of number of mass transfer unit for absorption column
8	Midterm Exam	
9	Differential equation	This material explains about Differential equation
10	Differential equation systems	This material explains about Differential equation systems
11	Optimization of one variable function: Minimax of one variable function: golden point method, gradient method	This material explains about Optimization of one variable function: Minimax of one variable function: golden point method, gradient method
12	Optimization of multi variable function: Minimax of multi-variables function: gradient method, simplex method	This material explains about Optimization of multi variable function: Minimax of multi-variables function: gradient method, simplex method
13	Optimization of multi variable function: Minimax with constrains: penalty function method	This material explains about Optimization of multi variable function: Minimax with constrains: penalty function method
14	Differential equation	This material explains about Differential equation
15	Final Exam	

Title	Power Supply System		
Category	Engineering	Course	Engineering
Objective	The goals of the course are to provide learners with knowledge on the principles of systems of electric distribution, transmission, and supply; how to calculate, plan, design and operate systems of electric supply under the requirements of additional charge.		
Description	This course introduces the principles of systems of electric distribution, transmission, and supply; how to calculate, plan, design and operate systems of electric supply under the requirements of additional charge.		
Keyword	ted load, equivalent circuits, indirect contacts		



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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (50), Assignment (30), Discussion (10)		
Textbook	Nguyễn Công Hiền(2007), Hệ thống cung cấp điện xí nghiệp công nghiệp, đô thị và nhà cao tầng, NXB KHK		




Weekly Plan

Week	Subject	Description
1	Introduction to Power Supply Systems	This material explains about Introduction to Power Supply Systems
2	Electric demand Part 1	This material explains about Electric demand Part 1
3	Electric demand Part 2	This material explains about Electric demand Part 2
4	Economic analysis	This material explains about Economic analysis
5	Network architecture	This material explains about Network architecture
6	Power flow calculation	This material explains about Power flow calculation
7	Short-circuit calculation	This material explains about Short-circuit calculation
8	Midterm Exam	
9	Electric equipment selection	This material explains about Electric equipment selection
10	Electric equipment selection – Part 2	This material explains about Electric equipment selection – Part 2
11	Reactive power issues	This material explains about Reactive power issues
12	Protection devices	This material explains about Protection devices
13	Electric safety	This material explains about Electric safety
14	Lighting calculations	This material explains about Lighting calculations
15	Final Exam	

Title	Physical Chemistry 2		
Category	Natural Sciences	Course	Chemistry
Objective	-		
Description	The course will provide fundamental and advanced knowledge of kinetics and mechanism of a reaction in laboratories industries and nature electrochemistry with the participation of the charged species (ions, electrons) the interfacial phenomena relating to chemical engineering processes.		
Keyword	Chemical Kinetics, Photochemical Reactions, Electrolyte Solutions, Electrochemical Cells and Electrodes, Emulsions, Colloid, Adsorption		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	Vietnamese
Name	Nguyen Van Anh	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Elementary chemical kinetics 1	This material explains about Elementary chemical kinetics 1
2	Elementary chemical kinetics 2	This material explains about Elementary chemical kinetics 2
3	Elementary chemical kinetics 3	This material explains about Elementary chemical kinetics 3
4	Photochemical Reactions and Chain Reactions	This material explains about Photochemical Reactions and Chain Reactions
5	Catalysis	This material explains about Catalysis
6	Electrolyte solutions	This material explains about Electrolyte solutions
7	Electrochemical Cells and Electrodes	This material explains about Electrochemical Cells and Electrodes
8	Midterm Exam	
9	Introduction to Electrochemical Kinetics	This material explains about Introduction to Electrochemical Kinetics
10	Introduction to Interfacial Phenomena	This material explains about Introduction to Interfacial Phenomena
11	Adsorption 1	This material explains about Adsorption 1
12	Adsorption 2	This material explains about Adsorption 2
13	Colloid	This material explains about Colloid
14	Emulsions	This material explains about Emulsions
15	Final Exam	

Title	Automatic Control Engineering		
Category	Engineering	Course	Engineering
Objective	-		
Description	To provide basic knowledge for engineering students especially students of mechanical engineering and mechatronics. Methods are as follows Description of technical automatic control systems principle of analysis and evaluation of the quality of control systems which is capable of designing automatic control systems in the industrial production system.		
Keyword	Automatic Control Mathematic Model, State variable model, Root Locus Method, Automatic System		



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University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	Vietnamese
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Basic Principle of Automatic Control Engineering	This material explains about Basic Principle of Automatic Control Engineering
2	Mathematic Model of System (part 1)	This material explains about Mathematic Model of System (part 1)
3	Mathematic Model of System (part 2)	This material explains about Mathematic Model of System (part 2)
4	Mathematic Model of System (part 3)	This material explains about Mathematic Model of System (part 3)
5	State variable model	This material explains about State variable model
6	Dynamic characteristic of the blogs and the system in the frequency domain	This material explains about Dynamic characteristic of the blogs and the system in the frequency domain
7	Time domain analysis of control system	This material explains about Time domain analysis of control system
8	Midterm Exam	
9	The system's stability(part 1)	This material explains about The system's stability (part 1)
10	The system's stability (part 2) - Geometry Criterion	This material explains about The system's stability (part 2) - Geometry Criterion
11	Root Locus Method	This material explains about Root Locus Method
12	Automatic System in Mechanical Engineering – part 1	This material explains about Automatic System in Mechanical Engineering – part 1
13	Automatic System in Mechanical Engineering – part 2	This material explains about Automatic System in Mechanical Engineering – part 2
14	Improvement of ACS' quality	This material explains about Improvement of ACS' quality
15	Final Exam	

Title	Food Quality Management Systems		
Category	Natural Sciences	Course	Chemistry
Objective	The course "Food Quality Management Systems is taught to the students attending the Bachelor and Engineer in Food Technology program. It is also a fundamental course for students who are specialized in the field of Food Quality Management.		
Description	-		
Keyword	Food Quality Control, Food Safety, Analysis and Critical Control Point system, Quality Management Systems, Food Safety Management System		



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University	Hanoi University of Science and Technology		
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction	This material explains about Introduction about food quality management systems
2	Food Quality Control	This material explains about Food Quality Control
3	Quality systems	This material explains about Quality systems
4	Quality management system according to ISO 9000	This material explains about Quality management system according to ISO 9000
5	Quality Management Systems according to ISO 9001:2008	This material explains about Quality Management Systems according to ISO 9001:2008
6	Food Safety (part 1)	This material explains about Food Safety (part 1)
7	Food safety (part 2)	This material explains about Food safety (part 2)
8	Midterm Exam	
9	Prerequisite programs	This material explains about Prerequisite programs
10	Hazard Analysis and Critical Control Point system	This material explains about Hazard Analysis and Critical Control Point system
11	Analysis and Critical Control Point system - 1	This material explains about Analysis and Critical Control Point system - 1
12	Analysis and Critical Control Point system - 2	This material explains about Analysis and Critical Control Point system - 2
13	Food Safety Management System ISO 22000	This material explains about Food Safety Management System ISO 22000
14	ISO 22000: 2005: Food safety management system - Requirements for any organization in the food chain	This material explains about ISO 22000: 2005: Food safety management system - Requirements for any organization in the food chain
15	Final Exam	

Title	Database		
Category	Engineering	Course	Engineering
Objective	Understanding the role of database in information systems; Being able to use a relational DBMS and to design DB (using ER model and/or functional dependencies, normalization; Understanding the structure of DBMS and its technologies (storage, query processing, transaction manager)		
Description	Database is a collection of data which is intended to be shared by users and applications. DBMS (Database Management System) is a computer system which enables to handle this collection of data efficiently. In this course, topics such as purposes and roles of database, the relational model as a data representation method, the SQL language, database design methods, transaction management which enables data sharing by users and applications, architecture of DBMS to process huge datasets.		
Keyword	Transaction, ACID, Control concurrent, Recovery		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Examination (50), Assignment (40), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · Raghu Ramakrishnan, . Database Management Systems, McGraw-Hill · Hector Garcia-Molina, Database systems: the complete book, Prentice Hall 		




Weekly Plan

Week	Subject	Description
1	Introduction to Databases	This material explains about Introduction to Databases
2	Relational Database	This material explains about Relational Database
3	Relational Algebra	This material explains about Relational Algebra
4	SQL: Defining a simple database / Database Modification	This material explains about SQL: Defining a simple database / Database Modification
5	SQL: Queries	This material explains about SQL: Queries
6	SQL: View , Triggers	This material explains about SQL: View , Triggers
7	Database Design: ER Model, transformation to relational model	This material explains about Database Design: ER Model, transformation to relational model
8	Midterm Exam	
9	Database Design: Functional Dependency	This material explains about Database Design: Function
10	Database Design: Normalization	This material explains about Database Design: Normalization
11	Storage – index	This material explains about Storage - index
12	Query processing	This material explains about Query processing
13	Transaction management	This material explains about Transaction management
14	Transaction management Techniques	This material explains about Transaction management Techniques
15	Final Exam	

Title	Data Structures and Algorithms		
Category	Engineering	Course	Engineering
Objective	After completing this course, students will be able to : <ul style="list-style-type: none"> · Implement and use the basic data structures such as stacks, queues, priority queues, lists, trees and hash tables. · Design and implement programs which use data structures for the development of information processing systems. · Understand and can implement search algorithms, basic sorting algorithms such as quick sort, heap sort, merge sort. · Understand the construction techniques such as basic mathematical recursion, divide and conquer to solve the problem, implement and analyze the complexity in asymptotic notation basic data structures and basic algorithms its manipulation. 		
Description	Provides the basic knowledge of the principle, the characteristics and the computational complexity of the data structures and algorithms such as the fundamental knowledge base for the development of the information processing system. Students learn how to build the information processing system through the development of simple applications. The data structures include arrays, lists, stacks, queues, some tree structure. The algorithms include recursive algorithms, the sort algorithm, search algorithms.		
Keyword	definitions of the algorithm, data structure, source codes of algorithms		



Provided by

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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (40), Assignment (45), Discussion (5), Class participation (20)		
Textbook	<ul style="list-style-type: none"> · Niklaus Wirth (1986), Algorithms and Data Structures, Prentice-Hall · Thomas H. Cormes (1989), Introduction to Algorithms, MIT Press 		




Weekly Plan

Week	Subject	Description
1	introduction	This material explains about introduction
2	Basic Data Structures	This material explains about Basic Data Structures
3	Array	This material explains about Array
4	List(1)	This material explains about List(1)
5	List(2)	This material explains about List(2)
6	List(3)	This material explains about Queue
7	Queue	This material explains about Recursive algorithm
8	Midterm Exam	
9	Recursive algorithm	This material explains about Recursive algorithm
10	Tree	This material explains about Tree
11	Sorting algorithms (1)	his material explains about Sorting algorithms (1)
12	Sorting algorithms (2)	his material explains about Sorting algorithms (1)
13	Searching algorithms (1)	This material explains about Searching algorithms (1)
14	Searching algorithms (2)	This material explains about Searching algorithms (2)
15	Final Exam	

Title	Electronic Circuits		
Category	Engineering	Course	Engineering
Objective	To make students competent in analysing electric circuits and performing basic electrical measurement experiments to verify circuit concepts		
Description	Basic elements of electrical circuits, basic laws, electrical circuit analysis, circuit theorems, active circuits, capacitor and inductor, first-order and second-order circuits, AC circuits, AC power, three-phase circuits, magnetically coupled circuits, frequency response, Laplace transform, two-port networks		
Keyword	principles of diodes, BJTs MOSFET, equivalent circuit models, Op, Amps compound configurations		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (70), Assignment (10), Discussion (10)		
Textbook	<ul style="list-style-type: none"> u Quang (2015), General law Curriculum, Bachkhoa Publishing House Waqar Aziz bhutto (2012), General Law, AP advanced Publishers 		




Weekly Plan

Week	Subject	Description
1	Basic Elements of Electrical Circuits and Basic Laws	This material explains about Basic Elements of Electrical
2	Electrical Circuit Analysis	This material explains about Electrical Circuit Analysis
3	Circuit Theorems	This material explains about Circuit Theorems
4	Active Circuits	This material explains about Active Circuits
5	First order circuits	This material explains about First order circuits
6	Second-Order Circuits	This material explains about Lesson 6. Second-Order Circuits
7	Sinusoidal Steady-State Analysis	This material explains about Lesson 7. Sinusoidal Steady-State Analysis
8	Midterm Exam	
9	AC Power Analysis	This material explains about Lesson 8. AC Power Analysis
10	Three-phase Circuits	This material explains about Lesson 9. Three-phase Circuits
11	Magnetically-Coupled Circuits	This material explains about Magnetically-Coupled Circuits
12	Frequency Response	This material explains about Frequency Response
13	The Laplace Transform	This material explains about The Laplace Transform
14	Two port network	This material explains about Two port network
15	Final Exam	

Title	General Law		
Category	Social Sciences	Course	Law
Objective	Grasping the basic knowledge of law and applying these knowledge to practice.		
Description	The course includes 4 parts: The first part provides basic knowledge of State; the second provides knowledge and skills of law and implementation of law; the third introduces the legal systems in the world; the forth introduces the Vietnamese legal system, especially the law of science and technology and intellectual property law.		
Keyword	theology the patriarchalism, the social contract theory, Marxism's point of the State's birth, Vietnamese legal system		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	Vietnamese
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	
Evaluation Plan	-		
Textbook	<ul style="list-style-type: none"> · C.K. Alexander, M.N.O. Sadiku (2012), Fundamentals of electric circuits, McGraw Hill · John Bird (2014), Electrical and electronic principles and technology, Routledge 		




Weekly Plan

Week	Subject	Description
1	Origin and nature of the State	This material explains about Origin and nature of the State
2	Characters and Forms of the State	This material explains about Characters and Forms of the State
3	The concept and characters of Law	This material explains about The concept and characters of Law
4	The structure of Law	This material explains about The structure of Law
5	The source of Law	This material explains about The source of Law
6	Legal relationship	This material explains about Legal relationship
7	The law in practice	This material explains about The law in practice
8	Midterm Exam	
9	Violating the law	This material explains about Violating the law
10	Legal responsibility	This material explains about Legal responsibility
11	Legal systems in the world	This material explains about Legal systems in the world
12	Vietnamese legal system	This material explains about Vietnamese legal system
13	The law of science and technology and Intellectual property law	This material explains about The law of science and technology and Intellectual property law
14	Final Exam	

Title	Power Electronics		
Category	Engineering	Course	Engineering
Objective	After completing this course, students will be able to: <ul style="list-style-type: none"> · describe the difference between these power converters: dc-dc, ac-dc, dc-ac, and ac-ac; · model power components, including magnetic components and power semiconductor switching devices · analyze and design a complex power systems taking into account major design considerations for switching power conversion, including operation and control choices,, circuit models of real sources and devices, and passive and active component behavior · be familiar with design tools (LTSPICE). 		
Description	The fundamentals of electronics for electrical energy processing, and applications to renewable and alternative energy will be introduced. Students are required to work individually and also in team to design a complete power source that will be defined by instructor since the beginning of the course.		
Keyword	power electronics, magnetic components, AC-DC converter, switching power conversion, LTSPICE		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	Vietnamese
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (70), Assignment (45), Discussion (10), Class participation (10)		
Textbook	Robert W. Erickson, Fundamentals of Power Electronics, KLUMER ACADEMIC PUBLISHERS		




Weekly Plan

Week	Subject	Description
1	Introduction to Power Electronics	This material explains about Introduction to Power Electronics
2	Principle of steady state converter analysis (part 1)	This material explains about Principle of steady state converter analysis (part 1)
3	Principle of steady state converter analysis (part 2)	This material explains about Principle of steady state converter analysis (part 2)
4	Principle of steady state converter analysis (part 3)	This material explains about Principle of steady state converter analysis (part 3)
5	Steady state Equivalent Circuit modeling, losses, and efficiency (Part 1)	This material explains about Steady state Equivalent Circuit modeling, losses, and efficiency (Part 1)
6	Steady state Equivalent Circuit modeling, losses, and efficiency (Part 2)	This material explains about Steady state Equivalent Circuit modeling, losses, and efficiency (Part 2)
7	Steady state Equivalent Circuit modeling, losses, and efficiency (Part 3)	This material explains about Steady state Equivalent Circuit modeling, losses, and efficiency (Part 3)
8	Midterm Exam	
9	Switch realization (part 1)	This material explains about Switch realization (part 1)
10	Switch realization (part 2)	This material explains about Switch realization (part 2)
11	Switch realization (part 3)	This material explains about Switch realization (part 3)
12	The discontinuous conduction mode (part 1)	This material explains about The discontinuous conduction mode (part 1)
13	The discontinuous conduction mode (part 2)	This material explains about The discontinuous conduction mode (part 2)
14	Software simulation	This material explains about Software simulation
15	Final Exam	

Title	Introduction to Software Engineering		
Category	Engineering	Course	Engineering
Objective	-		
Description	This course introduces you to software engineering. Define Project Management Configuration Management Requirements Study software engineering principles, including system analysis design, testing, and distribution, and foundation of practice. This course provides students with hands-on experience in group software development projects.		
Keyword	software, engineering, project management, configurations management, requirements definition, system analysis		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	-	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to Software Engineering	This material explains about Introduction to Software Engineering
2	Software Life Cycle	This material explains about Software Life Cycle
3	Software Process Models	This material explains about Software Process Models
4	Agile Software Development Process	This material explains about Agile Software Development Process
5	Design Patterns	This material explains about Design Patterns
6	Software Configuration Management	This material explains about Software Configuration Management
7	Requirement Engineering (part 1)	This material explains about Requirement Engineering (part 1)
8	Midterm Exam	
9	Requirement Engineering (part 2)	This material explains about Requirement Engineering (part 2)
10	Analysis and Design	This material explains about Analysis and Design
11	Software-Design-UML	This material explains about Software-Design-UML
12	Software Programming/Construction	This material explains about Software Programming/Construction
13	Testing	This material explains about Testing
14	Software Project Management	This material explains about Software Project Management
15	Final Exam	

Title	Applications Introduction to Mechatronic		
Category	Engineering	Course	Engineering
Objective	-		
Description	The subject provides the basic knowledge of mechatronic systems for technical students.		
Keyword	mechatronic systems, mechanical-electronic-informatics real-time data processing dynamic system, structure and operation principles		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Nguyen Thanh Hung	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Overview of mechatronics	This material explains about Overview of mechatronics
2	Sensors (1)	This material explains about Sensors (1)
3	Sensors (2)	This material explains about Sensors (2)
4	Actuators (1)	This material explains about Actuators (1)
5	Actuators (2)	This material explains about Actuators (2)
6	Control in mechatronics (1)	This material explains about Control in mechatronics (1)
7	Control in mechatronics (2)	This material explains about Control in mechatronics (2)
8	Midterm Exam	
9	Machine vision (1)	This material explains about Machine vision (1)
10	Machine vision (2)	This material explains about Machine vision (2)
11	Signal processing (1)	This material explains about Signal processing (1)
12	Signal processing (2)	This material explains about Signal processing (2)
13	Industrial robot	This material explains about Industrial robot
14	Software for Mechatronics engineer	This material explains about Industrial robot
15	Final Exam	

Title	Engineering Mechanics I		
Category	Engineering	Course	Engineering
Objective	-		
Description	The first part of this course introduces the basic theory of static equilibrium axiomatic free-body diagrams of the rigid bodies affected by the force and moment system, the equilibrium pharmaceutical machine system modeling conditions, and the approach to solving static problems related to friction forces. The second part covers parallel movement to the fixed axis. Many application examples and real problems are included to illustrate the general theory of planar motion of rigid bodies.		
Keyword	static equilibrium axioms, free-body diagram, Engineering Mechanics planar motion rigid bodies		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Nguyen Thi Van Huong	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to statics, basic concepts and definitions, static equilibrium axioms	This material explains about Introduction to statics, basic concepts and definitions, static equilibrium axioms
2	Coplanar force systems and equilibrium of a planar rigid body	This material explains about Coplanar force systems and equilibrium of a planar rigid body
3	Exercises - Equilibrium of a planar rigid body and a constrained multibody system	This material explains about Exercises - Equilibrium of a planar rigid body and a constrained multibody system
4	Spatial force systems and equilibrium of a spatial rigid body	This material explains about Spatial force systems and equilibrium of a spatial rigid body
5	Exercises - Equilibrium of a spatial rigid body	This material explains about Exercises - Equilibrium of a spatial rigid body
6	Center of gravity and Introduction to friction	This material explains about Center of gravity and Introduction to friction
7	Exercises - The center of gravity of a rigid body and equilibrium of a planar rigid body under friction	This material explains about Exercises - The center of gravity of a rigid body and equilibrium of a planar rigid body under friction
8	Midterm Exam	
9	Kinematics of particles and basic motions of the rigid body	This material explains about Kinematics of particles and basic motions of the rigid body
10	Exercises - Kinematics of particles and basic motions of the rigid body	This material explains about Exercises - Kinematics of particles and basic motions of the rigid body
11	Planar kinematics of a rigid body	This material explains about Planar kinematics of a rigid body
12	Exercises - Kinematics of planar rigid body motion	This material explains about Exercises - Kinematics of planar rigid body motion
13	Relative Kinematics of particles	This material explains about Relative Kinematics of particles
14	Exercises -Relative motion of a particle	This material explains about Exercises -Relative motion of a particle
15	Final Exam	

Title	Applied Cryptography		
Category	Engineering	Course	Engineering
Objective	-		
Description	This course explores the application of modern encryption technology and real issues, including general algorithms and protocols used to protect and validate electronic document messages and e-commerce transactions.		
Keyword	Modern cryptography, Cryptography e-commerce transactions, Code, Encode, Decode, Cipher or Encryption scheme		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Tran Vinh Duc	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	Introduction to Cryptography 1 (Secret key Encryption)	This material explains about Introduction to Cryptography 1 (Secret key Encryption)
2	Introduction to Cryptography 2 (Authenticated Encryption)	This material explains about Introduction to Cryptography 2 (Authenticated Encryption)
3	Introduction to Cryptography 3 (Public key encryption)	This material explains about Introduction to Cryptography 3 (Public key encryption)
4	Public Key Encryption from Diffie-Hellman	This material explains about Public Key Encryption from Diffie-Hellman
5	Elliptic Curve Cryptosystems	This material explains about Elliptic Curve Cryptosystems
6	Digital Signatures	This material explains about Digital Signatures
7	Introduction to Cryptocurrency 1	This material explains about Introduction to Cryptocurrency 1
8	Midterm Exam	
9	Introduction to Cryptocurrency 2	This material explains about Introduction to Cryptocurrency 2
10	Introduction to Cryptocurrency 3	This material explains about Introduction to Cryptocurrency 3
11	Identification Protocols	This material explains about Identification Protocols
12	Authenticated Key Exchange Protocols	This material explains about Authenticated Key Exchange Protocols
13	Zero Knowledge Proofs	This material explains about Zero Knowledge Proofs
14	Final Exam	

Title	Electronic Circuits and Applications		
Category	Engineering	Course	Engineering
Objective	-		
Description	This process provides the basic operating principles of the diode BJTs, MOSFETs and an equivalent circuit model for each unit. Analytical design techniques for basic BJT and MOS transistor amplifiers and related topics (frequency response feedback is carefully discussed. A number of special topics are also provided, including the composite configuration basic computational amplifier application. Laboratory sessions will help students practice their testing skills.		
Keyword	principles of diodes, BJTs MOSFETs, equivalent circuit models, Amps compound configurations		



Provided by

University	Hanoi University of Science and Technology		
Country	Vietnam 	Language	English
Name	Phung Thi Kieu Ha, Nguyen Xuan Quyen, Nguyen Anh Quang, Nguyen Vu Thang	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	BJT small-signal amplifier	This material explains about BJT small-signal amplifier
2	Small-signal amplifier using FET	This material explains about Small-signal amplifier using FET
3	Effect of Load and Source Resistance	This material explains about Effect of Load and Source Resistance
4	Frequency Response	This material explains about Frequency Response
5	Feedback in Amplifier	This material explains about Feedback in Amplifier
6	Power amplifier I	This material explains about Power amplifier I
7	Power amplifier II	This material explains about Power amplifier II
8	Midterm Exam	
9	Operational Amplifier	This material explains about Operational Amplifier
10	Op-Amp Applications (I)	This material explains about Op-Amp Applications (I)
11	Op-Amp Applications (II)	This material explains about Op-Amp Application (II)
12	Voltage Regulator I	This material explains about Voltage Regulator I
13	Voltage Regulator I	This material explains about Voltage Regulator II
14	Final Exam	

Title	Automata Theory		
Category	Engineering	Course	Computer Science
Objective	-		
Description	In this lecture students will study basic of mechanism and computer language.		
Keyword	Automata theory, System, DFA, PDA, CFG		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	Cambodian
Name	Shin Hyeonjeong	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to Automata Theory	Introduction: Why do learn Automata Theory?
2	Languages and operations on languages	In this lecture, we will learn more on Alphabets and Strings. After that, we are going to look into Languages.
3	Deterministic finite automata	In this lecture, we are going to learn about Finite Automata and Deterministic Finite Automata.
4	Non-Deterministic Finite Automata	Let's learn about Non-determinism and then compare NFA and DFA
5	Determination and Minimization of Finite Automata	In this lecture, we are going to see how determination and minimization are applied in Finite Automata
6	Regular Expressions	In this lecture, we are going to see how determination and minimization are applied in Finite Automata
7	Finite Automata and Regular Expressions	In this lecture, we are going to take a closer look into the relationship between RE and FA
8	Midterm Exam	
9	Context-free grammars and languages (1)	Let's learn about Non Regular Language and Context Free Grammars. How is Context-Free grammars used to represent a language?
10	Context-free grammars and languages (2)	In this lecture, we will learn that there is an ambiguity in CFG. Then, how do we remove it?
11	Normal form of context-free grammars	Today, we are going to talk about 2 normal forms of CFG
12	Pushdown Automata (1)	Let's learn about definition and language of Pushdown Automata
13	Pushdown Automata (2)	How do we convert the two types of PDA from one to another?
14	Turing machines	For our last class, we are going to study the history of turing Machines and their usage
15	Final Exam	

Title	Introduction to Computer Systems and Network		
Category	Engineering	Course	Computer Science
Objective	-		
Description	The course teaches the basic information about PC from hardware to security of computer network.		
Keyword	Hardware, Software, Network, System, Security		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
Name	Hean Samboeun	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to PC Hardware	What called Hardware as PC?
2	Assembly computer system	Understand the importance of safe lab by teaching assembling the PC
3	Introduction to Operation System	Helps understanding operating systems
4	Drivers and Applications Software	Introduce to software driver
5	Computer System Peripherals	Let's think about what is the computer peripherals
6	Security Data on Personal Computer	Figure out how important it is in PC manages security data
7	PC Hardware and Software Troubleshooting	Introduce from evaluating the HW and SW problem to solving and maintenance
8	Midterm Exam	
9	Introduction to Computer Networks	What is the Computer network?
10	Communication Media	Explains communication media
11	Networking Protocols	Understanding Networking Protocols
12	Networking and Internetworking Devices (NIDs)	Discussion about NIDs
13	Computer Network Installation	Shows how to install the computer network
14	Computer Network Trouble shooting	Learning about computer network trouble shooting
15	Final Exam	

Title	Advanced Computer Architecture		
Category	Engineering	Course	Computer Science
Objective	-		
Description	Students will learn the basic principles of data manipulation and management in computer systems.		
Keyword	Computer, Memory, Data manipulation, Data flow, Data interpretation		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
Name	Chun Thavorac	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Compute Architecture</u>	Students will be able to identify abstractions that exist between program and hardware.
2	<u>Memory Organization</u>	Students will be able to understand the whole process of storing and retrieving data into and from memory.
3	<u>Data Representation in Computer Systems</u>	Students will be able to explain the various ways in which computers can store and manipulate numbers and characters.
4	<u>ISA & Addressing Modes</u>	Students will be able to identify what is ISA, how it is related to programming, and its different signatures.
5	<u>X86 Assembly</u>	Students will be able to identify how data is moving in memory and between memory-register by using Assembly language in IA32.
6	<u>Cache</u>	Students will be able to identify what is cache and understand how cache improves machine performance.
7	<u>Virtual Memory part 1</u>	Students will be able to explain what virtual memory is and how it can expend memory space limitation.
8	Midterm Exam	
9	Virtual Memory part 2	Students will be able to explain how to build virtual memory by using segmentation.
10	<u>CPU Architecture: CISC & RISC</u>	Students will be able to explain what CISC and RISC is and how they are designed.
11	<u>Processor Design 1-2-3 Bus Organization</u>	Students will be able to explain how processor communicates with other devices and within itself as well.
12	<u>Processor Design - Control Unit</u>	Students will be able to explain the characteristics of hardwired control.
13	<u>Processor Design - The Pipelining</u>	Students will be able to differentiate microprogrammed, unpipeline program, and pipeline program.
14	<u>I/O and Peripheral Devices</u>	Students will be able to explain the principles of I/O module.
15	Final Exam	

Title	Introduction to Computer Science		
Category	Engineering	Course	Computer Science
Objective	-		
Description	The lectures identify the basic concept of computer science and examines the principles and process of the data management and system manipulation through programming language.		
Keyword	Computer, Network, Number system, Data, Programming language		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	Cambodian
Name	Dona Valy	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Computer</u>	This lecture examines the history and the types of computer and identifies its relationship with human society.
2	<u>Computer Hardware</u>	This lecture examines the anatomy of the computer components and its memory process.
3	<u>Operating System and Application</u>	This lecture defines the concept of OS(Operating System) and identifies its role through the comparison between software and application.
4	<u>Common Application</u>	This lecture identifies various features of the Windows and its utilization of Microsoft Office and the Internet.
5	<u>Introduction to Computer Network</u>	This lecture examines the concept of computer network and explains the principles of data transmission through the network.
6	Number Systems	This lecture explains the types of number systems applied in the computer software and its mathematical processing.
7	<u>Data Representation and Encoding</u>	This lecture identifies the process of data representation through binary numbers and examines the types of data which are represented.
8	Midterm Exam	
9	<u>Introduction to Algorithm and Programming</u>	This lecture examines the use of algorithm in programming language, referring to the exemplary language, Python.
10	<u>Data Type, Variable and Operators</u>	This lecture examines the process of using the algorithm to create an expression, along with the variables of identifiers.
11	<u>Control Structures</u>	This lecture explains the utilization of various operators including the selection control and the iterative control.
12	<u>Structure Data Type</u>	This lecture identifies various exemplary lists through the structures including Python and Tuples.
13	<u>Sub-Program</u>	This lecture explains various types of functions utilized in the programming language.
14	<u>Files</u>	This lecture identifies the use of Python in different types of files and examines the function of exception for the error management.
15	Final Exam	

Title	Theory of Information		
Category	Natural Sciences	Course	Math
Objective	-		
Description	Through this course students will be able to understand the fundamental principles of mathematics and apply theorem to practice.		
Keyword	Function, Recurrence, Algorithm, Integer, Algebra		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	Cambodian
Name	Dona Valy	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Logic Theory</u>	Students will be able to analyze the logic statements and propositions.
2	Set Theory	Students will be able to understand the principles and operation of set.
3	<u>Relations, Functions, and Sequences</u>	Students will be able to understand the representation and properties of relations, functions, and sequences.
4	<u>Applications of Number Theory (1)</u>	Students will be able to understand the principles and application of various number theories.
5	<u>Applications of Number Theory (2)</u>	Students will be able to understand the congruence of integers and apply it to practice.
6	<u>Counting (1)</u>	Students will be able to understand the principles of counting and the factors that must be considered when going through the process.
7	<u>Counting (2)</u>	Students will be able to understand the principles of permutation, arrangement, and combination.
8	Midterm Exam	
9	<u>Mathematical Reasoning</u>	Students will be able to understand various terminology of mathematical reasoning.
10	<u>Induction</u>	Students will be able to understand the difference between induction and deduction.
11	<u>Recursion</u>	Students will be able to understand the principle of recursion and its relationship with induction.
12	<u>Recurrence Relations</u>	Students will be able to understand the principles of recurrence relations and equations.
13	<u>Algorithms & The Big O!</u>	Students will be able to understand the principles of algorithm and its application.
14	<u>Boolean Algebra</u>	Students will be able to understand the principles and operation of Boolean algebra.
15	Final Exam	

Title	Metallic Material Operations		
Category	Engineering	Course	Engineering
Objective	-		
Description	The lecture explains the fundamentals of material operation and suggest various exemplary processes of metal operation.		
Keyword	Manufacturing, Material, Process, Operation, Machining		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
Name	Piseth Seng	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Fundamental of Metal Casting</u>	This lecture defines the fundamentals of metal manufacturing.
2	<u>Metal Casting Processes</u>	This lecture explains various metal casting processes for each types of manufacturing.
3	<u>Glass Working Processes</u>	This lecture explains various glass working processes for each types of manufacturing.
4	<u>Powder Metallurgy</u>	This lecture explains various powder metallurgy working processes for each types of manufacturing.
5	<u>Processing of Ceramics and Cermets</u>	This lecture explains the process of ceramic and cermet shaping and its applications.
6	Fundamentals of Metal Forming	This lecture explains the process of metal forming and the factors that affect each level of process.
7	<u>Bulk Deformation Processes in Metal Working</u>	This lecture examines each levels in the process of bulk deformation.
8	Midterm Exam	
9	<u>Sheet Metalworking</u>	This lecture defines each levels in the process of sheet metal operation.
10	Theory of Metal Machining	This lecture identifies the material removal process of metal machining.
11	<u>Machining Operation and Machine Tools</u>	This lecture refers to part geometry in order to examine the process of machining.
12	<u>Grinding and Other Abrasive Processes</u>	This lecture explains various types of abrasive processes in metal operation, including grinding.
13	<u>Nontraditional Machining and Thermal Cutting Processes 1</u>	This lecture defines various types of mechanical energy processes.
14	<u>Nontraditional Machining and Thermal Cutting Processes 2</u>	This lecture defines various types of electrical machining.
15	Final Exam	

Title	Image Processing		
Category	Engineering	Course	Computer Science
Objective	-		
Description	In this course students will learn the basic concepts of image color representation algorithms of compression luminance advance of edge detection and histogram equalization in order to enhance image quality and do operations on images such as brightness and darkness edge detection an color changing.		
Keyword	Image Acquisition, Color Representation, Multimedia System ,Image Segmentation, Histogram Equalization		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	Cambodian
Name	KONG Phutphalla	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Image Processing</u>	This lecture introduces the methodology of the manipulation of various details of an image.
2	<u>Data Structure and Color of Images</u>	This lecture identifies the image structures and examines the procedures of color representation.
3	<u>Ms. Visual Studio 2008 and OpenCV</u>	This lecture examines the procedures of Ms. Visual Studio 2008 operation and OpenCV.
4	<u>Introduction to Multimedia Systems</u>	This lecture identifies the basic concept of multimedia system and examines the features of multimedia processing.
5	<u>Introduction to Video and Lossless Compression</u>	This lecture identifies the basic concept of video and examines the stages of its detail examination.
6	<u>Huffman Coding</u>	This lecture identifies the basic concept of Huffman coding and introduces various applications of the concept.
7	<u>LZ77</u>	-
8	Midterm Exam	
9	<u>LZ78</u>	-
10	<u>LZW</u>	-
11	<u>Sampling</u>	-
12	Image Segmentation-I	-
13	<u>Image Segmentation-II</u>	-
14	<u>Luminance and Histogram Equalization</u>	-
15	Final Exam	

Title	Software Engineering		
Category	Engineering	Course	Computer Science
Objective	-		
Description	-		
Keyword	UML, Activity diagram, Class diagram, Class, Object		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	Cambodian
Name	TAL Tongsreng	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to UML	-
2	Use Case	-
3	Activity Diagram	-
4	Class Diagram	-
5	Advanced Class Diagram	-
6	Sequence Diagram	-
7	Concept Object	-
8	Midterm Exam	
9	Classes and Objects I	-
10	Classes and Objects II	-
11	Delegation and Inheritance part 1	-
12	Delegation and Inheritance part 2	-
13	Inheritance and Polymorphism part 1	-
14	Inheritance and Polymorphism part 2	-
15	Final Exam	

Title	Environmental Geology		
Category	Natural Sciences	Course	Energy & Earth Sciences
Objective	-		
Description	-		
Keyword	Environmental Geology		



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University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
Name	PICH Bunchoeun	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Human, Geology and the Environment</u>	-
2	<u>Getting Around in Geology</u>	-
3	<u>Plate Tectonics</u>	-
4	<u>Earthquakes and Human Activities</u>	-
5	<u>Soils, Weathering and Erosion</u>	-
6	<u>Mass Wasting and Subsidence</u>	-
7	<u>Fresh - Water Resources</u>	-
8	Midterm Exam	
9	<u>Hydrologic Hazards at the Earth's Surface</u>	-
10	<u>Coastal Environments and Humans</u>	-
11	<u>Glaciation and Long-Term Climate Change</u>	-
12	<u>Mineral Resources and Society</u>	-
13	<u>Energy and the Environment</u>	-
14	<u>Waste Management and Geology</u>	-
15	Final Exam	

Title	Food Microbiology		
Category	Natural Sciences	Course	Food & Nutrition
Objective	-		
Description	Food Microbiology		
Keyword	Food Microbiology		



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University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
Name	MITH Hasika	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Food Microbiology</u>	-
2	<u>Microorganism and Food Materials</u>	-
3	<u>Factors Affecting Growth of Spoilage and Pathogenic Microorganism in Food (Part 1)</u>	-
4	<u>Factors Affecting Growth of Spoilage and Pathogenic Microorganism in Food (Part 2)</u>	-
5	<u>Microbiology of Food Preservation</u>	-
6	<u>Microbiology of Some Principal Food Commodities</u>	-
7	<u>Microbiology of Food Spoilage</u>	-
8	Midterm Exam	
9	<u>Microbiology of Foodborne Pathogens (Part 1)</u>	-
10	<u>Microbiology of Foodborne Pathogens (Part 2)</u>	-
11	<u>Microbiology of Foodborne Pathogens (Part 3)</u>	-
12	<u>Microbiology of Foodborne Pathogens (Part 4)</u>	-
13	<u>Microbiology of Foodborne Pathogens (Part 5)</u>	-
14	<u>Microbiology of Foodborne Food</u>	-
15	Final Exam	

Title	Geographic Information System and Remote Sensing		
Category	Natural Sciences	Course	Sciences
Objective	-		
Description	Spatial data capture management and analysis basic concepts of geographic information systems (vector and raster data model georeferencing projection topology digitizing geoprocessing...) data visualisation data selection layer symbolization geo-processing layout preparation satellite images main preprocessing of those images (georeferencing filtering transformation...) photo interpretation, a simple supervised or non - supervised classification of an image and evaluate the quality of this classification.		
Keyword	Data modeling and data structure, Georeferencing, Data acquisition, Spatial data analysis, Satellites		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
Name	Ly Sanrann	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to GIS</u>	-
2	<u>Data Structures</u>	-
3	<u>Coordinated Systems</u>	-
4	<u>Data Format and IT Management</u>	-
5	<u>Data Acquisition</u>	-
6	<u>Data Presentation</u>	-
7	<u>Geoprocessing</u>	-
8	Midterm Exam	
9	Processing on the Tables	-
10	<u>Introduction to Remote Sensing</u>	-
11	<u>Visual Interpretation of Images</u>	-
12	<u>Satellites and Sensors</u>	-
13	<u>Image Pre-Processing</u>	-
14	Image Classification	-
15	Final Exam	

Title	Database Analysis and Design		
Category	Engineering	Course	Computer Science
Objective	This lecture examines the information systems and the effect it has on various aspects of data modeling.		
Description	-		
Keyword	Information systems, Data modeling, Decision making, Network		



Provided by

University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to information system	-
2	<u>Introduction to data model</u>	-
3	<u>Introduction to database</u>	-
4	<u>Entity relationship data model</u>	-
5	<u>Entity relationship diagram</u>	-
6	Database design with Entity Relationship model	-
7	Relational data model	-
8	Midterm Exam	
9	<u>Relational data model constrain</u>	-
10	Functional dependency	-
11	Normal form	-
12	Database normalization	-
13	<u>Entity Relationship Model to Relational Model</u>	-
14	Final Exam	

Title	Internal Combustion Engine Theory_ITC		
Category	Engineering	Course	Engineering
Objective	To expand the knowledge on engine theory especially on the process of combustion and emission control, engine technology management, alternative fuels and engine design. It provides insight on engine maintenance, research and development.		
Description	This course allows students to understand: Introduction to ICE, Basics of Normal Combustions, Ideal function of Piston Engines, Power and Efficiency, Combustion Functions in Different types of engines, Internal Phenomenon Modeling of Cylinder, Pollutant Formation and Reduction, Technological Aspect of Gasoline Injection and Spark-Ignition, Technological Aspect of Diesel Injection, Technological Aspect of Mechanical Engine Element of Engine, Two strokes engine, Alternative Fuels, Engine Research and Development.		
Keyword	Internal Combustion Engines, Engine Theory, Engine Thermodynamics, Combustion Modeling, Advanced Combustion, Internal Combustion Engine Theory_ITC		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (60), Assignment (15), Discussion (15)		
Textbook	<ul style="list-style-type: none"> · Bernard LEDUC (2004), Moteur à Combustion Interne, Université Libre de Bruxelles · J. B. Heywood (1988), Internal Combustion Engine Fundamentals, McGraw Hill 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to ICE</u>	This material explains about the introduction and historical development of ICEs
2	<u>Basics of Normal Combustions</u>	This material explains about fundamental combustions inside ICEs
3	<u>Ideal function of Piston Engines</u>	This material explains about thermodynamics of piston engines
4	<u>Power and Efficiency</u>	This material explains about fundamental parameters of piston engines
5	<u>Combustion Functions in Different types of engines</u>	This material explains about different types of combustion of ICEs
6	<u>Internal Phenomenon Modeling of Cylinder</u>	This material explains about basic modeling of combustion
7	<u>Pollutant Formation and Reduction</u>	This material explains about pollution formation and its reduction methods
8	Midterm Exam	
9	<u>Technological Aspect of Gasoline Injection and Spark-Ignition</u>	This material explains about gasoline injection in SI engine
10	<u>Technological Aspect of Diesel Injection</u>	This material explains about diesel injection in CI engine
11	<u>Technological Aspect of Mechanical Engine Element of Engine</u>	This material explains about mechanical elements and their function in ICEs
12	<u>Two strokes engine</u>	This material explains about fundamental of 2 strokes engine
13	<u>Alternative Fuels</u>	This material explains about alternative fuels and their application in ICEs
14	<u>Engine Research and Development</u>	This material explains about current and future research of ICEs
15	Final Exam	

Title	Internal Combustion Engine Theory		
Category	Engineering	Course	Engineering
Objective	To expand the knowledge on engine theory especially on the process of combustion and emission control, engine technology management, alternative fuels and engine design. It provides insight on engine maintenance, research and development.		
Description	<ul style="list-style-type: none"> · Fundamental of thermodynamics of internal combustion engine · Different combustion modes such as SICI and other advance combustion · HCCI/PPCI Basic of modeling of internal combustion phenomena · Alternative fuels usage and application Future trend of internal combustion engines. 		
Keyword	Internal Combustion Engines, Engine Theory, Engine Thermodynamics, Combustion Modeling, Advanced Combustion		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (60), Assignment (15), Discussion (15)		
Textbook	<ul style="list-style-type: none"> · Bernard LEDUC (2004), Moteur à Combustion Interne, Université Libre de Bruxelles · J. B. Heywood (1988), Internal Combustion Engine Fundamentals, McGraw Hill 		



Weekly Plan

Week	Subject	Description
1	<u>Introduction to ICE</u>	This material explains about the introduction and historical development of ICEs
2	<u>Basics of Normal Combustions</u>	This material explains about fundamental combustions inside ICEs
3	<u>Ideal function of Piston Engines</u>	This material explains about thermodynamics of piston engines
4	<u>Power and Efficiency</u>	This material explains about fundamental parameters of piston engines
5	<u>Combustion Functions in Different types of engines</u>	This material explains about different types of combustion of ICEs
6	<u>Internal Phenomenon Modeling of Cylinder</u>	This material explains about basic modeling of combustion
7	<u>Pollutant Formation and Reduction</u>	This material explains about pollution formation and its reduction methods
8	Midterm Exam	
9	<u>Technological Aspect of Gasoline Injection and Spark-Ignition</u>	This material explains about gasoline injection in SI engine
10	<u>Technological Aspect of Diesel Injection</u>	This material explains about diesel injection in CI engine
11	<u>Technological Aspect of Mechanical Engine Element of Engine</u>	This material explains about mechanical elements and their function in ICEs
12	<u>Two strokes engine</u>	This material explains about fundamental of 2 strokes engine
13	<u>Alternative Fuels</u>	This material explains about alternative fuels and their application in ICEs
14	<u>Engine Research and Development</u>	This material explains about current and future research of ICEs
15	Final Exam	

Title	Environmental Science		
Category	Natural Sciences	Course	Sciences
Objective	The course aims to provide the students knowledge of basic of environmental science and general situation of environment. in Cambodia, causes and effects of Climate Change, causes and consequents of anthropogenic pollution to the environment		
Description	The course is divided into three main chapters. The first chapter will focus on the effect of solar energy on earth that is the cause of life, season change, and the cycle living and non-living things. The second chapter describes about the natural resource such as water, soil, air and in what way they could contribute to human needs for social development and one-self growing. The third chapter described about the pollution to environment created by human and the reverse impact.		
Keyword	Environmental science, Environmental Pollution, Climate change and adaptation, Biology and hydrology, Water resource and protection		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (70), Assignment (10), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Noelle O'Brien (2000), Environment, Ministry of Environment and UNDP AARNE VESILIND and SUSAN M.MORGAN (2008), Introduction to Environmental Engineering, Thomson Learning 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to the environment</u>	This material explains about basic of environmental science
2	Earth planet	This material explains about earth characteristic, weather and climate
3	<u>General principal of ecology</u>	This material explains about General principal of ecology
4	<u>Major types of Cambodia ecosystem</u>	This material explains about Major types of Cambodia ecosystem
5	<u>Wetland</u>	This material explains about wetland characteristic and benefit of weland
6	Ecology of lake and river	This material explains about Ecology of lake and river
7	<u>Climate change</u>	This material explains about climate change and adaptation
8	Midterm Exam	
9	<u>Water resources</u>	This material explains about water resources
10	<u>Soil resources</u>	This material explains about soil resources
11	<u>Forestry resources</u>	This material explains about forestry resources
12	<u>Air pollution</u>	This material explains about air pollution
13	<u>Water pollution</u>	This material explains about water pollution and some about treatment
14	<u>Solid waste</u>	This material explains about solid waste and remediation
15	Final Exam	

Title	UHS Course		
Category	Medical Sciences & Pharmacy	Course	Medical Sciences & Pharmacy
Objective	-		
Description	-		
Keyword	Medical Sciences & Pharmacy		



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University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	Cambodian
Name	-	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	Midterm Exam	
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	Final Exam	

Title	Soil Mechanics		
Category	Natural Sciences	Course	Sciences
Objective	Study of soil types and properties is made with the objective of developing a basic understanding of engineering behavior of soils along with laboratory soil testing.		
Description	In this course students can learn the basic behavior of soil mechanics, theoretical and its applications. The understanding of soil properties including methods of site investigation as well as laboratory soil testing will be achieved.		
Keyword	Soil Mechanics		



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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (50), Assignment (15), Discussion (15)		
Textbook	<ul style="list-style-type: none"> · Das B. M, 8th Edition (2014). Principles of Geotechnical Engineering, Cengage Learning · Mudhu. M, 3rd Edition (2011). Soil Mechanics and Foundations, John Wiley & Sons, Inc. 		




Weekly Plan

Week	Subject	Description
1	Introduction	-
2	Soil Investigation	-
3	Soil Particle Size Classification	-
4	Weight_Volume Relationships	-
5	Atterberg Limits	-
6	Soil Classification	-
7	Soil Compaction and CBR	-
8	Midterm Exam	
9	Method Control of Field Compaction	-
10	Shear Strength of Soil	-
11	Compressibility of Soil	-
12	Permeability	-
13	In Situ Stress	-
14	Stress in Soil Mass	-
15	Final Exam	

Title	The Plumbing		
Category	Natural Sciences	Course	Sciences
Objective	-		
Description	-		
Keyword	The Plumbing		



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University	Institute of Technology of Cambodia		
Country	Cambodia 	Language	English
Name	-	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction	-
2	Cold Water supply and Distribution in building 1	-
3	Cold Water supply and Distribution in building 1	-
4	Design Cold Water supply by French Standard	-
5	Hot Water supply and Distribution in building (Part 1)	-
6	Hot Water supply and Distribution in building (Part 2)	-
7	Drainage System (Part1)	-
8	Midterm Exam	
9	Drainage System (Part2)	-
10	Fire Protection System (Part 1)	-
11	Fire Protection System (Part 2)	-
12	Water Pump section1	-
13	Water Pump section2	-
14	Water Pump section2: Essential of Pump Technology and Application	-
15	Final Exam	

Title	Compilation		
Category	Engineering	Course	Engineering
Objective	The goal of compilation course to make student understand about compiler and they will be able to build some basics of compiler.		
Description	In this course, students learn about the steps of compilers used to interpret programming languages in high-level languages designed for humans. Students are instructed to learn about the compiler architecture and build each component of the compiler. For the directed work on parsing, students use a program called Jflex for vocabulary analysis and a program called CUP for parsing.		
Keyword	Compilation compiler, compiler design, High level language to machine language, Phase of compiler		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (60), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · AE. Mogensen (2010), Basics of Compiler Design, University of Copenhagen · S. Riviora (2009), Formal Language and Compiler, Politecnico di Torino 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction of compilerQ</u>	This material explains about the introduction to compilation
2	<u>Introduction of lexical analysis</u>	This material explains about first phase of compiler which is lexical analysis
3	<u>Finite automata generation</u>	This material explains about how to generate finite automata from regular expression
4	<u>Lexer generators</u>	This material explains about lexical generator which divides string to token
5	<u>Introduce to Jflex and installation</u>	This material explains about jflex and how to install it
6	<u>Introduction of syntax analysis</u>	This material explains about the next phase of compiler which is syntax analysis
7	<u>Production selection</u>	This material explains about the concept of production selection for building syntax tree
8	Midterm Exam	
9	<u>SLR parsing</u>	This material explains about the parser tree using shift and reduce action
10	SLR parsing (Cont.)	This material explains about the parser tree using parser table
11	<u>Introduce to CUP and installation</u>	This material explains about java CUP and how to install it
12	<u>Symbol table new</u>	
13	Type checking	This material explains about how to check the type of variable, function or expression in programming language
14	<u>Backend of compiler Update</u>	
15	Final Exam	

Title	Geodesy and Topography		
Category	Engineering	Course	Engineering
Objective	The main purpose of this course is to improve students' theoretical understanding and practical skills in curriculum development, and to read various books written mainly in English, covering various aspects of the school curriculum. The basic language of this course is English, but I will focus on problems and challenges in the context of Korean education.		
Description	The course is designed to provide students with the knowledge and skills required to conduct surveys and leveling for engineering applications and to perform relevant drawings and calculations. Students will introduce the basic concepts of survey, survey equipment, field survey, survey applications, and modern survey technology.		
Keyword	Geodesy and Topology, Construction Surveys, Property Surveys, Measuring Vertical Distance, Measuring Angles and Directions		



Provided by

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Learning Activities

Type of Learning	Online [<input type="checkbox"/>] Blended (On/Offline) [<input checked="" type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (65), Assignment (15), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · Jerry Nthanson (2011), Surveying Fundamentals and Practices, PEARSON · Barry F. Kavanagh (2010), Surveying with Construction Applications, PEARSON 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction</u>	This material explains about the introduction to survey
2	<u>Type of Errors</u>	This material explains about type of error and calculate the error
3	<u>Measuring Vertical Distance</u>	This material explains about elevation measurement
4	<u>Leveling Applications</u>	This material explains about leveling application and calculation of vertical control survey
5	<u>Leveling Applications (Cont.)</u>	This material explains about Longitudinal and cross-section leveling
6	<u>Measuring Angles and Directions</u>	This material explains about angles and direction measurement
7	Horizontal Control Survey	This material explains about horizontal control survey and types of traverse
8	Midterm Exam	
9	<u>Horizontal Control Survey (Cont.)</u>	This material explains about rules of traverse adjustment
10	<u>Other Computations</u>	This material explains about inverse computation, area by coordinates, area of Irregular and Curve Boundaries
11	<u>Property Survey</u>	This material explains about the properties of survey in the property map
12	<u>Topographic Survey</u>	This material explains about the typical topographic map and basic photogrammetry
13	<u>Construction Survey</u>	This material explains about the establishment line and grade stake out slope and trial-and-error procedure
14	<u>Highway Curves and Earthwork</u>	This material explains about the horizontal curve, vertical curve and volume computation
15	Final Exam	

Title	Food Biotechnology		
Category	Engineering	Course	Engineering
Objective	The main purpose of this course is to increase students' theoretical understanding of food biotechnology, types of fermentation and bioreactor, and the fermentation process of various fermented foods and beverages.		
Description	This course introduces you to a basic knowledge of food biotechnology. We also learn about material balance calculations, different types of fermentation and bioreactors, and different fermentation processes.		
Keyword	Food Biotechnology, Bioprocessing, Alcoholic Fermentation, Vegetable Fermentation, Vinegar Fermentation		



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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (80), Assignment (10)		
Textbook	<ul style="list-style-type: none"> · Lee, B.H. (2014), Fundamentals of food biotechnology 2nd edition, Wiley-Blackwell · Daugherty, E. (2014), Biotechnology: Science for the New Millennium 1st edition, Medtech. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Food Biotechnology</u>	This material explains the definition and applications
2	<u>Microbial Growth</u>	This material explains mathematic of microbial growth
3	<u>Processus by Using Enzymes</u>	This material explains enzymatic catalysis
4	<u>Bioprocessing</u>	This material explains the 3 key steps in bioprocess
5	<u>Material Balance</u>	This material calculate the material balance of different processes
6	<u>Types of Fermentation</u>	This material explains different types of fermentation and bioreactors
7	Alcoholic Fermentation	This material explains alcoholic beverages and wine making process
8	Midterm Exam	
9	<u>Vegetable Fermentation</u>	This material explains vegetable fermentation by lactic acid bacteria
10	<u>Vinegar Production</u>	This material explains different stages and methods in vinegar fermentation
11	<u>Production of Amino Acids</u>	This material explains how monosodium glutamate (MSG) is produced
12	<u>Fish Sauce Fermentation</u>	This material explains fish sauce fermentation
13	<u>Soy Sauce Fermentation</u>	This material explains koji fermentation and moromi fermentation
14	Bread Making	This material explains how bread is made
15	Final Exam	

Title	Natural Language Processing		
Category	Engineering	Course	Engineering
Objective	This course provides students with knowledge of NLP's research areas and allows students to create small programs using NLP technology. Students can also conduct research in this field for a master's degree.		
Description	This course will learn about the various technologies and tools used in NLP. These technologies include text preprocessing, text classification, named entity recognition, and emotional analysis.		
Keyword	Natural language processing, Text processing, Named entity recognition, Text analysis, Sentiment analysis		



Provided by

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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (60), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Steven Bird (2009), Natural Language Processing with Python- Analyzing Text with the Natural Language Toolkit, O'Reilly. Nitin Hardeniya (2016), Natural Language Processing Python and NLTK, Packt Publishing 		



Weekly Plan

Week	Subject	Description
1	<u>Earth climate system</u>	This material explains different component of climate system
2	<u>Physics of climate process</u>	This material explains physical process of climate phenomena
3	<u>Introduction to climate change science</u>	This material gives an introduction about climate change science and its current progress
4	<u>Driver of climate change</u>	This material explains various type of climate change causes and the interlinkage among them
5	<u>Historical trend and evidence of climate change</u>	This material explains the variation trend of climate component as well as the present evidence of climate change
6	<u>IPCC and Climate change Scenarios</u>	This material gives an introduction about IPCC climate change scenarios and approach for scenarios selection for specific study
7	<u>Climate change impact and vulnerability</u>	This material explains about the impacts of climate change and methodology to identify vulnerability group
8	Midterm Exam	
9	<u>Climate change adaptation</u>	This material identifies various adaptation options for specific case of climate change impact
10	<u>Climate change mitigation</u>	This material introduces various climate change mitigation and approach to identify suitable mitigation option for different context
11	<u>Planning for climate change</u>	This material explains the flow of climate change finance and how it works within a country and cross the country border
12	<u>Special issue: Solar Energy</u>	This material explains the potential of solar energy and its linkage with climate change
13	<u>Special issue: Wind Energy</u>	This material explains the concept of climate change planning and mechanism that climate change planning is integrated with national development plan
14	Special issue: Hydropower	This material explains the concerns over hydropower development and its linkage with climate change
15	Final Exam	

Title	Strength of Materials		
Category	Engineering	Course	Architecture
Objective	The main purpose of this course is to improve students' theoretical understanding of the mechanical priorities and the behavior of the structures of the materials. This knowledge enables students to use materials and design structures effectively in terms of safety and economics.		
Description	This process focuses on the mechanical properties of structural materials and the internal forces of the structure induced by external loads on the structure. Introduce students to the stress development mechanisms of structural elements and the connections between them to understand the stress conditions and failure modes of the material. Solutions to prevent each failure mode are also presented to students.		
Keyword	Axial force, Shear force, Bending Moment, Stress and strain, Support Reaction		



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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (50), Assignment (30), Quiz and Midterm (10)		
Textbook	<ul style="list-style-type: none"> James M. Gere (2013), Mechanics of Materials, 8th ed. SI, Cengage Learning R.C. Hibbeler (2013), Engineering Mechanics, 13th edition, Pearson 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Mechanics of Materials</u>	Review of some part of Mechanics and Calculus used in Strength of Materials
2	<u>Load and Support Reaction</u>	Students will be able to identify different type of load and know how to calculate its magnitude on the structures.
3	<u>Internal Forces</u>	Students will be able to determine the support reaction and the internal force and moment of the static determinate structures.
4	<u>Internal forces in Structures with Moment Release</u>	Students will be able to determine the internal force and moment of the static determinate structures with moment release.
5	<u>Tension, Compression and Shear</u>	Students will be able to understand the mechanical behaviour of the material under tension, compression and shear and to determine the magnitude of normal stress and shear stress due to external load.
6	<u>Axially Loaded Member</u>	Students will be able to calculate the stress, deformation and strain energy due to the external load and temperature variation in the static indeterminate structures.
7	<u>Bending Stress</u>	Students will be able to calculate the static moment and moment of inertia of the cross section.
8	Midterm Exam	
9	<u>Shear Stress</u>	Students will be able to understand the behaviour of the member under bending moment and calculate the normal stress develop in the cross section of the element induced by bending moment.
10	<u>Torsion</u>	Students will be able to understand the behaviour of the member under shear force and calculate the normal stress develop in the cross section of the element induced by shear force.
11	<u>Strain Analysis</u>	Students will be able to understand different state of stress and calculate the magnitude of principal stress and identify the principal direction.
12	<u>Stress Analysis</u>	Students will be able to understand different state of strain and calculate the magnitude of principal strain and identify the principal direction
13	<u>Stress in Beam with Special Section</u>	Students will be able to understand the failure mode of different material and its yield surface.
14	<u>Failure Criteria</u>	Students will be able to understand more deeply about the moment of inertia of the composite section and determined the principal moment of inertia and identify principal direction.
15	Final Exam	

Title	Climate Change and Adaptation		
Category	Natural Sciences	Course	Energy & Earth Sciences
Objective	The main goal of this course is to improve learners' knowledge of climate change issues. These include physical phenomena within the climate system, drivers of climate change, human dimensions of global climate events, climate change impact and vulnerability analysis, climate change adaptation and mitigation.		
Description	The course consists of 13 modules to provide learners with knowledge of four areas related to climate systems and climate change issues. The first area includes modules 1 and 2, which focus on the physics of climate systems and climate change phenomena. The second area, consisting of modules 3 to 6, describes the main drivers of climate change and trends in climate change from the past to the future. The third area covers climate change impacts, vulnerabilities, adaptations, and mitigation, starting with module 7 to 9. The final area consists of modules 10-13 introduced for climate change finance and planning.		
Keyword	Climate process, Climate Change, Anthropogenic drivers, Impacts and adaptation, Vulnerability assessment		



Provided by

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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (50), Assignment (30), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · A. BARRIE PITTOCK (2009), Climate Change: The Sciences, Impacts and Solutions, CSIRO PUBLISHING · Dana Desonie (2008), Climate: Cause and Effects of Climate Change, Chelsea House Publishing 		




Weekly Plan

Week	Subject	Description
1	Earth climate system	This material explains different component of climate system
2	<u>Physics of climate process</u>	This material explains physical process of climate phenomena
3	<u>Introduction to climate change science</u>	This material gives an introduction about climate change science and its current progress
4	<u>Driver of climate change</u>	This material explains various type of climate change causes and the interlinkage among them
5	<u>Historical trend and evidence of climate change</u>	This material explains the variation trend of climate component as well as the present evidence of climate change
6	<u>IPCC and Climate change Scenarios</u>	This material gives an introduction about IPCC climate change scenarios and approach for scenarios selection for specific study
7	<u>Climate change impact and vulnerability</u>	This material explains about the impacts of climate change and methodology to identify vulnerability group
8	Midterm Exam	
9	<u>Climate change adaptation</u>	This material identify various adaptation option for specific case of climate change impact
10	<u>Climate change mitigation</u>	This material introduces various climate change mitigation and approach to identify suitable mitigation option for different context
11	<u>Planning for climate change</u>	This material explains the flow of climate change finance and how it works within a country and cross the country border
12	<u>Special issue: Solar Energy</u>	This material explains the potential of solar energy and its linkage with climate change
13	<u>Special issue: Wind Energy</u>	This material explains the concept of climate change planning and mechanism that climate change planning is integrated with national development plan
14	<u>Special issue: Hydropower</u>	This material explains the concerns over hydropower development and its linkage with climate change
15	Final Exam	

Title	Khmer Civilization		
Category	Natural Sciences	Course	Energy & Earth Sciences
Objective	The main goal of this course is to have students' basic knowledge of Khmer civilization. By developing this process into an e-learning class, students can understand more Khmer civilizations (history, religion, society, economy, administration, politics, art, linguistics, traditions...).		
Description	At the end of the course, students should be able to understand the history of Khmer civilization and general knowledge of Khmer civilization with confidence.		
Keyword	Khmer Civilization		



Provided by

University	National Institute of Posts Telecommunications and ICT		
Country	Cambodia 	Language	Cambodian
Name	Vasophea, Heng Sokchhay	Contact	-



Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to Khmer Civilization	-
2	<u>Origin of Khmer Race</u>	-
3	<u>Khmer Moun</u>	-
4	<u>Religion (Brama)</u>	-
5	<u>Religion (Buddhism)</u>	-
6	<u>Believe</u>	-
7	Wedding	-
8	Midterm Exam	
9	Kings (1)	-
10	Kings (2)	-
11	<u>Kings (3)</u>	-
12	<u>Angkor Wat</u>	-
13	Bayon	-
14	<u>Khmer Festivals</u>	-
15	Final Exam	

Title	Algorithm and complexity part I		
Category	Engineering	Course	Computer Science
Objective	The main purpose of this course is to ensure that students have the basic knowledge to create efficient programs. By developing this course into an e-learning class, students can spend more time practicing in class (practice) to become more familiar with programming and coding faster. All theoretical knowledge can be learned prior to the lab session.		
Description	By the end of the course, students should be able to confidently resolve all anticipated program problems by dividing them into components and creating effective algorithms that can be easily solved and easily implemented.		
Keyword	Algorithm, Syntax, Loop, Sub-program, Array		



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University	National Institute of Posts Telecommunications and ICT		
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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Assignment, Offline examination		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Algorithm</u>	This lecture identifies the basic concept of algorithm and its relationship between programming.
2	<u>Variable and Constant</u>	
3	<u>Operators</u>	This lecture identifies the principles of operators and classifies them according to their features.
4	<u>Selection Statement</u>	This lecture examines the principles of if statement and switch statement.
5	<u>Loop For</u>	This lecture identifies the principles of simple loop and its features.
6	<u>While Loop</u>	This lecture identifies the principles of while loop and its features.
7	<u>Sub-program Part 1</u>	This lecture identifies the features of sub-program and classifies the types of sub-program according to its procedures and functions.
8	Midterm Exam	
9	<u>Sub-program Part 2</u>	This lecture examines the procedures of sub-program calling and its features.
10	<u>Array</u>	This lecture identifies the concept of array and examines its multi-dimensional application.
11	<u>Enumeration and Structure</u>	This lecture identifies the concept of enumeration and its usage in structure.
12	<u>Recursion</u>	This lecture identifies the concept of recursion and defines its types.
13	<u>Pointer Part 1</u>	This lecture identifies the principles of memory allocation and examines the function of pointer.
14	<u>Pointer Part 2</u>	This lecture identifies the principles of pointer and examines its usage.
15	Final Exam	

Title	Database Management System		
Category	Engineering	Course	Computer Science
Objective	- Understanding relational database models - Creating an E-R (entity-relationship) diagram - Design Database - Leverage Structural Query Language (SQL) - Leverage database management tools - Connect to the database using the programming language		
Description	This course is designed to teach students how to design and implement databases. It covers the principles and methodologies of database design, and database application development technologies. This course teaches students about relational database models, database normalization, data definition languages, data manipulation languages, and design methodologies.		
Keyword	Database, DBMS, Database System, Database Model, Data management		



Provided by

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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	· Shio Kumar Singh (2011), Database Systems: Concepts, Design and Applications 2nd Edition, Persons India · TOBY TEOREY (2006), Database Modeling and Design logical-design, Morgan Kaufmann		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Database System</u>	This material explains about notion of database system Architecture for a database system. Explain the advantages and disadvantages of store data in file and database Different Type of Database
2	<u>Entity-Relationship Model</u>	This material explains about developing data modeling skills, identifying basic Entity Relationship Model, components: entities, attributes, and relationships.
3	<u>Entity Relationship Diagram</u>	This material explains about interpreting ERM to ERD, creating E-R diagrams as database blueprints.
4	<u>Relational Data Model</u>	This material explains about Relational Data Model, Concepts of Relation, Keys
5	<u>Normal Form</u>	This material explains about normalization techniques. 1NF, 2NF, 3NF
6	<u>MySQL Concepts</u>	This material explains about the concept of data storing in MySQL, defining the data types of database
7	SQL Commands	This material explains about the rules for entity integrity, creating/altering/dropping databases
8	Midterm Exam	
9	Retrieving Data with SQL	This material explains about SELECT Statement, Using Column Aliases Limit, Order.
10	<u>Advanced Queries</u>	This material explains about complex SQL queries : Sub Queries, Join, Union, Group, Having, Aggregation Functions.
11	<u>Database Administration</u>	This material explains about data Control Language Exporting and Importing Database, managing access control of user Explain the index and view Indexing for Performance
12	Sing tools	This material explains about Workbench and phpMyAdmin , Forward Engineering to generate DDL from data models to create physical database objects. , Creating objects directly to database or export to script.
13	<u>Advanced SQL</u>	This material explains about Stored Procedures, Functions, and Triggers
14	<u>SQL For Developers</u>	This material explains about SQL in Programming, SQL Injection
15	Final Exam	

Title	Mobile Development on Android		
Category	Engineering	Course	Computer Science
Objective	At the end of this course, students will learn basic information about Android programming-Android components-how to design interfaces-how to design databases-how to use internal frameworks-how to use external frameworks.		
Description	The course is designed to teach students from freshmen to junior levels of Android developers. It covers the principles and methodologies of Android programming. This course teaches students the essential concepts and design methodologies for developing Android applications. At the end of this course, students will be able to understand Android programming and study themselves to become Android developers in the future.		
Keyword	Android, Mobile Development, Android application development, Starting with Android, Android Activity		



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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · Reto Meier (2012), Professional Android 4 Application Development, John Wiley & Sons, Inc. · J.F. DiMarzio (2017), Beginning Android Programming with Android Studio, John Wiley & Sons, Inc. 		




Weekly Plan

Week	Subject	Description
1	<u>Getting Started</u>	What is the Android?, Installing the required tools, exploring the Android Development tools. Architecture for a database system Explain the advantages and disadvantages of store data in file and database Different Type of Database
2	<u>Building Applications and Activities</u>	Introduction of Android's Component, Introducing the Application Manifest File, Understanding Android Activities, Using External Resources
3	<u>Building User Interfaces</u>	Understanding the Components of a Screen, Fragment and Introduce an adapters
4	<u>Android Widget and User Experience</u>	Introduction of Android Widget, Action Bar, Navigation Drawer, Dialogs, Progress bar, notifications, Firebase Cloud Messaging, working with Animations and design UI for every screen size and density
5	<u>Intents and Broadcast receivers</u>	Introducing Intents and Creating Intent Filters and Broadcast Receivers
6	<u>Transmitting Network Data</u>	Consuming Web Services using HTTP, JSON Services and using Volley Framework
7	<u>Data Storage and Content Provider</u>	Saving and Loading User Preferences, using SQLite, sharing data, using a content provider
8	Midterm Exam	
9	<u>Working in the Background</u>	Introducing Services, establishing communication between a service and an activity Limit, Order.
10	<u>Hardware Sensors</u>	Using sensors and the sensor manager and monitoring a device's movement and orientation
11	<u>Building Apps with Maps, Geocoding, location</u>	Display maps, get location data and monitor a location
12	<u>Building Apps with Multimedia</u>	Play audio and video, take a picture and record video
13	<u>Messaging</u>	Send SMS messaging and email
14	<u>Distributing Application into Playstore</u>	Generate a signed APK, distribute application and get analytic from google
15	Final Exam	

Title	Web Dynamic		
Category	Engineering	Course	Computer Science
Objective	Understand the development of websites using PHP with MySQL, from beginners to advanced.		
Description	Students learn how to install environment for web development using php.		
Keyword	WEB Dynamic, Web app development, PHPweb develop with PHP, Web develop using PHP with MySQL		



Provided by

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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	Luke Welling, Laura Thomson (2009), php and Mysql Web Development, Pearson Education, inc.		




Weekly Plan

Week	Subject	Description
1	<u>Introduction</u>	Introduction ton PHP, install WAMP, XAMP, hello worl in php
2	<u>Embedding PHP int HTML, adding Dynamic Content</u>	Understand tag, statement, comments, call function
3	Variable	Type of variable, string concatenation, identifier, declare and use constants, and scope of variable
4	<u>Operators & Decision with conditionals</u>	Arithmetic operation, String operation, assignment Operation, Comparison Operations, Logical Operations, if else, elseif, switch and comparing the difference conditionals
5	<u>Repeating Actions Through Iteration</u>	For lop, while loop, foreach loop, do while loop
6	<u>Array</u>	Definitions, type of arrays, accessing array, operations on array
7	<u>String Manipulate, Session & Cookies</u>	Tripping strings function, formatting string, joining string, comparing string, sub string, replacing string
8	Midterm Exam	
9	<u>Reusing code</u>	Require(), include(), call undefined function, create own function
10	<u>File I</u>	Opening and closing file, reading data from file and write data to file
11	File II	Read, scan directory, create, delete, rename, move, and copy file and directory
12	<u>Access to database</u>	Connect and disconnect to MySQL, crud statement with mysql
13	Object Oriented Program (OOP)	Definition OOP, class, object, polymorphism, and inheritance. Class structure, constructors, destructors. Instantiate object. Controlling visibility
14	<u>MVC</u>	Introduction to MVC, advantage of MVC, create own web app with MVC concept
15	Final Exam	

Title	Soft Skill for Engineering		
Category	Humanities	Course	Philosophy
Objective	To equip a soft skill component in student skill set for personal, professional, and social		
Description	<p>This course will introduce the important principles of soft skills and analyze and enhance their personality. The following four key areas of improvement are covered:</p> <ol style="list-style-type: none"> 1) the principles of living; 2) Troubleshooting; 3) How to learn; 4) Know yourself; 5) Changes in the world change. 		
Keyword	Natural language processing, Text processing, Named entity recognition, Text analysis, Sentiment analysis		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Prashant Sharma (2018), Soft Skills-Personality Development For Life Success, BPB Publications. Patrik Edblad (2018), The Self-Discipline Blueprint, Amazon Digital Services LLC. 		




Weekly Plan

Week	Subject	Description
1	Life Skill: Problem Solving	This material explains about intuition, probabilities everywhere
2	Thinking Aloud Pairs Problem Solving	This material explains about Apply lateral thinking and some Psychology
3	<u>Problem Solving: About Intuition</u>	This material explains about data to skill, human brain, learning model, picking right search items
4	<u>Lateral Thinking and creativity</u>	This material explains about Apply lateral thinking and some Psychology
5	<u>Learning Skill: Searching</u>	This material explains about from data to skill, human brain, learning model, picking right search items
6	<u>Memory Types</u>	This material explains about the memory types and how to make it well remembering
7	<u>Learning Skill: Using Your Brain Well</u>	This material explains about Focused and diffuse modes, multitasking, and brain needs a rest
8	Midterm Exam	
9	<u>Memorization Techniques</u>	This material explains about Meditation, Forgetting curve, spaced repetition, rhythm, acronyms, scenarisation, memory palaces
10	<u>Knowing Oneself</u>	This material explains about how to managing emotions, perception and attention
11	<u>Self presentation</u>	This material explains about Key of communications, pitching ideas
12	<u>Influences and obedience</u>	This material explains about fundamental attribution errors, actors-observer differences, self serving bias, spotlight effect
13	<u>Interculturality</u>	This material explains about culture and cultural differences, challenges in cross-cultural communication
14	<u>Leadership</u>	This material explains about leadership values, authority, management and leadership
15	Final Exam	

Title	Web Design		
Category	Social Sciences	Course	Social Sciences
Objective	Comprehensive training is conducted throughout the course to enhance learning and develop skills and competencies. After successful completion of this course, students are ready to create static websites based on the correct standards of the search engine.		
Description	Students can learn how to write html, css, java scripts, create new websites with the correct html (session html) structure, and also use css and javascript to make websites great.		
Keyword	Axial force, Shear force, Bending Moment, Stress and strain, Support Reaction		



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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	Paul Cobbaut (2009), Head First Web Design, O'Reilly Media		



Weekly Plan

Week	Subject	Description
1	<u>Introduction</u>	Upon completion of this chapter students will learn: ➕ How people access website ➕ How website are created ➕ How the web work ➕ How to use editor to create an HTML files
2	<u>HTML Structure</u>	Students will be able to What is HTML? HTML page structure, HTML element, HTML block element, HTML inline element
3	<u>HTML TEXT & LIST</u>	Students will be able to HTML Text Formatting, HTML Lists
4	<u>HTML Link & Image</u>	Students will be able to HTML Link, HTML Image
5	<u>HTML Table</u>	Students will be able to understand HTML Table, Adding border and Collapsed Borders, Adding Cell Padding and Adding Border Spacing, Adding a Caption, Row and Column Spanning
6	<u>HTML Form</u>	Students will be able to Introduction to Form HTML Form, HTML Form Element, Organizations Forms
7	<u>Getting Started with CSS</u>	Students will be able to Understand Introduction to CSS, CSS Syntax, How to Add CSS, Importing Stylesheet with @Import
8	Midterm Exam	
9	<u>Basic Selector</u>	Student will be able to Understand The CSS Selector, The CSS Element Selector, The CSS Id Selector, The CSS Class Selector, The CSS Universal Selector
10	<u>The Box Model</u>	Student will be able to understand The CSS Box Model ➕ CSS Padding ➕ CSS Borders ➕ CSS Margin
11	<u>CSS Layout: The display property</u>	Student will be able to understand The display Property ➕ Block-level Elements ➕ Inline Elements ➕ Display: none ➕ Override The Default Display Value
12	<u>Introduction to JavaScript</u>	Student will be able to understand Introduction JavaScript ➕ Why Learn JavaScript ➕ JavaScript Syntax ➕ Link to External Javascript
13	<u>JavaScript Variable</u>	Student will be able to understand Javascript Variable ➕ JavaScript String ➕ JavaScript Number ➕ JavaScript Array
14	<u>JavaScript Function</u>	Student will be able to understand Introduction to JavaScript Function ➕ JavaScript Function Syntax ➕ Function Return ➕ Why Functions? ➕ Functions Used as Variable Values
15	Final Exam	

Title	Forest Resource Economics		
Category	Social Sciences	Course	Economics & Finance
Objective	The aim of course is to produce the human resource that are excellent at scientific research and have moral and ethics in the subject of forest resource economics, which are consistent with labor market demand and requirement and the nation.		
Description	The lectures identify the basic concepts and values of the economic market and apply the principles to Laos' forest economy.		
Keyword	Economics, Market, Production, Forest, Value		



Provided by

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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Quiz/Discussion (10), Assignment (20), Class Participation (10)		
Textbook	<ul style="list-style-type: none"> W. David Klemperer. (2003). Forest resource economics and finance. New York: McGraw Hill. Phimmavong, S. (2012). Forest plantation development, poverty, and inequality in Laos: a CGE microsimulation analysis. The University of Melbourne, Melbourne. Whigham D. (2001). Managerial Economics using Excel. Cengage Learning EMEA; 1 edition (March 8, 2001) Indicated in the end of each lesson 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Forest Resource Economics</u>	This lecture identifies the basic principles of the economics and the management of forest resources in Laos.
2	<u>Demand Analysis</u>	This lecture identifies the basic principles of demand and its application to forest economics.
3	<u>Supply</u>	This lecture identifies the basic principles of supply and the Supply-Demand equilibrium.
4	The costs of production in the forest enterprises	This lecture examines the cost structure of the forest enterprise through production function.
5	<u>Understanding of Market and marketing</u>	This lecture explains the principles of market structure and classification of competition, along with the example of the Lao timber market.
6	<u>Forests as capital</u>	This lecture explains the concept of capital and interest and the type of values that the market produces.
7	<u>Input-output analysis</u>	This lecture explains the Input-Output analysis and the concept of multipliers along with its examples.
8	Midterm Exam	
9	<u>Computable general equilibrium model</u>	This lecture explains the concept of CGE(Computable General Equilibrium) and its modeling analysis along with its use in Lao forestry policy.
10	<u>Forest valuation and appraisal</u>	This lecture identifies the valuation of the economic analysis and various methods of valuation.
11	<u>Correlation and Regression analysis</u>	This lecture explains the correlation analysis and the regression analysis through various case examples.
12	<u>Valuation of non-market services of forest resources</u>	This lecture examines the carbon market along with the concept of REDD (Reducing Emissions for Deforestation and Forest Degradation) and climate change model.
13	<u>The Process of Economic Project Evaluation</u>	This lecture examines the economic impact and the investment decision according to an economic assessment.
14	<u>Household welfare, poverty, inequality analysis</u>	This lecture explains the relationship between household welfare and household poverty and its measurement through FGT measure.
15	Final Exam	

Title	Social Entrepreneurship and Innovation		
Category	Social Sciences	Course	Economics & Finance
Objective	-		
Description	The lecture reviews the nature of social business and business plans for innovative entrepreneurship.		
Keyword	Business, Entrepreneurship, Social Enterprise, Innovation, Modeling		



Provided by

University	National University of Laos		
Country	Laos 	Language	Laotian
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Learning Activities

Type of Learning	Online [V]	Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-			
Textbook	-			




Weekly Plan

Week	Subject	Description
1	Overview of Entrepreneurship	This lecture defines entrepreneurship and social enterprise by comparing the concepts with other business fields.
2	<u>Social Entrepreneurs</u>	This lecture examines entrepreneurs of the history and their characteristics and attributes.
3	<u>Social Venture</u>	This lecture suggests the ideal characteristics and the process of framework strategy in social venture.
4	<u>Social Venture Process</u>	This lecture explains the process of frame venture and the aspects of the framework that must be considered.
5	Creativity and Innovation	This lecture examines the concept of creativity and innovation about their sources, characteristics, and guidelines.
6	<u>Social Innovation</u>	This lecture defines innovation and explains how social entrepreneurship and innovation can result in social innovation.
7	Attribute Map	This lecture refers to the attribute map in order to describe the characteristics of a successful negotiation.
8	Midterm Exam	
9	Overview of Entrepreneurship	This lecture defines entrepreneurship and social enterprise by comparing the concepts with other business fields.
10	<u>Social Entrepreneurs</u>	This lecture examines entrepreneurs of the history and their characteristics and attributes.
11	<u>Social Venture</u>	This lecture suggests the ideal characteristics and the process of framework strategy in social venture.
12	<u>Social Venture Process</u>	This lecture explains the process of frame venture and the aspects of the framework that must be considered.
13	Creativity and Innovation	This lecture examines the concept of creativity and innovation about their sources, characteristics, and guidelines.
14	<u>Social Innovation</u>	This lecture defines innovation and explains how social entrepreneurship and innovation can result in social innovation.
15	Attribute Map	This lecture refers to the attribute map in order to describe the characteristics of a successful negotiation.
16	Final Exam	

Title	Principles of Economics		
Category	Social Sciences	Course	Economics & Finance
Objective	-		
Description	Learn the fundamentals of economics and markets by referring to the terms and concepts that make up business management and transactions.		
Keyword	Economics, Market, Equilibrium, Trade, Government		



Provided by

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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction	This lecture identifies the basic principles of economics.
2	Supply, Demand and Equilibrium	This lecture explains the relationship between supply and demand, referring to the equilibrium of two factors.
3	The elasticities of demand and supply	This lecture identifies the elasticity of various factors, such as supply, demand, and total revenue, and categorizes the tax.
4	Theory of consumer behavior	This lecture explains consumer behavior by referring to various records and theories that identify the behavior of consumers.
5	Cost, Product, Profit	This lecture identifies the three key factors, cost, product, and profit, that constitute the market principles.
6	Market	This lecture examines the characteristics of market through examples of competition and equilibrium.
7	The household - consumption sector	This lecture explains the concept of consumption and saving and their determinants.
8	Midterm Exam	
9	The business investment sector	This lecture defines the concept of business and investment and explains their determinants.
10	The government sector	This lecture explains the relationship between the government and the economy.
11	The import-export sector	This lecture explains the concept and the principles of international trade.
12	Gross domestic product	This lecture explains GDP and its measurement, along with the aspects that must be considered while the measurement.
13	Money, banking, and government budget	This lecture explains the relationship of money, banking, and government budget along with the details of government participation in the economy.
14	theory of international trade	This lecture explains the principles and various factors of international trade and international finance.
15	Final Exam	

Title	Introduction to Semiconductor		
Category	Engineering	Course	Engineering
Objective	-		
Description	Learn the basic principles of semiconductors and their role and application in various machines.		
Keyword	Semiconductors, Electron, Energy, MOS, FET		



Provided by

University	National University of Laos		
Country	Laos 	Language	Laotian
Name	Phonekeo Chanthamaly	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>State of Matter and Solid State</u>	This lecture defines the concept of semiconductor and various examples of the state of matter.
2	<u>Energy Band</u>	This lecture refers to the energy band in order to define the movement of the electron and energy.
3	<u>Carrier</u>	This lecture identifies the electron flow in the carrier and explains the application of electron mass.
4	<u>Intrinsic and Extrinsic Semiconductor</u>	This lecture defines the classification of semiconductor types.
5	<u>Binding Energy and Semiconductor</u>	This lecture identifies the process of doping concentration of the electrons in the semiconductor.
6	<u>Diffusion and Drift of Carrier in Semiconductor</u>	This lecture identifies the diffusion of the semiconductor and the movement of the carrier.
7	<u>p-n Junction in Semiconductor</u>	This lecture identifies the application of p-n junction to the semiconductor.
8	Midterm Exam	
9	Bipolar Junction Transistor	This lecture defines the concept of BJT(Bipolar Junction Transistor) and its relationship with the composition of current
10	<u>Metal – Semiconductor Junction</u>	This lecture identifies the mechanism of the energy flow in the metal semiconductor junction.
11	<u>MOS Capacitance</u>	This lecture identifies the principles of MOS(Metal Oxide Semiconductor) and its Field Effect Transistor operation.
12	<u>MOS Field Effect Transistor</u>	This lecture identifies the types of MOS-FET (Metal Oxide Semiconductors Field Effect Transistors) and its role as the valve.
13	<u>LSI Fabrication and Issues_Final</u>	This lecture identifies the FET process and the process of fabrication of IC(Integrated Circuit).
14	Semiconductor in other Devices_Final	This lecture explains various utilization of semiconductors in everyday life.
15	Final Exam	

Title	Quality Assurance and Food Safety Management System		
Category	Natural Sciences	Course	Food & Nutrition
Objective	-		
Description	The lecture identifies the basic concepts of food safety and food hygiene and suggests various ways to measure and maintain food hygiene.		
Keyword	Food safety, Sanitary, Hazard, Food hygiene, ISO		



Provided by

University	National University of Laos		
Country	Laos 	Language	Laotian
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	<u>Introduction to Quality Assurance and Food Safety Management System</u>	This lecture defines food quality management and assessment system of food risks.
2	<u>International Trade and Food Safety</u>	This lecture identifies the role of WTO in international trade and food safety, along with the tariff barrier that must be concerned in the international trade.
3	<u>Food Safety in Laos</u>	This lecture discusses food safety issues in Laos and identifies the factors that affect the local food safety.
4	<u>Continuous Improvement System: 5S-Kaizen and Sigma System</u>	This lecture identifies the 5S system and its application to food sanitary managements.
5	<u>Risk Assessment Principles</u>	This lecture defines the characteristics of risk assessment and its procedures.
6	<u>Introduction to Certification Systems</u>	This lecture identifies the background and the principles of certification system and its constituent parties.
7	<u>Introduction to Food Safety on the Farm GAP1</u>	This lecture defines the GAP(Global Agricultural Practice) system among ASEAN countries and suggests its exemplary safety modules.
8	Midterm Exam	
9	<u>Introduction to Food Safety on the Farm GAP2: Produce Quality</u>	This lecture identifies the food safety assurance in local farms and the role of customers in the management of food quality.
10	<u>Good Hygiene and Sanitation</u>	This lecture defines food poisoning and explains the effect of food contamination to overall food market constituents.
11	<u>Good Manufacturing Practices</u>	This lecture refers to the principles and the factors of GMP (Good Manufacturing Process) in order to explain the concept of food hygiene.
12	<u>Hazard Analysis Critical Control Points (HACCP)</u>	This lecture defines the concept of CCP(Critical Control Point) and HACCP(Hazard Analysis and Critical Control Point) and explains the applications in various fields.
13	<u>Introduction to ISO Family: ISO 9000 Quality Management System, Model and Theory</u>	This lecture identifies the ISO 9000 series and its role in forming mutually beneficial business.
14	<u>Introduction to FSMS ISO 22000</u>	This lecture introduces a new series of ISO which focuses more on corrective action and verification.
15	Final Exam	

Title	Social and Environmental Soundness		
Category	Social Sciences	Course	Social Sciences
Objective	-		
Description	Describe how protection mechanisms and approaches are actually used to learn how to assess the social environmental and economic costs and benefits risks and opportunities associated with REDD and other PES or conservation programs and projects, and to aggregate various socioeconomic and environmental considerations.		
Keyword	REDD+, Sustainable Development and Ethics, Environmental Co-Benefit, Governance, Social Co-Benefits		



Provided by

University	National University of Laos		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Introduction to Social and Environmental Soundness	
2	Sustainable Development and Ethics	
3	Environmental Co-benefits	
4	Governance	
5	FPIC	
6	Stakeholder participation	
7	Social Co-Benefits	
8	Midterm Exam	
9	Gender Analysis	
10	Livelihood	
11	Forest Tenure	
12	Economic and Financial Viability and Sustainability	
13	Benefit Sharing	
14	National safeguard	
15	Final Exam	

Title	Hospitality Business and Accounting		
Category	Social Sciences	Course	Economics & Finance
Objective	-		
Description	Creating basic accounting concepts and financial reports is an important skill, especially for graduates of hotel management students. You need a solid foundation of accounting knowledge and fundamentals to quickly understand and apply accounting policies and procedures for your hotel business. The basics of using numbers in business operations means focusing on essential basics that are easy to understand and apply.		
Keyword	Hospitality Business, Hotel Accounting, Bookkeeping, Fundamental Accounting, Financial Report		



Provided by

University	National University of Laos		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Hospitality Business and Accounting	
2	Accounting fundamental	
3	Accounting -Financial Report Forms	
4	Business Establishment	
5	Hotel Purchase Account	
6	Sale Account	
7	Warehouse Account	
8	Midterm Exam	
9	Cash Accounting	
10	Account Receivable	
11	Asset and Depreciation	
12	Value Added Tax: VAT Account	
13	Payroll Account	
14	Food and Beverage Cost Control	
15	Final Exam	

Title	General Chemistry		
Category	Natural Sciences	Course	Chemistry
Objective	-		
Description	In order to learn the observable properties of materials associated with structures, the concept reversible responses of elemental atoms and molecules to describe the relationship between the structure and properties of matter by particle model are studied through equilibrium kinetic molecular theory and interpret radioactivity as an element variant to explain the state of matter and solution.		
Keyword	Matter Structure, Particular theory, Chemical reaction, Equilibrium		



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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	Matter & Life	
2	Chemical Reactions	
3	Atoms & Elements	
4	Electron Configurations	
5	Ionic Compounds	
6	Molecular Bonds	
7	Molecular Shapes	
8	Midterm Exam	
9	Chemical Reactions	
10	Chemical Equilibrium	
11	Solubility Equilibrium	
12	Gases, Liquids & Solids	
13	Solutions	
14	Nuclear Chemistry	
15	Final Exam	

Title	Research Methodology		
Category	Education	Course	Education & Teacher Training
Objective	Fundamental principles of various approaches to language education research (quantitative and qualitative paradigms), research preparation steps, research components, research design, data collection procedures, theory and real-world problems related to data analysis, data interpretation and result reports.		
Description	This topic introduces students to a variety of approaches to language education research in quantitative and qualitative paradigms. Topics include research preparation steps, research components, research design, data collection procedures, data analysis, data interpretation, and results reports.		
Keyword	Qualitative Research, Quantitative Research, Mix -Method Research, Components of research, Stages of research		



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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Oral Presentation (30), Assignment (70)		
Textbook	<ul style="list-style-type: none"> John W. Creswell (2014), Research Designs 4th Edition, SAGE. Azirah Hashim (2015), Doing social research: An ASEAN Initiative Training Handbook, University of Malaya. 		




Weekly Plan

Week	Subject	Description
1	Introduction to Research	Defining the three types of research approaches, Research process, Why doing research?.Determining your research approach (Three approaches to research). Identifying a philosophical worldview or stances (Three components involved in an approach: Philosophical worldview, research designs, research methods)Using quantitative, qualitative, and mixed methods designs and methods
2	Review of the Literature	Identifying research topic, The Use of Literature .Design Techniques
3	The Use of Theory	Quantitative Theory Use, Qualitative Theory Use, Mixed Methods Theory Use
4	Writing Strategies and Ethical Considerations	Writing the proposal, Writing Ideas, Ethical Issues
5	Writing An Introduction	Writing an abstract for a study, Exploring differences among quantitative, qualitative, and mixed methods introductions, Writing about the research problem, Using the deficiency model for writing an introduction Pointing out deficiencies in past literature
6	Writing the Purpose Statement	Using a script for writing a qualitative purpose statement, Using a script for writing a quantitative purpose statement, Using a script for writing a mixed methods purpose statement
7	Writing the Research Questions and Hypotheses	Writing a script for a qualitative central question, Writing a script for quantitative research questions and hypotheses, Writing scripts for different forms of research questions for a mixed methods study
8	Midterm Exam	
9	Quantitative Methods	Defining Surveys and Experiments, Components of a Survey Method Plan, Components of an Experiment Method Plan
10	Qualitative Methods	Stating the basic characteristics of qualitative research, Qualitative Designs
11	Mixed Methods Procedures	Stating a definition and the characteristics of mixed methods research, Using a convergent parallel mixed methods design, Using an explanatory sequential mixed methods design, Employing an exploratory sequential mixed methods design
12	Data Collection	Key Decisions for Data Collection (General Principles (relationship between source of data and different research designs; alignment of problem, questions and methods),Selection of Site and Participants; Sampling criteria, Planning for data collection
13	Analysis of Qualitative Data	Scoring the data, Codebook, Missing data, Handling missing data, Cleaning your data
14	Analysis of Quantitative Data	Types of quantitative analysis, Descriptive & Inferential Statistics, To check if a test is statistically significant Discussing and Interpreting Findings, Basic steps in Qualitative Analysis
15	Final Exam	

Title	General Accounting		
Category	Social Sciences	Course	Business & Management
Objective	The main purpose of this course is to improve students' theoretical understanding of information systems, the role of strategic information systems, organization and management, computer and processing information, communication and networking, Internet and electronic businesses, and information system improvements within the organization.		
Description	This course introduces basic training theory and theoretical information technology, information systems, communication networks, and database systems.		
Keyword	Computer system, Information system, era computer, network, Executive information system		



Provided by

University	National University of Laos		
Country	Laos 	Language	Laotian
Name	-	Contact	-



Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · Nattaya Sabnar (2005), Management Information System, SPC Book. · Amon Chanthaphavong (2004), Information Technology, Santipub. 		




Weekly Plan

Week	Subject	Description
1	Introduction to information System	This material explains about the what is information System?, structure of information System, component of information System, type of information System.
2	Computer System	This material explains about history computer, era of computer, computer principles, type of computer.
3	Component of computer	This material explains about component of computer such as hardware, Software, People ware, Data.
4	Communication and Network	This material explains about type data Signal, Topology, Unguided media and Unguided media, Equipment of communication.
5	Database System	This material explains about data and information, Step Processing Data, Database management system
6	Internet and E-Commerce	This material explains about Internet, Intranet and Extranet, E-Commerce, Type of business
7	Decision Support System	This material explains about Decision Support Systems, Ingredient of Decision Support Systems, Group Decision Support Systems.
8	Midterm Exam	
9	Information Office System	This material explains about Office system, The function of Office information system.
10	Information System Development	This material explains about the important of the user for development, Factor of information system development, System development team, Requirement analysis, System Analysis and design, System implementation and maintenance.
11	Information Security Control	This material explains about controlling, measures of information system development, Program control, Information system security controlling, The threat of data security
12	Executive Support System	This material explains about Executive, Executive Support System (ESS), Important of Executive to develop ESS, Comparison of ESS and DSS
13	Artificial Intelligence and Expert System	This material explains about Artificial intelligence (AI), AI applications, Expert System, Process of Expert System Development
14	Business Information System	This material explains about Accounting Information System, Financial Information System, Marketing Information System, Production and Operations Information system, Human Resource Information System.
15	Final Exam	

Title	Management Information System		
Category	Engineering	Course	Computer Science
Objective	It is a course to understand the meaning and nature of accounting, differentiate various accounts, develop accounting principles, and explain the importance of recognition.		
Description	This course introduces you to the meaning and purpose of accounting, the benefits of accounting information, the implications of assets, liabilities and equity, and the equations of accounting processes.		
Keyword	General Accounting, Financial Accounting, Fundamental Accounting, Accounting Principles, Basic Accounting		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Principles of Accounting, D. leiwy. Financial Accounting, John Wiley & Sons Inc. 		




Weekly Plan

Week	Subject	Description
1	Introduction to Accounting	This material explains about the Definition of Accounting, The purpose of Accounting, Chart of Accounting, Basic accounting regulatory, Accounting Process
2	Assets, Liability, Owner's Equity, Expenditure and Revenue	This material explains about the Assets, Liability, Owner's Equity, Accounting Equation, Account Relations of Assets, Liability and Owner's Equity, Expenditure and Revenue
3	Business Establishment	This material explains about Understand the Businesses transaction flow, Accounting Equation, Company Establishment, Accounting entry on Company Establishment
4	Analyzing and Recording Business Transaction	This material explains about the transaction analysis, general journal, posting process from the general journal
5	Accounting for Merchandising Business	This material explains about the Nature of merchandising Businesses, financial statement for Merchandising Business and Merchandising Transactions
6	Accounting for Inventory	This material explains about the Inventory Basics, Perpetual VS Periodic Inventory Accounting, Taking Physical Inventory, Using Actual Physical Flow Costing
7	Value Added Tax: VAT Account	This material explains about the Value Added Tax: VAT, VAT Rate and it formula, VAT Recode , Refunded and VAT
8	Midterm Exam	
9	Payroll Account	This material explains about provides an overview of payroll, employees, and your requirements as a business.
10	Property, Plant and Equipment	This material explains about The accounting for depreciation requires an ongoing series of entries to charge a fixed asset to expense, and eventually to derecognize it. These entries are designed to reflect the ongoing usage of fixed assets over time.
11	Accrual Accounting and Adjusting Entries	This material explains Explain how account balances are not accurate from day to day, Understand the operating cycle, Introduce the concept of accrual accounting, Review the Revenue Recognition principle
12	Income Statement and Balance Sheet	This material explains about the Financial Statements prepared in the annual report, income statement Accounts
13	Financial Statement	This material explains about the Review the purposes of the general journal and general ledger and Financial statements
14	Closing the Books	This material explains about Introduce closing entries, Introduce temporary accounts, Permanent accounts
15	Final Exam	

Title	General Psychology		
Category	Social Sciences	Course	Social Sciences
Objective	-		
Description	The purpose of this course is to provide an overview of the field of psychology, various studies and perspectives within the field of psychology. The course content includes information about: The methodological approach that psychologists use to understand human emotions and behaviors. A method of interpreting and evaluating learning in the field of psychology for the purpose of applying this knowledge to real situations. a different perspective from the current debate in the field of psychology The history of psychology, the present state of psychology, and the current unexplained or unanswered psychological problems.		
Keyword	Matter, School and Families, Particular Theory, Observation Discussion, Human Behavior		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (30), Assignment (30), Discussion (30), Class participation (20)		
Textbook	<ul style="list-style-type: none"> Sisouvanh Siphompakdy and etc (2016), Psychology, Ministry of Education, Dept. of Higher Education. Robert S. Feldman (1996), Understanding Psychology, McGraw Hill. 		




Weekly Plan

Week	Subject	Description
1	Introduction and Thinking Critical	This material explains about the Definition of psychology, The Story of Psychology Thinking Critically With Psychological Science
2	The Biology of Mind	This material explains about the Neural Communication, The Nervous System and Brain
3	Consciousness and the Two-Track Mind	This material explains about the Brain and Consciousness.
4	Nature, Nurture, and Human Diversity	This material explains about the Behavior Genetics: Predicting Individual, study our differences and weigh relative effects of heredity and environment. Branch of biology that deals with the mechanisms of heredity. Transmission of genetic information from one generation to the next
5	Developing through the Life Span	This material explains about the Human Developing process in an orderly, though fragile, sequence
6	Sensation and Perception	This material explains about the sensory receptors receive and represent stimulus energies from our environment, The brain makes sense out of the input from sensory organs, Energy, Sensation, and Perception
7	Learning	This material explains about the Learning, Relatively permanent change in an organism's behavior, Type of learning in which an organism comes to associate stimuli, An organism learns associations between its own behavior and resulting events, Learning through watching others
8	Midterm Exam	
9	Memory	This material explains about the Memory Three behaviors show that memory is functioning. Recall, Recognition, Relearning, Description of how memory works: Encoding, Storage, Retrieval, recall is full of errors.
10	Thinking and Language	This material explains about the, The Way to find solving problems, and make decisions, The ways we combine them to communicate meaning.
11	Intelligence	This material explains about the ability on learning and solve problems. Testing method for assessing an individual's mental aptitudes, stability over the life span, and about the extremes of intelligence. Genetic and Environmental
12	Motivation and Work	This material explains about the need, desire that energizes behavior and directs it towards a goal. Drives are based on inner needs and can be seen as a force. Incentives are external stimuli that either appeal to our needs
13	Emotions, Stress and Health	This material explains about the Emotion, Arousal, Behavior, and Cognition, bodily arousal, sweat, pounding heart, Conscious experience
14	Personality	This material explains about the Personality, psychodynamic, humanistic view of the Self-Actualizing Person. Traits including the Big Five Factors/Dimensions
15	Final Exam	

Title	Land Use Management		
Category	Social Sciences	Course	Business & Management
Objective	The main purpose of this course is to improve students' research capabilities in participatory land-use planning and management when applying learning techniques for sustainable agricultural development.		
Description	This course provides students with a basic knowledge of the importance of land use management and its impact on socio-economic development, especially in rural areas. This process also provides appropriate procedures and tools for participatory land-use planning and land development, which can be implemented at the village and village cluster level in all regions of the country with different characteristics.		
Keyword	Land resource, Land use, Planning, Participatory, Sustainable Development		



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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> US Department of the Interior (2005), Land use planning handbook, Bureau of land management Manual of participatory Land Use planning, National Agriculture and Forestry Research Institute. 		




Weekly Plan

Week	Subject	Description
1	Introduction to Land Use Management	This material explains about the principles and concepts of land use planning and management for sustainable development
2	<u>Coordination and Cooperation in Land Use Planning</u>	This material explains about coordination, cooperation of relevant agencies in LUM and the flexibility in zoning and planning land use at local level
3	<u>Tools for Participatory Land Use Management</u>	This material explains about tools for LUM such as topographic maps, aerial photography, satellite imagery, and geographic positioning systems
4	Survey of Natural and Land Resources	This material explains about the definition and different techniques used for land use survey
5	Procedure and Stages in Land Use Management	This material explains about the stage 1,2 and 3 of LUM procedure
6	Procedure and Stages in Land Use Management	This material explains about the stage 4,5 and 6 of LUM procedure
7	Procedure and Stages in Land Use Management	This material explains about the stage 7,8 and 9 of LUM procedure
8	Midterm Exam	
9	Village Survey and Land Use Observation	This material explains about the LUM at community and district levels from the interviews with main developer
10	Implementation of Land Use Management	This material explains the strategies to support the implementation of LUM at local level
11	Monitoring and Evaluation of Land Use Planning	This material explains about the approach of monitoring and evaluation of LUM at village and district levels.
12	Adaptive Management and Impact Assessment	This material explains the approach and determination of new decision to adapt the LUM
13	Social Challenges in Land Use Management	This material explains the importance of rights and equal access to land resources to integrate in LUM
14	Land Use Changes and Issues in Lao PDR	This material explains about the trends of LUM in socio-economic development strategies of Lao PDR.
15	Final Exam	

Title	Computer Foundation		
Category	Engineering	Course	Computer Science
Objective	<ul style="list-style-type: none"> Basic understanding of the operating system, especially Windows Create documents, worksheets and slide shows for presentations Use email to communicate with others and share files on the Internet 		
Description	This course will learn basic computer skills, especially Microsoft Office, such as introducing Windows operating systems, MS Word, MS Excel, and MS PowerPoint. You can also understand and use the Internet's fundamentals in email usage, web surfing, file sharing on the Internet, and basic computer security.		
Keyword	Windows, Microsoft Office, MS Word, MS Excel, MS PowerPoint		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (80), Assignment (5), Discussion (5)		
Textbook	<ul style="list-style-type: none"> Nordell (2014), Microsoft Office 2013, The McGraw Hill Companies. Souly Noukoun (2016), Windows 10 and Office 2016, Se-education public company limited.. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Computer</u>	Student will be able to understand basic of computer system and basic components of computer such as hardware, software and operating system.
2	<u>Microsoft Windows</u>	Student will be able to understand and can use Windows 10.
3	<u>Microsoft office</u>	Student will be able to understand Microsoft Office suite.
4	<u>Microsoft word</u>	Student will be able to understand basic features of word processing.
5	<u>Working with Microsoft Word</u>	Student will be able to use Microsoft word, can build personal, academic and business document.
6	<u>Microsoft Excel</u>	Student will be able to understand basic feature of Excel, can create worksheet.
7	<u>Working with Microsoft Excel</u>	Student will be able to use Excel to create simple additional formula that include complex calculations.
8	Midterm Exam	
9	<u>Working with formula and function on Microsoft Excel</u>	Student will be able to use Excel to graph or chart worksheet data, import data, create and format Excel tables and protect worksheet in a workbook.
10	<u>Microsoft PowerPoint</u>	Student will understand basic features of PowerPoint and can create slideshow.
11	<u>Working with Microsoft PowerPoint</u>	Student will be able to create new theme, apply animation and prepare for self-running presentation.
12	Introduction to Internet	Student will be able to understand basic feature of internet and webpage.
13	<u>Getting start with email and sharing file on internet</u>	Student will be able to use email for communicating , share file.
14	<u>Basic computer security</u>	Student will be able to understand virus computer.
15	Final Exam	

Title	Elements of Plane Surveying		
Category	Art, Music & Physical Education	Course	Art & Culture
Objective	The objective of this course is to use basic measurements, distance measurements, leveling definitions, angle measurements, horizontal and vertical angles, survey errors, traverse, terrain, etc.		
Description	Formal education of measurement was once an exclusive area of civil engineering education, but now it is taught in areas such as surveying technology, landscape architecture, building construction and forestry that are not mathematically oriented than civil engineering. Civil engineering students at lack the ability to easily apply the ordinary mathematics they have learned so far and enter the survey process. Therefore, the survey text should reflect different levels of mathematical preparation between engineering and non-engineering.		
Keyword	Plane surveying, Element surveying.		



Provided by

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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (50), Assignment (30)		
Textbook	<ul style="list-style-type: none"> · Artur R. Bepton, Jr (1991), Elements of Plane Surveying, McGraw-Hill, Inc. · Mr. Somchay, Mr. KongChan, Basic Surveying. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction</u>	Measurement of the surface of the earth Analysis and adjustment of surveying measurement. Measurement of distances, elevations, and angels. Algebra, geometry and trigonometry used in surveying computation
2	<u>Distances</u>	Surveying is explained as measurement of Distance: Distance measurement is measuring the horizontal distance between two points. Material on measurement of distances. Various techniques for civil engineering.
3	Leveling	How to use levels, read the staff, and check tools How to use formula and use tables How to use the setting out in the field
4	Angle Measurement	The angle measurement : Measurement of horizontal angles. Measurement of vertical angles. Vertex point between a backsight point and foresight point
5	Surveying Errors And Adjustments	Various Important Errors, Materials and Tools for Errors, Errors Attend and Checks.
6	<u>Transit Field Operations</u>	Measurement of Interior Angles. Measurement of Deflection Angle. Angle-right, left traverse. Obstacle online
7	<u>Directions</u>	Azimuths and Bearing. The use Azimuths and Bearing. The calculation direction of line. Deflection angles in open-ended traverse.
8	Midterm Exam	
9	<u>Traverse</u>	Basic Measurement of Traverse. Traverse Implementation. Traverse Jobs
10	<u>Working with Coordinates</u>	Measurement of Horizontal Angles, Measurement of Horizontal Angles for bearing and Azimuths, Measurement of Distances for coordinate (X,Y) or (N,E).
11	<u>Rapid Surveying Methods</u>	Basic Steps of Measurements. Measurement Angles for Leveling, The Usage of Prism Poles The Usage of Formula for Leveling
12	<u>Topography</u>	How to do real practice in fields. How to use materials in practices on topography for civil engineer. Step by step surveying of any kind of works.
13	<u>Construction Surveys</u>	Construction surveys can be shown the detail data of surveying work. Surveyor know about step by step of setting out. how to set and leveling forms. how to set out the pipelines.
14	<u>Earthwork</u>	Understanding Earthwork. Reading Drawings of Work. Checking the drawings. Using Formulas and Calculations
15	Final Exam	

Title	Internet and Web Technology		
Category	Engineering	Course	Computer Science
Objective	The purpose of this course is to provide students with a basic understanding of the World Wide Web as well as legal and ethical issues associated with using the web. Students know the fundamentals of Internet, Web design, and use Hypertext Markup Language (HTML) to develop web pages, use current web authoring software, and integrate text, images, audio, video and graphics files into the website design.		
Description	This course provides an overview of the web technologies used in web development. With the widespread use of the Internet and WWW by the public, applications must be provided with a web-based interface that allows anyone to access the application anytime, anywhere. This topic covers the fundamentals of web technology on both the client and server sides and provides exposure to students to develop rich Internet applications using it. It covers technologies such as basic WWW, web design, HTML, and other related technologies.		
Keyword	Internet, World Wide Web, Tools, HTML.		



Provided by

University	National University of Laos		
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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (60), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Steven Holzner (2000), HTML Black Book, Coriolis Technology Press. Manichok Samanthai (2005), HTML for Beginner, Inforpress Developer Book. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Internet</u>	Learners can learn about the use of internet and structure of internet, understand World wide web and how we request the information on the website.
2	<u>Before Start HTML</u>	Learners can learn the important things and what we should know before making a website, and understand the important system and tool for develop and create the website.
3	Web Design	Learners can learn the concepts of web design, page layout, sitemap, understand how to structure and organize the website, and learn the planning and publishing website.
4	<u>Start Web</u>	Learners can learn how to define the basic properties of the webpage, understand how to show the content on web browser, and learn how to arrange the text, paragraph and also an image.
5	<u>Work with Text</u>	Learners can learn how to set text and font of the content on the webpage, understand how to add more properties and set page the color of text Learners can learn how to set webpage heading
6	<u>Presenting Text</u>	Learners can learn tag and attribute to presenting text or content on the webpage, understand how to how to control Horizontal and Vertical Spacing, and learn how to arrange text in layer on webpage. Learners can learn to displaying in a scrolling marquee.
7	<u>Arranging Text</u>	Learners can learn tag and attribute to arranging text or content on the webpage. understand how to create unordered and ordered lists, and learn how to add more attribute to the tag. Learners can learn how to arranging the text.
8	Midterm Exam	
9	<u>Work with Image</u>	Learners can learn tag and attribute to add or adjust image on the webpage, understand how to define location of image, and learn how to add more attribute to the tag image to adding space around image. Learners can learn how to scaling image to different sizes.
10	<u>Link</u>	Learners can learn tag and attribute to create the link on the webpage, understand how to set the link color, destination, location of the link, and learn how to set the graphic link and link to e-mail.
11	<u>Creating Table</u>	Learners can learn tag and attribute to create the table on the webpage, understand how to set the rows column and border of the table, and learn how to set the other element in the table such as table header, caption, span.
12	<u>Work with Frame</u>	Learners can learn tag and attribute to create the frame and insert inline frame on the webpage, and understand how to add more attribute to add more properties of the fame.
13	<u>Create HTML Form</u>	Learners can learn tag and attribute to create the form and input type of form on the webpage, and understand how to add more attribute to add more properties of the form.
14	<u>Work with Multimedia</u>	Learners can learn tag and attribute to create and show multimedia file on the webpage, and understand how to add more attribute to add more properties of the media such media type, size, auto play and etc.
15	Final Exam	

Title	Leadership		
Category	Humanities	Course	Philosophy
Objective	The main objectives of this course are to enable students to explain the main focus of leadership, identify different approaches to leadership study, explain the two main areas of school leadership, and explain the future challenges of school leadership.		
Description	The main objectives of this course are to enable students to explain the key focus of leadership, identify different approaches to leadership research, explain the two main areas of school leadership, and explain the future challenges of school leadership.		
Keyword	Introduction to Leadership, Type of behavior to make the influence, Theory of Leader, Leadership styles, Role and duties of leader.		



Provided by

University	National University of Laos		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (50), Assignment (20)		
Textbook	Leadership (2014), Department of Education administration		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Leadership</u>	Definition of Leader and leadership, Leader versus Manager and Power and Influence
2	<u>Type of behavior to make the influence</u>	Rational persuasion tactics, Inspiration appeal tactics, Consultation tactics, Personal appeal tactics, and Integration tactics
3	Leadership and Organizational effectiveness	Rational persuasion tactics and Inspiration appeal tactics
4	<u>Theory of Leader</u>	Traits Approach, Behavior Approach and Contingency Approach
5	Leadership styles	Leader styles according to power, Leader styles according to using power, Leader styles according to work, Leader styles according to the role play out and Leader styles according to behavior
6	<u>Role and duties of leader</u>	The role leader and the power of persuasion and Learning and training to be leader
7	Instructional Leadership in Schools	Definition of instructional leadership in school, The academic administration, the personnel administration, The finance administration, The building and place administration and The community relationship administration
8	Midterm Exam	
9	<u>Behavior in leader academic of school administrators</u>	The leader in curriculum administration, The leader in Teaching and Learning and administration, The leader in Visual aid administration
10	<u>Making atmosphere creative in School</u>	Atmosphere inside the classroom, Atmosphere outside the classroom and The organizing activities to development the learners
11	<u>Transformational Leadership</u>	Definition of transformational leadership, The features of transformation leader and The responsibility of transformation leader
12	Transformational Leadership in school	Adjustment attitude administrator of using transformational Leadership, Development the readiness of the lecturers to use the transformational leadership and Enhancing relationship of community
13	<u>The 21 century leaders with challenges of change</u>	Challenges of change and Change Leadership
14	<u>The organization with the challenges of change</u>	The process organizational changing by the planned lay out ,The strategies of changing and How to handle with the resistance of changing
15	Final Exam	

Title	Politics		
Category	Social Sciences	Course	Social Sciences
Objective	This course aims is to help domestic and international students better understand Marxist philosophy, political economics, and communism.		
Description	This course introduces general knowledge of politics, including philosophy, political economics, and communist concepts.		
Keyword	Materialism, Political economics, Surplus value, Mixed economy, Communism		



Provided by

University	National University of Laos		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	Politics (2016), Ministry of Education and sports.		




Weekly Plan

Week	Subject	Description
1	<u>General Knowledge of Philosophy</u>	Study on the Philosophy, Marx-Lenin's philosophy, the fundamental problems of philosophy and objective of learning philosophy.
2	<u>Materialism and Mind</u>	Focuses on the reality of objective or material, the movement of material, history of material and its reality
3	<u>Materialism and Its Relation to Movement</u>	Learning about objective materialism, 2 basic principles of materialism and the development of material or everything in the real world.
4	<u>Basic Rules of Material- Based Thought</u>	To study knowledge of 3 rules of materialism such as the rule of Unity and conflict rule of opposite sides, The changing from quantitative to qualitative rule and the changing from quantitative to qualitative rule.
5	The Six Pairs Standards of Materialism	Study on six pair standards of materialism namely specific and general, cause and effect, permanent and casual, content and pattern, reality and phenomenon and feasibility and facts.
6	<u>Knowledgeable Theories</u>	Learn about knowledgeable theory, pattern of knowledge, role of behaviour, truth and theory and behaviour relation.
7	<u>History and the Movement of Political Economics</u>	Study on political economics, producing goods, factors of production, production methods and the objective of learning political economy.
8	Midterm Exam	
9	<u>Production and Capitalism</u>	Focuses on the production of goods, the conditions and characteristics of producing goods, money, history of money, role of money, reality of money, surplus value principle and the capitalism revolution.
10	<u>Capital and Surplus Value</u>	Learn about how to Convert money into capital, capital structure, surplus value and capitalism economic rules.
11	The Critical of Economic Sectors in the Crossing Period	Study on the necessity of mixed economic under socialism, the real nature and the structure of the mixed economic, the growth trend of mixed economic through the advancement of socialism.
12	<u>Economic Status Under the Development of Communism</u>	To study the socialist market economy in Lao PDR, special characteristics of the market economy controlling by the government and market economy under socialism pattern.
13	<u>General Knowledge of Communism</u>	Study on the role of socialism, objective of learning and role of socialism and the characteristics of socialism in terms of country development.
14	<u>The Development Phases of Communism</u>	Focuses on the stages of the development of socialism, such as the construction and development phases of socialism in the Mark and Angel period, the creativity of Lenin to develop socialism theory and the situation of socialism theory after Lenin died.
15	Final Exam	

Title	Basic Statistics		
Category	Natural Sciences	Course	Math
Objective	The goal of this course seems to be that students have basic knowledge of statistics to be used in their research and life.		
Description	This course includes basic statistics on the data, frequency distribution, statistical methodology, and statistical values used in descriptive statistics. In addition, we also talk about probabilities, random variables, and probability distributions. Finally, they will learn about inference saturation, which consists of estimation, hypothesis tests determining relationships between variables.		
Keyword	Data statistics, Methodology statistics, Value random, Variable steps in hypothesis testing		



Provided by

University	National University of Laos		
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · Allan G.Bluman (2007), Elementary Statistics, McGraw-Hill. · Basic statistics, SHEP. 		




Weekly Plan

Week	Subject	Description
1	<u>Basic Statistics</u>	This chapter explains about meaning of statistics, data, population and simple, statistics methodology.
2	<u>Frequency distribution</u>	This chapter explain about constructing grouped frequency distribution and histograms, polygon and ogives.
3	<u>Measure of mean and variance</u>	This chapter explain about mean, variance, and standard deviation of raw and grouped frequency data and weighted mean.
4	Measure of median and mode	This chapter explain about median and mode of raw and grouped frequency data.
5	<u>Probability</u>	This chapter explain about meaning of probability, sample spaces and addition rule for probability.
6	Multiplication rules and condition probability	This chapter explain learn about multiplication rules and condition probability.
7	Counting rule and probability	This chapter explain about discrete and continuous probability distributions.
8	Midterm Exam	
9	<u>Probability distributions</u>	This chapter explain about expectation and standard deviation of discrete and continuous probability distributions.
10	<u>Expectation and standard deviation</u>	This chapter explain about expectation and standard deviation of discrete and continuous probability distributions.
11	<u>Discrete probability distributions</u>	This chapter explain about binomial, poisson distributions.
12	<u>Continuous probability distributions</u>	This chapter explain about normal and chi-square distributions.
13	Estimation	This chapter explain about confidence intervals for mean(σ know or $n \geq 30$), confidence intervals for mean(σ unknown or $n < 30$), confidence intervals and simple size for proportions and confidence intervals for variances and standard deviation.
14	<u>Hypothesis testing</u>	This chapter explain about steps in hypothesis testing, z-test for mean, t-test for mean, z-test for proportion, X ² -test for variance or standard deviation.
15	Final Exam	

Title	Environmental Sciences		
Category	Social Sciences	Course	Communication
Objective	All students who pass this course will understand and recognize the environmental conservation and adaptation mechanisms.		
Description	Environmental science subjects are based on improving students to understand the relationship between natural resource conservation approaches, the population of ecosystems, the effect of human activities on environmental conditions, and conservation and adaptable options for environmental changes. We will focus our search on finding the best solution options and sustainable development activity mechanisms to meet the goals of sustainable and environmentally friendly conditions.		
Keyword	Dr Bounheng Southichack(2016), Environmental Sciences, SHEP1		



Provided by

University	National University of Laos		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Examination (50), Assignment (30), Discussion (10)		
Textbook	Siamaak Sarmady (2008), Programming in C in 7 days, Urmia University of Technology.		




Weekly Plan

Week	Subject	Description
1	<u>Understanding on environment and eco system</u>	Learners can understand the evolution and definition of environment, identify the type of environment and characteristic of environment, and aware on relationship between human activities and environment.
2	<u>Transformation and cycle of chemical in environment system</u>	Learners can understand the basic knowledge of the chemical in the environment, follow-up the Energy flow and intervention process, and understand The Chemical cycles in the environment.
3	<u>Evolution and biodiversity</u>	Learners can understand the evident of bio fossil, understand on the principles of biotic identification and on biotic adaptation and extinction.
4	<u>Environmental pollutions</u>	Learners can understand the basic knowledge of the pollution in the environment, follow-up the cycle process of pollution, and understand the effective and solution choice of pollution in the environment.
5	Solid Waste and Waste Management	Learners can understand the definition of the waste, describe the principles and concepts of zero waste management, and identify the type, source and effective of waste.
6	<u>Climate change and adaptation options</u>	Learners can understand the meaning and definition of climate change, identify the sources of climate change and its impacts of climate change, and design on climate change adaptation options.
7	<u>Climate change and adaptation options (Cont...)</u>	Learners can understand the scenario of climate change, follow-up the impacts reduction mechanism, and understand The adaptation options to the climate change.
8	Midterm Exam	
9	<u>Forestry and forest eco-system</u>	Learners can understand the world's forest status, understand the forest ecology and the cause and effect of forest degradation.
10	<u>Wetland condition and wetland management</u>	Learners can understand the meaning and definition of wetland, understand the cause and effects of the wetland degradation and on relate wetland conventions.
11	<u>Poverty and sustainable development</u>	Learners will understand the meaning and indicators of poverty, identify causes and effects of the poverty, and understand on the sustainable development mechanism.
12	Basic knowledge of environmental impacts assessment	Learners can understand the basic knowledge of environmental impact assessment, follow-up the steps, process of environmental impact assessment, and understand the monitoring and evaluation on environmental impact assessment.
13	<u>Ethic environment</u>	Learners will understand the meaning and importance of the ethic, identify theories and principles of the ethic, and learn how to create good activities on ethic environment.
14	Environmental regulations	Learners will know the global conventions and agreements related to environment, know the extension of national policy and laws related to environment, and understand the national standards on environment.
15	Final Exam	

Title	Introduction Programming C		
Category	Social Sciences	Course	Communication
Objective	This course aims to strengthen students' ability to program computers through an introductory foundation for additional use of various programming languages. Present the basic concept of the programming plate form focusing on troubleshooting through C programming. The course also covers theoretical and practical classes so that students can clearly understand C programming.		
Description	This course fully covers the basis of programming in the "C" programming language and shows basic programming skills, customs, and vocabulary, including the most common library functions and the use of preprocessors.		
Keyword	Computer system C programming language, Variables Pseudo-code Array		



Provided by

University	National University of Laos		
Country	Laos 	Language	English
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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (40), Assignment (30), Discussion (10)		
Textbook	Siamaak Sarmady (2008), Programming in C in 7 days, Urmia University of Technology.		



Weekly Plan

Week	Subject	Description
1	<u>Information to C Language</u>	This chapter describes the basic details about C programming language, how it emerged, what are strengths of C and why we should use C.
2	<u>Installation</u>	This chapter describes the how to install the latest version of Dev-C++ and how to write a C program in it. This way, you will know how to write C programs, compile, and find the executable.
3	<u>Flowchart to Programming</u>	This chapter describes the flowchart is a diagrammatic representation of an algorithm. Flowchart are very helpful in writing program and explaining program to others.
4	<u>Variable and Constants</u>	This chapter describes the variable is a region of the program, and the scope of variables refers to the area of the program where the variables can be accessed after its declaration, such as Local Variables, Global Variables.
5	<u>Data Type</u>	This chapter describes the constants can be of any of the basic data types like an integer constant, a floating constant, a character constant, or a string literal. There are also enumeration constants as well.
6	<u>Operators</u>	This chapter describes the compiler to perform specific mathematical or logical manipulations. C language is rich in built-in operators and provides the following types of operators: Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Misc Operators.
7	<u>Output</u>	This chapter describes the display some data on screen, printer, or in any file. C programming provides a set of built-in functions to output the data on the computer screen as well as to save it in text or binary files. In C programming you can use print predefined function to print data.
8	Midterm Exam	
9	<u>Input</u>	"This chapter describes the programs take data as input, and then after processing the processed data is being displayed which is called information. In C programming you can use scan and print predefined function to read and print data.
10	<u>Control statement</u>	This chapter describes the C conditional statements allows you to make decision, based upon the result of a condition. Such as if statement, if else statement, else if statement, switch statement and switch case statement.
11	<u>Loop</u>	"This chapter describes the C loops execute a block of commands a specified number of times, until a condition is met. Such as while loop, do-while loop, for loop.
12	<u>Nested control</u>	This chapter describes the nested control statement that is contained within another control statement. Learner can do this to many levels, building up elaborate composites of various control statements.
13	<u>Nested Loop</u>	This chapter describes the nested loop that is a loop inside another loop . There can be any number of loops inside one another with any of the three combinations depending on the complexity of the given problem.
14	Array	This chapter describes the Array is a data structure in C programming, which can store a fixed size sequential collection of elements of same data type. Such as define an Array, Initialize an Array, Accessing Array Elements.
15	Final Exam	

Title	Lao Studies		
Category	Social Sciences	Course	Social Sciences
Objective	<ul style="list-style-type: none"> Provide students with knowledge and understanding of Laos, such as Lao geography, Lao history, Lao economy, Lao politics, Lao culture and society. Apply this knowledge to everyday life and allow students to participate in social development according to their roles. Have a good attitude and act properly as a good citizen of society as well as the state. We love, preserve, and promote the beautiful cultural traditions of our country. 		
Description	We study the basic geography of Laos, the history of Laos from ancient to present, the Laotian economy, Laotian politics, Laotian culture, social and local people's wisdom.		
Keyword	Basic geography of Laos, Lao ethnic studies, Lao politics, Lao culture, Lao society		



Provided by

University	National University of Laos		
Country	Laos 	Language	English
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (40), Assignment (30), Discussion (10)		
Textbook	Siamaak Sarmady (2008), Programming in C in 7 days, Urmia University of Technology.		




Weekly Plan

Week	Subject	Description
1	<u>Physical Characteristics of Laos</u>	Understanding the Location and Boundary; Landscapes/geomorphology; the climate and Natural Resources.
2	<u>Geographical Division of Laos</u>	Understanding of geographical division of Laos, an important feature of each geography in Laos.
3	<u>History Ancient period of Laos</u>	Study about history of Laos in Ancient period, the evidences for Lao history and history of City state in ancient of Laos.
4	<u>History Middle Period of Laos</u>	Study about origin of Lanxang kingdom and understand the history in conquered of Siam.
5	<u>History Modern period of Laos and Presently Laos</u>	Study about French aggression and occupation in Laos and understand the history about American intervention and occupation in Laos. Study and can describe the establishment of Lao PDR and country protection and development in the present time.
6	<u>Lao Population</u>	To learn the characteristics of Lao population, population structures and ethnic structure in Lao PDR. 1.
7	<u>Lao Local Wisdom</u>	To learn about the meaning and the importance of Local wisdom, Characteristics and types of Local wisdom and the local wisdom in each part of Laos.
8	Midterm Exam	
9	<u>Politics and governance of Laos</u>	Study about the Politics and governance of Laos in Ancient period, system the Politics and governance of Laos in colonized period and understand Politics and governance of Laos in the present time.
10	<u>The Background of Lao Economy</u>	To learn about the history of Lao economy, characteristics of Lao economy and Lao economic structures.
11	<u>The Strategy and Development of Lao Economy</u>	To learn about: the Importance of Strategy and Socio-Economic Development Plan, The National Socio-Economic Development Plan, Government Economic Policy and Lao Trade and Marketing Relations.
12	<u>Lao Society</u>	To learn about characteristic and elements of Lao society, the urban and rural communities, the urban and rural societies of Laos.
13	<u>Lao Culture</u>	To learn about the background of Lao culture, the elements, understand the behavior and prohibitions in Laos.
14	<u>Knowledge of ASEAN</u>	To learn about the history of the ASEAN, the objective of ASEAN establishment, ASEAN relation and Lao PDR and ASEAN.
15	Final Exam	

Title	History of Lao Economy		
Category	Social Sciences	Course	Economics & Finance
Objective	This course aims at enhance students' theoretical understanding of the situation of the Laotian economy from ancient times through the French colonial period, Japan and the U.S., and to read a variety of books, mainly in French, English and Laotian. We will focus on the problem of the economic downturn in Laos.		
Description	This course introduces the basic educational economic theory and learning theory related to the history of government and colonial education in the kingdom.		
Keyword	ASEAN history of Lao economy, Economic evolution, Tools of Economy, Expansion of economic.		



Provided by

University	National University of Laos		
Country	Laos 	Language	English
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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (40), Assignment (20), Discussion (20)		
Textbook	<ul style="list-style-type: none"> Mr. Boussabong SOUVHANUVONG (2000), History development, Ministry of Education Printing. Mr. Boussabong SOUVHANUVONG (2013), History and economics theories, Ministry of Education Printing. 		




Weekly Plan

Week	Subject	Description
1	<u>Meaning and signification of history of Lao Economy</u>	This chapter describes the social and economy evolution, the situation that promotes the evolution of human society, the history is also related to all respect of science, social science and humanities, the progress of the country's economy, the understanding economic analysis and economic situation better, economic history studies help economists plan and right direction for development.
2	<u>Lao economy since prospered ancient until before French colonial</u>	This chapter describes about the foundation of economy society, the tools to expansion economy and society, the expansion and the peaking of economy.
3	<u>Lao economy under French's colonial</u>	This chapter describes about Lao economy oppressed by French's colonial, type of taxation, about the budgetary and monetary under French's colonial and about Agriculture and forestry, handicraft, industry, trading and transport work.
4	<u>Lao Economy from 1954 - 1975</u>	This chapter describes the Situation of kingdom government under French's colonial, the economic situation in French Colonial, policy supported of Kingdom Government from foreign.
5	<u>The beginning of the year the build Agricultural Cooperative</u>	This chapter describes the Target to be agricultural cooperative, the transformation to agriculture association about the Principle and manage agricultural cooperative's activity.
6	<u>Structural Economic policy</u>	This chapter describes the Structural of economic policy, direction and main obligation about socialism's economy, economy after declaration of independence and 5-year planning.
7	<u>Adapt as protection economic mechanism</u>	This chapter describes the base economic protection's mechanism, the types of the economic production's mechanism, protection mechanism on an arbitrary, about the Adaptation of economic mechanism.
8	Midterm Exam	
9	<u>Output economy, market economy under central administration and management</u>	This chapter describes the about the traditional, output, and market economy, the difference between traditional and output, output and market economy, the Basic characteristics of market economy base on Marx - Lenin political economics theory in Lao PDR.
10	<u>Market economy under central planning government</u>	This chapter describes the expansion of the economic protection's mechanism, the types and characteristics of the economic protection's mechanism, the characteristics of the economic protection's mechanism.
11	<u>Increasing of government's role about macroeconomic</u>	This chapter describes the government's role about macroeconomic, the government's obligation with make economy mechanism, increasing of government's intervention within market economy.
12	<u>Monetary policy</u>	This chapter describes the about inflation, financial development, monetary growth.
13	<u>Instrument of economic policy</u>	This chapter describes the about the component of monetary policy in Lao PDR, the banking system in Lao PDR, about exchange rate policy.
14	Budget policy	This chapter describes the reform of tax in Lao PDR, the governess reform in Lao PDR, about history of Lao currency (kip).
15	Final Exam	

Title	Mathematics of Computing III		
Category	Natural Sciences	Course	Math
Objective	-		
Description	Students will learn engineering mathematics in order to apply these concepts to computer science and technology.		
Keyword	Probability Distribution, Probability Distribution, Ordinary Differential Equation, Partial Differential Equation		



Provided by

University	University of Information Technology		
Country	Myanmar 	Language	Burmese
Name	Swe Swe Kyaw	Contact	-



Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>OT</u>	Orientation
2	<u>Probability Distributions</u>	This material explains about the probabilities of event in an experiment or observations.
3	<u>Distribution</u>	This material explains about two types of distributions; discrete and continuous random variables and distributions.
4	<u>Mathematical Statistics-I</u>	This material explains about the important methods of statistical inference are estimation of parameters and determination of confidence intervals.
5	<u>Mathematical Statistics-II</u>	This material explains about the important methods of statistical inference are hypothesis testing, with application to quality control and acceptance sampling.
6	<u>Linear Algebra-I</u>	This material explains about the basic concepts and rules of matrix, vectors and determinants.
7	<u>Linear Algebra-II</u>	This material explains about the problem of determining the eigenvalues and eigenvectors of a matrix and the complex matrix.
8	Midterm Exam	
9	<u>Linear Algebra-III</u>	This material explains about how to solve systems of linear equations using matrices, vectors and determinants.
10	Complex Numbers and Functions	This material explains about the transition from real calculus to complex calculus starts with complex numbers and their geometric representation in the complex plane.
11	<u>Laplace Transforms</u>	This material explains about the definition of Laplace transform and the process of solving an ODE using the Laplace transform method.
12	<u>z-Transform</u>	This material explains about the z-transform representation of a sequence for the discrete-time signals and properties of ROC for z-transform.
13	Fourier Analysis	This material explains about the model periodic phenomena appearing frequently in engineering, think of rotating parts of machines, alternating electric currents or the motion of planets.
14	<u>Introduction to FSMS ISO 22000</u>	This lecture introduces a new series of ISO which focuses more on corrective action and verification.
15	Final Exam	

Title	Human Computer Interaction		
Category	Engineering	Course	Computer Science
Objective	<ul style="list-style-type: none"> Principles and characteristics of human-computer interactions, such as direct manipulation, usability, and interaction design heuristics Workflows for designing and evaluating user-centered designs, from need-finding to prototyping to evaluation The present state of research and development of human-computer interactions such as augmented reality, wearable devices and robots 		
Description	This class covers three broad topics of human-computer interaction: (a) good design and bad design features based on usability and user experience objectives; (b) interaction design processes and (c) techniques for designing and evaluating user-centered systems.		
Keyword	Human Computer Interaction, Interaction Design, Usability, User Experience (UX), Interface Metaphor.		



Provided by

University	University of Information Technology		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Yvonne Rogers , Helen Sharp and Jenny Preece (2011), Interaction Design: Beyond Human-Computer Interaction, John Wiley & Sons Inc. Alan Dix, Janet Finlay, Gregory D. Abowd Russell Beale (2003), Human Computer Interaction, Pearson. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Interaction Design</u>	This material explains the definition of ID.
2	<u>Goals and Principles of ID</u>	This material explains the concept of usability goals and user-experienced goals
3	<u>Understanding the conceptual model</u>	This material explains interaction design models.
4	<u>Conceptual Models based on Activities</u>	This materials explain various types of conceptual models which is based on activities.
5	<u>Conceptual Models based on Objects</u>	This materials explain about object-based conceptual model and what kind of conceptual models is/are suitable to use for developing system.
6	<u>Practical issues on interaction design process</u>	<u>Practical issues on interaction design process</u>
7	<u>Practical issues on interaction design process</u>	<u>Practical issues on interaction design process</u>
8	Midterm Exam	
9	<u>Identifying needs and establishing requirements</u>	This material explains how requirements are important
10	<u>Data Gathering Techniques</u>	This material explains different kinds of requirement gathering techniques
11	<u>Data interpretation and Task description</u>	This materials explain the hierarchical task analysis
12	Prototyping	This materials explain how to create the prototype design
13	<u>Using scenarios in conceptual design</u>	This materials explain the design conceptual model using scenarios
14	<u>Evaluation for interaction design</u>	This materials explains how to evaluate the interaction design of case study
15	Final Exam	

Title	Distributed Programming		
Category	Engineering	Course	Computer Science
Objective	The main objectives of this course are distributed computing, system management, web programming, and middleware: CORBA, advanced communications: synchronous and asynchronous calls, message-oriented middleware, and objects, the CORBA component model, and clie		
Description	This course is an introduction to distributed programming. This class covers three broad topic categories: (a) CORBA architecture; (b) network architecture and (c) Web applications using CGI in distributed systems.		
Keyword	Distributed Programming, Python Language, CORBA, Network Programming, Web Programming		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> David M.Beazley (2009), Python Essential Reference, Pearson. Wesley J,Chun (2012), Core Python Applications Programming, Pearson. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Distributed Programming</u>	This material explains about distributed system and distributed programming
2	<u>The Python Language</u>	This material explains about the concept of python distributed programming language
3	<u>Types and Objects</u>	This material explains about types and objects
4	<u>Operators and Expressions</u>	This material explains about various operators and expressions
5	<u>Program Structure and Control Flow</u>	This material explains about program structure and control flow
6	<u>Function and Functional Programming</u>	This material explains about function and functional programming
7	<u>Classes and Object-Oriented Programming</u>	This material explains about classes and object-oriented programming
8	Midterm Exam	
9	<u>GUI and Database</u>	This material explains about GUI and database
10	<u>CORBA, CORBA Component Model</u>	This material explains about CORBA
11	<u>OmniORB</u>	This material explains about OmniORB middleware
12	<u>Python Network Programming (Connection Oriented Protocols)</u>	This material explains about network programming with connection-oriented protocol
13	<u>Python Network Programming (Connectionless Protocols)</u>	This material explains about network programming with connectionless protocol
14	<u>Web Programming using CGI</u>	This material explains about web programming using CGI
15	Final Exam	

Title	Network Security		
Category	Engineering	Course	Computer Science
Objective	The goal of this course is to provide a clear understanding of the key issues associated with the security of the latest network systems. These include basic concepts and fundamentals of computer security, basic knowledge of security decisions when designing an IT infrastructure, technologies that protect complex systems, and practical skills for managing diverse systems. The course structure is designed to provide a solid foundation for network security applications and standards.		
Description	This course helps you understand the concepts and fundamentals of network security, identify vulnerabilities in IT systems, and learn the principles and concepts of wireless data network security.		
Keyword	Network Security, Cryptography, IDS/IPS, Firewalls, VPN		



Provided by

University	University of Information Technology		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> William Stallings (2011), Network Security Essentials Applications and Standards, Prentice Hall. Kwok T. Fung (2005), Network Security Technologies, Auerbach Publications. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Network Security</u>	This material explains about the network security concepts and security mechanism
2	<u>Concepts of Encryption</u>	This material explains about the general model for symmetric encryption processes and the algorithms used
3	<u>Approaches to Message Authentication</u>	This material explains about the aspects of message authentication
4	<u>Key Management and Distribution</u>	This material explains about the survey of key management and distribution
5	<u>Requirements for Web Security</u>	This material explains about the general requirements of web security and standard scheme
6	<u>Wireless Network Security</u>	This material explains about the important of wireless network security schemes
7	<u>Electronic Mail Security</u>	This material explains about the use of PGP and SMIME
8	Midterm Exam	
9	<u>IP-Level Security</u>	This material explains about IPSec architecture
10	<u>Intrusion Detection and Prevention</u>	This material explains about the subject of intruders and strategies for prevention
11	<u>Malicious Software</u>	This material explains about the survey of various types of malware
12	<u>Firewalls</u>	This material explains about the firewalls technology
13	Security in Virtual Private Networks	This material explains about the VPN technology
14	<u>Denial-of-Service Attacks</u>	This material explains about the countermeasures on DoS and DDoS attacks
15	Final Exam	

Title	Semantic Web and Ontology Engineering		
Category	Engineering	Course	Computer Science
Objective	The purpose of this course is to teach students concepts, skills, and skills that are fundamental to semantic web and ontology engineering.		
Description	<ul style="list-style-type: none"> This course is intended to introduce the core concepts of the current World Wide Web and the Semantic Web, which promise to dramatically improve its use. The main goal of the semantic web is to improve human-machine interaction by expressing data in a way that allows the machine to mediate between data and services. The semantic web covers many technologies, such as explicit metadata, ontology, RDF, OWL, logic and reasoning for formulating search queries, and intelligent agents. Courses on semantic web search, including discovery of knowledge through classification, web service-based data retrieval and associated search. This course also covers the SPARQL query language.		
Keyword			



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Grigoris Antoniou and Frank Van Harmelen (2008), Semantic Web Primer 2nd Edition, The MIT Press Dahana Nandini (2014), Semantic Web and Ontology 1st Edition, bookboon.com 		



Weekly Plan

Week	Subject	Description
1	<u>Introduction to Semantic Web</u>	
2	Technologies and Layered Approach	Students will be able to explain the technologies in semantic web and the architecture of semantic web in Layered Approach
3	<u>Structuring Web Documents - I</u>	Students will be able to explain the differences between HTML and XML, the components and syntax of XML documents and will be able to create XML documents
4	<u>Structuring Web Documents - II</u>	Students will be able to explain how to create well-formed XML and valid XML documents
5	<u>Querying and Processing XML Documents (XPath and XSLT)</u>	Students will be able to develop the dynamic web pages using XSL, applying XSLT transformations and formatting to XML documents (XSL, XPath).
6	RDF Basic Ideas and XML-based Syntax	Students will be able to understand the fundamental concepts of RDF and how to describe the resources with RDF
7	RDF Schema	Students will be able to explain the syntax and vocabularies of RDF Schema
8	Midterm Exam	
9	<u>Introduction to Ontology</u>	Students will be able to explain the definition of ontology, the role of ontology in building Semantic Web
10	<u>Ontology Development Life Cycle, Usage, Advantages and Limitation</u>	Students will be able to understand the development steps of ontology and advantages and limitations of ontology
11	Web Ontology Language (OWL)	Students will be able to understand how to model and design ontology using Web ontology language (OWL)
12	Protégé	Students will be able to explain how to create ontology by using Protégé
13	<u>Querying in SPARQL</u>	Students will be able to know the different types of SPARQL queries and how to query Ontologies using SPARQL Query
14	<u>Logic and Inferences: Rules</u>	Students will be able to understand how Logic and inferencing are worked for representation of knowledge and search query information
15	Final Exam	

Title	Logic-Based Artificial Intelligence		
Category	Humanities	Course	Literature
Objective	The purpose of this course is to help students develop intelligent systems by gathering solutions to specific computational problems.		
Description	This course introduces you to the basics of artificial intelligence to understand intelligence and use prolog programming to build intelligent software and robots that are close to human performance		
Keyword	Artificial Intelligence, Prolog, Machine Learning, Data Mining Logic		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Wolfgang Ertel (2011), Introduction to Artificial Intelligence, Springer Prolog Programming for Artificial Intelligence, Addison Wesley 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to AI and Knowledge Based Systems</u>	This material introduces principles and techniques of AI and Knowledge-based systems.
2	<u>Knowledge Representation as Propositional Logic</u>	This material explains about how knowledge (propositions in either true or false) are represented.
3	<u>Knowledge Representation as First-order Predicate Logic</u>	This material explains to understand how knowledge are represented in FOL.
4	<u>Limitations of Logic and Introduction to PROLOG</u>	This material explains to understand limitations of logic for human intuition and reasoning. This material explains to understand the basic concept of PROLOG programming.
5	<u>Logic Programming with PROLOG</u>	This material explains the syntax of PROLOG programming.
6	<u>Case Study Implementation in PROLOG</u>	This material explains to develop the programs, for the real-world problems, using PROLOG.
7	<u>Search, Games and Problem Solving (I)</u>	This material explains the analysis of the difference types of search algorithms and role of heuristics using prolog.
8	Midterm Exam	
9	<u>Search, Games and Problem Solving (II)</u>	This material explains the analysis of the difference types of search algorithms and role of heuristics.
10	<u>Reasoning with Uncertainty</u>	This material explains how to solve problems with noise and uncertainty using probabilistic techniques.
11	Reasoning with Bayesian Networks	This material explains about Bayesian network.
12	<u>Machine Learning and Data Mining</u>	This material explains to understand basic concepts of machine learning & data mining techniques.
13	<u>Classification algorithms in prolog</u>	This material explains classification methods in data mining using prolog.
14	<u>Clustering algorithms in prolog</u>	This material explains clustering methods in data mining using prolog.
15	Final Exam	

Title	Software Quality Management		
Category	Humanities	Course	Literature
Objective	The aim of this course is to enable students to understand the concepts of software quality assurance, software testing strategies and apply software quality practices to software development projects.		
Description	This course will introduce students to a theoretical knowledge of software quality issues, software quality factors, software quality assurance concepts, software testing strategies, and review techniques.		
Keyword	Software Quality Assurance, McCall's software quality factors, Software Review Techniques, White Box Testing, Black Box Testing		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · Daniel Galin (2004), Software Quality Assurance from Theory to Implementation, Addison Wesley · Kshirasagar Naik and Priyadarshi Tripathy (2008), Software Testing and Quality Assurance, John Wiley & Sons, Inc., Hoboken, New Jersey. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Software Quality Management</u>	This material introduces Software Quality Management and the definition of software quality, quality control and quality assurance.
2	The software quality challenge	This material explains about the uniqueness of software quality assurance and the environments for which SQA methods are developed.
3	<u>Software Error, Fault and Failure</u>	This material explains to understand software error, fault and failure and the classification of the causes of software errors.
4	<u>Software Quality Factor</u>	This material explains to understand the detail of McCall's software quality factors model. This material explains to understand the basic concept of PROLOG programming.
5	<u>Capability Maturity Model Integration (CMMI)</u>	This material explains about Capability Maturity Model Integration (CMMI).
6	<u>Software Testing Strategies</u>	This material explains to know about software testing strategies.
7	<u>White box Testing</u>	This material explains to apply the white box testing technique.
8	Midterm Exam	
9	<u>Black box Testing</u>	This material explains to apply the black box testing technique.
10	<u>Testing Level</u>	This material explains to realize the different types of testing levels.
11	<u>Development and quality plans</u>	This material explains about the objective and the elements of development and quality plans.
12	<u>Integrating quality activities in the project life cycle</u>	This material explains to understand the factors affecting intensity of quality assurance activities in the development process and verification, validation and qualification.
13	<u>A model for SQA defect removal effectiveness and cost</u>	This material explains to calculate Software Quality Assurance defect removal effectiveness and cost.
14	<u>Reviews</u>	This material explains to learn the objectives of the reviews and different types of review methods.
15	Final Exam	

Title	Object Oriented Programming in C++		
Category	Engineering	Course	Computer Science
Objective	<ul style="list-style-type: none"> · To get the basic knowledge of programming language · To understand the structured programming language · To solve the real-world problems with software development methodologies · To understand object-oriented methodologies · To improve the programming language concepts 		
Description	Introduce basic way to programming with C++		
Keyword	C++, Programming, Functions, Structure, Operator		



Provided by

University	University of Technology		
Country	Myanmar 	Language	Burmese
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Online Learning hours (10), Mid-term (35), Final (35), Online activity participation (10), Other (10)		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to C++</u>	Basic usage of C++
2	<u>Loops and Decisions 1</u>	How to make loop in program
3	<u>Loops and Decisions 2</u>	Few instruction word that you can use in program
4	<u>Arrays and Strings</u>	Learn how to make and use the array and string functions
5	Functions	Explanation of Functions
6	<u>Structure</u>	Definition of structure and type of structure
7	Objects and Classes	Introduce the Objects and Classes
8	Midterm Exam	
9	<u>Operator Overloading</u>	Concept and how to utilize operator overloading and data conversion
10	<u>Inheritance</u>	Study about inheritance and identify the difference between multiple and multilevel inheritance
11	Pointers	Definition of pointer and special type of pointer and their usage
12	<u>Virtual Functions</u>	Teach the virtual functions with friend functions
13	<u>Streams and Files</u>	What is the meaning of stream and file in C++
14	<u>Templates and Exceptions</u>	What stand for templates and exceptions
15	Final Exam	

Title	Complex Analysis Its Applications		
Category	Natural Sciences	Course	Math
Objective	-		
Description	Lectures define the principles of complex analysis and provide various examples of its formation and application.		
Keyword	Complex analysis, Complex function, Convergent, Boundary, Power series		



Provided by

University	University of Technology		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Complex Numbers & Complex Plane</u>	This lecture explains the idea of complex analysis by giving examples of complex numbers, real numbers, complex plane, and the operation of each ideas.
2	<u>Polar Form of Complex Numbers & Their Powers and Roots</u>	This lecture refers to the polar form in order to explain the principal value and its multiplication, powers, and roots.
3	<u>Analytic Functions, Cauchy-Riemann Equations, and Laplace's Equation</u>	This lecture explains the principles of the complex function and the analytic function by giving examples of derivative, Cauchy-Riemann equations, and Laplace's equation.
4	<u>The Complex Exponential, Trigonometric and Hyperbolic Functions</u>	This lecture refers to the exponential, trigonometric, and hyperbolic functions to identify the relationship between each concepts and the Euler's formula and the logarithmic function.
5	Complex Integration	This lecture defines the principles of line integral and explains the evaluation method of definite and continuous integral along with its bounds.
6	Cauchy's Integral Theorem	This lecture explains the Cauchy's Integral Theorem and its application in simply connected domain and multiply connected domain through the examples of path and deformation.
7	<u>Cauchy's Integral Formula and Derivatives of Analytic Functions</u>	This lecture explains Cauchy's Integral Formula and its derivatives through Liouville's Theorem, Morera's Theorem, and Gauss' Mean value Theorem.
8	Midterm Exam	
9	<u>Sequences, Series and Convergence Tests</u>	This lecture explains the definition of sequences and gives examples of convergent and divergent series along with the tests to prove the characteristics of each series.
10	<u>Complex Power Series</u>	This lecture explains the Taylor series and the Maclaurin series through singularity, term wise operation, and power series.
11	<u>Taylor and Maclaurin Series</u>	This lecture explains the Taylor series and the Maclaurin series through singularity, term wise operation, and power series.
12	<u>Laurent Series and Residue Integration</u>	This lecture explains the Laurent series and the residue integration through the principal part and the zero functioning.
13	<u>Conformal Mapping and Linear Fractional Transformations</u>	This lecture defines the principles of conformal mapping and its critical point and explains how the linear fractional transformation is used for modeling the boundary value.
14	Complex Analysis and Potential Theory	This lecture refers to the Potential theory and its relationship between the complex analysis in order to explain its use in mapping the boundary value and Laplace equation.
15	Final Exam	

Title	Electrochemical Energy Engineering		
Category	Natural Sciences	Course	Physics
Objective	-		
Description	Lectures define the principles of electrochemical energy and production within the boundaries of electrodes, electrolytes and cells.		
Keyword	Electrochemical, Energy production, Electrode, Electrolyte, Cells		



Provided by

University	University of Technology		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Basic Concept of Electrochemistry</u>	This lecture explains the definition and the examples of electrochemistry and electrical quantities.
2	Electronic and Ionic Conductivity	This lecture explains the classes of conductors, the mobility, and the conductivity of the electric current.
3	<u>Potentials and Thermodynamics</u>	This lecture explains the electrochemical reaction, the relationship between thermodynamics, and the potentials with the examples of Nernst equation.
4	Electrode Process	This lectures refers to electrode process by explaining working electrodes and reference electrodes, along with showing details of non-faradaic process and polarization.
5	<u>Kinetics of Electrode Reactions</u>	This lecture explains the Butler-Volmer equation through the relationship between potentials and current, along with the examples of Tafel plot and Mass transport.
6	<u>Electrochemical Analysis</u>	This lecture explains voltammetry and impedance by going through the details of the reversible and irreversible system, and resistance.
7	<u>Solid Electrolytes</u>	This lecture refers to two types of electrolytes (inorganic, polymer), and explains each relative ideas with the examples of doping and PEO(polyethylene oxide), polyelectrolytes.
8	Midterm Exam	
9	<u>Insertion Electrodes</u>	This lecture refers to two types of electrodes (insertion, polymer), and explains each idea respectively by relating it with intercalation compounds, doping, and the application.
10	<u>Batteries</u>	This lecture explains the secondary battery by giving details about the energetics of the battery, the energy density and the power density, and a specific idea of the lithium battery.
11	<u>Hydrogen Electrochemistry</u>	This lecture explains the hydrogen storage and production by suggesting details about the storage materials and processing methods.
12	<u>Fuel Cells</u>	This lecture covers the basic principles of fuel cells, along with the classification, the system, and the storage method of fuel cells.
13	<u>Photoelectrochemistry</u>	This lecture explains semiconductors by referring to the photo electrochemistry and the types of the semiconductors, also explaining the application of photo effects.
14	<u>Solar Cells</u>	This lecture refers to solar cells and the solar radiation in order to explain the photo electrochemistry and its conversion along with the dye-sensitized solar cells.
15	Final Exam	

Title	Engineering Physics Its Application		
Category	Natural Sciences	Course	Physics
Objective	-		
Description	Lectures describe the fundamentals of physics and its applications in detailed fields, such as motion electrical heat.		
Keyword	Physics, Energy, System, Motion, Electricity		



Provided by

University	University of Technology		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>]	Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-			
Textbook	-			




Weekly Plan

Week	Subject	Description
1	<u>Physical Measurement and Vector</u>	This lecture defines the basic concept of physics and the types of quantity that are frequently applied in physics.
2	Laws of Motion	This lecture explains the laws, forms, and types of motion and force.
3	<u>Energy of a System and Conservation of Energy</u>	This lecture defines energy and conservation, referring to the process in which the energy produces a product in a system and the principles of conserved energy in the isolated system.
4	Momentum and Collision	This lecture explains the principles of momentum and collision and its application in linear and angular model, along with the concept of center of mass.
5	<u>Static Equilibrium and Elasticity</u>	This lecture defines static equilibrium and elasticity and explains the modulus models concerning elasticity.
6	Fluid Mechanics	This lecture explains pressure and fluid through the examination of Pascal's Law, Archimedes' Principle, and Bernoulli's Equation.
7	<u>Oscillator and Mechanical Waves</u>	This lecture defines oscillator and mechanical waves by suggesting the example of pendulum and various types of wave, along with the concept of beating.
8	Midterm Exam	
9	<u>Thermodynamics</u>	This lecture explains the thermodynamics by adapting various terms and applying the Laws of thermodynamics.
10	<u>Static Electricity and Electric Current</u>	This lecture explains the static electricity and electric current through the principles of electrostatic equilibrium and capacitance, along with the comparison between current and resistance.
11	<u>DC Circuit</u>	This lecture examines the DC(Direct-Current) circuit through various terms concerning the electromotive force.
12	<u>Magnetism and Electromagnetism</u>	This lecture explains magnetism and electromagnetism with the relationship between the magnetic field and magnetic force, along with the concept of induction.
13	<u>AC Circuits</u>	This lecture examines the AC circuit through various terms concerning the electromotive force.
14	<u>Light and Optics</u>	This lecture defines the principles of light and optics through the concept of reflection, refraction, and interference.
15	Final Exam	

Title	Management Information System		
Category	Natural Sciences	Course	Economics & Finance
Objective	-		
Description	The course identifies the current business information system and suggests a management model for the enterprise's business processes.		
Keyword	Information systems, Management, Business process, Modeling, Business information		



Provided by

University	University of Technology		
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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	History of Information systems	This lecture examines the evolution of information system, packaged software, the World Wide Web, and the current trend of information technology.
2	<u>Classification of Information systems</u>	This lecture identifies the characteristics of Information systems from the viewpoint of structure, taxonomy, management, and value chain.
3	<u>Architecture of Information systems</u>	This lecture examines IS(Information Systems) architecture and the maturity model of the SOA(Service Oriented Architecture), along with its benefits in the viewpoint of the EA (Enterprise Architecture).
4	<u>Lifecycle of Information systems</u>	This lecture identifies the IS lifecycle and the IS engineering and examines how the IS has affected BITA(Business-IT Alignment), Business Analysis, and its application.
5	Business and IT Strategy planning	This lecture examines the business strategy and its advantages according to the value migration and the Five Forces Model and compares the strategy to the IT strategy.
6	<u>Understanding business process</u>	This lecture examines the hierarchy, properties, and the lifecycle of the business process and introduces the concept of BPM(Business Process Management).
7	Modeling business process	This lecture suggests an ideal guideline for the business process model, otherwise called as the BPMN(Business Process Modeling Notation) 2.0.
8	Midterm Exam	
9	<u>Business information management</u>	This lecture explains the database, design process, and the requirement analysis of business information including the enterprise information.
10	<u>Business information modeling</u>	This lecture explains the method of database modeling in which the UML Class Diagram is interpreted by two types of association, called aggregation and composition.
11	Specifying Requirements for Information Systems	This lecture identifies the models and the metamodels of information system and defines the requirement engineering according to the methodology of IS.
12	<u>Use Case Analysis</u>	This lecture examines the use case of the information system and its analysis through mapping, scenario, and the UML, also know as the Activity Diagram.
13	<u>IT project management</u>	This lecture defines IT project and its management within the boundaries of scope, schedule, and cost.
14	<u>IT project management</u>	This lecture defines the management of IT resources and IT service and suggests an ideal model for the operation and transition of the service.
15	Final Exam	

Title	Data Communication		
Category	Engineering	Course	Computer Science
Objective	Describe the fundamental concepts of data communication and networking, Discover the underlying data communication techniques, Identify different network technologies and topologies, Apply various network technologies.		
Description	The course describes the fundamentals of data transmission in Internet networks and the exemplary application of concepts.		
Keyword	Data, Signals, Network, Transmission, Internet		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (10), Assessment (50), Discussion(10), Assignment (20), Class Participation (10)		
Textbook	<ul style="list-style-type: none"> Computer Communications and Networking Technologies by Michael Z. A. Gallo and William M. Hancock Data Communication and Networking 5th Edition by Behrouz A. Forouzan Data and Computer Communications 8th Edition by William Stallings 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Data Communication</u>	This lecture explains the principles of data communication and network connection through various examples.
2	<u>Network Models</u>	This lecture defines various network models with its layer tests.
3	<u>Data Transmission</u>	This lecture defines the principles of data and signal through comparison to analog and examination of transmission and conversion.
4	<u>Transmission Media</u>	This lecture compares the two types of media(Guided and Unguided) with their identification and examples.
5	<u>Signal Encoding Techniques</u>	This lecture explains the examples of the encoding and modulation process depending on the type of the signal that constitutes the data.
6	<u>Digital Data Communication Techniques</u>	This lecture explains the principles of error detection in data communication and the types of data transmission.
7	<u>Multiplexing and Spread Spectrum</u>	This lecture explains the principles of multiplexing and super spectrum through various exemplary methods.
8	Midterm Exam	
9	<u>Switching and Asynchronous Transfer Mode</u>	This lecture explains two types of switching in data transmission and the principles of ATM(Asynchronous Transfer Model).
10	<u>Routing</u>	This lecture defines the principles of routing and forwarding and the algorithm that controls the process.
11	<u>Wired Local Area Network</u>	This lecture explains the wired LAN(Local Area Network) through various exemplary topologies and transmission medium to which each network is interconnected.
12	Wireless Local Area Network	This lecture explains the basic principles of wireless LAN and its method to maintain security.
13	<u>Internetwork Protocol</u>	This lecture defines the terms, internetworking and protocol, and explains the functioning and examples of the terms.
14	<u>Internet Application</u>	This lecture explains the principles of internet security and its application to various examples.
15	Final Exam	

Title	Introduction to Fluid Power		
Category	Natural Sciences	Course	Physics
Objective	-		
Description	The course will identify the basic principles of fluid and hydraulic operation and its application and review the elements that make up the operating process.		
Keyword	Fluid, Hydraulic, Gas, Pressure, Control valve		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>]	Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-			
Textbook	-			




Weekly Plan

Week	Subject	Description
1	<u>Fundamentals of Fluid Power</u>	This lecture defines the concept of fluid power suggests various industrial application of the concept.
2	<u>Physical Laws of Hydraulic System</u>	This lecture examines the hydrostatic pressure and hydraulic flow through Pascal's Law and Bernoulli's principle.
3	Properties of Fluid and Hydraulic	This lecture defines the features of fluid and hydraulic, referring to the various exemplary application of both factors.
4	Basic Components of Hydraulic Power Supply Section	This lecture examines the conservation of energy in fluid cycle and suggests various examples of fluid cycle.
5	<u>Basic Components of Hydraulic Control Section</u>	This lecture identifies various types of valves and suggests the examples for each concept.
6	<u>Basic Components of Hydraulic Drive Section</u>	This lecture examines the principles and applications of various types of actuators.
7	<u>Ancillary Hydraulic Components</u>	This lecture defines various terms and factors that constitute the hydraulic functioning.
8	Midterm Exam	
9	<u>Basic Hydraulic Circuits</u>	This lecture identifies various types of control circuits and examines the symbols and diagrams for each circuit.
10	Basic Principles of Pneumatics	This lecture identifies the concept of pressure and its application in different fields and examines its relationship between the pneumatic system.
11	<u>Pneumatic Power Supply</u>	This lecture explains the principles and examples of the compressor and vacuum pumps.
12	<u>Pneumatic Components</u>	This lecture defines the factors and examples of pneumatic mechanism and the process of its operation.
13	<u>Basic Pneumatic Circuit</u>	This lecture identifies the principles of pneumatic circuit and factors that affect the operation of the circuit.
14	<u>Electric Control of Fluid Power</u>	This lecture identifies the electric control of fluid power and the machinery that this concept is utilized.
15	Final Exam	

Title	Integrated Water Resources Management		
Category	Natural Sciences	Course	Energy & Earth Sciences
Objective	The purpose of developing this course as an e-learning course is to enable rural engineering students to access lecture content anytime, anywhere, especially if they are unable to attend classes due to research visits far from the university. It is also available to company employees and former ITC students who are interested in improving their knowledge of water resource management.		
Description	This course provides a basic understanding of integrated water resource management principles, paradigms, and methodologies.		
Keyword	SIWRM, Mekong river, Stakeholder, IWRM institution, Water access		



Provided by

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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Online Learning hours (10), Mid-term (20), Final (60), Online activity participation (10)		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to IWRM</u>	This lecture identifies the main elements of an IWRM approach to sustainable management of water resources.
2	<u>Basic of watershed management</u>	This lecture identifies the features and the function of watershed approach to sustainable management of water resources.
3	<u>Mekong River Water Resources</u>	This lecture identifies the features and the role of Mekong river.
4	<u>Development Potential and Major Issue in Mekong Basin</u>	his lecture identifies the water resources of Mekong river and examines the impact of climate change.
5	<u>Stakeholder Analysis</u>	This lecture identifies the stakeholder of the water resources and examines the possible stakeholders of the future.
6	<u>Stakeholder Participation</u>	This lecture identifies the procedures of stakeholder involvement and examines the evaluation of a project.
7	<u>Institutional Arrangement of River Basin Organization (part 1)</u>	This lecture identifies the role of institution and organization in IWRM.
8	Midterm Exam	
9	<u>Institutional Arrangement of River Basin Organization (part 2)</u>	This lecture identifies the role of institution and organization in IWRM.
10	<u>The Planning Process (task1)</u>	This lecture identifies the procedures of IWRM project planning.
11	<u>The Planning Process (task2)</u>	This lecture identifies the procedures of IWRM project planning.
12	<u>The role of Basin planner and core competencies</u>	This lecture identifies the role of an effective basin planner.
13	<u>IWRM & Gender</u>	This lecture identifies the challenges and enhancement of water access.
14	<u>IWRM Health Sanitation</u>	This lecture identifies the influence factors related to water sanitation and water health.
15	Final Exam	

Title	Software Systems Analysis and Design		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This course identifies the basics of data and system analysis and introduces applications for software management.		
Keyword	Software, Data, System, Database, Data modeling		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	-		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Software Systems Analysis and Design</u>	This lecture identifies the general concepts for developing a software system.
2	Systems Development Life Cycle	This lecture examines the organizational role of the phases of the system development life cycle.
3	<u>Sources of Software</u>	This lecture discusses the basic concepts of the software outsourcing.
4	<u>System Requirements Modeling</u>	This lecture identifies the content and purpose of the requirements definition statement.
5	<u>Data and Process Modeling</u>	This lecture identifies the utilization of the rules and guidelines for data modeling and processing.
6	<u>Conceptual Data Modeling</u>	This lecture examines the procedures of data modeling for drawing an entity relationship diagram.
7	<u>Best Alternative Design Modeling</u>	This lecture examines the organizational information system problems using alternative design strategies.
8	Midterm Exam	
9	<u>Designing Output and User Interface</u>	This lecture categorizes output design issues and examines various types of output.
10	<u>Designing Databases</u>	This lecture examines the data storage requirement of a system and identifies the different kinds of files.
11	<u>Designing System Architecture</u>	This lecture suggests the factors that must be considered when selecting a system architecture.
12	<u>Managing System Implementation</u>	This lecture suggests the effective data capture approach for user and system implementation.
13	Managing Software Application Testing	This lecture identifies the utilization of project management software packages for representing and managing project activities.
14	<u>Managing Systems Support and Security</u>	This lecture identifies the factors that determine the system support and security.
15	Final Exam	

Title	Simulation and Modeling		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This course provides students with an overview of the principles of simulation and modeling by referring to various use cases for each formula and model.		
Keyword	Modeling, Statistical model, Stimulation model, Probabilistic model, Stochastic model		



Provided by

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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>]	Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-			
Textbook	-			



Weekly Plan

Week	Subject	Description
1	<u>Introduction to Modeling</u>	This lecture identifies the basic concept of modeling and simulation.
2	<u>Modeling procedures and sample models</u>	This lecture identifies the modeling procedures of problem-solving approach.
3	<u>Models for population</u>	This lecture identifies the different types of changes and examines the concept of differential system.
4	Models of dynamic system	This lecture identifies the principles of a dynamic system and suggests the solutions for it.
5	<u>Model fitting and general linear(regression) model</u>	This lecture examines the principles of data fitting and identifies its application.
6	Statistical model	This lecture examines the features and the principles of ANOVA analysis.
7	<u>Simulation model</u>	This lecture identifies the comparison between analytical model and the stimulation model.
8	Midterm Exam	
9	<u>Probabilistic model</u>	This lecture examines the process of application of the probability to the Bayesian net.
10	Stochastic model	This lecture refers to the Markov chain model in order to examines the application of a stochastic model.
11	<u>Linear programming</u>	This lecture identifies the principles of linear programming and examines its use cases.
12	<u>Mathematical Modeling and Simulation</u>	This lecture identifies the principles of linear programming and examines its use cases.
13	<u>Gradient Descent Algorithm</u>	This lecture identifies the principles of Gradient Descent Algorithm and examines its use cases.
14	<u>Term project preparation</u>	This lecture provides the various examples of the use cases of each models tha have been identified.
15	Final Exam	

Title	Introduction to Artificial Intelligence		
Category	Engineering	Course	Computer Science
Objective	-		
Description	Learn the basic concepts of intelligent agent knowledge-based systems that define proposition and predicate logic that constructs pro-log programs to understand the strengths and limitations of various state-space search algorithms, select algorithms that fit the problem, and understand the probabilities. We use inference techniques to solve noise incomplete information and uncertainty problems to realize a machine learning approach neural network model to study how genetic algorithms develop fuzzy systems and observe reinforcement learning.		
Keyword	Artificial Intelligence, AI Machine Learning Intelligent System, Neural Network, Search Algorithm		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Assessment (50), Discussion (10), Assignment (10), Class participation (10)		
Textbook	-		



Weekly Plan

Week	Subject	Description
1	<u>Basic Concepts of Artificial Intelligence</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
2	<u>Propositional Logic</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
3	<u>First Order Predicate Logic</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
4	<u>Logic Programming with Prolog</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
5	<u>Search Algorithms</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
6	<u>Reasoning with Uncertainty</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
7	Midterm Exam	
8	<u>Machine Learning and Data Mining I</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
9	<u>Machine Learning and Data Mining II</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
10	<u>Neural Networks: Backpropagation Model</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
11	<u>Neural Networks: Other Models</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
12	<u>Genetic Algorithms</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
13	<u>Fuzzy Systems</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
14	<u>Reinforcement Learning</u>	Understand fundamental concepts of Artificial Intelligence 'What is AI?', Intelligent agents, knowledge base systems, logic, prolog programming, Searching and Reasoning.
15	Final Exam	

Title	Geometric Dimensioning Tolerancing		
Category	Natural Sciences	Course	Chemistry
Objective	-		
Description	Learn the basic concepts of intelligent agent knowledge-based systems that define proposition and predicate logic that constructs pro-log programs to understand the strengths and limitations of various state-space search algorithms, select algorithms that fit the problem, and understand the probabilities. We use inference techniques to solve noise incomplete information and uncertainty problems to realize a machine learning approach neural network model to study how genetic algorithms develop fuzzy systems and observe reinforcement learning.		
Keyword	Dimensioning geometry symbol variation feature		



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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Mid-term-(Online: Multiple Choice), Final-(Offline-Multiple Choice, sentence, essay)		
Textbook	-		




Weekly Plan

Week	Subject	Description
1	<u>Orientation</u>	Orientation
2	<u>Introduction to Geometric Dimensioning and Tolerancing</u>	This material explains about Advantages of GD&T over Coordinate Dimensioning and Tolerancing.
3	<u>Dimensioning and Tolerancing Fundamentals</u>	This material explains about Dimensioning and Tolerancing Fundamentals.
4	<u>Terms, Rules and Datums</u>	This material explains about datum feature symbol, the feature control frame, Rule #1, Rule #2, The Pitch Diameter Rule and The Virtual Condition Rule.
5	<u>Form</u>	This material explains about Flatness, Straightness, Circularity and Cylindricity.
6	<u>Orientation</u>	This material explains about Parallelism, Perpendicularity and Angularity.
7	<u>Position, General</u>	This material explains about the Position Tolerance, Regardless of Feature Size, Maximum Material Condition, Shift Tolerance and Least Material Condition.
8	Midterm Exam	
9	<u>Position, Location</u>	This material explains about Floating Fasteners, Fixed Fasteners, Projected Tolerance Zones, Multiple Patterns of Features and Composite Positional Tolerancing.
10	<u>Position, Coaxiality</u>	This material explains about Comparison Between Position, Runout, and Concentricity, Specifying Coaxiality at MMC, Composite Positional Control of Coaxial Features and Tolerancing a Plug and Socket.
11	<u>Concentricity and Symmetry</u>	This material explains about Concentricity and Symmetry.
12	<u>Runout</u>	This material explains about Circular Runout, Total Runout, Specifying Runout and Partial Runout, Multiple Datum Features and Face and Diameter Datum.
13	<u>Profile</u>	This material explains about Specifying Profile, The Application of Datums, A Radius refinement with Profile, Combining Profile Tolerances with Other Geometric Controls and Coplanarity.
14	<u>Graphic Analysis</u>	This material explains about Advantages of Graphic Analysis, The Accuracy of Graphic Analysis and Analysis of a Composite Geometric Tolerance.
15	<u>A Strategy for Tolerancing Parts</u>	This material explains about Size Features Located to Plane Surface Features, Size Features Located to Size Features and A Pattern of Features Located to a Second Pattern of Features.
16	Final Exam	

Title	Data Structure		
Category	Engineering	Course	Computer Science
Objective	-		
Description	This course identifies the basis of the data structure and reviews various tools in applying algorithms to the architectural design.		
Keyword	Data structure, Array, Search tree, Binary		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>]	Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	-			
Textbook	-			




Weekly Plan

Week	Subject	Description
1	Introduction and Overview	This lecture identifies the design, application, and implementation skills of algorithm.
2	Arrays	This lecture identifies the principles and application of common linear structure of array.
3	Multi-dimensional Arrays Pointer and Records	This lecture identifies the allocation of multidimensional arrays in memory.
4	Strings and Queues	This lecture examines the operational procedures of common string.
5	Stacks Recursion	This lecture examines the implementation of stacks as arrays.
6	Linked List	This lecture identifies the principles of linked list data structure.
7	Tree	This lecture identifies the features and the terminologies of tree data structure.
8	Midterm Exam	
9	Graphs	This lecture examines the principles of graph data and its representation.
10	Sorting	This lecture examines the principles and procedures of sorting.
11	Hashing	This lecture examines the concept and the application of hashing.
12	Priority Queues	This lecture examines the comparison between single-ended priority queue and the double-ended priority queue
13	Efficient Binary	This lecture identifies the optimal binary search trees.
14	Multiway Search Trees	This lecture identifies the principles and features of m-way search trees.
15	Final Exam	

Title	Engineering Chemistry		
Category	Natural Sciences	Course	Chemistry
Objective	The main purpose of this course is to provide a comprehensive introduction to chemistry as a foundation of engineering and technology.		
Description	Starting with a focus on basic principles, this course introduces you to understand chemical concepts and experimental techniques. - Also learn about solid chemistry, new materials, electrical chemistry, environmental chemistry, and energy sources.		
Keyword	Nature of atoms, Molecular bonding, Unit Cells, Free energy, Molecular spectroscopy		



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Learning Activities

Type of Learning	Online [] Blended (On/Offline) [V]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (40), Assignment (10), Discussion (15), Practice lab (15)		
Textbook	<ul style="list-style-type: none"> · O. G. Palanna (2011), Engineering Chemistry, Tata McGraw Hill Education Private Limited · Peter Atkins, Julio de Paula (2011), Atkins' Physical Chemistry, Oxford University Press · Mark Weller, Tina Overton, Jonathan Rourke, Fraser Armstrong (2014), Inorganic Chemistry, Oxford University Press. 		



Weekly Plan

Week	Subject	Description
1	Atomic Theory and Atomic Structure	This material explains about dual nature of particles and their structure.
2	Molecular Structure and Bonding	This material explains about Lewis structure, VSEPR model and Molecular Orbital theory.
3	Solid State Chemistry	This material explains about crystal lattice and unit cells for crystalline solids.
4	<u>Thermodynamics</u>	This material explains about energy, heat, work and phase transition for spontaneity of reaction.
5	<u>Chemical Kinetics</u>	This material explains about rate of reaction, reaction order and rate laws.
6	<u>Electrochemistry</u>	This material explains about electrochemical cells and electrode potential.
7	<u>Storage of Electrochemical Energy</u>	This material explains about development of electrochemical energy storage devices.
8	Midterm Exam	
9	Corrosion Science	This material explains about forms of corrosions and corrosion-controlled method.
10	Metal Finishing	This material explains about the methods of metal finishing and electrodeposition methods.
11	Instrumental Methods of Analysis	This material explains about molecular spectroscopy, conductometry, thermal analysis and chromatography.
12	<u>Environmental Chemistry and Water Technology</u>	This material explains about environmental pollution and water technology for healthy life.
13	<u>Sources of Chemical Energy</u>	This material explains about the sources of energy, petroleum refinery and solar energy.
14	High Polymers	This material explains about the polymerization and polymer technology to produce high polymers.
15	Final Exam	

Title	Introduction to Digital Image Processing		
Category	Engineering	Course	Computer Science
Objective	<ul style="list-style-type: none"> To provide an introduction to basic concepts and methodologies for digital image processing To develop a foundation that can be used as the basis for further study and research in this field, 		
Description	This course introduces the basic theory of digital image processing. This course covers digital image foundation, image conversion, image enhancement, image segmentation and classification methodologies.		
Keyword	Pixel, Color Space, Thresholding, PSF, Noise		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (50), Assignment (20), Discussion(10)		
Textbook	<ul style="list-style-type: none"> Rafael C.Gonzalez, Richard E.Woods (2007), Digital Image Processing 3rd edition, Pearson Education. Chris Solomon, Toby Breckon (2011), Fundamentals of Digital Image Processing, A John Wiley & Sons, Ltd., Publication 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction and Digital Image Fundamentals</u>	This material explains about Basic Concepts of image types, color space and usage area of digital image processing.
2	<u>Pixels and Intensity Transformations</u>	This material explains about Basic Concepts of image types, color space and usage area of digital image processing.
3	<u>Histogram Based Image Processing</u>	This material explains about the concept of histogram and histogram processing on digital image processing.
4	<u>Image Enhancement</u>	This material explains about filtering concept, noise removal and edge enhancement.
5	<u>Image Restoration</u>	This material explains about restoration and deconvolution algorithm.
6	Color Image Processing	This material explains about color fundamentals, color space processing and full color processing.
7	<u>Morphological Image Processing I</u>	This material explains about basic concept of morphological operation, compound operation and some morphological algorithms.
8	Midterm Exam	
9	<u>Morphological Image Processing II</u>	This material explains about skeletonization and opening by reconstruction and gray scale operation of morphological operations.
10	<u>Image Segmentation I</u>	This material explains about the detection of discontinuities, thresholding, region-based segmentation.
11	<u>Image Segmentation II</u>	This material explains about the watershed segmentation, function and marker-controlled segmentation.
12	<u>Geometry</u>	This material explains about the geometric transformation, affine transformation and projective transform and warping.
13	<u>Representation and Description</u>	This material explains about the geometric transformation, affine transformation and projective transform and warping.
14	Classification	This material explains about basic concept of classification, supervised and unsupervised classification.
15	Final Exam	

Title	Java Programming		
Category	Engineering	Course	Computer Science
Objective	The main goal of this course is to understand Java's object-oriented programming (OOP) concept and develop an accurate and reusable solution in problem specifications.		
Description	This course provides the basic concept of Java programming. It covers the basics of control flow, array, and alignment, and search algorithms as well as topics of the OOP (object-oriented programming) concept.		
Keyword	Fundamentals of Programming, Object-Oriented Programming, GUI Programming, Data Structures and Algorithms, Advanced Java Programming		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (30), Examination (40), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> Y. Daniel Liang (2015), "Introduction to Java Programming" Comprehensive Version, Tenth Edition, Pearson Education, Inc. B. Baesens, A. Backiel, S. Vanden Broucke (2015), Beginning Java Programming, The Object-Oriented Approach, John Wiley & Sons, Inc. 		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Java, the Java Language Specification, API, JDK and IDE</u>	This material explains the Java Language Specification, API, JDK, IDE, how to create, compile, and execute a Java Program using Eclipse.
2	<u>Elementary Programming, Selection and Loops</u>	This material explains fundamental programming techniques with primitive data types, variables, constants, assignments, expressions, operators, selections and Loops.
3	<u>Mathematical Functions, Characters, and Strings</u>	This material explains mathematical problems solving by using the methods in the Math class, Characters and Strings.
4	<u>Methods and Arrays</u>	This material explains how methods are used in a program and how arrays are necessary in programming.
5	<u>Objects and Classes</u>	This material explains Classes and Objects, Instance Variables, Class Variables, Instance Methods, Class Methods and how to access objects via object reference variables.
6	<u>Inheritance, Polymorphism, Abstract Classes and Interfaces</u>	This material explains Inheritance, polymorphism, Abstract Classes and Interfaces.
7	<u>Exception Handling, Lists, Sets and Maps</u>	This material explains how to use exceptions and exception handling, interfaces and classes in the Java Collections Framework hierarchy and how to use sets and maps to develop programs.
8	Midterm Exam	
9	Java FX Basics	This material explains Java FX Basics, Layout panes, and Shapes.
10	<u>Event-Driven Programming</u>	This material explains Event-Driven Programming, events, event sources, event classes, Animation, Path Transition, and Fade Transition.
11	<u>JavaFX UI Controls</u>	This material explains JavaFX UI Controls, Text Input Control, List View, Combo Box and MediaView.
12	<u>Binary I/O, Sorting, Searching and Hashing</u>	This material explains Binary I/O, Sorting, Searching and Hashing.
13	<u>Parallel Programming and Networking</u>	This material explains Binary I/O, Sorting, Searching and Hashing.
14	<u>Java Database Programming</u>	This material explains Java Database Programming.
15	Final Exam	

Title	Introduction to Computer System		
Category	Engineering	Course	Computer Science
Objective	Introduce students to important concepts of computer science. · Understand and learn how your computer works, familiarize yourself with parts, functions, types, how to use your computer in your daily life, characteristics, usage, limitations, and benefits.		
Description	This course provides basic computer, the nature and generation of computers, basic computer configuration, computer software, computer language, and computer program planning.		
Keyword	Main Components, Widgets Layout, Data Storage, Other Services		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (50), Assignment (20), Discussion (10)		
Textbook	Pradeep K-Sinha Priti Sinha (2004), Computer Fundamentals (4th Edition), BPB Publication		




Weekly Plan

Week	Subject	Description
1	<u>Introduction to Leadership</u>	This material explains about the computer, its properties, its generation, its classes and evolutions.
2	<u>Computer Arithmetics</u>	This material explains about binary number system, additional methods, and how to solve arithmetic operation problems.
3	<u>Number Systems</u>	This material explains about positional, non-positional, fractional number systems and number system conversions.
4	<u>Computer Arithmetics</u>	This material explains about binary number system, additional methods, and how to solve arithmetic operation problems.
5	<u>Computer Codes</u>	This material explains about encoding forms, computer codes, and how binary numbers are coded.
6	<u>Boolean Algebra</u>	This material explains about designing logic circuits and how to use Boolean Algebra.
7	<u>Logic Circuits</u>	This material explains about the concept of electronic logic circuit design and how to construct a logic circuit.
8	Midterm Exam	
9	Basic Computer Organization	This material explains about basic components of computer system and how to integrate with each other.
10	<u>Secondary Storage Devices</u>	This material explains about terminologies and different types of secondary storage devices.
11	<u>Computer Software</u>	This material explains about computer software, their types, development and their relationship between hardware and software.
12	<u>Planning the Computer Program</u>	This material explains about algorithm, flowchart, pseudocode, and how to plan the logic to produce an effective computer program.
13	<u>Computer Languages</u>	This material explains about computer languages, their advantages, disadvantages and compiler, linker, and interpreter.
14	<u>Operating Systems</u>	This material explains about
15	Final Exam	

Title	Introduction to Android Programming		
Category	Engineering	Course	Computer Science
Objective	<ul style="list-style-type: none"> · To provide an introduction to basic concepts of Android Programming · To learn the unique characteristics of programming in the mobile environment, the most common tools and technique for writing Android Programming · To use user interface widgets and components that provide the specific structure for Android Application · To apply storage strategies for persistent information including the use of the available SQLite Database and Files 		
Description	<p>Android is an open source platform that provides compatibility with a wide range of devices that provide global access. The target audience consists of programmers who are proficient in advanced programming languages such as Java. This course will introduce you to the development of mobile applications for Android platforms. It also uses all the key components of the Android API to provide the knowledge needed to design user interfaces and develop Android applications. Provide students with a survey of intermediate Android programming languages. Classes include classes with hands-on programming exercises, student self-evaluation tests, and reading assignments.</p>		
Keyword	Main Components, Widgets Layout, Data Storage, Other Services		



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Learning Activities

Type of Learning	Online [<input checked="" type="checkbox"/>] Blended (On/Offline) [<input type="checkbox"/>]	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (50), Assignment (20), Discussion (10)		
Textbook	<ul style="list-style-type: none"> · Mark L. Murphy(2010), Beginning Android 2, Apress. · Waifer kolar, Android Application Development, Steven Winchester. 		




Weekly Plan

Week	Subject	Description
1	<u>Preliminary of Android Application</u>	This material explains about Basic Knowledge of Android Programming, Installation, and Structure of Android Program.
2	<u>Activity Lifecycle and User Interface Widgets Part I</u>	This material explains about the structure of Activity Lifecycle and different types of User Interface Widgets(Fonts, Text View, Edit Text, Button).
3	<u>Activity Lifecycle and User Interface Widgets Part II</u>	This material explains about Image View and Image Button, the nature of check box, radio button and Selection Widgets(Spinner, Auto Complete Text View).
4	<u>Working with Containers (Layout)</u>	This material explains about the nature of Layout, and how to use and control Layout Structure (Linear, Relative, Constraint, Table, Scroll View, and Frame Layout).
5	User Interface using Dynamic Data	This material explains about the nature of List View, Grid View and Gallery Widget that can be used to create User Interface for dynamic data.
6	<u>Showing Pop-up Messages and Web View Browser</u>	This material explains about Alert Dialog Box, Toast (Pop-up message) and the nature of WebView Browser.
7	<u>Creating Intents</u>	This material explains about the difference between Explicit Intent and Implicit Intent.
8	Midterm Exam	
9	Fragments	This material explains about nature of Ragment, different types of common Navigation Patterns, Dialog Fragment and Tab Selector.
10	<u>Applying Menus</u>	This material explains about different types of Menu, the attributes used in Menu XML and different writing style for menu creation.
11	-	-
12	-	-
13	-	-
14	<u>Notifications and Location-Based Services</u>	This material explains about the use of Notifications and Location-Based Services.
15	Final Exam	

Title	Introduction to Digital Signal Processing		
Category	Engineering	Course	Computer Science
Objective	The main purpose of this process is to introduce the signals, systems, time, and frequency domain concepts underlying all DSP technologies and associated mathematical tools, understanding linear time invariant systems, and manipulating discrete parameter signals.		
Description	Digital signal processing (DSP) is the use of digital processing, such as a computer, to perform various signal processing tasks. Signals processed in this way are a series of numbers representing samples of continuous variables in an area such as time, space, or frequency. Digital signal processing and analog signal processing are subfields of signal processing.		
Keyword	Signal Processing Sampling Z-Transform Discrete-Time System Fourier Transform		



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Learning Activities

Type of Learning	Online [V] Blended (On/Offline) []	Type of Contents	Movie Clip
Evaluation Plan	Attendance (20), Examination (50), Assignment (10), Discussion (10), Participation (10)		
Textbook	Digital Signal Processing (1996), John G. Proakis and Dimitris G. Manolakis, Simon & Schuster/A Viacom Company		



Weekly Plan

Week	Subject	Description
1	<u>Introduction to Digital Signal Processing</u>	This material explains about the basic concept of digital signal processing, a signal mathematically, a system that performs an operation on a signal, the system by the type of operation.
2	<u>Digital Signal Processing System</u>	This material explains about the digital signal processor, its advantages and the multichannel, multidimensional signals and other diff
3	<u>Digital to Analog and Analog to Digital Conversion</u>	This material explains about analog signals by digital means, sampling theorem and quantizer operation.
4	Discrete-Time Signals	This material explains about a number of important types of signals, the sampling process, and difference equations as an alternative method.
5	<u>Discrete-Time Systems</u>	This material explains about the characteristics of the system and the operation the block diagram representation and the systems according to the general properties.
6	<u>Analysis of Discrete-Time Linear Time-Invariant Systems</u>	This material explains about the response of any relaxed linear system, some important properties of convolution, and the behavior or response of a linear system.
7	<u>Discrete Time Systems described by difference equation</u>	This material explains about linear time-invariant systems by difference equations an explicit expression for the response, and the correlation between the two signals.
8	Midterm Exam	
9	<u>The Z-Transform</u>	This material explains about transform techniques, pole-zero patterns and the z-transform of a signal.
10	<u>Properties of the Z-Transform</u>	This material explains about the properties of Z-transform in the analysis of discrete time LTI systems, the knowledge of properties of ROC and the system function.
11	<u>The One-sided Z-Transform</u>	This material explains about the significance of one-sided transform, and the output of non-relaxed systems.
12	<u>Frequency Analysis of Signals and Systems</u>	This material explains about mathematical representation for the frequency components and the effect of the system on any input signal.
13	<u>Properties of the Fourier Transform for Discrete-Time Signals</u>	This material explains about the characteristics of signals in the frequency domain the spectral characteristics of aperiodic signals and the complexity of frequency analysis problems.
14	<u>Frequency-Domain Characteristics of Linear Time-Invariant Systems</u>	This material explains about the characterization of LTI systems in the frequency domain the steady-state response of the system, and spectral shaping or frequency-selective filtering.
15	Final Exam	