

HANDONG GLOBAL UNIVERSITY

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ACADEMIC CATALOG
2020-2021



HANDONG GLOBAL UNIVERSITY

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School of Management and Economics

▶ Introduction to Management (Spring&Fall)

- The effective management of work of employees within organizations is the backbone of industrialized societies. This is an introductory core course to explore critical management skills involved in planning, organizing, controlling and leading an organization especially focused on startup or venture companies. Topics covered include business environment, business idea, business model, entrepreneurship, business management, human resources teamwork, funding and financial management, marketing and strategy, accounting, and management information system. The course aims to equip students with knowledge of how to build and manage a startup business and professional skills especially for a startup companies, and encourage practicing them as Christian business professionals in the future.

- The effective management of work of employees within organizations is the backbone of industrialized societies. This course explores the various knowledge domains related to management. It will focus on basic managerial functions such as, planning, organizing, leading, and controlling. Topics covered include the business environment, business ownership, entrepreneurship, business management, marketing, finance, accounting, MIS, and operations management.

▶ Introduction to Economics (Fall)

- By studying economics, we can improve our understanding about our world. We can touch problems around us; why the housing price hikes rampantly from time to time, causing big social deprivations; why we can find jobs easily in some areas, but not in other places; why people in South-West Asia and Africa are facing direly poverty and severe social inequalities; whether there is any chance for the gap between the developed and developing economies to narrow down.

- Secondly, this course will help you equip with necessary tools to become a homo-economics and a leader. We make many decisions even in a day. We make decision on how much money to spend on food and clothes, and how much to save for our future or make decisions on how much time to spend for a new blockbuster in downtown and for playing a basketball with your friends. You as a manager may make a difficult decision how high the price for a new product should be in the market place, and may be involved in the decision how much money at a certain interest rate to borrow from a bank and when to finance your new investment project. You as a fund manager may be responsible for making a portfolio how much money should be allocated for stock, bond, and derivatives. Tools discussed in this course will give you a chance to think about possible alternatives and help you make a wise and smart choice.

- You will also learn impacts and limitations of economic policies in policy making process. Voters need to be aware of how the economy is doing and should be keen to how powerfully the government policy affects their economic life. You face chances to cast votes, so you may study criteria for voting. Finally, you will have an opportunity to design our future economy with your own idea and vision.

▶ Microeconomic (Spring&Fall)

- This course studies economic agents' rational choice - how they can optimize their object under given constraints. Topics cover the theory of demand and supply derived from the analysis of choices made by consumers and firms, the theory of market structure such as competition, monopoly, oligopoly and monopolistic competition. Throughout this course, mathematical analysis will be widely used.

- This course begins with an introduction to supply and demand and the basic forces that determine an equilibrium in a market economy. Then it introduces a framework for learning about consumer behavior and analyzing consumer decisions. We then turn our attention to firms and their decisions about optimal production, and the impact of different market structures on firms' behavior. We also study basic game-theoretic concepts and tools, and apply them to some of more advanced topics in microeconomics.



▶ **Statistics for Economics & Management (Spring&Fall)**

- Probability and statistics are central to the data analysis and decision-making under uncertainty in economics and management. Moreover, statistical methods will be useful in business and marketplace. Therefore, this course will introduce students to important concepts and tools in statistics so that they may be able to conduct their own statistical analysis (no matter how primitive it would be) as well as to analyze and interpret statistical results that students will frequently see over their lives.

- There are three sections of Statistics for Management and Economics. This section will be more theoretical and mathematically demanding than other sections. But it will lay a good foundation for more advanced statistical analysis such as econometrics. Hence, this section will be particularly recommended to economics students, though helpful to non-economics students too.

▶ **Mathematics for Economics (Spring&Fall)**

The purpose of this course is to understand basic concepts and properties in mathematical economics. The pre-requisite includes basic concepts in differentiation, logarithm, and the other basic mathematics which the high school curriculum in Korea is covering. In this course, I'll focus on providing the intuitions of concepts and properties. A sufficient number of problem sets would be given in class. Basic optimization, linear algebra, differentiation, implicit theorems would be covered during the semester.

▶ **Management Information Systems (Spring&Fall)**

This course surveys the fundamental concepts of organizational and technical aspects of information systems and technologies. Topics such as management of information, information technology, information resources management, management support systems and systems development, will be discussed to provide the understanding of how information systems can help make better decisions, gain competitive advantage, take advantage of emerging technologies, and align information systems to general business functions.

▶ **Marketing Management (Spring&Fall)**

- Marketing is designed to serve our neighbors' needs and wants. It is a powerful tool to change the world positively, when used as the Bible says, "Do nothing from selfishness or empty conceit, but with humility of mind regard one another as more important than yourselves. Do not merely look out for your own personal interests, but also for the interests of others" (Philippians 2:3-4).

- This course introduces you to marketing theories and perspectives essential to the success of both for-profit and not-for profit organizations. This course will use a combination of analytical and experiential methods to learn about the following topics: understanding consumers' needs and wants, designing and delivering value-added products, selecting target markets, product positioning and branding, and various marketing communication methods.

▶ **Business IT Practice**

- This class is to improve students' productivity skills with computers by practicing advanced topics in spreadsheet and database management software.

- Students will practice how to derive useful information from raw data, and will also practice how to make models and run simulations to make rational decisions, and finally will practice writing programs to tackle complex problems.

▶ Financial Management

- Financial Management studies the subjects related to financial decision making from the perspective of the corporate financial manager. Every decision made in business has financial implications. Therefore, it is necessary for all students who are involved in the field of management to study Financial Management.

- This course touches on all areas of finance, including corporate finance, financial markets, and investment. We will focus on decision-making in fund raising and operating. This course is recommended for sophomores with a major or minor in management.

▶ Organizational Behavior (Spring&Fall)

Managers and business professionals make decisions, allocate resources, and direct the activities of others in order to achieve the goals of their organization. These actions can affect the behaviors and performance of others. Thus, to be effective as a manager or a business professional, one needs to understand the complexities of human behavior and interaction in the workplace. In this course, we study human behavior within an organizational context. At the individual level, we will consider personality, learning, decision making, and motivation. At the group level, we examine group processes, communication, leadership, power, politics, conflict, and negotiation. At the organization level, we examine organization structure and design, organization culture, and organization change.

▶ Principles of Accounting (Spring&Fall)

- Accounting is the language of business much in the way that math is the language of physics. A solid understanding of accounting principles is essential who wants to understand modern business. This course will be extremely useful not just to people pursuing an accounting track, but also those who plan to become managers and even those interested in learning to invest in stocks wisely.

- This course is an introduction to the basic concepts and principles of financial accounting to enable students to be familiar with accounting terminology and methods so that they may utilize accounting information for decision making in business situations.

▶ Financial & Monetary Economics (Spring)

- This course is an introduction to foundations of financial markets and financial institutions. The course will help students to understand why finance is needed for individual economic agents as well as for a whole economy. The course will also devote a considerable amount of time to explaining how financial markets work. In order to understand that, students will learn basic theories related to the financial markets. In addition, the course will deal with what roles financial institutions such as commercial banks and securities firms play in the financial markets. Students will be able to see creative responses of the financial institutions to the needs of borrowers or investors under a variety of economic conditions. Finally, the course will discuss why government and central bank play an increasingly important role in the current financial system.

- In MEC 303 & GMP 405: International Economics, we will use the same fundamental methods of analysis as in other branches of economics, but we will encounter new and different concerns, because international trade, investment and foreign transactions occur between independent nations. Each nation has its own sovereignty and thus can pursue policies to better its interests, which are some rationales that make international economics distinctive from other principles. We will discuss important topics including foreign exchange rate, monetary transactions, open macroeconomic phenomena, gains from trade, pattern of trade, controversies in trade policy, international negotiations and efforts for freer trade.

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▶ International Economics (Spring)

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▶ Labor Economics (Spring)

This course applies economic theory and analytical tools to the problems and current issues of the labor market and labor institution. The topics covered include labor supply and demand analysis, determination of wage rates and employment levels, accumulation of human capital, sources of wage differences, firm compensation policy and performance incentives, social policy, and the economic impact of labor unions. Basically this course is concerned with the integration of faith with learning in the field of economics to embody the Words "All truth is God's truth."

▶ Theory of Games and Information (Spring&Fall)

- This course is an introduction to game theory. Game theory is the study of multi-person decision problem. Such problems arise frequently in various situations such as economics, political science, and law. Therefore, the course will deal with a variety of game situations which we can look at and focus on how useful the theory is when we strategically analyze such situations.

- In addition, game theory is based on logical thinking. So if students are able to think logically and have analytical skills, they will not have difficulty in understanding the class even though they have no deep knowledge of economics. Furthermore, students will be able to improve their logical thinking skills through this course.

▶ Advanced Microeconomic (Spring)

- This course studies advanced topics in microeconomics by using a mathematical approach. Topics cover game theory, labor market, general equilibrium, advanced consumer theory, choices involving risk, adverse selection, signaling, screening, and behavioral economics.

▶ Geography and Urban Economics (Spring)

The course provides a basic understanding of how urban agglomeration can be interpreted in the perspectives of economics. The main contents consist of three parts. 1. Economic analysis for urban agglomeration: why and how the suppliers and the demanders are locational agglomerated in a modern economy. 2. Economic analysis for urban structure: how the structure, size, and shape of cities are related to the optimal location selection problem of economic agents. 3. Introduction of the Biblical viewpoint and related studies throughout the geographical-economic problems. We would discuss over Henry George's ideas and the criticism and the application. This course provides not only lectures but includes team-discussion about 10 ~ 20 minutes. The organization of team would be according to the size of the course.

▶ Quantitative Analysis for Management (Spring)

In this course, we study various optimization models. The following topics will be covered: : Linear programming, Network models, integer programming, Project scheduling, Waiting line models, Inventory models

▶ **Production and Operations Management (Spring&Fall)**

In a competitive global environment, operations management involves the integration of numerous activities and processes to produce products and services. In this course, we consider key performance measures of operations as well as important concepts for improving the performance of operations along these dimensions. The goal of this course is understanding of the role that operations management plays in business processes.

▶ **Cost & Management Accounting (Spring&Fall)**

Unlike financial accounting prepared for external users, managerial accounting is designed to help decision makers within the firm. This course will focus on product costing and cost analyses, cost information relevant for decision making, cost analysis for pricing decisions, and performance evaluation of business units and incentive scheme.

▶ **Intermediate Accounting 1 (Spring&Fall)**

This course covers intermediate level financial accounting matters including Financial reporting and accounting standards, Conceptual framework for financial reporting, Accounting information systems, Financial statements, Time value of money, Cash and receivables, Valuation of inventories, Property, plant and equipment and its depreciation, Intangible assets, Current and non-current liabilities under International Financial Reporting Standards (IFRS). This course is intended to provide in-depth accounting concepts, methods and uses of financial accounting in order for students to prepare, interpret and utilize major financial statements and its contained information for key business and investment decision making. This course uses Korean for lectures but uses English for text books and examination.

▶ **Intermediate Accounting2 (Fall)**

This course covers intermediate level financial accounting matters including Equity, EPS, Investments, Income taxes, Pension and postretirement benefits, Leases, Accounting changes and error analysis, Statement of cash flows and Presentation and disclosure in financial reporting under International Financial Reporting Standards (IFRS). This course is intended to provide in-depth accounting concepts, methods and uses of financial accounting in order for students to prepare, interpret and utilize major financial statements and its contained information for key business and investment decision making. This course uses English for lectures, text book, examinations and major communications.

▶ **Human Resource Management (Spring&Fall)**

This course will provide you with a systematic understanding of HRM practices. HR topics (e.g., recruitment, selecting, training & development, performance management systems, compensation systems, etc.) will be addressed from a strategic perspective. Students will have opportunities to intensively practice and explore HRM issues while completing team project and team-led learning activities.

▶ **Business Strategy (Fall)**

This course is designed to help upper-class students in management develop understanding of the concepts and theories of strategic management and the ability to apply the concepts and techniques to real-world management problems through comprehensive case studies.

▶ **Public Finance (Fall)**

Public Economics (also called Public Finance) studies various issues related to government activities. Governments collect taxes (revenue or taxation side) and spend them on a variety of areas in the economy (expenditure side). In this course, we will first discuss important issues in the expenditure side such as public goods and governments' intervention in markets with externalities. Then, we will turn to the taxation side to address the effects of various taxes and social insurance programs and the optimal design of those policies. We will also analyze other important topics like government debts and the pension system, if time permits.

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▶ Technological Innovation & Business Application (Spring)

- This course investigate innovation driven by technology in the era of digital transformation represented by the Fourth Industrial Revolution, and explore new business opportunities for key industry-specific applications of core technologies such as artificial intelligence, blockchain, and the internet of Things.

▶ International Finance (Fall)

This course provides an overview of open economy macroeconomics, and international financial markets and policies. My lectures will focus on the following topics: the exchange-rate determination, the importance of the balance of payments for both the domestic economy and the economies of other countries, international capital flows, the impact of internal debt on the balance of trade, and the interaction and potential conflicts between domestic and international economic policy objectives.

▶ Industrial Organization (Fall)

As an application of microeconomics, this course focuses on the firm theory and the theory of market. Especially, game theory is introduced to analyze the strategic behavior of firms such as price competition, quantity competition, product differentiation and advertising, price discrimination, vertical relations, and entry/exit decisions. It also covers the public policy issues.

▶ Stewardship and Personal Finance (Fall)

This course provides students with a study of the Biblical concept of stewardship and an introduction to the management of our personal finances. After a thorough examination of Scriptural teachings on money and wealth, students are exposed to key areas of finance including the time value of money, budgeting, banking, debt and borrowing, investing, taxes and financial planning. Students will develop the skills necessary to intelligently manage their financial resources to the glory of God. As Christians, our main purpose in life is to honor God in everything that we do. How we manage our personal finances is one of the most significant ways in which we can honor Him. The Bible deals extensively with money and wealth because our attitude towards our finances is often a close reflection of the attitude of our heart, testing the strength of our claimed loyalties to Christ. Scripture gives us clearly defined responsibilities with regard to wealth. Wealth can be managed and used properly, enhancing our effectiveness for God's Kingdom or wealth can be mismanaged and used improperly, with destructive consequences.

▶ International Business (Spring&Fall)

This course introduces students to the world of international business and management by studying historical and cultural influences; government, and business policies; and organizational structures and strategies that are important to understanding our global economy. Students also learn about trade relations, international finance and legal and labor agreements. Towards the end of the course, we will look at the current challenges brought about by technology, world tensions and terrorism, as well as organizational requirements today in data collection, automated production systems, marketing and promotion, and career planning.

▶ Macroeconomics (Unconfirmed)

This course introduces the explanations for business cycles, economic growth and the role of government in economic system. We'll study basic concepts and models of macroeconomics and practice with economic data. This course also focused on studying the economic events from the great depression to the recent issues which the newspapers are dealing with. Topics include basic macroeconomic models, optimal decision making problems in dynamics, structure of modern economic system, government policies, asset markets, some historical events and open economy issues. Basic knowledge about calculus, optimization (Lagrangian method) is required.

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School of Global Entrepreneurship and ICT

► Introduction to Global Entrepreneurship (Spring&Fall)

This is the first course one should take if one wants to learn entrepreneurship as the major or minor, or learn as a background information. Even if one does not start a business, entrepreneurship mindset is the most important asset that helps one to attain his/her life goal. So, this class is not just about starting a new company although the basic knowledge and the mechanics of starting a new company is learned while doing the group project. Entrepreneurship experience can be your life-changing experience for you as many students testified and as I experienced myself in my early years. This course is mostly based on the instructor's own personal experience while working as dept. head at Bell Labs and starting 3 new start-up companies in the US in his life that is not covered in any text books available. It is recommended that students take this course as early as one can since the mindset one would acquire in this course will help the students greatly while taking other courses and learn during his/her undergraduate life This course is a compulsory and the first course in the entrepreneurship major (GE track) that a GE-major student should take. first. It is also a background course that students majoring in other majors who are interested in entrepreneurship. The course is intended to show the students the overall Global Entrepreneurship (GE) track curriculum in a bird's eye view to enable the students to navigate and select and take necessary courses later throughout the GE program among the triad of the tracks offered in GE that consist of business, law, and technology disciplines, and integrate the subjects learned in-depth from the three tracks into an integrated knowledge without a wall among them for the inter-disciplinary education. The main purpose of the course is introducing the students to the concept of entrepreneurship and its mindset, and allow them a chance to experience the entrepreneurship as well as the basics of starting a new business. This course is categorized as the basic foundation course applicable for all tracks for the School of Global Entrepreneurship and ICT (GEI). The main purpose is to let the students learn the true meanings of the entrepreneurship mindset and experience it and change to an entrepreneur. it also shows students how to channel the spirit to develop an idea into a gainful business and found and run a company for profit in a comprehensive view based on integrated knowledge in business, law, and technology disciplines. The class is conducted fully in English and helps students learn English in a real classroom environment in the US.

► Business, Culture and Spirituality (Spring)

Background: to discern various modern culture and spirituality in business world. Contents: to examine the relationship between Calvinism and the Dutch entrepreneurship. Necessity: to offer a Christian view of entrepreneurship and to put it into practice in a concrete life. Method: Lecture, team presentation and discussion.

► Data Science (Spring)

Even if you've heard a lot about big data analytics, but you might feel vague or don't have basic ICT skills and programming experience. This course teaches the process of data analysis step by step. Learn, one of the most used tools for data analysts, how to get and understand data using R, study how to operate and analyze data. Students learn the basics of creating models that can predict the current situation and the future from historical data. This will provide students the foundational skills to analyze data.

► Human Computer Interaction (Spring)

This course will give understandings of the human, computer, and those interactions and provides engineering practices about planning, designing, analysis, and evaluation to implementing an HCI system. This course consists of 32 classes. Among those classes, 8 classes (4 weeks) will be taught by online lectures (75 min x 8 times = 600 min), another 24 classes (12 weeks) will be offered in the classroom. An extended syllabus is shared at https://docs.google.com/document/d/1aEr-igLM7GYZ8JJVtCbr4ruZk-NEyu5Wlujvh40QG_1M/ (in preparation).

▶ ICT Application Development (Spring)

In our daily life, we use various applications based on Information and Communication Technology (ICT). We use a personal computer and mobile devices to process data, earn information, control other devices. As a user of the application, we prefer an application which has a beautiful user interface, performs quick response, and well-organized information structure. A high programming skill does not guarantee the success of an application. The primary objective of this lecture is to learn how to build useful applications that the user may love. In this course, students will develop various kinds of applications on various platforms, such as Windows, Mac OSX, iOS, and Androids. Unfortunately, to do so, the student should learn an individual programming language to deploy their applications. To overcome the problem, students will develop an application on the particular development environment which can develop a cross-platform application. Which means that if a student develops an application using a particular programming language, the development platform generates an application on the various platform automatically.

▶ Technology Commercialization (Spring)

New technologies such as artificial intelligence, block chain, and virtual reality are emerging simultaneously and disrupt the industries. In the era of technological revolution, competitive advantage is given to start-ups that create differentiated products / services by applying these new technologies. In this course, students examine trends in key technologies and learn how to adopt new technologies and develop start-up items based on technologies.

▶ Interactive Visual Media (Fall)

This course is designed for the students who want to develop interactive applications based on visual media using the Unity engine. In this course, the students will deal with various types of interactive visual media technically such as virtual reality (VR), augmented reality (AR), and 360-degree videos, etc. To quickly guide you to the use of these advanced graphics technologies, we will not focus on the theoretical low details on them but emphasize the development of application abilities to use existing libraries for them compatible to Unity. Though the course has more emphasis on the practical aspects on graphics than the theoretical, the students will also be exposed to basic ideas and mathematics for computer graphics to some extent. Through a final project, the students will be encouraged to make interactive visual media with good contents pleasing to the Lord and men. The understanding on object-oriented programming like Python, Java, C++, C#, etc. is fundamental and necessary to take this course. Linear algebra and calculus need not to be taken in advance for this course but any exposure to these would be helpful.

Note: The contents of the course has significantly been changed as above since the last fall semester (Fall 2019). In that semester, the course focused on the theoretical foundation on computer graphics and 3D graphics programming based on OpenGL. You can still find these former contents in the course, Computer Graphics (ITP40003).

▶ Data Management and Application (Fall)

This course is to introduce the basic concept of data structure and algorithm to the students with non-computer science majors. Students will learn how to organize their data and information effectively and efficiently and build capability to make use of traditional data management methods and database systems to solve the problems of their expertise and interests.

▶ Human Factors & Ergonomics (Fall)

- This course will provide essential knowledge related to the physical, cognitive, and emotional characteristics of the human, also hands-on practices regarding measuring, analysis, and application of those human characteristics in product design.

- This course consists of 24 classes (= 12 weeks), not 32 classes (= 16 weeks). There will be two introductory classes (= 1 week), 22 classes (= 11 weeks) of practice/project/discussion (PPD) sessions, then the course will end at around 12th or 13th week. The remaining 8 classes (= 4 weeks) will be given as online lectures that parallelly go with the course schedule. Please find details from the link below.

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▶ ICT Engineering Mathematics (Fall)

This course was designed for students who want to build up mathematical foundation for information and communication technologies (ICT). The course will cover some basic parts of discrete mathematics, linear algebra, calculus and statistics to help the students get better prepared to take other advanced engineering courses related to computer graphics, big data, system modeling, etc. that partly depend on some mathematical concepts and solutions. The students will learn how to deal with mathematical problems through computational thinking so as to practically implement programming solutions to them in the Python language.

▶ System Engineering (Spring)

- System engineering is a multi-disciplinary process that derives and verifies user requirements throughout the development life cycle of a system to embrace the needs of customers. System engineering can be applied to system development from large-scale systems, such as defense and nuclear power to small systems such as cell phones and laptops as well as software. Through system engineering, students learn how to develop the system requirements from given a system, manage outcomes, analyze existing systems, and verifying that systems are built to meet their needs.

- The System Engineering provides the theoretical background for developing requirements and analyzing system not only engineering system but also business system. During the course you will analyze system requirements, analyze system designs, and build test cases based on real-world examples.

- The course consist of theory part and practice part. In the theoretical session, the students will learn the notation and how to express the system using the notation. Also, the course will introduce real-world case study to help the student's understanding. In the practice session, the students will model given a system and learn by problem solving.

▶ 3D Digital Content Production (Spring)

This course is designed for students to learn both practical and theoretical aspects of the pipeline to produce 3D digital contents based on computer graphics (CG). The main software used in the class is Autodesk Maya. Using the software, the students will be familiarized with various practical tools for CG. They will also learn how to use optical motion capture cameras to produce example-based character animation and have fundamental understanding for modeling, animating characters, and rendering throughout the class.

▶ Big-Data Analysis (Spring)

Welcome to the world of "Big Data". Data science is to derive knowledge from "Big Data", efficiently and intelligently. For the next 16 weeks, students will learn about data science and practice a general data analysis pipeline of data acquisition, preparation, analysis, visualization and presentation. Students will also perform a data analytics project of their interest.

▶ Capstone Design2 (Fall)

At Capstone II, you have the opportunity to develop startup items into a marketable business model and take them to the real market. By carrying out practical tasks such as drawing up business plans and funding, the company will build the knowledge and capabilities needed to develop startup items.

▶ Special Topic of ICT Convergence (Unconfirmed)

This class is for students who have learned R and basic data analysis models through data science (previously data science introductory). Learn advanced data analysis models to explain more complex and nonlinear relationships such as ensemble models and neural networks. It also learns to analyze data of various characteristics effectively, such as unstructured data (such as text) or time series data. This will enable them to have more powerful skills as data scientists.

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► Entrepreneurial Law (Unconfirmed)

This course teaches students business ethics that entrepreneurs should know in order for them to use their entrepreneurship mindset for good cause for public benefit for the society as a good steward who serves God through doing a business. As the continuation of the SIT213 course, that starts with the question as to why some countries are prosper and some are poor chronically, this course explores the environment where entrepreneurs can function in terms of ethics and laws and discusses what each law contributes for the cause and how, in the form of lectures and storytelling as well as group projects and research and case studies by the students. This is the only law course in the triad tracks of the Global Entrepreneurship and ICT (GEI) that consists of technology, business and law. It teaches the students a wide range of legal subjects related with ethics, entrepreneurship, and business laws including incorporating and running a start-up business in wide swath as the continuation of the “Introduction to Global Entrepreneurship (IGE, SIT213)” course. This course is to teach entrepreneurial students’ knowledge in basic corporate laws necessary for them to start a new business and operate it. It also teaches students basic terminologies in corporate laws that are essential not only for them to start a enterprise but also for them to work in a pre-established company in a management position. It is to make the students feel at ease in dealing with legal matters and talking to legal counsel while founding and running a new business. For prospective entrepreneurs who want to start a new business this course will help the students become interested in the corporate laws and basic mechanics and terminologies that are essential for incorporation of a new company for starting up a new start-up business and operating it in a bird eye view. However, the knowledge in laws are equally necessary for those who want to start a new business and those who want to join a pre-established corporation. For those who want to understand the entrepreneurship mindset better, this course will offer the students a chance to experience entrepreneurship from a different direction, through the aspect of business ethics and necessary laws.

► Programming II (Unconfirmed)

- Objective: The objective of the course is to help a student to build a development capability using object-oriented programming language. This course will introduce several object-oriented programming languages and its characteristics.

- Contents: The course covers such concepts as classes and objects, data abstraction/encapsulation, information hiding, and maintainability. Also, you will practice polyglot approach to build your application. During this course, you will use Python and C++ programming languages to build application. Mainly, students may discuss their code and develop their program during the course.

- Important: The contents of this syllabus can be modified with or without notice according to the performance of the students, university events or other reasons.

► Information Visualization (Unconfirmed)

Data visualization is effect way for human to obtain information and insight from big data which is beyond human comprehension in terms of data size and complexity. In this course, students will learn how to visualize the data with from basic plot to advanced graphs using R and how to find effective graph for better understanding and communication of data. Lastly, we practice how to build interactive interface to visualize data using Shiny R package.

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School of Communication Arts and Science

▶ Mass Media & Society (Spring&Fall)

- Convergence & Insight: Students will be able to deal with the problems arose in media environment through the humanistic insight and socio-scientific strictness, and logical natural science.
- Critical Analysis: Students will be able to critically analyze the infrastructures which are required to produce media content.
- Communication Proficiency: Students will be able to work together in a various media environment.
- The influence of the mass media in modern society, the common and differences of the media genre, the cultural and social and institutional influences of the mass media, what and how to change.

▶ Communication Theories (Spring&Fall)

This course is designed to study basic theories in the field of media and communication studies, and to apply them to social phenomena. This course is positively necessary to all the sophomore students before taking further courses on media, culture and communication. Various communication theories from inter-personal communication to mass communication theory will be taught. Furthermore, later in the semester, students will learn to apply those theories to the actual society we live in.

▶ Introduction to Documentary (Spring)

In this class, first of all, students will study the origin and general history of documentary film, and its characteristics as a medium. And then, we will explore not only 'non-fiction genre' but also 'factual program' in current era with discussion, planning and practice practices on a team basis.

▶ Introduction to Journalism (Fall)

This lecture primarily focuses on introducing what journalism is. You will be able to grasp some ideas on what is going on various journalisms around the world. You will not only learn about journalism itself, but also practical issues in the world of press.

▶ Dramatic Form and Structure (Spring)

Dramatic form describes the recognizable features or characteristics of a particular genre and the method, conventions and styles that are used to communicate meaning to an audience. Dramatic structure is a construction of dramatic works using various dramatic elements and techniques based upon Aristotelian principles. From the ancient Greek plays to contemporary drama, you are expected to explore and analyze diverse forms and structures or dramatic works. A successful study of the materials throughout the semester will enable you to launch upon more advanced study of dramatic criticism and creation.

▶ Survey in Theatre & Drama (Fall)

- Theatre is the representative form of performing arts boasting more than two thousand years of history and heritage. It is most comprehensive form of art in the sense it runs the gamut from music, art, dance, and even literature. Theatre is not only a predecessor but still an active and indispensable partner of film as a medium as they share human resources, the form and structure of drama, and often venues and market. Therefore, a systematic and thorough survey of its history and aesthetics is essential for any student to understand millennia-long traditions and wide influence in culture industry.

- Students, in this class, are expected (1) to learn history and performance theories of theatre, (2) read and analyze some major plays, and (3) put up a scene to experience the whole production process in a nutshell. Each student will have hopefully built up a solid foundation for more advanced study in specialized fields of theatre by the end of semester.

▶ Media & Cultural Diversity (Spring)

- As globalization rapidly progresses, population mobility is also rapidly increasing. Although the global media culture has been spreading, the media industry and contents in Korea are still tied to nationalism and nationalist discourse, and the flow of change is slow. The Korean National Statistical Office estimates that by 2020, about 5% of the population living in Korea will be filled with non-nationals, that means Korea will become a multi-cultural society.

- Through this lecture, we will analyze the closed and conservative nationalistic emotions that are prevalent in Korean society and the social issues caused by them through the media articles and discuss the perspective of the cultural diversity that the media should have in the global society in the future.

- Especially, this lecture wants to improve the critical viewpoint that can analyze social issues from various viewpoints by reading media articles in diverse fields such as politics, society, culture, economy and sports.

▶ Cinema History (Spring)

In this class, students will understand the filmmaking systems in Hollywood. Then, following the masterpieces of Hollywood's most influential filmmakers, we will learn a genre history(Comedy, Musical, Suspense, SF, Horror, Western) and try to find how filmmakers created their original cinematographic world, particularly in the genre tradition.

▶ Development and Producing in Film and Media (Fall)

- As film and broadcast industry face tough competition, the development process in content making grows in importance these days. Although a producer dig a brilliant idea or items, it's not clear whether the project will be accomplished or not. The item(or idea) should be developed and polished in a decent way to make a contract for invest besides cinema release and broadcasting. Furthermore, box-office record or broadcasting rating also depends on what kind of strategy will be adopted in the stage of marketing and distribution to some extent.

- In this class, students will explore and practice the stage of development, producing, marketing and distribution in film and media which can be easily overlooked, because those are not visible in its output.

▶ Mass Media Research (Spring)

- This lecture is a project based learning subject for selecting proper topics and making teams up to present complete research results by integrating individual research, project research, and other researches of students.

- Research projects are conducted by individuals or teams and the project is developed through individual meetings including class times during a semester.

- The goal is write a completed form of short research paper and present the paper at the several conferences to verify our research achievements.

- This class is allowed for only students who have completed at least six semesters or taken at least 18 credits of media track courses.

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▶ **Filmworkshop Capstone Design (Fall)**

This course is an intensive workshop designed for students with a certain previous filmmaking experience who wish to make a decent short film for own portfolio. Group works will be done and students in a group will write, shoot and edit a final short film in one semester. Mostly there will be group tutoring for interim check of their final film work.

▶ **Movie Criticism (Unconfirmed)**

In this class, students will learn various film theories mainly categorized by the perceptive/sensorial relationship between cinema and spectator. As a practical and decisive tool of movie critique, the film theory will help students to profoundly and sharply analyze movies on the cinematic perspective. We will try to watch the movies related to each film theories and to analyze film texts practically.



School of Computer Science and Electrical Engineering

▶ C-programming(CSEE) (Fall)

This course covers the theory and the practical aspects of programming in C language. The students will learn the basic concepts of C programming, and practice them by writing programs to solve simple problems. Several programming assignments as well as a programming project will be given to the students. Up on completion of this course, the student should be able to write C programs of moderate size.

▶ C Programming Laboratories (Fall)

This course covers the theory and practical aspects of C programming. The students will learn the basic concepts and principles of C programming. The students will also practice them by writing programs to solve simple problems. Up on the completion of this course, the students should be able to write C programs of moderate size.

▶ Introduction to Engineering Design (Fall)

Designing is the most essential part of engineering and an initial step to learn creation. Engineering itself cannot stand alone without designing. This course is the basic course for mainly freshmen and lower grade students to take the first step to engineering. This is a prerequisite course for other design courses in CSEE. This course covers the definition of engineering, common design methodologies and processes by carrying out concept study and assignments, in which students will identify problems and write reports on their design and implementation. Teamwork, documentation, and presentation exercises, which are an integral part of the design process, will also take place throughout the course. Students will have an opportunity to ponder over the ethics and social influence of engineering.

▶ Data Structures (Spring)

In this course, basic concept of data structures and the algorithms to manipulate them are provided. The students are also provided with many chances to practice C++ programming skill.

▶ Java Programming (Spring)

This course will cover the basic grammar of Java and the concept of object oriented programming (OOP). Students should have a computer and programming environment for Java programming but any operating system (OS) is OK. Current schedule is tentative and may be changed while a semester is going on based on students' learning experience.

▶ Open Source Software Lab (Spring)

This course aims to learn open source software trends and various technical issues that provide a variety of underlying technologies for software development; and to develop the abilities to utilize them in implementing a new software. To achieve these, we use Linux, the most widely used open source operating system, build and configure a server that provides various online services. Through hands-on experiences, we will acquire an understanding of the Linux ecosystem, and practice development and collaboration using public libraries and frameworks.

▶ Circuit Theory 1 (Spring)

This is one of the basic courses in the electronic engineering, and aims to set up the basis of electric circuits. It provides an overview and basics of practical use of selected methods for the description, analysis and design of linear electric circuits. It also provides detailed instructions and information on the safety of work with electric devices. This course is prerequisite to Circuit theory 2, Electronic circuits and etc. The contents of this course are as follows:

- Circuits with Resistance only
- Ohm's Law, Kirchhoff's Voltage & Current Laws
- Analysis Techniques I: Nodal and Loop Analysis Techniques
- Operational Amplifiers
- Analysis Techniques II: Superposition, Thevenin and Norton Theorems
- Circuits with Dynamic Elements

- Capacitance & Inductance, R Cop-amps
- First-order Transient and Second-order Transient Circuits
- AC Circuits
- Sinusoids, Complex functions, Phasors
- Impedance and Admittance
- Analysis techniques

► Logic Design (Spring)

This is the fundamental course that is required to understand modern digital hardware design. This course is a core foundation course for hardware design and it is the prerequisite for computer architecture and organization, digital system design, embedded processor application, microprocessor design, and integrated circuit design courses in upper levels. It covers Boolean Algebra, Primitive Gates, Combinational Circuit Design, Sequential Circuit Design, Finite State Machine. Combinational Logic Optimization techniques like Karnaugh Map approach is covered. Some timing issues such as setup time, hold time, and propagation delay will be addressed in the course. In addition, modern digital logic implementation platform such as CAD tools and programmable logic devices will be introduced to students. Students are required to demonstrate the ability to design and analyze simple logic circuits at the end of semester.

► Signal and System (Fall)

This course is designed to introduce students to the theory and the mathematical techniques used in analyzing and understanding continuous-time and discrete-time linear systems. It is a pre-requisite course for Communication Theory, Digital Signal Processing, Multimedia Signal Processing, and Automatic Control. Topics include mathematical representation of signals and properties of systems, Fourier series of continuous and discrete signals, continuous and discrete Fourier transform, Laplace transform, z-transform, and sampling theory.

► Computer Architecture and Organization (Fall)

The subject of this course is computer architecture and organization. Computer architecture deals with the structure and behavior of the each components of the computer, while computer organization deals with how each component are connected. This course will give you an in-depth understanding of the inner-workings of modern digital computer systems and tradeoffs present at the hardware-software interface. You will learn internal structure and design strategy of the computer, especially a RISC machine design principles. The class is specially focused on the CPU(Central Processing Unit) design principles, and memory organization and I/O will be covered at the end of the semester.

► Computer Vision (Fall)

In this class, students will understand the basic concept of computer vision techniques and will face several algorithms in the field of pre-processing, segmentation, detection/tracking, and image transformation. Students will use openCV to implement several tasks related with computer vision techniques.

► Electromagnetic (Fall)

This is flipped learning class. Students watch the lecture first and post questions for the subject. Off-line meeting is once a week for discussion and testing. It is strongly recommended for those who are good on self-driven flipped learning class.

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This course is an introduction to engineering electromagnetics for undergraduate electrical engineers.

Electromagnetics is one of the most fundamental subjects in an electrical engineering curriculum. Knowledge of the laws governing electric and magnetic fields is essential to the understanding of the principles of operation of electric and magnetic instruments and machines. During this course, relevant vector algebra/calculus, the governing laws and methods of solutions of electrostatic and static magnetic field problems, steady electric current fields and resistance calculations will be covered.

- Vector Analysis
- Static Electric Fields
- Steady Electric Currents
- Static Magnetic Fields
- Time-varying Fields
- Maxwell's Equations

▶ Web Service Development (Fall)

- Lectures mainly consists of markup languages such as XML, XHTML, and HTML5 and their related techniques, for example, DTD, JavaScript, CSS, XPath, XSLT, etc.
- The basic level of high-level languages, JSP, PHP, and Servlet, will also be covered.
- Lectures also provide students with concepts and examples related to server-side and client-side web languages.
- The basic level of relational database with MySQL will be covered.

▶ Web Development Programming (Fall)

- Lectures mainly consists of markup languages such as XML, XHTML, and HTML5 and their related techniques, for example, DTD, JavaScript, CSS, XPath, XSLT, etc.
- The basic level of high-level languages, JSP, PHP, and Servlet, will also be covered.
- Lectures also provide students with concepts and examples related to server-side and client-side web languages.
- The basic level of relational database with MySQL will be covered.

▶ Algorithms Analysis (Spring)

Algorithm is a strategy for solving a problem with the assistance of a computer. To say that a problem is algorithmically solvable means, informally, that a computer program can be written that will produce the correct answer for any input if we let it run long enough and allow it as much as storage space as it needs. In this course, we will study various algorithms by analyzing them and discuss various algorithm design techniques. C will be used to develop and implement programming assignment.

▶ Object-Oriented Design Pattern (Spring)

Students learn the essential concepts about the object-oriented paradigm with Java programming language (and C++ language for some design pattern examples) and design patterns for making reusable and maintainable software system. Students improve Java proficiency up to immediate level based on design patterns.

▶ Operating Systems (Spring)

Introduction to the core concepts, principles, and related techniques that are applicable to various operating systems. The emphasis will be given to the ones about process and storage management. Students will do a few programming assignments on UNIX/Linux environment. The programming assignments would require advanced features of OS such as multi-threaded programming, shared memory, and synchronization primitives.

▶ Database System (Spring)

- This course covers three topics in sequence. The first topic is the fundamentals of the relational database systems. Regarding the first topic, the class will discuss why we need database systems to date and how can we construct/represent database systems as Relations. Students will use different languages to design and analyze relational databases. The second topic is SQL and Relational DBMS. This part has a strong emphasis on equipping students with knowledge/skill on relational database system to date. Students will be asked to use the core part of SQL with real-world RDBMS (e.g., MySQL) fluently. The last part of this course will be on recent topics in database such as NoSQL, real-time database, Big data system and related topics.

- Group projects will be a major part of this class. A group of 4-5 students will design a database application across the semester. This project will be very helpful to understand both practice and theory of database systems.

▶ Electronic Circuits 1 (Spring)

This class will cover the characteristics and some application circuits of basic electronic devices including diode, simplified op amplifier, BJT, and FET transistors. And the basic design technique with the electronic devices will be studied. Some fundamental logic gate design topics will also covered to provide student the basic operation of the transistor level logic gates. Through this course, all students are expected to know the basic operations of each electronic device, and some application circuits.

▶ Semiconductor Physics (Spring)

This course is an introduction to semiconductor devices for undergraduate electrical engineers. Two basic purposes are (1) to provide students with a sound understanding of existing devices, so that their studies of electronic circuits and systems will be meaningful; and (2) to develop the basic tools with which they can later learn about newly developed devices and applications.

▶ Principles of Communication (Spring)

This subject aims to learn the principles of communication systems and their analysis methods, mainly focusing on analog communication systems. The expression and analysis of signals, the transmission of signals, the analog modulation method such as AM and FM, and the basic principles of digital transmission are learned, and the digital modulation method is briefly introduced.

▶ Programming Language Theory (Fall)

In this course, we learn fundamental principles of programming languages by implementing language features using a combination of interpreters and little compilers. (All the programming is done in Racket (formerly Scheme) which is a multi-paradigm programming language.) If you wonder how programming languages you use every day are designed, please take this course. By taking this course, you will get confidence that you can learn any programming languages quickly. In addition, you could design your own programming languages for your specific projects and tasks and be ready to learn compiler theory. There might be more than 4 homework OR 4 quizzes plus midterm and final exams. Homework requires Scheme programming you might not experience before but you will experience new interesting programming paradigm as well by Racket (In first and second weeks we will learn Racket so please don't miss those lectures!!!* If you are not good at coding/programming, please take this course later (when you have enough programming experience and confidence).

▶ Computer Network (Fall)

Will be uploaded on notice board of this class by professor.

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▶ Automatic Control Systems (Fall)

In this class, students will learn the basic concept of automatic control systems and learn to how analyze the systems in timedomain and frequency-domain. Students will also learn how to design PID systems.

▶ Probability and Random Processes (Fall)

In this course, students lcomprehensively learn about basic probability theory and the concept and utilization of random variable and random process. It aims to develop the ability to model and solve various probabilistic problems. What we learn in this class can be used for not only engineering but also various subjects such as statistics and economics.

▶ Software Engineering (Spring)

This course introduces students to the challenges and issues in software developments and various software engineering methodologies that have been proposed as scientific solutions to the problems. This course will cover key topics in software engineering including software process, requirements, and maintenance. In addition, this course has a high emphasis on understanding and practicing basic tools for engineering software.

**Student duties: Active participation, Exams, Group projects, Group tasks: Pick one lecture topic, survey it, and present in the class., HWs*

▶ Machine Learning (Fall)

This course covers core concepts, fundamentals and widely used techniques of machine learning including deep learning. The students learn the theory of major methodologies and practice to solve simple problems by writing machine learning algorithms. It also covers a brief review of mathematics (e.g., calculus, linear algebra, probability and statistics) required to understand machine learning theory.

▶ Discrete Mathematics (Fall)

Will be uploaded on notice board of this class by professor.

▶ Computer Graphics (Spring)

Topics include computer graphics hardware architecture, graphics coordinate conversion, vectors and raster, textual mapping, ray tracing, surface modeling, shading, hidden line removal, and 2D and 3D graphics, OpenGL. How to make your Toy Story?

▶ Compiler Theory (Spring)

Students learn the introductory level of automata theory, and the principles and implementations of front-end compiler techniques which deal with scanner, parser, and semantic analyzer. Emphasis will be given to the theoretical understanding and implementation of scanner and a variety of parsers -- LL(1), LR(0), SLR(1), LR(1), and LALR(1). Most projects are about implementing front-end compiler manually. Some projects will be given for exercising automatic scanner and parser generating tools such as Lex and Yacc, which are flex and bison.

▶ Semiconductor Processing and Nano Technology (Fall)

- This course presents an introduction to the basic processes common to most IC technologies and provides a base for understanding more advanced processing and design courses. The course covers the overview of LCD and current Nano technologies.

- The details of many problems specifically related to VLSI/ULSI fabrication are left to texts on advanced processing. The course covers an overview of IC processes, the basic steps used in fabrication, including lithography, oxidation, diffusion, ion implantation and thin film deposition, and etching. Also, MOS and bipolar process integration have been included. Furthermore, the course shows how these basic processes are applied to LCD and Nano-technologies.

▶ Digital System Design (Unconfirmed)

This course aims to educate students the ability to systematically design complex digital logic circuits. Students who want to take this lecture must complete the 'Logic Design' class for prerequisite. Students will learn the design process with FPGA and how to systematically design complex digital systems using Verilog HDL. The implemented design results are verified by simulation and are actually operated on the FPGA board. For design projects, the team should consist of two teams, and the ability to document the design results is regarded as the scope of training.

▶ Special Topic 1 (Unconfirmed)

This course is intended to introduce students to universal principles of design and help them become continually aware of the importance design in all aspects of life. We will also learn how to apply these design principles to computer programs and how to test program and web page visual design and usability. Assignment and project details will be provided during the semester.

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School of Contents Convergence Design

▶ Color Theory and Industrial Color (Spring&Fall)

Learning and understanding the color and practical use of color. This class helps students to accept colors as part of their lives and use it for their own design by experiencing, feeling, learning, and applying them to their designs through theory and practice.

▶ Fundamentals of Visual Communication Design (Spring)

This class is to learn Photoshop tools. The purpose of this class is to help students to learn and get familiar using Photoshop tools through various examples and exercises. Furthermore, students can express their ideas freely using tools.

▶ Typography Design 1 (Spring)

This course will examine basic typography as a compositional tool; the architecture of type from the single letterform to entire page layout. Every week the lecture and workshop will be held based on elements of typeface(alphabet) and typography. There will be weekly assignments, team workshop, and a final project for which students are responsible.

▶ Presentation Technique 1 (Spring)

This course has been developed to help students practice basic drawing skills for effective Design Presentation. Through the lectures, students will learn various ways to realize their ideas and how to make various forms. There will be ample time to practice what students have learned, and many tests to check how they have improved. By the end of the course, most of the students will have no problem to draw and shade various 3 dimensional objects.

▶ Presentation Technique 2 (Fall)

This class is about learning sketching and rendering skills for effective design presentation. Through the lectures, students will be given the opportunity to compare hand-produced sketching/rendering with computer-generated ones and understand the differences between the two methods and advantages and disadvantages of each. Students will learn useful techniques of each method. Along with analog exercises of assignments, students will have the time to practice what they have learned from the lectures.

▶ Product Design Fundamentals 2 (Fall)

This course is developed to have students experience basic product design process. After completing the course, students will be able to learn how to find design needs in their surroundings, how to generate proper ideas, and how to express the best design solutions for the needs. Students are required to practice 3 kinds of design activities: how to watch, how to think, and how to express.

▶ Editorial Design (Fall)

This class is a course to learn the basics of editorial design from a to z. Also, this class is to practice how to practically use typographical knowledge that students already learned at the prerequisite course 'Typography Design 1'. Unlike typography classes focus on the operation of fonts, the editorial design will practice how to effectively deliver messages through letters and visual elements in various formats. To do this, students will experience various printed formats and practice how to effectively operate the grid system, which is the core of practical graphic design. Also, in the class, students will learn the Modernism graphic design theory and practice of how to design a multi-page book.

▶ Computer Graphic Design 1 (Spring)

This class is to learn Photoshop tools. The purpose of this class is to help students to learn and get familiar using Photoshop tools through various examples and exercises. Furthermore, students can express their ideas freely using tools.

▶ Design Studio 1 (Spring)

This course has been designed to help students experience basic product design process through series of projects. There are two different design projects and lectures related to the projects. Students will be able to learn essential design principles and skills by working with interesting design items.

▶ Design Studio 2 (Fall)

This course is developed to have students experience the design development process using analysis of the flow of the market and consumers' habits (user experience) of the subjects that we design.



School of Counseling Psychology and Social Welfare

▶ Introduction to Psychology (Spring&Fall)

In this class, students will study a range of interesting psychological topics (e.g., memory, pain, emotion, development, hunger, mental disorders, therapy) as well as the methods and theories of psychology. Further, we will see that psychology is primarily a scientific study of human behavior and we will see the human behavior is incredibly complex. The course emphasizes a biblical perspective on being human (BPSS approach) and we will compare that to major psychological theories.

▶ Theory & Practice of Counseling (Fall)

This course provides an introduction to contemporary counseling and psychotherapy theories. Understanding orientations, concepts, and components of fundamental counseling theories is crucial for students who want to learn counseling and psychotherapy. Students also will explore intervention skills and strategies from different theories and will have chances to practice them.

▶ Abnormal Psychology (Spring)

This course explores the scientific bases and human dimensions of abnormal psychology. Abnormal psychology is the study of the features, causes, and treatments of psychological disorders. Through the course, students will learn about the people experiencing different types of psychological disorders that affect their every day lives. By learning and understanding the nature and origin of these disorders, students will find ways of helping people who face the many challenges from the disorders.

▶ Presentation Technique 1 (Spring)

This course has been developed to help students practice basic drawing skills for effective Design Presentation. Through the lectures, students will learn various ways to realize their ideas and how to make various forms. There will be ample time to practice what students have learned, and many tests to check how they have improved. By the end of the course, most of the students will have no problem to draw and shade various 3 dimensional objects.

▶ Personality Psychology (Spring)

This course is designed for undergraduate students as an introductory course in personality theories. Personality psychology is an area of psychology, which seeks to understand human nature, struggle, suffering, change, and growth. This course overviews major theorists, theories, and practices of various personality theories. This foundational course will prepare students for counseling practice and provide a basis for further studies in the area of counseling psychology.

▶ Developmental Psychology (Fall)

This course is designed for undergraduate students as an introductory course in lifespan development. Developmental psychology, often called lifespan development recently, is the field of study that examines patterns of growth, change, and stability in behavior that occur throughout the entire life span. In studying growth, change, and stability, lifespan development 1) takes a scientific approach by applying scientific research methods, 2) focuses on human development (rather than nonhuman species), 3) considers stability in people's lives (in which areas, in what periods, people show change and growth, and when and how their behavior reveals consistency and continuity with prior behavior), and 4) assumes that the process of development persists throughout every part of people's lives, beginning with the moment of conception and continuing until death. Throughout semester, students will learn a comprehensive process of physical, cognitive, social, and personality development, which can be a foundation for further studies in developmental psychology and counseling/clinical practice in the future.

▶ Psychology of Cognition (Fall)

This course provides a basic exploration of human cognition, focusing on both classic and current issues. Topics will include attention, perception, multiple memory systems, encoding and retrieval processes, the role of knowledge, language, and reasoning. Given the wide variety of topics in cognitive psychology, major objective for this course is to help you understand those topics and to enhance your ability to think critically and scientifically about cognitive problems so that you can try to generate effective solutions for yourself.

▶ Social Problems (Spring)

This course covers theoretical approaches to social problems and various social problems in the world, particularly South Korea. We will learn about several problems such as global issues, inequality, urban problems, institutional problems, and deviant behaviors. In addition, we will discuss potential solutions for the social problems.

▶ Social Welfare History (Fall)

This course will cover various aspects of welfare state, that is, welfare state characteristics and its origins, welfare state development history, theories on welfare state development, welfare state typology, criticism and response of welfare state. Also, student will review welfare state characteristics of highly advanced countries specifically, and develop an eye for analyzing Korean welfare state.

▶ Research Methods for Social Welfare (Fall)

This course is designed to present basic principles of social science research and the scientific method, and how this knowledge can be used in social work practice. An analytical approach will be emphasized for knowledge building in social work and for professional practice. Students will be taught how to appraise past research (consumer role) and how to use research to evaluate their own practice.

▶ Social Welfare Policy (Spring)

This course is designed to enable students to increase their understanding of social welfare policy and to analyze social welfare policy in Korea. An analytic framework will be presented to assist students in assessing social welfare policies. Students will analyze existing social welfare policies and programs or propose new social welfare policies and programs for the team project.

▶ Child Welfare (Fall)

This course is designed to enabled students to build upon their knowledge of child welfare policy and services and apply the knowledge to the needs of children and their families. Students also have the opportunity to discuss the various issues in the lens of Convention on the Rights of Child. The instructor would apply flipped-learning methods. Classes will consist of lecture, discussion, activities/exercises, readings, video segments, and presentations.

▶ Research Design and Methods (Fall)

Research Methods is a critical thinking skills class in which the main goal is to help you become a better consumer of information—both in psychology and in the real world. You will learn how to systematically evaluate the validity of different claims that you might encounter in a future psychology textbook, in a psychology research article, in the media, or in casual conversation. This class will also teach you how to plan psychological research that can test different claims. You will learn to articulate the pros and cons of different research choices and plan research that optimizes these pros and cons.

▶ Career Counseling (Fall)

This course provides the study of career development theories and the application of theoretical propositions to career interventions. The course will emphasize the practical application of career development concepts for diverse client populations across the lifespan, so we can assist our clients in finding a sense of meaning and empowerment through the world of work.

▶ **Neuropsychology (Fall)**

This course is designed for students who have completed Introductory Psychology. I assume you are already familiar with major brain structures, research methods, human development, and psychological disorders. We will learn about how the brain’s structures and functions influence everyday life (e.g., eating, sleeping, pain, emotions, memory), and how our brain responds to disease, disorders, and injury. We’ll consider both evolutionary and biblical perspectives.

▶ **Psychological Seminar (Fall)**

This course provides a systemic understanding of human sex and sexuality. Throughout the semester students will learn sexual development and reproduction and also discuss historical, biological, psychological, and cultural influences on human sexuality and its expression.

▶ **Social Welfare Administration (Fall)**

This course draws on materials from management and human relations, especially from the social work arena. It integrates basic principles, concepts, and processes from management with relationships and skills among executives and staff. The human relations focus is emphasized in particular in the administrative process.

▶ **Program Development and Evaluation for Social Welfare (Spring)**

This course is designed to provide a knowledge base of the key concepts of the Logic Model, need assessment, program evaluation, and program performance in various social service fields. In this course a Logic Model will be used as a powerful tool for program planning through evaluation.

▶ **Statistics in Social Welfare (Spring)**

Since the evidence-based practice is a key principle in social welfare practice, the knowledge and skills related to statistics and research is important to become a competent social welfare practitioner. For this, this course covers from understanding the basic concepts of statistics to writing statistical analysis result. Thus, students will enhance their capacity related to not only understanding academic papers, but also writing papers.

▶ **Psychology of Learning (Unconfirmed)**

This course introduces students to investigations of learning and behavior in human and nonhuman animals, including fundamental principles and findings of classical, instrumental, cognitive, and social learning. Learning investigations, theories and their historical antecedents will be covered. We will also discuss the foundations of learning research, contemporary advances in humans learning and every day applications for learning perspectives. Emphasis will be given to the development of ideas and potential applications in a variety of fields of psychology.

▶ **Children & Adolescents Counseling (Unconfirmed)**

Child and adolescent psychological problems and disorders have interested mental health professionals for some time; however, it is only in recent years that this interest has reached a larger audience. In this course, we will learn what abnormal child or adolescent behaviors are, how we distinguish between normal or abnormal behavior, and how we can be certain that a behavior is not part of normal development among child and adolescents.

▶ **Psychological Statistics (Unconfirmed)**

In this course you should gain the following: 1. The ability to understand and explain to others the statistical analyses in reports of psychological research. 2. A preparation for more advanced courses in statistical methods. 3. The ability to identify the appropriate statistical procedure for many basic research situations and to carry out the necessary computations. 4. Further development of your quantitative and analytic thinking skills.



▶ **Counseling Practicum1(LAB) (Unconfirmed)**

The course is designed to equip students as an effective counsellor, who is sensitive to ethical issues and multicultural issues in counselling.

▶ **Psychological Testing (Unconfirmed)**

This course is designed to help students:

Apply psychometric concepts to assess the effectiveness of a psychological test. Become familiar with how and why people use psychological tests in a variety of settings for diverse purposes.



School of International Studies, Languages and Literature

▶ Introduction to Linguistics(Spring)

Linguistics has made important contributions to many academic fields such as philosophy, education, sociology, psychology, law, medicine and communication. This course is designed to introduce basic linguistic concepts and contents to students without prior knowledge of linguistics, enabling them to appreciate the structure and meaning of the human language and to gain insight and basic understanding of language issues and debates.

▶ The Structure of Modern English: Sound Pattern(Spring)

When one learns a language, one learns which speech sounds occur in the language and how they pattern according to regular rules. The phonology of a language is the system and pattern of the speech sounds. Accordingly, the goal of this course is not only to develop precise transcription systems (phonetic symbols) but also to discover principles that determine how sounds pattern in a language, and furthermore to explain how sound systems are acquired and represented in the mind. We will attempt to make explicit statements about the sound patterns of individual languages in order to discover something about the linguistic knowledge that people must have in order to use these patterns.

▶ Understanding Literature: Reading, Reacting, Writing(Fall)

Understanding Literature is designed as an introduction to literature in English such as fiction, poetry, and drama, but will not cover all periods in literary history. Students will be exposed to the different genres of literature and literary terms, but need not cram as many representative texts into their brain as possible. Instead, this course will focus on specific themes, leading to a better understanding of various issues such as "being old and young," "love between women and men," "faith," and many more.

▶ Syntactic Analysis of Modern English(Spring&Fall)

Language use involves an intricate system of largely subconscious grammatical knowledge. Nowhere is this more obvious than in the study of how words are combined to produce sentences. The purpose of this course is to provide an outline of English sentence structure from the viewpoint of a current linguistic theory. As we consider the system of rules and categories that underlies sentence formation in English, students will be enabled to view human linguistic system from a Christian perspective and to engage actively in the issues of foreign language learning and teaching.

▶ Culture and Literature in the Global Context (Spring&Fall)

This course will provide students with an overview of crucial time periods throughout the history of Western Literature (Especially Classic, European, British, and American Literature). The primary focus will be on movements of cultures from the Enlightenment period through to our contemporary globalized world. The course will introduce students to key ideas and themes in each time period so that they can read the literature of that time period with an understanding of its historical influences and significance. Throughout the course, students will be required to consider the impact of the culture and literature they are studying on their own current context and the Christian faith.

▶ Introduction to TESOL(Spring)

This course offers a survey of major areas in English language teaching. Students will explore models and basic principles of language acquisition and investigate various learning strategies and styles, as well as affective and sociocultural variables relevant to language teaching and learning.

▶ TESOL Methodology(Fall)

In this course, we will learn about the various methods that have been used in the history of English as a Second Language

(ESL) teaching/learning. In the process, we will examine the pros and cons of each method and collect our own repertoire of teaching methods to best serve our future students' specific needs to learn ESL. To learn these methods, we will read a textbook and articles, watch videos, discuss, and create and present our own unique lesson plans in small groups as the final exam (project).

► Themes in Poetry(Spring)

This course introduces the students who love literature, poetry in particular, to the body of major British and American poetry (80 works), focusing on the themes, techniques, styles, terms, and movements. The poets discussed range from Renaissance poets like William Shakespeare (1564-1616) to the contemporary poets such as A. E. Stallings (1969-present). Diverse critical theories will be applied, such as historical, biographical, gender and feminist, Postmodernist approaches as well as Christian perspectives. Students are encouraged to participate in class discussions. This course also requires the student to write a critical essay about one or two poems and to write a creative or parodied poem.

► Themes in Fiction(Spring)

This course is designed to explore elements of fiction, and examine how novels affect our lives on the basis of such themes as love, death, sin, freedom, salvation, and etc. Students will read three novels written by Khaled Hosseini, Bernard Malamud, and Virginia Woolf respectively, and one novella written by Tillie Olsen. The course will focus on literary interpretation in general, primarily taking a thematic approach.

► Themes in Drama(Fall)

This course aims at giving students opportunities to read, understand, and write about various themes (for example, Curiosity, Death, Dream, Epistemology, Father figure, Authority, Leadership, Life, Love, Pride, Rebellion, Revenge, etc.) expressed or implied in the selected plays, ranging from Greek classic to the modern British and American dramas. Students will also study a general history of Western dramas and will be equipped with the basic knowledge of dramatic structure, form, and style so that they can analyze and interpret dramatic texts. The following is a tentative selection of plays (AND MAY BE SUBJECT TO CHANGE):

- Everyman - Unknown , Oedipus the King - Sophocles, Trifles - Susan Glaspell, Our Town - Thornton Wilder, Macbeth or Hamlet - William Shakespeare, The Importance of Being Earnest - Oscar Wilde
- Death of a Salesman - Arthur Miller, Hedda Gabler - Henrik Ibsen, Waiting for Godot - Sameul Beckett

► Special Topics in TESOL(Spring)

In this course, we will learn the theories, concepts, research findings, and processes involved in second language acquisition in order to understand how to teach English as a Second/Foreign Language more effectively.

► English Speech(Fall)

In this course, we will learn to give several speeches/presentations (both impromptu and prepared) -- e.g., informative and persuasive ---individually and in small groups

► Introduction to International Relations(Spring&Fall)

This course introduces students to the study of international relations in three units. In the first unit we will look at the international politics in history and then through various theories in order to better understand how politics affects our daily lives and how our own assumptions about politics affect what we see as important. During the second unit we will examine three categories of "players" and levels of analysis in international relations. In the third section use what we learn in the first two sections to better understand issues of conflict and national security, international political economics and development, and the connection between politics and religion.

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▶ History of International Relations(Spring)

- Of all the ways that political communities interact, perhaps the most important is war. Indeed, Otto von Bismarck, a statesman of extraordinary ability, even described politics as “war through other means.” And yet diplomacy often entails minimizing or avoiding war. Thus Winston Churchill, another extraordinary statesman, quipped: “To jaw-jaw is always better than to war-war.” This class examines the two primary modes of international relations (war and diplomacy) by studying ancient and contemporary conflicts along with a major text in diplomacy.

- The course is divided into three sections. The first brief section will examine the events leading up to the Peloponnesian War. The second section will examine the specific practices of diplomacy as provided in a leading text used by many ministries of foreign affairs. The third section will examine one particular account of 20th century cold-war diplomacy building on our work in the previous two sections. The course examines the history and practices of international relations, particularly as they are practiced by diplomats in service to city-states, and nation-states.

▶ International Negotiation(Spring)

1. To review the following Three Basic Agendas of Negotiation;
 - Fundamental Understanding of Negotiation Theory and Strategy
 - International Negotiation and Culture
 - Improving Student’s own Negotiation Ability
2. To review contemporary negotiation Issues happening in the field
3. Individual research papers (2 times) and group study presentation (2 times) will be required.
4. The class review negotiation theories and skills from Biblical aspect. In this regards, “Negotiation Skills learning from the Bible” will be covered in this class. This is the most unique part of this lecture since no other university has covered this agenda.

▶ Philosophical Foundations of Politics(Spring)

- In this class we will examine the connections among political structures, fundamental perspectives, and civic participation. Political structures include things like cities, empires, and nation-states as well as types of regimes (democracies, aristocracies, monarchies).By “fundamental perspective” I mean to get at things like worldviews or religious beliefs that address such basic questions as who am I?, what is wrong with the world?, and how can we change the world?The answers that groups of people provide to these basic questions inform the breadth and modes of political participation.

- We begin with an examination of beliefs among the ancient near east, particularly the Egyptians, Babylonians and Greeks. We will then look at the Hebrews and Christian alternative accounts of political structure and participation.Finally, we will examine the emerging model that usually goes by the name “modernity.”This final account rejects much of the Christian set of fundamental beliefs and hence recommends alternative political structures and practices.

▶ Introduction to Area Studies

- This course is designed to provide an introduction to area studies from interdisciplinary framework, covering themes related to security, economy, and politics to understand better of world we live in and to introduce set of contemporary issues and challenges that cross borders and affect every region of world.

- However, at the same time the course considers the specific and distinctive characteristics of each area, region, country, or even community in the country that might not be explained by the holistic thinking. Several important themes such as globalization, conflict and war, economic interdependence, nationalism, poverty and development, democratization, and environment can give very different effects each of the regions although many consider that these are the common phenomena in the contemporary world. Each region or area is in different situation so that we have to draw attention to some of the challenges of looking at different societies.

- This class is divided into three parts. The first section covers conflict and security issues such as intra-state war, international intervention for failed states, human security, and nuclear proliferation. The second part of the course focuses on

social, ethical, and economic issues with a global significance such as nationalism, human rights, poverty, hunger, and development. The third and final part of the course will give chance to the students to make presentation based on their own research in specific region or a country.

▶ Introduction to Intercultural Studies(Fall)

A widely quoted proverb reads: “If you want to know about water, don’t ask a fish.” Working from this proverb we can create two basic arguments. The first argument about cultural knowledge goes something like:

- Major premise: It is difficult to understand our culture when that is all we experience
 - Minor premise: We usually only experience our own culture
 - Conclusion: Therefore, we usually do not understand our own culture
- A second argument, which we might call an argument about self-knowledge, would go something like:
- Major premise: Cultures shape our character
 - Minor premise: We usually do not understand our own cultures (from our argument about cultural knowledge)
 - Conclusion: We don’t understand what shapes us To the extent that these arguments apply to you (and I believe they apply to nearly every person to some extent), we are in a difficult situation. We must understand our culture if we are to know ourselves. But this seems to require a fish to swim outside of its water, a difficult and uncomfortable situation. So, prepare yourself for a semester of uncomfortable, but profitable questions, such as:
 - What are the strengths and weaknesses of my culture?
 - Must we simply accept rival cultural worldviews and resign ourselves to either relativism or conflict?
 - What does the Christian faith have to say about how we should respond to the diversity of cultures?
 - This class is designed to equip students with many of the resources needed to address these and many related questions.

▶ Capstone Design(Fall)

This subject is an experimental course that carries out on-site visits and projects in conjunction with the relevant companies and laboratories.

▶ Senior Seminar

- Topic of this class isn’t fixed and depends on the professors.
- For example, in spring, students study US’ grand strategy and actions on East Asia-China and Korea peninsula, China’ grand strategy and actions, hegemonic competition between US and China in East Asia, North Korea issue and stances of related states on it, Korea’s strategic options in the dynamics of EA.
- In fall, students study International Development. It has gone through several phases emphasizing such things as trade, direct foreign aid, colonialism, culture, education, the environment, and so on. What is a Christian to make of this history and the many current debates on international development? Is there anything that Christians bring to the table? Through discussion and interaction, this class will focus on three different approaches to international development, starting with an extensive contrast between (1) direct foreign aid and (2) market-based approaches. From there we will discuss the need to develop (3) legal institutions and then close with an explicitly Christian approach that emphasizes (4) local development strategies.

▶ On Korean Politics(Unconfirmed)

- This course examines important issues and debates related to both of North and South Korean politics. This course is divided into two parts. In first part, it focuses on the South Korean politics by introducing its basic features such as political system and culture and then it deals important topics for South Korea including democratization and industrialization. Second part of course covers North Korean politics beginning with its political system, ideology, and economy. It also discusses the essential issues for North Korea such as power transition and regime’s durability. Finally the course elaborates the future of the Korean peninsula.
- Since this is an introductory course, students do not need to have prior knowledge of Korean politics. This course begins with the introduction of basic features of both North and South Korean politics.



▶ US Foreign Policies(Unconfirmed)

This course examines the field of United States Foreign Policy(hereafter USFP) with particular attention to the following three main areas:

- US presidents and their foreign policy doctrines in terms of historical context.
- Determinants and processes of USFP decision making.
- Case studies of USFP.

▶ International Organization(Unconfirmed)

This course is an introduction to the study of international organizations. The objectives of the course are to provide a better understanding of their significance in modern international relations. The lecture will deal with the nature, roles, classification, and developmental patterns of various type of international institutions. While the large part of the courses will focus on the United Nations, the UN will be studied not as a separate case, but as a representative or model case of other international organizations. Especially, we are going to look at International Organizations by focusing on the issue of global governance vis-a-vis state sovereignty. This course also deals with other major institutions such as EU, NATO, IMF, World Bank, NPT and so on. It is hoped that students will gain an ability to analyze, understand, and objectively evaluate the complex mixture of phenomena that comprise the politics of international organizations.

School of Life Science

▶ Molecular Biology 1 (Fall)

The 21st century is the era of biotechnology and at its core is molecular biology. Molecular biology is a complex study that attempts to understand the basic phenomena of life at the molecular level. This course introduces the life phenomena and their principles of molecular units that are basically shared by animals, plants, microbes, and other creatures. General Biology, General Chemistry and General Microbiology are required as the subjects for the course.

▶ Physiology(Spring)

This course deals with the topic of how cells, tissues and organs coordinate, regulate and sustain life in the physiological process of the human body. The structure of cells and tissues, the nervous system, the endocrine system, muscles, heart, respiratory organs and reproductive organs are introduced in detail. This course is open to anyone who has completed general biology, but the basic knowledge of biochemistry will be helpful for understanding this course. Students will be able to understand various kinds of biological phenomenon through discussion based courses based on scientific and logic theory, and will be able to deal with different kinds of problems related to the treatment and prevention of the prevailing diseases in the biological science field. Also, students will be able to transfer scientific knowledge on the basis of scientific logic; observation-hypothesis-proof and will be able to share opinions or ideas regarding scientific phenomenon that could resolve different problems.

▶ Systems Biology(Spring)

All living creatures like us are remarkable, complicated systems. Systems biology is an interdisciplinary field of physics, mathematics, computer science and biology. It explores the underlying principles of biological processes and helps us to better understand the phenomenon of life at systems level. Systems biology advances the arrival of new era that makes it possible to control and manipulate biological systems and to even design artificial biological systems. In this class, we will learn about the systems biology view of various biological phenomenon and its analytical methods. In addition, we will learn about the application of systems biology to medicine and its impact on ethical and social issues.

▶ Bio Data Analytics(Spring)

- Life sciences are being developed with medical and engineering multidisciplinary systems, and the need for high-capacity data interpretation is emerging. Students will learn the basics of statistical methods and computational algorithms for the interpretation of data in the field of bioscience/engineering, application of sequencing, new drug development, artificial intelligence diagnostic methods, and techniques (statistics, mechanical learning, network analysis, chemical analysis).

-As a life science scientist (biologist, doctor, pharmacist), the students can understand the latest data interpretation techniques required and obtain the necessary skills and knowledge as a life science data scientist. In addition, using the data provided in the class or collected data, they propose their own application in the field of life sciences, such as diagnosis, new drug discovery, and customized healthcare, and carry out the project.

▶ Applied Genomics(Fall)

Recent healthcare industry has been changed toward 4P medicine (Preventive, Predictive, Personalized, Participated). Genomics, part of larger movement toward personalized medicine, is poised to revolutionize healthcare. By cross-referencing an individual's genetic sequence against known element of "Big Data". Elements of genomics are already being incorporated on a widespread basis, including prenatal disease, screening and targeted cancer treatments, with more innovations soon to arrive at the bedside, the promise of the genomics revolution is limitless.



▶ **Bioinformatic(Fall)**

The life sciences field is now experiencing tremendous changes. With the development of innovative sequencing techniques and high-resolution, high-efficiency experimental techniques, all future biomedical scientists are invited to analyze, process, and biologically interpret the next-gen tech generated big data. Bioinformatics is becoming a very important field not only for biologists but for computer engineers and data engineers. In response to these changes, this class will help students to learn basic concepts, techniques and analysis tools for using biological databases and to learn storing, organizing, extracting large-scale DNA and protein dataset. This lecture will be held in the form of a project-based team of students with diverse backgrounds. This course requires beginner level biology, computer programming, and statistical knowledge.

▶ **Cell Biology(Fall)**

Cell biology is the study of the basic units that make up our body, and molecular biology and biochemical knowledge is required. This subject deals with the structure and function of cells, the role of nuclei and how proteins are created and moved, and the role of skeletal cells in charge of cell motion, the structure and function of cell membranes, and the cell wall of plant and microbial cells. Also, a question of how is signaling done? and problems such as cell cycles become abnormal and cancer-causing problems are dealt with if signal transmission is wrong.

▶ **Developmental Biology(Fall)**

Genetics is the oldest and most modern field in the field of biology. The development of molecular biology makes it possible to understand the expression of genes related to generation important to the study of genetics. In this course, we will learn about the creation, fertilization and partitioning of sperm and eggs in animals and the development of organs centered on the formation of the brain. It also introduces various studies of genetics through research on experimental animals and mutations.

▶ **Genetics(Spring)**

This course will enable us to understand the general concepts and terminology of heredity. This subject is available to those who take courses in general biology. Through this course, we understand the terms and general concepts of genetics. This lectures on the overall knowledge of genetics, not only on Mendel's genetic code, but also on concept, all the way to Quantitative Genetics and population genetics. In addition, we will learn about the use of genetics, which has recently been applied throughout society.

▶ **Immunology(Spring)**

The immune system is an essential factor for survival. Maintaining the balance is essential in immune response through the regulation of the immune system. In the immunology course, we discuss the characteristics of immune cells and the mechanisms of immune responses and regulation. In addition, the course covers the principle of vaccine development and the interactions between the immune system and microbiome. Immunology is a science of multidisciplinary, which requires the background knowledge of cell and molecular biology, biochemistry, microbiology, and physiology. Therefore, it is strongly recommended that senior students with the related background take this immunology course.

▶ **Molecular Biology 2(Spring)**

This course aims to develop the ability to learn the areas of interest by learning the principles of various fields of research and experiments in molecular biology. Part of what was introduced in the course of Molecular Biology 1 is to deepen some of them, and introduce experimental techniques and genetic engineering related to molecular biology.

▶ **Cell Biology2(Spring)**

This course is suitable for life science majors with a strong background in the cell biological sciences. This course deals with higher level concepts and principles in the field of cell biology. In particular, it provides a deeper understanding for students who wish to conduct research in cell biology area. Topics include : anatomy and physiology of tissues and cells, principles of cell biological experiments, the biology of organelle that are responsible for metabolism and stress responses and some disease-related metabolism such as immunometabolism and cancer metabolism.

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▶ Molecular Immunology(Fall)

Various tissues and cells of the human body exert specialized functions, which are necessary for life. They also interact with each other to maintain biological functions. Among those, immune cells, found throughout the whole body, are specialized to maintain the body's homeostasis. The disruption of the body's homeostasis by in- and extrinsic factors (e.g., genetic defects and infections) generally leads to immune activation and subsequent immune pathologies. Furthermore, the malfunction of the immune system can cause diseases. Therefore, a better understanding of the immune system will help us to identify the molecular mechanisms of various pathologies and lead to the identification of novel therapeutic strategies. "Immunology" is designed to impart basic principles of the immune system and to provide an overview of different immune cells. This course will build upon this and introduce more in-depth molecular mechanisms leading to a variety of pathologies and the latest trends in immunological research. This is a PBL course.

▶ Seminar 1 ~ 4(Spring&Fall)

The purpose of this class is understanding current issue of life science and developing presentation and discussion skill. Students will be asked to choose a research paper to prepare presentation. Two or three students will be a team and shall provide at least one presentation during the semester. Students will evaluate each other's presentations. It is important to understand that purpose of the presentation relies not only delivering the correct information, but also purchasing others.

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School of Law

▶ Survey of American Law(Spring&Fall)

This is an introductory law course designed for those with little to no knowledge of US law or its legal system. We will explore a broad range of topics to include the following: 1) Background of US Law, 2) the US Federal and State Court Systems, 3) The US Civil Litigation Process, 4) The US Criminal Trial Process, and 5) Ethics and the Legal Professional. Throughout the course, we will be referring to Scripture to add to our understanding.

▶ Legal Research and Writing(Spring&Fall)

The student will receive a rigorous introduction to legal reasoning, legal writing and research, and methods of interpreting the law. Several writing assignments will help the student hone their analytical skills and practice the fundamentals of drafting clear and concise answers to legal questions.

▶ Liberty·Justice·Peace·Law 1(Spring)

This course called “Liberty-Justice-Peace-Law” has probably the best course name in all of Handong and one that would interest many in society. However, if you ask 100 people to define “liberty” you may receive 100 different answers. Same would go for the other remaining terms of justice, peace, and law. In this course, we will explore how society (you and me) defines such lofty terms and contrast it to how God, through His Scripture, sees them.

▶ Liberty·Justice·Peace·Law 2(Fall)

This course called “Liberty-Justice-Peace-Law” has probably the best course name in all of Handong and one that would interest many in society. However, if you ask 100 people to define “liberty” you may receive 100 different answers. Same would go for the other remaining terms of justice, peace, and law. In this course, we will explore how society (you and me) defines such lofty terms and contrast it to how God, through His Scripture, sees them.

▶ Legal Argumentation(Fall)

This course is an introduction to the art of argument and persuasion. We will examine the varied components of a legal argument, both the theoretical and practical. Students will partake in argument reconstruction and deconstruction, and learn to spot ineffective and more importantly, effective uses of argumentative tools. A significant portion of the course will be devoted to students making oral arguments either in a group or adversarial setting. Each student will be given several opportunities to present and receive appropriate feedback. The course’s objective is for the student to (a) understand general legal reasoning; (b) formulate sound legal arguments; and (c) develop a more persuasive discourse.

*While not strictly required, Legal Research & Writing should be taken prior to registering for Legal Argumentation

▶ International Child Law and Development(Fall)

Child is one of the most important topics in Human Rights and International Development. This course will examine the pursuit of happiness in the context of childhood and children’s rights from a comparative perspective. The course will review international human rights instruments and treaties, international and national human rights mechanism in a comparative context. The student will understand the best interest of the child and its relation to national and international protection and constitutional rights. Students will be exposed to issues dealing with children such as Child Labour, Children with Disability, Street Children, Juvenile Justice and Children and Health, and education. At the end of the course, students will understand international children’s law mechanism, sustainable development for children, and rights of the family.

▶ U.S. and International Business Law(Spring)

This course offers legal and business frameworks for entrepreneurs. This course will follow a storyline that an entrepreneur emigrates to U.S. and encounters various legal problems and eventually goes public. With this transitional approach,

this course examines legal issues at each stage including immigration status, business formation, raising money, contracts, venture capital, intellectual property, licensing, and going public. If there are students who are considering to start a business in U.S., they can find practical tips from this course. (Students will try to solve problems together with professor and TA in the class, and thus students will use most of their time in the class practicing how to find solution.)

▶ US Constitutional Law(Spring)

This course will introduce students to a foundation in constitutional law applicable in the United States. Students will learn three main topics of the U.S. Constitution: Separation of Powers, Federalism, and Protection of Individual Rights. Students will also be familiar with the major theories and cases of the United States Constitution through this class.

▶ US Criminal Law and Procedure(Spring)

In U.S. Criminal Law, a distinction is made between the law's substance and procedure of the justice system. Substantive law defines rights and obligations. Procedural law establishes the methods used to enforce legal rights and obligations. In this course, we will explore what constitutes a crime and how that crime is handled/processed within the U.S. justice system.

▶ US Torts(Spring)

The Law of Torts is probably one of the most litigated areas of law in America and perhaps the world. In this course, we will explore what a tort is, the different types of torts, tort damages, and legally recognized tort excuses/defenses. We will also consider how tort law relates and differs to criminal and contract law.

▶ International Economic Law(Spring)

In this course, we will explore the laws, policies and institutions that guide and govern trade among nations. In particular, we will focus much of our attention on how institutions like the International Monetary Fund (IMF), the World Bank, and the World Trade Organization (WTO), has influenced international trade and the world economy.

▶ Public International Law(Fall)

- The second half of the last century saw the impact of globalization, dramatic advancements in technological innovation, the spread of democracy and increased privatization. As these forces continue to affect the international system today, traditional conceptions of international law with its foundational principle of state sovereignty are outwardly being challenged and transformed. In step with this phenomenon, the impact of international law has steadily gained momentum since the end of World War II to its place today in the mainstream discourse of law and legal studies.

- This course will introduce students not only to the content and processes of public international law and the institutions that seek to enforce and shape them, but also to the bigger picture of the tension that exists between long standing assumptions about international law and the realities of globalization. Ultimately, the course will hopefully give students an opportunity to make a critical appraisal of the international legal system from a Christian worldview.

▶ US Contracts(Fall)

This course is designed to introduce undergraduate students to the fundamental concepts and sources of contract law. This course evaluates the core components of a legally binding agreement or promise and examines issues that affect such enforceable agreements. Students will get a chance to study what constitutes as a breach of contract and the damages available.

▶ American Legal Theory(Fall)

In this course we will critically examine through American court decisions different theories of equality, liberty/freedom, and personal autonomy themes so central to any system of law. We will also get to study along the way how the courts in America see their role in resolving controversial issues of fundamental importance and what methods of interpretation they adopt accordingly. What theories are chosen by the courts both theories of substantive issues and theories of adjudication - would have far-reaching effects on people and society. Through close analysis of select judicial decisions, this course intends to

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advance understanding on some of the theoretical underpinnings of adjudication process in America and their implications for American society in general. Students will in the end be pressed to develop their reasoned views on questions of enormous significance: what should be the meaning of liberty, equality, personal autonomy or human dignity in a political community, and what should be the courts' role in resolving issues related to these central themes in law.

▶ International Human Rights Law(Spring)

- The second half of the last century saw the impact of globalization, dramatic advancements in technological innovation, the spread of democracy, and increased privatization. As these forces continue to affect the international system today, traditional conceptions of international law with its foundational principle of state sovereignty are outwardly being challenged. In step with this phenomenon, the international human rights movement has steadily gained momentum since the end of World War II to its place today in the mainstream discourse of international law.

- This course will introduce students not only to the content of international human rights law and the institutions that seek to enforce them, but also to the bigger picture of the tension that exists between long standing assumptions about international law and the new realities created by the international human rights movement. The course will hopefully give students an opportunity to make a critical appraisal of the international human rights system from a Christian worldview.

▶ Korean Law & Legal System(Spring)

This course aims to overview Korean law and legal system and understand its unique characteristics from the perspective of 'law and development'. Firstly, we are going to take a survey of a few important Korean laws through lecturing: constitutional law, administrative law, civil law (including family law), criminal law, commercial law. Then, taking a step forward, we will examine several issues which would show us very unique features of Korean law especially from the historical perspective. During the course, students are supposed to make presentations to summarize articles chosen by themselves in advance and give short comments on them. Each group is comprised of 2 students (exceptionally 3) and is expected to present once in this semester. We don't have midterm exam. Finally, at the end of this semester, students are required to answer to questions regarding basic knowledge about Korean Law, and submit a final essay individually, which is the most important factor in grading. The topic of essay is to be freely chosen among various current and past issues in Korean law. But it is expected to be creative and insightful.

▶ Intellectual Property Law(Spring)

- Introduction to intellectual property law
- Familiarization with basic concepts and application of copyright, trademark, and patent law
- Case reading and analysis
- Discussion on current issues regarding IP laws and law and technologies in general

▶ Legal Negotiation(Spring)

Negotiation is a basic, special form of human communication and is considered as one of the most crucial lawyering skills. This course will expose students to a comprehensive and practical approach to negotiation and is designed to instill basic professional competency into students so that one can become an effective negotiator in an international context.

▶ Justice: Readings in Moral & Political Philosophy(Spring)

This seminar course provides students of law with an opportunity, first, to get acquainted with select works by classical and contemporary writers that represent major schools of thought in Western moral and political philosophy, and second, through close reading of and critical reflection on these works of enduring influence, to deepen their understanding as they prepare to engage in the public forum with a number of moral, legal, and political issues. Helping students develop and articulate their own perspectives, especially as Christian members of their body politic, is the ultimate objective of this course. There will be short weekly writing assignments and a term paper in lieu of final exam. Cross-listed in the undergraduate UIL program and the international law school J.D.-equivalent program.

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▶ Constitutional Democracy in Comparative Perspective(Spring *Odd years 1)

Course will review “How should we then live?: The Rise and decline of Western thought and culture” by Francis A Schaeffer. The course is designed to build a legal mind in western and comparative context. The course intends to develop intellectual capacity to address today’s challenges and issues in context of biblical perspective.

▶ Law & Development(Fall)

This course is to begin with understanding why we study law and development. Namely, why are we, as law students, talking about ‘Development’? It has not been very long since western scholars had interests in development of a country as a whole especially in connection with law. However, they have come to recognize that law has something to do with development, and start to examine their relevance. The practical implication of this study is that we would be able to do something with laws to promote development of a country. In a sense, we are looking for a recipe for development. Although this attempt to find out panacea must fail, it is certain that law is one of tremendously important something in developing a county’s economy, politics or society. That’s the reason why we should think about law again in the context of development. Surely, we will study law and development of Korea, but much of our attention is directed toward current developing countries in Asia, Africa and Latin America.

▶ Comparative Legal Systems(Fall)

This course offers students an introduction to legal comparison from the dual perspective of U.S. and Chinese (PRC) law. This course also covers Islamic and Hindu legal systems briefly. Students taking this course will already have had some exposure to the American legal system but will likely be less familiar with its Chinese counterpart and other legal systems. In particular, Chinese legal system is a socialist system of law based primarily on the civil law model. This course mainly focuses on the significant distinctions between U.S. and Chinese legal systems with respect to different areas of the law and to help students develop an analytic framework with which they can compare and contrast other legal systems.

▶ Law and Contemporary Issues(Fall)

Just in the past decade alone, there has been an explosion of issues that has given rise to many disputes, divisions, and conflicts in society. Many of these issues greatly impact our everyday life and the laws that we live under. In this course, we will explore some of these contemporary issues and the laws that govern them. Students will be required to lead at least two classes (or more depending on the number of enrolled students) on topics related to this course title. Such topics may include the current controversies surrounding the definition of marriage, climate change and the environment, terrorism and security issues, human trafficking and exploitation, the death penalty, among others. The students will have the autonomy to determine the depth, detail and the format of these lectures. Scoring of these lectures/presentations will be done by both the course professor and individual students.

▶ Special Topics in UIL(Fall)

Patent Law

Intellectual Property (IP) becomes the 21st century’s most compelling legal domain. After Samsung vs. Apple case, the importance of intellectual property rights, in particular patent rights, becomes well known to public. Patent law is designed to encourage the creation and disclosure of a wide variety of intellectual goods in exchange of exclusive rights for a limited period of time. In this competitive market, patent protection is used as a sword and a shield for technology companies. Patent law knowledge is critical for all tech-based entrepreneurs, engineers, lawyers, and company managers as it is an inevitable component for the business strategies. I am a US patent attorney majored in mechanical engineering and US law, and have plenty experiences assisting clients in a range of a start-up to major companies on a daily basis more than ten years. Further, I have hands-on patent experiences in Korea, China and United States. This class is designed to share my practical experience and equip students to grasp the basic concepts of patent law and to use the knowledge in the field. This course will examine the fundamentals of patent law. We will look at what types of inventions or discoveries fall within the scope of patent law protection, overview of the patent prosecution process, enforcement of the patent rights, and global patent strategies. Although patent cases often involve complicated technologies, this course would not require any understanding the underlying technology. Thus, students with non-technical backgrounds are encouraged to take this course.

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Intellectual property rights are increasingly important to commercial clients over the world and thus students with law degree or business management would find the benefits of understanding patent law system and strategies from this class. Of course, students with engineering backgrounds and without law degree are welcomed to take this class as well. All engineers and technology-based entrepreneurs are required to understand the basic concepts of patent law to protect their novel ideas in a proper manner. No prior legal knowledge is required to take this class.

▶ **Lawyers in Society(Fall *Even years 2)**

Being a Christian lawyer is possible, but not easy. We will learn, first, the US Judicial Process and how it affects the citizen's lives. Next, we will read and talk on the topic of the role of the lawyers in society and being a lawyer as a Christian.

▶ **Advanced International Law(Unconfirmed)**

This is a seminar class, meaning we will examine various topics involving International Law. Specifically, we will explore two areas of interest in the international context: (a) international trade and commerce (including dispute resolution) and (b) international human rights as applied to sexual ethics, and particularly homosexuality.



School of Mechanical and Control Engineering

► Statics(Spring)

Cultivate the analytical ability of the forces acting on the mechanical system. After laying the foundations of vector analysis, force analysis and moment analysis, the method of modeling the support of the structure by drawing a free object diagram, is studied for the method of modeling the support of the structure, the external force (load), the counter force calculation, the resistance calculation, and the friction force. This course gives an experience in the design of the force analysis and the associated engineering system through the design tasks. Finally, students will learn about the center of gravity, area inertia, and mass inertial moment related to the shape of the object.

► Electric Circuit Lab(Spring)

This course provides the several labs for more understanding on the basic control circuit theory. The topics covered in this course includes the nodal/mesh analysis, equivalent circuits, transient response of RLC circuits, AC steady state analysis, opamp and so on. As well, this course introduces the usages of various instruments which are often used for the control circuit design and analysis.

► Heat Transfer(Spring)

The energy can be transferred by interactions of a system with its surroundings. These interactions are called work and heat. When the work and heat is utilized to operate the system, enough energy is required to operate the system properly. Therefore, the phenomena of heat transfer process and the technique of supply and control of the work and heat should be understood. In this lecture fundamental concepts and principles of heat transfer process will be taught. The knowledge of heat transfer is applied to solve problems relevant to real system. The analytical and numerical solution of the temperature distribution and heat transfer rate will be discussed. The three main heat transfer mode, that is conduction, convection, and radiation, will be explained. The heat exchanger which is the key component of the heat transfer system will be treated.

► Power Electronics(Spring)

Introduction to the power electronic systems, power controls, switching circuits; power converter topologies and magnetic components including AC/DC, DC/DC, converters and their applications.

► Digital Control and Signal Processing(Spring)

This course aims to learn about the fundamental theories of digital control and signal processing. Topics include mathematical properties of discrete-time random signals, sampling theorem, signal conversions, discrete-time linear time invariant system, digital filter design, frequency domain analysis using FFT and z-transform, adaptive filtering, and digital control system. In the later part of this course, the students will apply the relevant theories for the project of autonomous ground robot control.

► Bionic and Biological System Engineering(Spring)

Recently, various attempts have been tried to interpret human body as a system and to analyze its principle and apply it to other fields. The objective of this course is to learn how to apply various engineering knowledge such as mechanics, linear algebra, electrical circuits, control engineering, signal processing, etc. to biomechanics. By taking this course, students will be able to develop basic concepts of biological analysis, understand biological systems through application examples, and simulate through biological modeling. This course consists of lectures (1 hour) and laboratory exercises (2 hours) every week and conducts team-based laboratory exercises and two mini projects.

► Thermal Hydraulic Experiment(Fall)

This subject learns the experimental methodology, the use of measuring devices and experimental equipment, the data analysis method, and the preparation of experimental report to conduct actual experiments around the field of thermoplastics, and directly verify basic knowledge related to mechanical engineering by experimenting.

▶ Measurement and Instrumentation(Fall)

This course intends to give an comprehensive understanding to sensor technologies for controlling mechatronic systems. General knowledge about sensors, signal processing, and PC interface will be studied. Mechatronics components with emphasize on widely used sensor and actuator types will be studied and laboratory experiments will be performed.

- Fundamental Sensor Technologies

- Component Interconnection and Signal Conditioning
- Performance Analysis of Instrumentation System
- Principles of Analog/Digital Sensors and Transducers

- Experiments

- PC interface using DAQ: analog, digital I/O, sampling rate control
- Sensor Experiments and Analysis
- Construction of Measurement System

▶ Mechanical Engineering Experiments(Fall)

Students will be able to integrate the knowledge of mathematics, physics, and computers to apply the knowledge to mechanical engineering. In addition, Students will be able to plan and promote proper mechanical engineering experiments and draw conclusions from engineering perspectives based on the results of the experiments.

▶ CAE Mechanical Design Analysis(Spring)

Understand the concept of the finite element method(FEM) and structure of FEM software. Students will solve mechanics problems (solid mechanics, thermal stress, mechanical vibration, collision problems) with FEM and learn how to use FEM for industrial applications.

▶ Combustion and Engine(Spring)

This course covers basic engine cycles, thermal chemistry applied to engine fuel, inhalation made sequentially in the engine according to air-fuel, cylinder motion, combustion, exhaust and emissions, and heat transfer, friction, lubrication, etc. Students will do a project on the next generation of power sources for cars.

▶ Energy Plant Engineering(Fall)

This subject will learn about power generation plants using renewable energy such as hydraulic, wind, geothermal and solar power, as well as fossil and nuclear energy, as well as oil/ petrochemical plants and seawater desalination plants. It also learns about related plant engineering and increases understanding of practice through team-specific projects.

▶ Modern Control Theory and Application(Fall)

This course aims to cover the modern control theory for dynamical systems. To do this, systematic approaches to design and analysis the multi-variable feedback control system are introduced. As a practical design example, the guidance and control of unmanned autonomous vehicles is taken into consideration. Topics include pole assignment, optimal control, and state estimation techniques which can be applied for industry. Through this course, students can practice to develop their own modern controller design and analysis tools using MATLAB and SIMULINK. In order to help students' understanding on modern control systems, a design project will be given.

▶ Human Robotics(Fall)

This lecture aims to develop robot system design capabilities by understanding the technology of intelligent mobile robots and collaborative robots applied with human motion-sensitivity mechanisms by the nervous system. This class will carry out two top-down projects and provide relevant lectures.

Through the project, students use robot kits and simulation tools to design and manufacture intelligent robots in stages and to design concepts for human-robot cooperative systems.

1) Intelligent Mobile Robot Project: Design of autonomous robot with sensor fusion and AI technology.

2) Human-Robot Collaboration Project: Design a cooperative robot for use in the field of rehabilitation.

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► Capstone (Spring&Fall)

- The project targets for two semester-long works by a small group of students. In Capstone Design1, Students work to derive a final design that will be used in Capstone Design2. Students perform experiments and simulations for better implementing their designs. Two students are recommended to join to form a team. Occasionally, three students can construct a team if their advising professor allows.

- Students can select topics by themselves or obtain topics from the advising professor. Once the topic is chosen and the team is constructed, students do literature survey and parts survey for their project. The team generates a project proposal under guidance of the advising professor and finally come up with the final design report at the end of the semester.

► Post-Capstone (Spring&Fall)

It is a subject of deep individual research jointly led by business experts and university professors to improve current business understanding and on-site development skills. Individual research to resolve pending issues of the enterprise is conducted under joint guidance by the corporate-director, and research can be carried out on site upon request of the enterprise. Further, it can be operated as an intensive individual study to modify and supplement the results developed through the capstone curriculum of the general engineering complex I/II.

► Electric Circuit(Unconfirmed)

It is possible to clearly understand the electrical characteristics and circuit analysis methods for the elements used primarily in electrical circuits. Based on this, the ability to analyze and design various electrical circuits is developed. In this course, we will learn about the direct current and alternating current circuit analysis techniques, the transient response of electrical circuits, and the frequency characteristics.

► Digital Logic Design using FPGA(Unconfirmed)

This course aims to develop students' knowledge and expertise in digital systems/logic design with HDL(Hardware Description Language) and to present techniques from initial specifications down to final implementations with FPGA for rapid prototyping. This course will teach students the use of the Verilog language for representation of digital signals, use of IEEE standard logic package/library, design description, design of arithmetic, combinational, and synchronous sequential circuits. In this course, students will conduct experiments to learn the complete flow of digital systems design using FPGA(Xilinx) from design entry, implementation/verification, to download bit stream.

► Machine Vision(Unconfirmed)

This course is an introductory course of machine vision. Machine Vision is an introductory course that covers core principles of image processing and object detection and tracking to provide useful visual information for Energy/Environment, Autonomous Vehicle, Robots, and Automation systems. This course is composed of 2 parts.

- Part1 : Basic Image Processing

basics of image formation, image filtering, feature recognition, object segmentation and feature tracking. It will also introduce some machine vision applications such as road lane detection and face detection for autonomous vehicles and robots.

- Part 2: Deep learning application

you will learn how to detect and segment an object by using Deep Learning algorithm. In the course, you will learn how to build a visual sensor system for

- Road lane detection system
- Vehicle detection
- Face, Person detection - Object Tracking
- Defect object detection and more

Students are required to build his/her own program in C/C++ and write lab reports for various assignments given in class, which must be submitted individually.

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▶ Numerical Analysis(Unconfirmed)

This course covers the fundamentals of numerical methods(NM), which is solving mathematical/engineering problems in a digital processor such as a PC or an MCU. Through this course, students will learn important NM algorithms to solve for linear systems, non-linear systems, interpolation, differentiation, integration, and ordinary differential equations. Also, students will enhance their programming skills by implementing the NM algorithms in C/C++. Students will create their own NM(numerical method) library in C/C++ to solve some engineering problems in Thermal/Dynamics/Vibration Analysis, Circuit Analysis, Control Design and more.

▶ Power System(Unconfirmed)

Analysis of power systems, including renewable energy sources, transmission lines, power flow, transformers, transmission and distribution systems, synchronous generators, stability, short-circuit faults, and system protection.

▶ Integrated Design-production Engineering(Unconfirmed)

This course is a lecture on product design, process design, process control, manufacturing technology, etc., which is the basic quality that engineers in the manufacturing industry should have, and introduces productivity increase and cost reduction that incorporate ICT and IoT technologies, which are the latest topics of the manufacturing industry. In addition, students will discuss the engineering ethics that manufacturing workers should have. Through this subject, the goal is to develop basic skills to work as a manufacturing engineer by understanding the basic understanding of the manufacturing industry from product design to production management.

▶ Embedded Controller 1(Unconfirmed)

The overall objective is to learn the overall architecture of CPU and memory and learn how to program a microcontroller for an engineering application. This course covers basic microprocessor concepts and software programming. It will provide labs and tutorials to help students learn how to apply an MCU to design an embedded system. Software is developed in ARM Cortex-M assembly and C; most labs will run on an STM32F4 soc board. Topics include number systems, logic & arithmetic, memory control, interrupts, GPIO, ADC/DAC, timers, motor control, sensor acquisition and more.

▶ Field Research & Development(Unconfirmed)

(will be updated soon)

School of Spatial Environment System Engineering

▶ Drafting and CAD(Spring&Fall)

Graphic language, along with verbal language is a basic and fundamental communication tool for the architects, planners, and engineers as well as. As such, aim of this course is to prepare the students to use a graphic language for their future design and planning courses. The students will practice on the hand drawings, model makings and introduce electronic tools such as Computer Aided Design (CAD). Which will be used as a tool for their chosen field of studies.

▶ Mechanics of Materials(Spring)

This course provides the students with the basic capability essential to the engineering design of structures with solid materials. The main topics of this course include the concepts of stress and strain, and the calculations of stress and strain due to axial load, torsion, bending, and shear of a simple member. In addition, transformation of stress and strain, stability of columns, and basics of energy methods will be also included.

▶ Fluid Mechanics(Spring)

This course is an introductory course to fluid mechanics. Fluid mechanics is the study of fluids under all conditions of rest as well as motion. Its approach is analytical and mathematical rather than empirical; it is concerned with basic principles of fluid motion that provides the solution to numerous and diverse problems encountered in many fields of engineering, regardless of the properties of the fluids involved. However, emphasis is placed upon gaining insight into the operative physical processes.

▶ Architecture Design Studio 2,3(Spring)

The students are required to understand the dynamics of the community and provide resolute solution to enhance the livability of the section of the town they are dealing with. Understanding the fabric of the city, local culture, historic factors, density of the population, age distribution, local economy, physical structure of the town, are some of the issues that needs to be considered. Project should be carried out assiduously understanding prerogative of the native population but same time through urban design intrusion provide a direction that can act as a catalysis for the vibrant community.

▶ Structural Analysis(Fall)

- In the field of Civil and Architectural Engineering, the final products are usually structures, which should be designed and constructed. In this procedure, the key part is Structural Analysis to be discussed in this course.

- This course explains the basic principles and concepts of structural analysis and design, considering the physical behavior of structures. This course teaches the basic techniques for analyzing structures and structural members, including trusses, beams, and frames. The topic includes:

- Analysis of statically determinate structures to calculate reactions, and internal member forces such as axial forces, shear forces, and bending moments
- Influence lines for statically determinate structures
- Deflections
- Analysis of simple statically indeterminate structures.

▶ Environmental Hydraulics and Water Resource Engineering(Fall)

Hydraulics is a branch of science that deals with practical applications of water and water resources. Civil or environmental engineers are largely, though not exclusively, concerned with one liquid, namely water. However, environmental hydraulics deals with not only water in motion but also pollutants or sediments transported through water. This course is designed to provide a comprehensive coverage of environmental hydraulics that is appropriate to students who have basic understanding of fluid mechanics. However, for those who are not exposed to fluid mechanics, first 3 weeks will be devoted for reviewing fundamentals of fluid mechanics which is instrumental to understand hydraulics.

▶ Structural Engineering & Design(Spring)

The main goal of this course is to teach the students how to design simple structures made of wood, steel, and reinforced concrete. The main topics include the review on Mechanics of Materials, and Structural Analysis. This course deals with structural systems, and load estimation. In addition, basic design concepts of flexure and shear will be discussed. Design methods such as WSD, LRFD, and LSD, together with the concepts of structural safety will be included. As design practices, design of members with wood, steel, and reinforced concrete will be covered. For a new design concept, optimum design method will also be introduced.

▶ Environmental Ecological Engineering 1(Spring)

This course is an introduction to environmental engineering. Special emphasis is given mainly on the solution of problems of environmental sanitation, notable in the provision of safe, palatable, and ample public water supplies; the proper disposal of or recycle of wastewater, the adequate drainage of urban and rural areas for proper sanitation; and the control of water pollution, and the social and environmental impact of these solutions.

▶ Spatial Numerical Analysis(Spring)

The basic concepts of numerical analysis and its use in solving engineering problems are introduced. After discussing various root finding methods several methods of solving algebraic equations are introduced. A variety of curve fitting and linear and nonlinear regression methods is discussed. Also various schemes of numerical integration are introduced. Fourier analysis and FFT are discussed.

▶ Land Use Planning and Development(Spring)

Land use planning is the process of regulating the use of land in an effort to promote more desirable social and environmental outcomes as well as a more efficient use of resources. Goals of land use planning include environmental conservation, restraint of urban sprawl, minimization of transport costs, prevention of land use conflicts, and a reduction in exposure to pollutants. By and large, the uses of land determine the diverse socioeconomic activities that occur in a specific area, the patterns of human behavior they produce, and their impact on the environment.

The course aims to: ensure that students have a functional and integrated understanding of the dynamics of urban land use; and demonstrate how to effectively utilize policies and planning instruments to manage urban growth and achieve sustainable, equitable and efficient development outcomes.

▶ Reinforced Concrete Engineering(Fall)

Reinforced concrete is the most widely used structural material in the construction field. This course teaches the fundamental Design concepts and Design methods essential to Reinforce Concrete Structures including:

- Introduction and Histories
- Material Properties
- Design of Reinforced Concrete Beams from flexure, and shear
- Design of Columns
- Design of Slabs
- Design of some example structures such as Footings and Retaining Walls.

▶ Site Planning and Design(Fall)

- This semester the students will face multiple issues in dealing with housing issues. Following are some of the issues that will be discussed in the class:

- Basics in housing development
- Housing as community development
- Urban reconstruction via housing / Housing within urban structure
- Social responsibilities in housing

- This is a unique class where the students will combine the knowledge of planning with architecture. Housing development is not simply creating an expressive architecture or designing a complex of the houses to satisfy the programmatic needs.

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Housing or any kind development must satisfy the needs of all the participants; and of all the participants it must finally satisfy the final user, the people who will be using it daily. It is a responsibility of the Architect to intervene to give as much influence as possible for the end user group, the people who actually use the facility. Housing development also means responsibility to the social structure which the project is implemented; that is to say housing should be sensitive and consider the needs of the existing community. In order to be an influential designer, the designer must understand the process of the development. A development as a design - process, is intrinsically cultural, economical, and political. This class will identify each force that affects the development and identify each participant and their goals. By understanding the separate goals of each participant in the development process the architects can be more influential on the quality of the housing and the environment. The class shall be composed of lectures and design exercises culminating with final project presentation. Each student is expected to apply the concepts taught at the class into their design creatively.

▶ Theory of Urban Structure(Fall)

Cities are diversified, complex and constantly changing. Why does this happen? What are the characteristics? Questions related to cities like this, especially urban structures, will be sorted out through traditional or new theories and concepts. Through this, we will try to understand the mechanism of formation and transformation of urban structure, understand the nature of the present problems we are experiencing, and predict future cities.

▶ Environmental Ecological Engineering 2(Fall)

This course is improved course of 'Environmental Ecological Engineering 1' to environmental engineering. More details will be uploaded on the notice board of this class by professor.

▶ Geotechnical Foundation Engineering(Fall)

The basic concepts in soil mechanics, geotechnical engineering and structural mechanics are presented and reviewed. They will be used in developing the ideas and procedures that are popularly used in the practice of foundation engineering and design. Specifically, lateral earth pressures, bearing capacity and Mohr-Coulomb failure criterion are considered. Detailed design considerations and guidelines are given to the design of shallow footings (spread footing design) and are extended to trapezoid-shaped footings, and settlement of elastic foundations. Sheet piles are considered for various excavations and constructions. Another important class of foundation design for deep foundations is also discussed including friction piles in cohesionless soils, bearing capacity from Standard Penetration Test of cohesionless soils, friction piles in cohesive soils and piles groups. The final phase of the course will involve practical utilization of the acquired knowledge to a realistic building or structure.

▶ Numerical Modeling for Scientists and Engineers(Fall)

Students will be learned the basic concepts of numerical solutions to various partial differential equations that arise in engineering science and use the Finite Difference Methods and the Method of Weighted Residuals. In addition, students will understand the stability of the transient problems and apply numerical methods to various practical problems. Lastly, they will gain the ability to interpret the results of numerical computations.

▶ Urban Planning and Design Lab(Spring)

- This class can be divided into two specific parts. The first part is what we call "Design the city". It is about how we can find the problems of urban space and how to define and cure the spatial problems. The students are going to find their subject on the basis of their independent thinking, and they will narrow down those subjects into a few team projects through their debate and gaming. Finally, they, as a few teams, will find the most valuable ideas about how we can transform the city and settle down the found problems.

- The Second part is what we call "Making the city", and more specifically, new town designing. The students will be choosing the probable sites for developing a new town, and they will be focused on total design or master plan of the town till the end of the semester. The sites can be actual new towns which are going under planning process or imaginary new towns based on the students' imagination.

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▶ Environmental Impact Assessment(Spring)

In this subject, students will be able to learn about the system and theory of environmental impact assessment in the first half, participate directly in the environmental impact assessment process for actual development projects, and prepare an environmental impact assessment report in the second half.

▶ Theory of Housing and Habitation(Fall)

This subject consists of two parts: housing theory and residential theory. In the housing theory section, we learn about the nature of housing, characteristics of the housing market, government policies to stimulate the low-income housing market, for example Public Housing, Housing Boucher, as well as Filtering Theory. In residential theory, the elements of housing planning and design are learned, especially about Elderly housing and future housing Eco-Home and Intelligent housing. It also learns about postmodern tendencies about the theory of housing through lighting in modern architectural history, especially about co-residential complexes, such as Howard, Le Corbusier, Jane Jacobs, etc.

▶ Vibration and Waves(Fall)

This course is intended as an introduction to the study of vibrations and waves in general. The vibrations or oscillations of mechanical systems as well as natural systems constitute one of the most important field of study in engineering and science. Subjects discussed in the course include free surface waves, periodic motions, the free vibrations of physical systems, forced vibrations and resonance, Coupled oscillations and normal modes, Fourier analysis, progressive waves, boundary effects and interference, etc.

▶ Soil Mechanics and Engineering(Unconfirmed)

The basic concepts of soil mechanics such as phase relationship, particulate nature, permeable to fluid, total and effective stresses are introduced. Fluid flow through soil is discussed with the aid of flow nets and is also considered for anisotropic, non-homogeneous, and transfer conditions. The effective stress principle is introduced and the responses of the effective stress in the soil are discussed. Influence of seepage on the effective stress is also discussed. The strength properties of soil are discussed in terms of cohesion and internal friction angle. Various schemes of soil testing to determine soil shear strength are considered. The elastic deformation in a soil due to stress change is discussed. The consolidation theory is introduced and the stress path method, methods for determination of the consolidation coefficients are discussed.

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School of Creative Convergence Education

► Vision, Work and Calling(Spring&Fall)

Many students struggle to better understand the vocation question, “what am I supposed to do in the world?” Beyond the need to get a good-paying job, most people have little experience in connecting this immediate question to ideas about the larger purposes of life. This class will examine the broader context that can provide tremendous help in answering the “vocation question.” Further through this class, each of us will better understand the kinds of strengths, talents, and passions that can direct our lives of service in the world. Finally, this course will enable students to better understand a course of study that will help them pursue a particular vocation in the world.

We will approach the course in three stages. In the first stage we ask questions about our fundamental condition and identity: where are we and who are we? Then we examine how different peoples have taken up work. We conclude the first half of the semester examining the place of work within Christianity. During the second half of the semester students will develop the broad themes to their own lives. After surveying ways in which Christians describe their own ways to combine faith and work, we turn to an examination of personal strengths through the strength finder program. We then turn to a discussion of spiritual gifts and their connections to vocation. Our semester concludes with an investigation into the ways in which continual growth often prompts career change.

► Curriculum for Education and Evaluation(Spring)

This course introduces the basic theories and practices of curriculum planning, development, implementation, and evaluation in primary and secondary school situations, which include a historical, sociological, philosophical, and psychological examination of school curriculum, theories, trends and curriculum structure. The course also prepares the teacher candidate to make decisions about best practices that should be implemented in the classroom as a part of the teaching and learning process.

► Educational Psychology(Spring)

Course Format: The first ½ of the course will focus on psychologists and their theories of development and learning as well as examining faith development and how to teach for growth in the life of faith. The second half of the course will focus on applying those theories to the learners, the classroom, and the implications for the teacher. Class format includes lectures, group presentations, papers on assigned topics, a midterm exam and a final term paper project. Instruction, textbook, and presentations are to be 100% in English. Work that is received late (class period when work is due) will receive a percentage point reduction.

► Honesty, Integrity & Responsibility: Ethics and Global (Spring)

This course presents ethics as the foundation for Global Citizenship Education (GCED), and living as a global citizen in light of the UN’s Sustainable Development Goals (SDGs). “Citizenship” assumes the existence of a community. Communities can only exist and thrive with shared values. Citizenship once meant belonging to a city and, until very recently, membership in a nation state in a world of nation states. Today, with extraordinary developments in trade, travel and technology, citizenship increasingly means membership in a global community, albeit a global community with competing demands on its members from their own nation states, civic institutions, ethnic and religious groups, families and, increasingly, the members’ own sense of themselves as autonomous actors with rights of their own. How does a community this large and this diverse establish and effect shared ethical values, including, most importantly, a shared sense of what constitutes the “good” for all? Are ethics part of a transcendent moral order, or does being human mean determining for ourselves what is right and what is wrong? Our course will explore these questions. It will cover the traditional ethical schools while focusing on areas in which globalization affects an unprecedentedly large number of people across national borders: business, government and technology.

► Networking for Our Future Survival: Sustainable Development and Environment(Spring)

- The world has rapidly changed for last half decades, socially, economically, and environmentally. The global population has increased from 3 billion in 1960 to 7.4 billion in 2016. Global trade and communication have also increased

by remarkable developments of innovative telecommunication technologies and transportation. However, these changes also threaten our environments and lower our living qualities. Environmental degradation undermines future development progress and threatens human well-beings. It definitely connects to public health issues such as some types of cancers, vector-borne diseases, emerging animal to human disease transfer, etc. Therefore, environmental sustainability can play a significant role in contributing to development and human well-beings. It can reduce human vulnerability, causing human migration and insecurity, such as in the case of storms, droughts or environmental mismanagement.

- The goal of this course is for students to engage in critical thinking about a variety of developments and their impacts on our society. The study will challenge our communities, corporations, and institutions to implement sustainable actions and balanced developments. The course will be divided into two learning methods; 1) lectures by the course faculty and guests from academia and industry, 2) participatory group (or individual) presentation and discussion.

▶ **Universally Visible and Transcendent World View for Global Citizenship(Spring)**

This course is to provide students an opportunity to overview various world views, which control the people, society and our government in our times. Further, goals, driving force and outcomes of the world views will be compared. Knowing that this world is entangled with various global issues and problems to be resolved and that it is we who are to be changed first in order to provide the solutions for the world issues, we will search for the essential character and components to be attained. Eventually the attendees will be invited to plan and practice the meaningful life-time tasks. The class will consist of a short lecture on the issues, participants’ presentation on the issues, group discussion and action planning without formality. After taking this course, it is expected for participants to plan their lives as global changers and to initiate the life they decide to take.

▶ **Mathematical Analysis(Spring)**

Main interest of this course is theoretical foundation for calculus. Calculus had been developed without rigorous justification. In 19th century, several pathological phenomena need to be explained. Modern theory was developed to lay out foundation for calculus. Based on the theory, further generalization was possible. Our course focuses on learning how to prove theorems, which is basic training for math major. Abstract concepts will be introduced and need to be interpreted.

▶ **Numerical Analysis(Spring)**

The basic concepts of numerical analysis and its use in solving engineering problems are introduced. After discussing various root finding methods several methods of solving algebraic equations are introduced. A variety of curve fitting and linear and nonlinear regression methods is discussed. Also various schemes of numerical integration are introduced. Fourier analysis and FFT are discussed.

▶ **Understanding the Global Times(Fall)**

Various worldviews try their best to control individuals, society and government in our times. Depending on the worldview, we become to experience unexpected and most time extremely dangerous outcomes in our society.

- In the first part, will provide students an opportunity to study the worldviews of Christianity and currently dominant religion-like ideologies such as Marxism, Secular Humanism and Postmodernism. Further, goals, driving force and outcomes of the worldviews will be compared and discussed especially in the area of theology, ethics, biology, sociology, economics and history.

- In the second part of this course will provide students to see the visible world that we have lived in. We will compare various goals, movements, and outcomes to develop a fact-based worldview. Students will learn why some global challenges persist but others do not. It is essential for us to understand the fact that this world is entangled with various global issues to be resolved. Furthermore, recognizing that we need to be changed first in order to provide the solutions for the enduring global challenges, we will also have periods of self-reflection.

It is we who are to be changed first in order to provide the solutions for the world’s issues, we will search for the essential character and components to be attained. Eventually, the attendees will be invited to plan and practice meaningful lifetime tasks. The class will consist of a short lecture on the issues, participants’ presentations on the issues, group discussion, and action planning without formality. After taking this course, it is expected for participants to understand the visible and invisible world and human beings and to plan their lives as global changers and to initiate the life they decide to take.

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▶ Ethical Global Leadership(Fall)

Modern society is greatly affected by rapid changes in globalization, technology, and complex systems. Among these changes, we face problems in various fields including social, political, economic and environmental aspects. Our choices to overcome these problems affect the nation, even the world community beyond our local community. So we need a cautious approach to make a decision. What ethical thoughts that are inherent in us shape our choices?

This class is advanced course which allows students make important decisions based on the process of ethical dilemmas and the Christian perspective, while focusing on policies, practices and research across various fields. Students can analyze various cases and experience social and ethical responsibilities in formal situations.

▶ Networking and Partnerships in a Globalized World(Fall)

The Sustainable Development agenda is a global vision for economic development, peace, and prosperity for all regardless of gender, race, or nationality. This task is achieved when all countries and all stakeholders at different sectors work in collaboration towards sustainable development. Given this increasing emphasis on global partnership, there is also a growing need for future leaders to have a deeper understanding of the interdependence and interconnectedness of the world, intercultural competencies for effective communication, and an interdisciplinary perspective of the economic, environmental, and social dimensions of development. With a focus on interdisciplinary and intercultural cooperation, this intermediate course provides students the opportunity to evaluate the importance of partnerships and evaluate the strengths and weaknesses of current development projects across different sectors and cultures.

▶ Capacity Building as Global Citizen(Fall)

Now we live in a world that is changed rapidly and saturated with informations. Complex problems of the present world demand creative and revolutionary solutions. Education focused on mechanical memorization and test-oriented learning strategies can no longer be prepared for the next generation to respond to future needs. To expand our values and address global issues, it is necessary to go beyond what textbooks say.

This class uses 4C(Critical Thinking, Compassion, Creativity and Collaboration) making students applying 21st century abilities to find innovative ways to solve regional and global issues. Students can recognize the importance of stakeholders' communication and cooperation at all levels in shaping policies and practices for global problem solving in the field of knowledge in sustainable development.

▶ Promoting Sustainable Development and Prosperity for All(Fall)

Development has focused only on economic growth by competition to get undiscovered resources. Interest-oriented and power-oriented decision-making by developed countries has caused social, environmental and economic inequality. And in many cases the most marginalized and vulnerable people in developing countries have been sacrificed. Now the future of development must be changed to preserve the environment as much as possible while at the same time achieving a more equal and fair world. In this class, students can learn the multidisciplinary and diverse approaches for sustainable development by critically analyzing the advantages and disadvantages of the current development model and working together with individuals and communities to grasp the strengths of various subjects for global prosperity.

▶ Teaching Method and Educational Technology(Fall)

This course will investigate various factors that affect teaching and learning in diverse contexts. Students will reflect on best practices to create a positive learning environment appropriate for diverse learners. Multiple ways of knowing and learning will be examined and how teachers can design and develop various approaches to teaching that they can bring to the learning environment.

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▶ **Philosophy of Christian Education(Fall)**

What is philosophy? Philosophers asks questions like: “Who am I?” “Why am I here?” “What purpose does my life serve?” Philosophers ask these questions not only of themselves but also of the world as a way of understanding how who we are shapes what gives life meaning and purpose. In that activity they are like the best teachers who also ask questions to elicit understanding from their students. This course explores the relationship between philosophy and education, how who we are shapes and forms not only what we think and believe but also how we teach. Asking the questions of who we are and why we are here are only the first steps toward understanding who we are as teachers and what our purposes and goals are in educating. Questions of identity, meaning, and purpose comprise the curriculum of both philosophy and education; finding answers, however tentative, to these questions will inform, shape, and direct both our lives and our teaching. Come explore the ultimate questions of philosophy and their practical application to the vocation of teaching. This semester I am adding a new component to the class: using children’s literature to understand the big questions of life: What is real? What is true knowledge and how do I know? What is the right thing to do? How does one define beauty? Using popular children’s books, teams of students will read to HIS students one time, and together with them explore the world of philosophy and hopefully regain a child’s heart and love for living and learning. Children are not afraid to ask the big questions, and we can all learn something from them about wonder, mystery, and how to live each day to its fullest. Using popular children’s books is one way we can explore the world of philosophy.

▶ **Creative Learning Internship(Fall)**

*Detail informations will be uploaded on the notice board fo this course by professor.

▶ **Numerical Modeling(Fall)**

*Detail informations will be uploaded on the notice board fo this course by professor.

▶ **Education for Global Citizenship(Unconfirmed)**

▶ **Modern Algebra(Unconfirmed)**

Students will learn basic definitions and properties of groups, rings, and fields with some applications.

▶ **Advancement of Capacity Building for Global Citizenship(Unconfirmed)**

- The purpose of this course is to nurture the students as future leaders with the ability of ‘Capacity Building’ for themselves and others, which will enable the individuals, organizations, and communities to obtain, improve, and retain the skills, knowledge, tools, equipment and other resources needed to do their jobs competently or to a greater capacity so that they may survive, adapt and thrive in a fast changing world. This course is designed to provide the knowledge and skills as well as some practical exercise in ‘capacity building’, but the emphasis of the course will be laid rather on the transformation of the students to be the better global citizens with the ethical, moral mindset and caring heart for the people in the isolated and inferior environments to overcome the cause of their exclusion and suffering with the what they have studied and practiced in this course, ‘Capacity Building’.

- The contents of the course will include the understanding of the essential elements in designing and practicing the art of capacity building, along with some case studies conducted in developing countries to improve the environments through capacity building in the fields such as higher education, clean water supply and sanitation, and well-being of children.

- Based on group effort, students will carry out the actual practice of ‘capacity building’ as a term project during the course.

▶ **Mutual Collaboration for Sustainable Prosperity: Breeding Empathy for Global Citizenship(Unconfirmed)**

- This course is about nurturing globally engaged citizen; a human who has empathy with other people and the planet, who is willing and able to play as an agent to address the challenges that are increasing in numbers and in complexity within the globalizing world, with an intention to contribute to achieving the UN’s Sustainable Development Goals (SDGs).

- This course focus on how to grow applied empathy or compassion, which is key trait of global Citizen: from the perspective of a tennis Babo(mania) who aspires to play like Federo The course also draws guidelines from Bible and neuro science.: Beside lectures, students will have experience of finding their model global citizen for Beholding. Students will make a plan to address the issue individually and as a group. Students will maintain a journal on their search for their model citizen and the issue and solution option While this course utilizes methodologies such as, project based learning, case study, student-designed projects and social service learning that are used by changemaker education and social innovation courses, the focus of this course is more on formation of the mindset than problem solving skills, which will be provided more extensively by other course concurrently or as a follow-on course next semester on Global Problem Solver.

Global Leadership School (Elective courses)

▶ English Chapel 1-6

Worship Service for students and profs of Carmichael College

▶ Handong Character-Building

Purpose of the Course: Character Building implies a process, something that is active, ongoing, and deliberate. Character is who and what we are as persons and includes our attitudes, our dispositions, and our hopes and desires. Character is something that never stops changing and evolving. While some psychologists believe that a person's character is basically set by age 8 or 10, Christians believe that character is actually a living, dynamic, and growing aspect of the personality because Christians believe that one's growth in faith and relationship with God never ends. This course will examine the process of how we build our characters as unique human beings, and how to enhance that growth through learning about, acquiring, and practicing virtues that have been identified through the centuries as critical in pursuit of the good life, what Aristotle called, "eudaimonia," or doing and living well. The goal of this character-building course is to discover not only how to do good, but also how to BE good, people who are learning how to reflect the image and glory of God in our everyday lives, in every situation, in every relationship, in every moment.

▶ Creation and Evolution

Understanding the purpose of my life—who am I, where do I come from, and where am I going? and developing a vision for the future on a biblical basis. Be ready and prepared to (a) ask the right questions, and (b) answer arguments related to evolution (principle of apologetics). To understand that the Bible and science are not contradictory; and also that the evolution theory is not supported by scientific facts. To learn and be challenged to critical thinking, and to distinguish between hypotheses (theories) and scientific facts.

▶ Towards a Christian Worldview

Background: to examine our worldview which form the foundation of our lives and to establish it from the biblical perspective. Contents: the meaning of worldview, the biblical worldview (creation, fall, redemption and consummation) and its application. Necessity: to establish Christian identity and to analyze and overcome other worldviews. Method: Lecture, team presentation and discussion.

▶ Mission Perspective(Fall)

The course is designed around four "perspectives"—Biblical, Historical, Cultural and Strategic. Each one highlights different aspects of God's global purpose. The Biblical and Historical sections reveal why our confidence is based on the historic fact of God's relentless work from the dawn of history until this day. The Cultural and Strategic sections underscore that we are in the midst of a costly, but very "do-able" task, confirming the Biblical and Historical hope.

▶ Understanding History of Church

- The theme for this course is "Surrounded by a great cloud of witnesses," from Hebrews, Chapter 12. To study church history involves learning the stories of the saints who have preceded us, for their story is also our story. Justo Gonzalez, author of the text we will be using for this course, *The Story of Christianity*, says that church history "...is a history of the deeds of the Spirit in and through the men and women who have gone before in the faith...[and] it is the history of those deeds through sinners such as us," (Gonzalez, xvi). It is my hope that by reading, learning, experiencing, the lives of those saints who have witnessed boldly to their faith in Jesus Christ, our own faith shall be increased, enriched, and emboldened; that their stories become part of our story of faith.

- A motto of the Presbyterian Church, one branch of the Protestant body of Christians who call themselves Reformed is: 'ecclesia reformata, semper reformata' which means: The church reformed, always reforming." Justo Gonzalez, the author of our text this semester says in chapter 1 of Volume II: "As the fifteenth century came to a close, it was clear that the church was in need of profound reformation," (Gonzalez, p. 7). The church from its humble beginnings recorded in the Book of Acts had become a major player in the world of politics, power, and intrigue, and some would say it had been corrupted by that involvement.



This course will look at the life and times of the church beginning with its reformation in the 16th century and its continuing evolution and reformation down to the present. We shall examine persons, places, events, and how the church has been shaped, deformed, and reformed, not only by powerful personalities, but also by God’s reforming Spirit. Hopefully we’ll also discover how that same Spirit is working to inform, form, and transform our lives daily so that we become more and more a reflection of the living Christ to a world dying for Good News.

▶ **Christianity and Modern thoughts**

Background: to discern various modern thought streams and to take a proper action. Contents: to examine diverse modern thoughts, analyze and criticize them from the Christian worldview. Necessity: to offer a Christian alternative and to put it into practice in a concrete life. Method: Lecture, team presentation and discussion.

▶ **Practice of Church Music**

- The course provides an understanding of the music of the church, and invites students to reflect on why music has historically been one of the core components of Christian worship. Together, we will explore not only historical expressions of sacred music, but also learn something about the sacred traditions of different cultures.

- We will study two pieces: Mass in G by Franz Schubert and a contemporary Easter Cantata “It took a miracle.” by John W. Peterson. We will learn the typical style of Mass and cantata. In each class we will learn and practice songs in each piece and at the end we will have a little concert.

▶ **Introduction to Philosophy**

Philosophy begins with reflective and critical thinking. This course investigates how reflective and critical thinking has been conducted in the history of philosophy and how philosophy has influenced human lives. Following a simple introduction to the first stage of philosophy, a few important issues in philosophy are discussed. Several short texts will be used as the guidance for our investigation.

Since the 2nd Semester of 2018, we have adopted a new system of K-Mooc. Students have to watch online lectures and will have discussion in the class. From 3th week till 14th week, one session (normally Friday session) is substituted by online lecture, and the other session will be held off line in the classroom.

▶ **Introduction to Korean Studies**

This is an introductory course on Korean studies designed for both Korean nationals and international students who are interested in exploring Korea at a university level. Examining historical, cultural, and social issues of Korea, the course attempts to enhance students’ overall understanding on contemporary Korea. The course provides an understanding of the music of the church, and invites students to reflect on why music has historically been one of the core components of Christian worship. Together, we will explore not only historical expressions of sacred music, but also learn something about the sacred traditions of different cultures.

▶ **Studies of Korean History**

This course is mainly designated to help the English-speaking students understand the general development of the Korean history. Therefore, the major topics dealt with in this class include pre-modern history such as ancient history, medieval history, recent history. As for the modern history of Korea, the significant progress in economic, intellectual and social realms before the state-door opened in the late 19th century will be treated in the light of the capitalistic sprout. And the reform movement of the late 19th century, Japanese colonial rule, the Korean people’s independence movement and some contemporary development of Korean will also be studied during the course. Students are expected to learn and understand the English translations of the important historical terms in the Korean history and to have the ability to explain the Korean history in English.

▶ **Introduction to Sociology**

Sociology is broadly concerned with the systematic study of society ranging in scope from micro-level social interactions to macro-level social structures and institutions. In this course, we will explore and analyze sociological issues such as face-to-face interactions and social networks, institutions such as education, the state, and mass media, and social categories such as race, class, and gender.



We will be exploring each of these issues in terms of how they are constructed, changed, and reproduced, influenced by or comprise social structures, and patterns of everyday social life. We will cover a wide range of theoretical perspectives and dig into important debates and current trends in the field of sociology.

▶ **Introduction to Studies in Education**

This course is designed to provide understandings of foundations of educational practices, including biblical and theological foundation; philosophical foundation; and social and historical foundations of education. Also, the course explores the seven key elements that are involved in the educational processes, including the role of teacher, understanding the learners, goal of education, curriculum, teaching methods, educational environment and assessment.

▶ **Globalization and Korean Popular Culture(Fall)**

The increasing global circulation and consumption of Korean and Japanese cultural content-widely known as “Korean Wave” and “Cool Japan”- offers the unique opportunity to examine East Asia as the site of new regional cultural flows in opposition to “Western” cultural production’s unidirectional hegemony. The state-driven development list strategy in East Asia has been seen as a model for other nations’ cultural industries in the context of globalization. This course offers students the opportunity to understand the historical and recent transformation of media and culture in Asia with particular attention to Korea, Japan and the greater China region (Hong Kong, Taiwan and the mainland). Readings will not only examine the political-economic conditions that have led to the mobilization of media and cultural industry in East Asia, but also explore its social, cultural and political impacts on both regional and global level. We will also examine a range of popular media and site of cultural expression, from television to mobile media, youth culture to food culture, to grasp the complexity of contemporary media and culture in East Asia. This course draws on inter-disciplinary readings from media and cultural studies, anthropology, political science and sociology. You will be expected to read all assigned materials before class and actively participate in class discussion.

▶ **Understanding Korean Social Structure and Culture(Spring)**

This course is designed to introduce students to the social structure and cultural characteristics of contemporary Korean society, including those pertaining to the family, industrialization, gender, aging, labor, population, environment, religion, and political system. The course will particularly focus on social topics and issues that figure prominently in the lives of the Korean people, such as patriarchy, modernization, education frenzy, urbanization, authoritarianism, nationalism and multiculturalism. Each of these issues will be examined through sociological, historical, comparative, and balanced perspectives.

▶ **General Biology**

Through this course, students will be learning about the key life phenomena of each object, such as animals, plants, and microbes, and also understand the concepts and terms of the whole of life. The subject will be carried out in a level degree of difficulty so that even students without the basis of biology have the opportunity to have basic skills in the field of bio science, and can take it as a liberal arts subject without any burden.

▶ **Differential Equations and Applications**

Differential equation offers a basic language for modeling of various phenomena of natural and social sciences and engineering. Our course focuses on basic mathematical theory and practices of solving differential equation. This course is for science and engineering major students and some senior students in economics.

▶ **Engineering Mathematics(Fall)**

1. Theory of complex analytic functions is extremely important in many branches of modern mathematics such as complex differential/algebraic geometry, number theory, partial differential equations, theory of harmonic and subharmonic functions. We will develop the basic complex analysis on the complex plane and apply it to various mathematical and physical problems.

2. Fourier analysis is basic tool in the study of various partial differential equations and applied math problems. Basic concepts and properties, their applications will be introduced.



▶ **Calculus 1(Spring)**

Calculus is one of basic language for science and engineering. This course is aimed at students who learned basics on differentiation and integrations and are going to major in engineering and science. Course focuses on differentiation and integration of transcendental functions: exponential, logarithmic, trigonometric functions. Several applications of derivatives and integrations of functions related to science and engineering problems will be considered.

▶ **Calculus 2(Fall)**

- This course is continuation of Calculus 1 (If you took science track at Korean high school, you have enough preparation).

- Calculus is one of basic mathematical language for scientist and engineers. The course will introduce several advanced calculus techniques as well as several widely used functions. It will also offer some foundation for other course such as differential equation, Calculus 3 (Multi-variable calculus), linear algebra. This course is designed for students majoring in engineering or natural science. This course is focus on advanced techniques of integrations and their application, infinite series approximation of functions using polynomials, introductory concept of coordinates, vector, matrices and curve theory. Examples will be motivated by application to physical science and engineering.

▶ **Human Relationship & Self Growth**

This course aims to equip students with professional knowledge and skills to manage interpersonal interactions and for life-long personal development. Also, students will examine the ways in which film influences culture, personal consciousness, interpersonal relationships, social structures, class consciousness, and both legitimizes, and in some cases, subverts the taken for granted world. Film will also be deployed to enhance understanding of different cultures in various parts of the world. Film as a form of pleasure and entertainment will also be integral to this course. This course utilizes various types of multimedia sources for programming to help students, who are beginners in programming, start programming. Students will learn how computer programs can be used to solve real-world issues and practice logical thinking and computational thinking during the programming process.

▶ **English Foundation**

In EF, you will experience the integration of speaking, listening, reading, and writing. The majority of class time will be used to develop your speaking skills. The focus, therefore, is to encourage you to orally produce the language that you already know. This will be done through applying discussion strategies to speaking English. Discussion Strategies is the name of the textbook and a description of its contents. The main goal in our speaking section is this: ‘to develop spontaneous conversation through the appropriate application of discussion strategies’. If you achieve this goal, you will succeed in the speaking portion of the course. Successful application of discussion strategies will not only result in a good grade, but will give you refined social skills that will help you in your personal and professional lives. Furthermore, these strategies go beyond speaking/social skills to discipleship. Phil 2:3-4 Do nothing out of selfish ambition or vain conceit. Rather, in humility value others above yourselves, 4 not looking to your own interests but each of you to the interests of the others. What does Phil 2:3-4 look like practically? One application of this command is to listen to other people and respond to what they are saying with gentleness and respect. As you apply discussion strategies to your speaking, you will realize that this is what happens. The reading portion of EF is designed primarily for homework and requires a second textbook, Cover to Cover 2. This portion will help develop your language awareness, comprehension, reading fluency, and encourage reading for pleasure. Quizzes will be given after every unit to ensure that you have done the readings and related activities. For writing, we will be using the ‘2-Hand Approach’. You will be given a total of 8 charts which contain sentence forms. You will be required to master these sentence forms. By doing so, it will help you to write grammatically accurate sentences. After learning these sentence forms, you will be taught how to apply them to paragraph writing.

▶ **English Communication**

- The Department of Language Education (DLE) English language curriculum has three compulsory subjects that prepare students to study effectively in major courses taught in English and to be a better student overall.

- English Communication (EC), the first required subject in the curriculum, is an intermediate course that builds on the low intermediate level language skills acquired in English Foundations and prepares students for the higher advanced English languages.



EC is usually taken by freshmen. In EC all four language skills are practiced and developed, with a particular focus on listening and writing.

- A lot of information in university courses is presented in lectures by professors or group discussions with other students. LISTENING develops the ability to follow and take accurate notes from lectures and discussions and to use those notes for different study purposes. EC WRITING expands students' ability to compose well organized paragraphs that express the writer's thoughts clearly and logically. English grammar will be linked to writing to improve accuracy. READING is also an effective way to improve all the language skills. Reading in EC uses a variety of texts to enhance comprehension and analysis of English texts. The textbook used in EC focus on words from the Academic Word List so this will develop students' academic vocabulary. In addition, strategies will be practiced dealing with new or unexpected words. SPEAKING will be practiced in class and small group discussions, and information reporting activities. Many opportunities are provided to interact with the teacher and other students through asking and answering questions. English Communication aims to make students more confident and able to use these improved English language skills during and outside of class.

► English Reading and Composition

English Reading and Composition (ERC) is a three-credit English course. Students in ERC must have completed EC, or have tested into ERC. The course is intended to prepare students to read and comprehend university-level English texts. Students will demonstrate thinking in a logical, orderly way, with sufficient language mastery to make their ideas clear. Students will examine model essays that demonstrate good writing techniques. Stemming from that reading, students will write well-organized academic essays which demonstrate substance and clarity. These essays will be strengthened via peer editing and self-editing.

► EAP-Communication Arts and Science

We will look at various aspects of Communication Arts such as speeches, presentations, group problem solving, debate and journalism / media writing.

► EAP-Contents Convergence Design

Students will learn how to effectively Listen and Read (input) and will respond with Speaking and Writing (output) in their second language. Effective precis, writing, presentation, and discussion skills will be modeled and supported, and students will have opportunity to practice and improve each of those skills. Full rubrics will be provided for all tasks; students will have a clear grasp of what is expected in order to succeed at any evaluated task. Students will be encouraged to interact with and analyze a variety of texts, images, and designed objects using the vocabulary and principles presented; to apply their acquired knowledge in several projects throughout the semester; to engage with preparing for academic tasks in their second language, presenting/submitting those tasks, and analyzing the result and feedback of those tasks; to continually use the content and topics of the class material to exercise their second language abilities in both input and output; and finally to integrate their Christian faith and the philosophies of design into an 'artist's statement' or 'designer's principle'.

► EAP-Counseling Psychology and Social Welfare

This course builds on the skills acquired in the English Reading and Discussion and English Grammar and Composition courses and prepares you for the advanced English language in the Counseling Psychology and/or Social Welfare major courses. We will learn how to find and carefully read the psychological/scientific literature, evaluate and synthesize research, give a professional presentation, and write a professional paper using APA style. Our semester is divided into 4 sections, which each end with a major assignment, and you will study one psychological disorder with a partner for the whole semester. I will show you how to do each assignment and guide you with feedback to help you succeed. About 30% of our time consists of lecture; 60% is spent doing research, writing, and peer or professor consultations; 10% is spent giving and evaluating peer presentations.

► EAP-Engineering

The course is designed to increase student competency and fluency from high intermediate to advanced English language comprehension and production levels. Students will be directed and encouraged to adopt engineering standards and principals within the Christian worldview of HGU; they will also be expected to develop and use critical thinking skills as they engage with a variety of engineering theories and practices.

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▶ EAP-Life Science

EAP (Sc.) is specifically designed for students planning to study in the School of Life Science, providing a bridge from previous general DLE academic English language courses into their major studies within the School of Life Sciences. It equips Life Science students with the English language skills they need to study successfully. In keeping with the values of Handong Global University, EAP (Sc.) encourages students to explore and develop God’s creation in a way that worships the Creator God, blesses humanity and conserves the natural world. EAP (Sc.) develops students’ competencies in all four language skills (writing, speaking, reading, and listening) while accomplishing communicative tasks relevant to the discipline of Life Science. The level of study takes students from intermediate - high intermediate in ERD/EGC to advance upon completing EAP (Sc.). WRITING deals with the preparation of research reports, and critical literature reviews that are informative and persuasive. Specific writing skills such as paraphrasing and synthesizing information, using hedging and boosting expressions to vary the force of an argument, avoiding wordiness and ensuring textual cohesiveness are developed at an advanced level. Development of READING skills focuses on increasing students’ reading speed of science texts while improving comprehension, understanding and retention of information. Specific skills of skimming for main ideas and scanning for specific information are further developed with application to reading academic textbooks and academic journals. An important feature of reading fluently and writing effectively in the Life Sciences is the possession of an adequate scientific VOCABULARY that is both broad in its scope and deep in its understanding. EAP (Sc.) adds words, expressions and idiomatic language specific to the biological sciences to the general academic vocabulary already developed at lower levels of the DLE curriculum. The SPEAKING component of EAP (Sc.) focuses on the preparation and presentation of research reports in formal settings. Students will develop their speaking skills to lead and to actively participate in classroom and project team discussions as well as practicing strategies to handle questions during and following presentations. Finally, EAP (Sc.) aims to develop students LISTENING and note-taking skills to cope with the diversity of English styles presented to students by Korean and non-Korean faculty, peers, visiting lecturers and internet sources. The communicative, task-based approach of EAP (Sc.) will also encourage students to develop their critical thinking skills as they engage with scientific information.

▶ EAP-Management and Economics

English for Academic Purposes, Management & Economics, hereby referred to as EAP-Man.Ec., represents the final level of the Department of Language Education (DLE) English language curriculum. EAP-Man.Ec is specifically designed and designated for students whose first and/or second majors are in the School of Management & Economics, thereby providing a bridge from previous general DLE academic English language courses to their major courses of studies. EAP Man.Ec. will equip Management and Economics students with English language research, presentation and communication skills required in their future careers. In accordance with the Biblical values & principals promoted by Handong Global University, EAP Man.Ec. will motivate and encourage students to investigate conventionally accepted business and economics models within a strong, evangelical Christian world-view. EAP Man.Ec. is intended to help students develop student competencies in all four productive and receptive English language skills (writing, speaking, reading, and listening) through the study of communicative tasks relevant to the discipline of Management & Economics. This course of study is designed to increase student competencies/fluency from the high intermediate to advanced English language comprehension level. The communicative, task based approach of EAP Man.Ec. will also encourage students to develop their critical thinking skills as they engage with a variety of management and economic theories and practices.

▶ EAP-Humanities

EAP (Humanities) is an advanced English language course that is available at the final level of the Department of Language Education (DLE) curriculum. EAP (Humanities) is designed for students in the school of ISLL, with a specific focus on students who have selected Literature or Linguistics as their major/s. This course aims to familiarize students with topics related to the study of the Humanities (with a particular focus on Literature and Linguistics), while developing their overall English language proficiency. The course is intended to prepare students for close reading and critique of a variety of literary and academic texts in which students demonstrate their “own voice” in relation to a text. Students will read articles, book chapters, and essays on topics related to the study of the Humanities. One longer literary work (usually a novel) will be read and discussed in class during the course of the semester. Students will participate in discussions about these readings and will prepare and deliver presentations based on these texts. Students will write well-organized academic essays which demonstrate substance and clarity. These essays will be strengthened via self-editing and peer editing.

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▶ **EAP-Information Technology**

EAP-IT is an advanced English language course that is available at the final level of the Department of Language Education (DLE) curriculum. EAP-IT is specifically designed for students who have selected Computer Science & Electrical Engineering or Global Entrepreneurship & Information Communication Technology as their major. This course aims to familiarize students with IT-related topics and develop their overall English language proficiency while working communicative and project-based tasks relevant to the IT field. In EAP-IT, students will work on developing all four language skills (writing, speaking, reading, and listening). For reading, speaking, and listening, students will read or listen to IT-related materials (e.g. textbooks, news/research articles, TED talks, etc.) and demonstrate their understanding through discussions and presentations. For writing, students will write reports and go through the process of writing a research paper. Additionally, students will learn words and expressions commonly used in the IT field.

▶ **EAP-International Studies and Law**

Students in EIS will further develop English language skill, in particular reading, writing, and speaking, while working with International Studies content material. Students must have completed ERD or EGC to be eligible to take this class.

▶ **English Pre-Course 1(Spring)**

This course provides students a lower level of English grammar, speaking and writing comparing to the mandatory English course provided by DLE.

▶ **English Pre-Course 2 (Fall)**

Students who have completed the English Pre-Course 1 are required on the basis of the DLE and are required to learn the elementary and intermediate English skills required for the English Foundation (EF) Students can gain confidence in English by developing listening, speaking, reading, writing, and presentation skills through the use of intermediate English language and relieve their anxiety in the face of foreign teachers. (Registration opens to North Korean defector)

▶ **English Composition(Spring)**

In this course, we will become more familiar with writing – from writing personal journals to producing paragraphs and essays that contain solid ideas supported by detail and evidence. We will examine our writing from the word level to paragraphs that build into coherent and unified essays. We will learn and view writing as a process, from brainstorming to the final draft, and understand the linkage between reading and writing. In order to write, we will examine readings that we will react to, use a variety of words and sentence patterns and styles so we could fully express ourselves in words.

▶ **Essentials of English Communication**

EEC-Online is based on an individualized e-teaching/e-learning concept and is designed to be completed electronically. Students successfully completing this online course will be considered to have met Handong University exit English requirements - upon successful completion, students should check with the HGU Academic Affairs Department regarding graduation eligibility. This class will focus on giving students opportunities to continue developing English reading, writing, listening, and speaking skills. Basic English concepts relating to grammar, vocabulary, listening, speaking & pronunciation, reading and writing skills will be covered and assessed. Student eligibility for the EEC-Online course, as determined by the HGU Department of Academic Affairs, is as follows: On Campus: 9th, 10th & 11th semester students still enrolled at HGU. Off Campus: Non-enrolled HGU students who have not completed the exit English criteria.

▶ **Understanding the Bible**

This module was created in accordance with HGU educational ethos in building Christian worldview as foundation of all academic disciplines. This module presents a basic survey of the Old and the New Testament theology and how its message relates to our modern contemporary world. The focus of the module will be on the selected New Testament books. However, references will be made to the entire redemptive history as depicted in the Scripture. The unique historical and theological backgrounds of each New Testament books will be explored in order to understand the main content of their message. The major purpose of this module is to enable students to absorb scholarly information about each books of the New Testament in relation to the Old and be able to provide exegetical insights concerning specific passages through groups discussions.

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▶ **Understanding Christianity**

A study of the basic of Christianity theology including apologetic arguments for the faith.

▶ **Biomedical Ethics(Spring)**

- Key Issues in bio-medical ethics will be dealt with.
- From the 4th week, for each topic, one session will be devoted to students’ presentation and the other professors lecture. Each student will present on two topics to their team members.

▶ **Common Readings**

In the Common Readings course, students will select, read, and write book reports about a variety of texts in their own time. The reports will lead students to explore the motivation and goals of the texts. It is not sufficient to just summarize the content or message of the book. The book reports require students to provide an educated guess about the audience, occasion, and purpose of the writer in writing the book, with references to the text. Since there are no class meetings, students must organize their schedules and set aside regular time to complete readings and assignments to meet the deadlines. It is important to understand that all four book reports must be submitted on time, and late work is not accepted. Students should refer to the His Net course notice board for book report instructions. Students are strongly recommended to check the noticeboard regularly for important course information.

▶ **Engineering, Faith, Ethics(Fall)**

Technology has become a key element of human life. Engineers often find themselves in a situation which forces them to make important ethical decisions. Lay people are influenced by these decisions with or without knowing it. This course deals with the ethical issues that engineers are confronted with. Particularly the responsibility of both engineers and users of technology is emphasized. Non-engineering students are welcome to the class. It will provide a meaningful and interesting conversation between engineering and non-engineering students, as the issue of technology and engineering is relevant to everyone.

▶ **Introduction to ICT Application(Spring)**

This course teaches students an entry-level block-coding programming language - App Inventor, which is easy and intuitive, as it composes computer programs using Lego-like programmable code blocks.

▶ **Web Programming(Spring)**

This course was designed for students who want to learn the basic programming skills to make web pages. In the course, HTML (Hypertext Markup Language) and JavaScript will be used as main programming languages for web page production. The students will also learn about how to stylize their web pages using CSS (Cascading Style Sheets). The lecture will be given to deal with basic concepts together with corresponding programming practices during the class. It is expected that throughout the course the students will understand how web pages’ work internally and cultivate abilities to computationally think of making web pages.

▶ **Python Programming(Fall)**

- Python is one of the most prominent and versatile programming language - suitable for applied programming, system utility programming, GUI programming, web programming, scientific and numeric programming, database programming, and etc. You can extend your python codes with C/C++ modules.
- Still as python provides simple grammar and structure, it is easy to learn and fast to develop codes.
- You will learn the basic and intermediate level of python programming in this course - input/output commands, variables, data types, list, conditional statements, loops, file I/O, simple graphic programming and window GUI programming.
- This course is designed to help students gain IT literacy, no matter what their major is, so that they can prepare the 4th industrial revolution and ICT convergence era. Students will be asked to register and watch MOOC to prepare and review lessons.

▶ **Special Lecture 2(Spring)**

As an English lecture, both presentation and homework are conducted in English. We will cover various topics every week. To be used as a God’s disciple, you’ll learn how to have ‘creative pioneering spirit’ and ‘Study-to-give spirit’. Plus, we will learn how to be a pioneer of one’s country and have an indomitable will that never stops until you attain what you want to achieve. As a Handong member, lastly, you are learning the attitude of always being grateful.

