Course Name：MCU comprehensive experimental

Course Code：3273075

Credits：2.5

Class Hour：40

Course Description：

This course is an important professional course for students majoring in electronic information. To train students' practical ability of various MCUs , independent problem-solving ability and comprehensive application of knowledge ability, training scientific rigor and practical engineering professional quality. This course focuses on the theory and practical teaching and the course based on MCS-51 series single chip microcomputer, supplemented by 80X86 microprocessor. The design of independent experimental system is based on the sample requirements of the relevant hardware and software design and debugging . It can guide students to solve practical problems; Engineering design is based on multiple optional topics to complete a project application design.

Course Name：Operating System

Course Code：0371040

Credits：2.0

Class Hour：32

Course Description：

Operating system is the core software of computer system, the fundamental basis of other software and the computer system developing platform. Operating system bridges user and hardwares, which enables user to easily manipulate hardware resources with high efficiency. The course of operating system is a basic class in computer knowledge framework, is a main branch of class for major in computer, electronic and automations. This class focus on the fundamental concept and systemantic usage. The primary operation and related design method or techniques are included. The content of lecturing includs introduction, jobs and process (threads), memory, device and file management, etc..

Course Name：Practice of program design

Course Code：9990667

Credits：1.5

Class Hour：51

Course Description：

This experiment course aims at training and improving the programming ability of students majoring in electronic information. The main contents include: C language, data structure and algorithm. In view of these two aspects, the curriculum contains 16 experiments.

Experimental teaching is the main content of this course. Proficient in C language, common data structures, commonly used algorithms and other basic knowledge and programming skills are aim of the course. Other aims include usage and configure of Visual Studio and other IDE development environment. Students will have   C language programming ability, able to design, develop, debug and test the Win32 console application.

Course Name： sensor and signal detection technology

Course Code：0383004

Credits：2.0

Class Hour：32

Course Description：

Sensors &signal detecting technology is an important professional technical course for related majors of Electrical Engineering and Automation which have strong practicality.

This course enables the students to master the basic theory of sensor and signal detection technology, and the basic knowledge of signal, detection and data processing, analyze the static and dynamic characteristics of various forms of sensors, have deeper understanding of the working principles of resistive, inductive, capacitive, magnetoelectric, thermoelectric, piezoelectric, photoelectric, semiconductor sensors, master the acquisition and processing technology and anti-jamming technology of sensor signals, corresponding conversion circuit, error and nonlinear compensation method, and understand the typical application of various sensors in engineering. Students are required to choose and use different sensors in view of different detection requirements. Meanwhile, practical application is adopted to cultivate students' ability in

building the detection system of basic sensors

Course Name：Electromagnetic Fields and Waves

Course Code：0473092

Credits：2.0

Class Hour：32

Course Description：

The Course type is Major Course. Learning through this course enables students to master the contents below:

1. After the course, the basic theory and analysis should be established; Undergraduate student have the ability to make use of the knowledge to their work in development, meanwhile the relevant professional requirment for the field are also given;

2. Gaining the comprehensive application of Electromagnetic Fields and Waves knowledge to solve problems by analyzing the actual system. The students can analyze the engineering problems;

3. Having a good control of English both in reading and oral, especially on a large mount of vocabulary and material related to one's major.

Course Name：Electromagnetic Compatibility

Course Code：3143321

Credits：2.0

Class Hour：32

Course Description：

"Electromagnetic Compatibility" a very important technical basic course for Electrical Engineering colleges. Learning   through this course enables students to master the contents below.

1. Electromagnetic Compatibility can help students to understand the basics of electromagnetic compatibility, guide students to master the analysis and solution of electromagnetic interference, help students to apply the knowledge of electromagnetic interference to the field of electronic information, master electromagnetic compatibility standards.

2. Master the English vocabulary, improve the ability of reading in English scientific literature and speaking English.

Course Name：Electrical Machines and Drives

Course Code：3273077

Credits：2.0

Class Hour：32

Course Description：

The course of Electric Motor and Drives is characteristic course in electronic information discipline. It is an important professional, multidisciplinary course, and has very strong theoretical and practical railway integrated curriculum.

By learning this course, it is important to students who have a certain cognitive practice of ac/dc motors and related equipment, to master the composition and structure of the motor and drive principle. The students lay a solid foundation in the railway field and scientific research for the future.

Course Name：Power electronics technology

Course Code：3273076

Credits：2.0

Class Hour：32

Course Description：

"Power electronics technology" is a fundamental and professional course for students in electronic and information engineering(EIE). In this course, students will study the characteristics of power electronics component, topology and operating principle of the classical power converters, parameter design and calculation methods and the control rules of power converters. This course can provide a necessary foundation for students in the future course study and work. In addition, this course introduces experimental methods and operating skills to train practical ability and understand theoretical knowledge of this course for students.

Course Name：Circuit Analysis AI/II

Course Code：3273469/3273470

Credits：4.0+4.0

Class Hour：64+64

Course Description：

Course Task and Target: Circuit Analysis is a very important technical course in electric engineering specialty. Through studying the course, students are not only able to master the basic laws of circuit analysis, theorems, analytical methods and preliminary experimental skills, but also their abilities to analyze and solve problems are trained and improved. The technical abilities obtained by students lay will contribute to their subsequence specialized courses and scientific research.

Course Main Contents: Circuit Basic Concepts and Fundamental Laws, Resistor Circuit Equivalent Transformation, Methods Of Analysis, Circuit Theorems, Operational Amplifier, Sinusoidal Steady-State Analysis and Resonant Circuits, Magnetically Coupled Circuits, Three-Phase Circuits, Nonsinusoidal Periodic Circuits, Two-Port Circuits, First-Order Circuits, Second-Order Circuits, The Laplace Transforms and Its Applications, State Space Equations, Nonlinear Resistor Circuits, and so on.

Course Name：Electronic Measurement Technology

Course Code：0371005

Credits：3.0

Class Hour：48

Course Description：

Electronic measurement technology is a professional basic course oriented for the major of electronic and Information Engineering, which is also the important course to cultivate practical ability of students. After learning this course, students will have the basic knowledge of electronic measurement technology and capacity of constructing measurement systems, as well as the ability of innovation and solving practical problems.

This course mainly introduces measurement error analysis, the evaluation and expression of measurement uncertainty and measurement results, principles and methods of commonly used

electronic measurement, principles, performance and use of commonly used electronic measuring instruments, the construction of automatic test system, especially the design of virtual instrument system.

Course Name：Electronic Process Practice

Course Code：0371117

Credits：2.0

Class Hour：160

Course Description：

The Course type is an important practical link in university's engineering specialty teaching planning. Learning through this course enables students to master the contents below:

1. Understand the basic functions of electronic circuit drawing software; can skillfully draw circuit schematic diagram and PCB diagram; Learn to edit the schematic diagram of the component library files and add and modify PCB packaging components.

2. Master the structure, type, naming method, main index parameters and use of electronic components, such as semiconductor tubes, resistors, capacitors, three terminal components, integrated chips, transformers, etc.

3. Familiar with printed circuit board manufacturing process.

4. Familiar with printed circuit board manufacturing process.

5. Master the principles and methods of circuit design.

6. Master the basic knowledge of production practice

7. Master the common tools (multimeter, oscilloscope, function generator, transistor, voltmeter, frequency meter, etc.) the use of methods.

8. Master the welding technology, debugging technology and method of electronic circuit. Grasp the types of electronic circuit fault, and through the electronic circuit fault phenomenon, the use of theoretical knowledge for comprehensive analysis, troubleshooting.Master the commonly used electronic circuit maintenance methods.

Course Name：Electronic Design Automation

Course Code：0371043

Credits：2.0

Class Hour：32

Course Description：

Electronic Design Automation (EDA) technology to be lectured in this course is a kind of modern advanced digital circuits design technologies, in which FPGA is design's carrier, and is developed by programming with hardware description language. It is currently applied in all kinds of fields of digital circuit design.

This course introduces the architecture, principles and development flow of programmable logic devices, methods of Circuit modeling with hardware description language, digital system design, and usages of popular software tools. The methods of Circuit modeling with hardware description language are mainly introduced.

After the study of this course, students should understand the EDA Technology's design ideas, know the basic architecture, principles and development flow of programmable logic devices, be familiar with the usage of related EDA software tools, grasp the design methods of digital circuits, and finally, can apply expertly EDA technique to finish the digital circuits' design, modeling, simulating and implementing , improve students' abilities on digital circuit design.

Course Name：Electronic Market Research

Course Code：9990494

Credits：1.0

Class Hour：32

Course Description：

In order to enhance the practical skills of the students and make full use of social resources, the undergraduate students carry out electronic market research in groups, the aims are as following.

1. Research commonly used electronic components and instruments, understand the properties, shapes and prices, establish the concepts of product cost.

2. Research and understand the structure and software system of the computer, establish the cost-effective concept.

3. Develop students' self-management, social communication and team cooperation abilities.

Develop students' word processing software skill and the ability to use modern information technology to obtain information by writing investigation reports.

Course Name：Conspectus of Electronic and Information Engineering

Course Code：0471013

Credits：2.0

Class Hour：32

Course Description：

This course content is mainly oriented to applications of electronic and information technique in modern transportation together with other areas. Requirements on knowledge and capabilities to start a career in the electronic and information enterprise are major concerns of the course. The students shall receive a brief overview of electronic detection and control technologies and computer-based information processing, as well as how these areas of knowledge contribute to the electronic and information industry. The students will also get a first blink into the fields of systems and control, signal and information processing, communication and coding, EDA and embedded system technologies. Beyond the above mentioned aspects, the course also provides some preliminary concepts and knowledge about engineering project management.

Course Name：Electronic Information Engineering Hands-On Training

Course Code：3273079

Credits：4.0

Class Hour：128

Course Description：

"Electronic Information Engineering Hands-On Training" is an integrated professional practical course for undergraduates in electronic information engineering. The course content includes introducing the industry background of electronic information engineering, introducing project cases and practicing teaching. Course teaching objectives are as follows:
Improving students' problem-analyzing ability and problem-solving ability base on professional knowledge. To enable students to understand and master the whole process of project planning, design, maintenance; training the students' ability of solving practical engineering problems.

The students who have good communication skills, professional morality, international outlook, independent-study ability and innovation consciousness.

Course Name：The Course Design About The Electronic Integrated Device

Course Code：3273078

Credits：1.0

Class Hour：64

Course Description：

The Course Design About The Electronic Integrated Device is a practice oriented course which is designed to improve the abilities of manual operation of students. The course aims at designing a mechanism on the basis of the technology of embedded software and hardware, or developing one system software which can deal with electronic information that collected by electronic integrated device in terms of computer software, and algorithm direction. Related background of the system, status quo, research purpose, research content, feasibility analysis, system design, detailed design process and related verification results are the necessary parts of the whole process of the design and production of electronic integrated devices .The verification results can be simulated, can be physical objects, or other verification materials. Through the design of electronic integrated devices, students will learn relevant principles further, and design solutions of projects. What's more, students can use modern tools to verify the correctness of solutions of projects. Combining the theoretical knowledge and design methodology with the specific application, which can improve students' ability to design and solve projects and practical problems.

This course is suitable for undergraduate college students who are major in electronic information and communication.

Course Name：Multimedia Technology

Course Code：3273656

Credits：2.0

Class Hour：32

Course Description：

This course describes the basic principles and key technologies of video and audio processing technology and multimedia computer, as well as its development and application. The main contents are: Students are required to master the following contents: the definition and key technology of multimedia computer; audio processing and data compression encoding technology; multimedia software development technology; virtual reality development platform based on VR technology; 3D modeling and animation technology.

Course Name：Simulation & Modeling(Experiment Included)

Course Code：3273084

Credits：2.0

Class Hour：32

Course Description：

This course introduces basic principle, system modeling and simulation methods, to enable students to understand the basic concepts of computer simulation, to master the basic concepts of continuous system and discrete event system modeling and simulation and the basic principle. The course also introduces the existing methods and applications of the simulation software, so that students can master the application skills of computer simulation tools.

Course Name：Robot Control

Course Code：3273080

Credits：2.0

Class Hour：32

Course Description：

In this course automatic control of robotic systems is addressed. Robots, including industrial robot manipulators and mobile robots, are widely applied in modern industry and daily life. Robot control technology is an interdisciplinary, application-oriented course with strong theoretical background and practical. It is therefore an important course in the colloquium of electronic and information engineering major.

Through study of this course, the students shall get known of construction of robotic systems, understand concepts of robot motion planning, sensing and control, and further master the theory

and technique for robot control.

Course Name：Computer Control Technology

Course Code：0371047

Credits：2.0

Class Hour：32

Course Description：

Through the study of this course, students should understand the structure and applications of Computer Control Technology; familiar with Computer Control system I/O and design technology; grasp the basic design technics of digital filter and conventional controller; primarily understand software design routine of digital controller; and understand distributed controller network technology.

Course Main Contents are as follows: Introduction to Computer Control, Signal transform of computer control system, Discrete-time mathematic Models, computer control system analysis, Digital controller design using Continuous Control Systems theory, Direct z-domain digital controller design and Practical Aspects of computer Digital Control system, etc.

Course Name：Computer Graphics (Experiment included)

Course Code：0371054

Credits：2.0

Class Hour：32

Course Description：

This course teaches the basic theories and algorithms of computer graphics, and introduces the application of computer graphics in a given period of time. Through the study of this course, students can understand the general situation of computer graphics, grasp the basic concepts and basic theory of computer graphics. For raster graphics, realistic graphics in the basic algorithm and the main mathematical methods have a certain depth of understanding and grasp. Combined with the introduction of 3D graphics standard OpenGL and related application technology, students can master the application skills of computer graphics knowledge.

Course Name：Computer Networking

Course Code：3273074

Credits：2.0

Class Hour：32

Course Description：

Systematically study the computer network layered architecture and the principle of TCP/IP protocol, understand the related professional knowledge of computer networking; Learn about the trend of technological development in this field.

Have strong engineering consciousness and ability of practice, skills of computer networking; Have ability of using theoretical knowledge, technology and engineering methods to solve practical engineering problems.

Have ability of project management; Be able to analyze, design, realize, maintain computer networking system.

Have ability of reading literatures in foreign language related to computer networking technology, Have ability of communicating and cooperating with counterparts home and abroad, and studying to adjust to developments in the industry.

Course Name：The Principles and Applications of Programmable Logic Controller

Course Code：0371045

Credits：2.0

Class Hour：32

Course Description：

This course aims to enable the students to:

1. Identify and explain the main design characteristics, internal architecture and operating principles of programmable logic controllers.

2. Master the instructions system and program ability,

3. Understand the application of the PLC in the industry, raise the programming, operation, maintain and troubleshooting skills. Basic functions and operations to include programming, system design, troubleshooting and maintenance.

Course Main Contents are as follows: This course introduces the basic concept, operation

principle, fundamental structure and main performance index of programmable logic controller. Introduces the hardware structure and the configuration methods, and introduces the ladder logic programming methods and time sequence programming methods, including the timing instruction, program control instruction and input/output instruction based on the industry applications. Introduce the network communication concept and methods. And finally, the control system design over Rockwell Automation ControlLogix platform.

Course Name：Object-Oriented Programming

Course Code：3273083

Credits：2.0

Class Hour：32

Course Description：

Object-Oriented Programming, which is a computer programming architecture and an important programming tool, is an important professional course for the students in the electronic information major.

After the study of this course, students should understand the basic concepts and principles of the object oriented programming technology, grasp the basic programming methods and techniques such as inheritance, encapsulation, polymorphism, abstract function and interface, has the engineering application ability based on the object oriented programming technology and eventually lay the solid engineering application foundation for the scientific research and work in related fields in the future.

Course Name：Software Engineering

Course Code：0371056

Credits：2.0

Class Hour：32

Course Description：

This course introduces the engineering thought, methods and steps for software development. It helps students to know the characteristics of the production for software products, to get the necessary knowledge and ability of software development, to grasp the general methods, tools and

steps of software development, to know the technical foreland of software development.

This course also cultivates the student's engineering consciousness for software production, sets up a strict working style of software development, and establishes certain foundation to transport acceptable technical and management talent for information industry.

This course first introduces the origin of software engineering, the knowledge system, three -section view, models of subsist time and reuse principles of software engineering. By dint of a case analysis, it also introduces the correlative knowledge, method and ability, as well as notice items about each stage of feasibility demonstration, demands analysis, preliminary design, detailed design, programming, test, submitting and maintenance for a software project.

Course Name：Software Design Comprehensive Experiment

Course Code：0371092

Credits：2.0

Class Hour：64

Course Description：

Software design comprehensive experiment is an independent experimental course of undergraduate engineering electronics and information engineering major in our school, and the course content is comprised of computer language basics, modern software designing IDE operation methods and experimental technical abilities. And furthermore, curriculum types include fundamentaland comprehensive designing experiments. According to curriculum goals, the knowledge of C++ language and MFC GUI programming is required to master by students, who are able to design software workflow charts, construct computer program framwork, tune and debug software codes, in addition, students should be acquainted with computer program project based experimental technical abilities and software engineering methods. From the view of curriculum significance, it can not only afford necessary theoretical basis, computing methods and experimental techniques of practical problem solutions in future software engineering design and calculation analysis, but also make preparations for the work in future in regard to specialized theory and experimental technical abilities.

Course Name： Engineering Internship

Course Code： 9990495

Credits： 3.0

Class Hour： 96

Course Description：

The Engineering Internship is an important professional practice course for students that major in electronic information technology. With the help of it, students can carry out their work effectively through combining their professional knowledge with the production practice in the enterprise production field.

By learning this course, students should grasp the basic knowledge and theory of the color television, the Flat Panel TV and the PDP TV and cultivate their abilities of the scheme design, the data processing and the result analysis in the engineering practice field. It is beneficial for students to understand the basic knowledge of the enterprise culture, the security rules, the environmental protection and so on, and cultivate the students' communicative abilities and the sense of teamwork. It makes students have the abilities of undertaking the team roles, the good professional ethics and the highly professional devotion.

Course Name： Data Structure and Programming

Course Code： 3273479

Credits： 3.0

Class Hour： 48

Course Description：

This course is an important basic and professional course for electronic information majors. The basic task of this course is to enable students to master the basic idea of programming and the basic data structure and algorithm, to have rigorous programming ideas, flexible thinking and strong practical ability , to master the basic theory and professional knowledge related to data structure and programming course. Through this course students can get the basic training of software design and implementation of curriculum related to data structure and programming, to lay a solid foundation for the subsequent course of study and software development. The contents include basic structure of C programming, array, function, pointer, custom data type, file operation,

linear, stack, queue, tree, diagram, search and sort. Requirements for pre-course "Fundamentals of computer culture".

Course Name：Database Principles and Applications（Including Experiments）

Course Code：0371041

Credits：2.0

Class Hour：32

Course Description：

Database principles and applications is an integrated course that combines theory and engineering practice. It is an important professional foundation course for electronic information majors. The course introduces the basic concepts of database, the data model and the database system architecture. It focuses on the standard structured query language, the standardization theory of relational database and the process of database application system design. After the study of this course, students should understand the basic concepts of database, grasp the basic theory and techniques, have the certain design capability of database structure and the development capability of database application system.

Course Name：Digital Image Processing

Course Code：0371053

Credits：2.0

Class Hour：32

Course Description：

Digital image processing, which is the foundation of computer vision, pattern recognition and other disciplines, is a comprehensive and interdisciplinary course with strong theory and practicality. And at the same time it is an important professional course for the students in the electronic information major.

After the study of this course，students should understand the basic concepts of digital images, grasp the basic theory and techniques, which includes Image and Visual System, Space Relationship between Pixels, Image Transformation Enhancement in Spatial Domain, Image Filtering Enhancement in Spatial Domain, Image Transform, Image Enhancement in Frequency

Domain and so on. Through the analysis of the case , it can cultivate students' basic research skill and analytical ability and lay the solid foundation for the scientific research and work in related fields in the future.

Course Name：Digital Signal Processing (Including Experiments)

Course Code：3273072

Credits：2.5

Class Hour：40

Course Description：

"Digital Signal Processing (Including Experiments)" is an professional basic course for undergraduates in electronic information engineering. The course content includes introducing discrete-time signal processing, frequency-domain analysis of signals and systems, digital filter design, and analysis and design of digital signal processing systems. The students should master the generation and operation of discrete-time signals, frequency-domain analysis of discrete-time signals, the practical application of digital filters to signal processing, and will have the ability to use digital filters to analyze, design, operate and maintain the digital signal systems in future.

Course Name：Architecture of Railway Information System

Course Code：0473021

Credits：2.0

Class Hour：32

Course Description：

Help students acquire basic knowledge on the architecture of railway information system, grasp the architecture of railway information system technology and method;

Guide students to accept the knowledge of railway information system. Guide students understand the position and function of information technology in railway, and cultivate the concept of deep railway information system.

Course Name：Communication Circuit

Course Code：0383030

Credits：2.5

Class Hour：40

Course Description：

The Communication circuit is the one of specialty basic courses of electronic information, communication engineering and other disciplines. Its mission is to study the fundamentals and analysis method of high frequency electronic circuits with unit circuit theory and analysis based. After the theory studying and practice, students should grasp the basic principles and methods of high frequency electronic circuit, carry out the principle of integrating theory with practice, cultivate the ability to analyze and solve problems, and lay a solid foundation for future related work in the field and scientific research. The main contents include: introduction to high frequency, frequency selective network, high-frequency small-signal amplifier, high-frequency power amplifiers, sinusoidal oscillator, amplitude modulation and demodulation.

Course Name：Communication Theory

Course Code：3143313

Credits：3.0

Class Hour：48

Course Description：

Communication theory is an important professional basic course. This course introduces the basic analog modulation and demodulation technique, based on the frequency domain analysis method of signal and system. This course focuses on the principle of digital communication system, including digital baseband transmission system, digital passband transmission system, digital transmission analog signal, and the analysis of the noise resistance performance.

After the study of this course, students should be familiar with the concept of signal spectrum and frequency domain analysis method, grasp the basic modulation and demodulation technique, and lay the foundation for the follow-up courses of information transmission.

Course Name：Microcomputer Theory

Course Code：3273473

Credits：4.0

Class Hour：64

Course Description：

This course introduces the hardware and software architecture of microcomputer and its working principle, and trains students to apply the basic knowledge and basic skills of microcomputer. Through learning of this course, the students can grasp the structure, function, working principle of the microprocessor system, semiconductor memory and peripheral interface devices, preliminary understand the hardware system design method in microcomputer application system, grasp the instruction system function and assembly language programming, can write simple program with assembly language, master debugging method of the assembly language program.

After completing this course, students can analyze the more complicated microcomputer system and be able to design and debug the hardware and software of simple microcomputer system.

Course Name：Fundamentals for Modern Control Theory

Course Code：3273081

Credits：2.0

Class Hour：32

Course Description：

This course is targeted to introduce and discuss the most fundamental and important concepts, principles, and methods of analyzing integrated systems in modern control theory.

The main contents of the course include: the main methods of establishing the mathematical model of controlled system in modern control theory, the system analysis of motion state, the analysis of controllability, observability and system stability, the comprehensive design method of the system and the examples of engineering application.

Course Name：Signals and Systems (Including Experiments)

Course Code：3273471

Credits：3.0

Class Hour：48

Course Description：

 'Signals and Systems' is a very important technical basic course of electrical engineering in higher engineering colleges. Through the study of this course, students can master the basic theory and methods of time domain, frequency domain, complex frequency domain analysis, state variable analysis of discrete signal and system (linear time invariant), time domain and Z domain of discrete signal and system (linear time constant), which cultivate students' abstract thinking ability and comprehensive application of knowledge to solve the problem of ability for the future study and research.

Through this course, the students can master the contents below.

(1) Continuous Signals and Systems (LTI) in the time domain, frequency domain, frequency domain analysis, state variable analysis, the basic theory and methods of discrete signals and systems (LTI) in the time domain and Z- domain analysis.

(2) The abstract thinking ability and comprehensive application of knowledge to solve problems by analyzing the actual system, and the ability to abstract objects to build the system or object model. The students can analyze the engineering problems, create an abstract model, simulate the preliminary abstract model, and analyze the results of a physical explanation.

(3) By the signal simulation experiments, students can analyze experimental results and validation capabilities. The ability to grasp the preliminary design of experiments, the general process of the operation and the results of treatment, able to experiment errors and debug procedures to resolve, with the experimental data analysis and processing, compared to theoretical predictions and experimental results, error analysis, the completion of the experiment reported.

(4) Master the English vocabulary, read equipment manuals and information in English, with the ability to query the English scientific literature.

Course Name： Information Security Engineering

Course Code： 0371055

Credits： 2.0

Class Hour： 32

Course Description：

For electronic information related specialized student, Information Security Engineering

course is a professional foundation course that must be learned, the basic task is to cultivate students' information security awareness and safety skills and ability to assess. Core contents: password technology, authentication technology, access control and firewall, VPN technology and the security agreement, hackers and virus prevention, vulnerability scanning and intrusion detection, operating system security technology, big data and cloud security and etc.

Course Name：Course Exercise in Information Processing

Course Code：3273085

Credits：1.0

Class Hour：64

Course Description：

New intellection that web2.0 brings to internet, technical discussion of bitcomet, blog and network designing scheme, monitoring scheme of digital video network, video conference scheme, investigation report of digital video network monitoring scheme, market research and function introduction of electronic financial trading system and service software platform They are also can be this course's content: special effect design under PS AE,3D designing, programing, VR developing, AR developing, etc.

Course Name：Information Theory and Coding

Course Code：3273073

Credits：2.0

Class Hour：32

Course Description：

Information theory and coding is a fundamental course of Electronic Information Engineering specialty. It offers an introduction to the Shannon information theory and its applications to reliable, efficient communication systems. The aims of this course are to introduce the principles and applications of information theory. The course will study how information is measured in terms of probability and entropy, and the relationships among conditional and joint entropies, require students to focus on source coding and channel coding theory, understand the basic theory of cryptography and coding methods and lay a solid theoretical foundation for further

study and research on signal processing, intelligent information processing and information science related areas of knowledges and technology.

Course Name：Remote Supervisory and Control Technology

Course Code：3273082

Credits：2.0

Class Hour：32

Course Description：

The basic concepts about remote supervisory and control technology of power systems and electrified railway traction power supply system should be grasped, and the basic principles of remote communication should be understood. The main principles and composition of the remote supervisory and control technology based microcomputer can be understood and grasped, so that the foundation for monitoring system design , operation and maintenance work in the future could be laid. Developing the integrated use of knowledge and practical ability of students.

Course Main Contents: Basic concept of remote monitoring technology is introduced; information transmission technology; data communication network; reliability of monitoring system; structure and principles of data communication network of monitoring system; electrification railway monitoring system, and so on.

Course Name：Intelligent Control

Course Code：3045400

Credits：2.0

Class Hour：32

Course Description：

The course is targeted to convey a basic concept of system and intelligent control, and provides an introduction of the analysis and design of intelligent systems for electrical and electronic information engineering students.

Topics covered include: Hierarchical control system, Expert control system, Fuzzy control system, Neural control system, Learning control system, Evolutionary control system, and intelligent control's control mechanism, type structure, design method and application example.

Course Name：Principles of Automatic Control

Course Code：3273472

Credits：4.0

Class Hour：64

Course Description：

This course is targeted to convey a basic concept of system and control, and provides an introduction of the analysis and design of feedback systems for electrical and electronic information engineering students.

Topics covered include: time domain and frequency domain mathematic modeling, properties and advantages of feedback control systems, time domain transient and steady state analysis, stability analysis, root locus method, Nyquist criterion, basic controller design techniques and stability analysis of nonlinear systems.