Course List for Marketing

For All International Class Majors of NPU

Office of International Admissions

Northwestern Polytechnical University

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1. Aeronautical Engineering:

This program is intended to cultivate high-level engineering technicians and researchers who have solid foundation for mathematics and mechanics. They must possess basic theory and application knowledge on flight vehicle engineering and be able to engage in general mechanical design and manufacture. Students should be capable of: systematic research in flight vehicle design (including space shuttles and carriers), framework design, airplane exterior design, airplane performance calculation and analysis, structure tension analysis, trouble-shooting and maintenance and software development.

The main courses include Material Mechanics, Mechanical Design, Elastic Mechanics, Structure Mechanics, Fluid Mechanics and Fundamental Aerodynamics, Aircraft Structure Mechanics, Flight Mechanics, Structure Vibration, Testing Techniques, Automatic Control Theory, Aircraft Comprehensive Design, Structure Design, Composite Material Analysis and Design, Civil Airplane Structure Maintenance, Civil Airplane Maintenance in-damage Testing.

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Programming in C (English I)	3
C Programming Experiment (English I)	2
Calculus II(1)	4
Calculus II(2)	4
Linear algebra	3
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
Functions of A Complex Variable	1
Numerical Methods and Programming	2
College Physics Experiment IV(1)（International）	1.5
College Physics IV(1)（International）	4
College Physics Experiment IV(2)（International）	1.5
College Physics IV(2)（International）	3.5

Major Courses:

Course Title	Credit
Mechanical Mapping	3
Theoretic Mechanics	4
Introduction to Structure Mechanics	3.5
Fundamentals of Aerodynamics	4
Electrical and Electronic Technology	4
Experiment for Electrical and Electronic Technology	1
The Fundamental of Machine Design	3.5
Automatic Control Principles	3.5
Aerodynamics	2.5
Flight Vehicle Performance Calculation	1.5
Flight Vehicle Structure Mechanics	3.5
Hydrodynamics Experiment	1.5
Aircraft Conceptual Design	3
Flight Vehicle Stability and Manipulability	2.5
Flight Vehicle Framework Design	3
Structural Analysis by Finite Element Method	2
Introduction to Aeronautics and Astronautics	1.5
Equations of Mathematical Physics	1
Theory of Elasticity	1.5
Flight Vehicle Structural Vibration	2
Aircraft Electronic System and Maintenance	2
Principles and Structure of Aviation Engines	2
Optimal Estimation and Kalman Filter	2
Optimal Control of Flight Vehicles	2
Airplane Function System Design	2
Structural Testing Techniques	2
Experimental Aerodynamics	2

Fundamentals of CAD/CAM	1.5
Computational Fluid Dynamics	1.5
The Fundamentals of Reliability Engineering	1.5
Flight Control of Airplane	1.5
Safety Analysis and Airworthiness of Aircraft	2
Advanced Measurement and Visualization Techniques in Aerodynamics	1.5

Practical Works, Trainings & Graduation Thesis:

Course Title	**Credit**
Metalworking	2
Metalworking	2
Acknowledge Internship	1
Aircraft Design Practice	4
Strength Analysis of Flight Vehicle Structural Design Experiment	2
Production Practice	3
Aerodynamic Design and Practice of Aircraft	2
Research Training	2
Undergraduate Thesis	10

2. Astronautics Engineering

Flight Vehicle Design and Engineering is a four-year program. Undergraduates will have specialized courses from this unique specialty after they have completed the General Education Courses, Basic Technical Courses and Specialized Courses.

Students shall develop balanced qualities among morals, intelligence and physical education and obtain basic qualification for being senior engineers in our college.

The graduates will be capable doing a broad range of research activities, such as flight vehicle conceptual design, structure design, structure dynamics analysis, flight mechanics and dynamics, aerodynamic engineering calculation of flight vehicle, spacecraft dynamics and control, system simulation and computer application, automatic control engineering, and doing research and development works in other related field.

The main courses include Missile Conceptual Design, Flight Vehicle Structural Mechanics, Structural Design, Space Vehicle Conceptual Design, Structural Dynamics, Aerodynamic, Engineering Calculation of Flight Vehicle, Flight Trajectory of Missiles, Analysis of Missile Dynamic Characteristic, Spacecraft Attitude Dynamics and Control, Elements of Satellite Positioning

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Mechanical Mapping	3
University Computer (English)	2
University Computer Experiment (English)	1.5
Programming in C (English I)	3
C Programming Experiment (English I)	2
Linear algebra	3
College Physics Experiment IV(1)（International）	1.5
Probability Theory and Mathematical Statistics	3.5
College Physics Experiment IV(2)（International）	1.5
College Physics IV(2)（International）	3.5
College Physics IV(1)（International）	4
Calculus II(1)	4
Calculus II(2)	4
Calculus II(3)	4

Major Courses:

Course Title	Credit
Introduction to Aerospace Engineering	1.5
Theoretic Mechanics	4
Electrical and Electronic Technology	4
The Fundamental of Machine Design	3.5
Experiment for Electrical and Electronic Technology	1
Mechanics of Materials	3
Aerodynamics	3
Automatic Control Principles	3
Orbital Mechanics for Aerospace Vehicle	3
Flight Vehicle Flight Dynamics	4
Fundamentals of Rocket Propulsion	4
light Vehicle Attitude Dynamics and Control	2.5
Flight Vehicle Structure Mechanics	3
Flight Vehicle Guidance	3
Fundamentals of Flight Vehicle Navigation	3

Rocket Engine Design	3
Computational Aerodynamic	3
Theory and Application of System Identification	2.5
Modern Vehicle Structural Design	3
System Engineering of Flight Vehicle	3

Practical Works, Trainings & Graduation Thesis:

Course Title	**Credit**
Graduation Project	15
Metalworking	2
Acknowledge Internship	1
Flight mechanics course design	1
Course design for numerical calculation of aerodynamics	1
Practice	3

3. Ocean Engineering

The degree in the Ocean Engineering Program is to prepare students to work for the industry and academia in ocean engineering, with expertise in naval architecture, underwater vehicles, underwater signal processing and marine environment, by applying the basic laws and principles of mathematics, mechanics, acoustics and information science.

The main courses include Calculus of Engineering , Linear Algebra, Engineering Chemistry, Engineering Physics , Engineering graphics, Oceanography, Differential equations, Statistics, Numerical computation, Applied mechanics, C Language, Engineering Thermodynamics, Mechatronics, Naval architecture, Systems and control, Engineering materials, Underwater acoustics, Fluid mechanics, Measurement and Instrument , Digital signal processing, Engineering Optimization, Underwater vehicle navigation and control, Underwater systems, Vibrations, Observation of ocean environment, Underwater information systems

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Calculus II(1)	4
Programming in C (English II)	2.5
C Programming Experiment (English II)	1.5
Calculus II(2)	4
Linear algebra	3
College Physics Experiment IV(1)（International）	1.5
College Physics IV(1)（International）	4
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
College Physics Experiment IV(2)（International）	1.5
College Physics IV(2)（International）	3.5
Computing Method	2.5

Major Courses:

Course Title	Credit
Mechanical Mapping	3
Fluid Mechanics	3
Digital Signal Processing	3
Electrical and Electronic Technology	4
Experiment for Electrical and Electronic Technology	1
Introduction to Ocean engineering	1
System and Control	4
Theoretic Mechanics	3
Underwater Acoustics	2.5
Engineering Thermodynamics	2
Measurement and Instrument	2
Ocean environment monitoring	2
Naval Architecture	2
Underwater Wireless Communication	2
Modeling and control of underwater vehicles	2
Navigation of underwater vehicles	2
Sound and Structural Vibration	2
Essential MATLAB for Engineers and Scientists	2
CAD/CAM Principles and Application	2
Applications of CAE	2
Underwater Acoustic Sensor Networks	2
Random signal analysis	2
Modern Control Theory	2
Engineering Optimization	2
Underwater Signal Processing System	2
Distributed Estimation and Control	2
Introduction to Robotics	2
Principles of Acoustic Communications	2

Practical Works, Trainings & Graduation Thesis:

Course Title	Credit
Metalworking	2
Acquaintance ship practice	1
Research and training	2
Production practice	1.5
Electrical Technology Integrated Curriculum Design	2
Autonomous Underwater Vehicle Design and Experiment	2
Undergraduate Thesis	10

Comprehensive Quality Education Courses：

Course Title	Credit
Introduction to Aeronautics	0.5
Mental Health Education of College Students	0.5
Occupational Career Planning of College Students	0.5
Introduction to Ocean Engineering	0.5
Introduction of Aerospace	0.5

4. Mechanical Engineering

This program is glared towards the teaching and training in the field of mechanical engineering, to familiarize with fundamental principles, knowledge and applying abilities of mechanical design, manufacturing and automation. Students can work with technological applications, research and development in enterprises, institutes, and so on.

The main courses include Theoretical Mechanics, Mechanics of Materials, Electrical Engineering, Electronics, Mechanical Graphing, Tolerance and measurement technology, Theory of Machines and Mechanisms, Mechanical Design (Machinery), Engineering Testing Technique, Technology of Mechanical Manufacture, Principles of Metal Cutting & Cutters, Introduction to Machine Tool and Design, Hydraulic and Pneumatic Transmission, Technology of NC Machining, Computer aided manufacturing

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Programming in C (English II)	2.5
C Programming Experiment (English II)	1.5
Calculus II(1)	4
Calculus II(2)	4
Linear algebra	3
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
Computing Method	2.5
Complex Function and Integral Transformation	2.5
College Physics Experiment IV(1)（International）	1.5
College Physics IV(1)（International）	4
College Physics Experiment IV(2)（International）	1.5
College Physics IV(2)（International）	3.5

Major Courses:

Course Title	Credit
Introduction to Aeronautics	0.5
Introduction of Aerospace	0.5
Introduction to Ocean Engineering	0.5
Mechanical Mapping	3
Electrical and Electronic Technology	4
Experiment for Electrical and Electronic Technology	1
Theoretic Mechanics	3
Mechanics of Materials	3
Fundamental of mechanical manufacturing	2
Engineering Heat Transfer	1.5
Fundamentals of fluid mechanics	2
The Fundamental of Machine Design	3.5
Test & Measurement Technology	2
Fundamentals of Engineering Materials	2
Mechanical Assembly Technology	2
The metal plastic forming principle	3
Introduction to MEMS	2
Introduction to Mechatronics	2
Instruction to industry engineering	2
Mechanical manufacturing technology	3
Optimization theory and applications	1.5
Product Design	1.5
3D Product Design and Modeling	1.5
Discipline forward position I	0.5
Discipline forward position II	0.5
Numerical optimization and finite element method (fem) in mechanical engineering	1.5
Computational geometry	1.5
Computer Graphics	1.5
Single-chip microcomputer principle and application	1.5
Artificial intelligence application in mechanical engineering	1.5
Robotics	1.5

System Reliability Theory and Applications	1.5
Optimization and Control of Manufacturing System Simulation	1.5
Production and Operation Management	1.5
Biological machinery and electronics	1.5
Computer Aided Design and Manufacturing	1.5
Planning and Scheduling：Theory and Applications	2
Human factors	2.5
Advanced manufacturing systems	1.5
Comprehensive experiment on superplastic forming	1
Additive manufacturing experiment	0.5

diploma project	10
Metalworking	2
mechanical surveying and mapping	2
Metalworking	2
Understanding practice	1
Production Practice	3
“Mechanical Design” Course Practice	2
Professional curriculum design	3
Research training	2
Freshman seminar	0.5
Freshman seminar	0.5

Practical Works, Trainings & Graduation Thesis:

5. Civil Engineering

This program is intended to cultivate high-level engineering technicians and researchers who should adapt the requirement of modern construction of socialism; develop roundly in aspects of virtue, intelligence and body, and master basic theory and knowledge of the discipline of civil engineering.

Main Courses include Descriptive Geometry & Engineering Drawing，Theoretical Mechanics, Material Mechanics, Structural mechanics, Construction Materials, Surveying, Soil Mechanics & Foundation Engineering, Probability and Statistics, Building Engineering, Elementary Reinforced Concrete Design, Design of Reinforced Concrete Structures, Steel Structures, Construction Techniques, Structural Testing Technology.

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Mechanical Mapping	3
University Computer (English)	2
University Computer Experiment (English)	1.5
Programming in C (English I)	3
C Programming Experiment (English I)	2
Calculus II(1)	4
Calculus II(2)	4
Linear algebra	3
College Physics Experiment IV(1)（International）	1.5
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
College Physics 2（International）	4
College Physics Experiment IV(2)（International）	1.5
College Physics IV(1)（International）	4

Major Courses:

Course Title	Credit
Theoretic Mechanics	3
Mechanics of Materials	3
Surveying	2.5
Construction Materials	2.5
Structural Mechanics	4
Engineering Mechanics Test	1.5
Elementary Reinforced Concrete Design	3.5
Soil Mechanics & Foundation Engineering	3
Design of Reinforced Concrete Structures and Masonry Structures	3
Steel Structure Design	3
Construction Techniques	4
Theory of Vibration	2
SAP2000 Structural Engineering Case	2
Outline of Civil Engineering	1.5
Engineering Geology	1.5
Elasticity Mechanics	2
Building Engineering	2
Computer Aided Design	1.5
Finite Element	2
Project Management	2
Building Structural Experiments	1.5
Ansys (structural analysis)	2.5
Subgrade and pavement engineering	1
Green Building and Estimation	1
Chinese Traditional Building Design	1
introduction to Intelligent Transportation System	1

Practical Works, Trainings & Graduation Thesis:

Course Title	Credit
Graduation Project	15
Metalworking	2
Surveying Practice	2
Acknowledge Internship	1
Curriculum Design of Building Architecture	1
Design of Floor Slab of Reinforced Concrete	3

Scheduling Design of Building Construction	1
Practice	3

Curriculum Design if Ansys (structural analysis)	1

6. Electronics & Information Engineering

This program is designed to educate and train qualified professional electronic engineers with solid theoretical knowledge and sufficient engineering abilities, to adapt to the demands of modernization construction. The graduates will be capable of research and development and management related with electronics and information systems, including electronic equipment and systems, signal and information processing, micro-electronics, computer applications and microwave techniques, etc.

The main courses include Fundamentals of Circuit Analysis, Signals Systems, Analog Electronic Circuits, Pulse and Digital Circuits, Engineering Electromagnetic Fields and Waves, Digital Signal Processing, High Frequency Electronic Circuits, The Principle of Communication, Principle and Application of Microcomputer, The Principle of Automatic Control, Microwave Techniques and Antennas.

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Programming in C (English II)	2.5
C Programming Experiment (English II)	1.5
Calculus II(1)	4
Calculus II(2)	4
Linear algebra	3
Calculus II(3)	4
Complex Function and Integral Transformation	2.5
Computing Method	2.5
Probability Theory and Mathematical Statistics	3.5
College Physics Experiment IV(1)（International）	1.5
College Physics IV(1)（International）	4
College Physics Experiment IV(2)（International）	1.5
College Physics IV(2)（International）	3.5

Major Courses:

Course Title	Credit
Introduction to Aeronautics	0.5
Introduction of Aerospace	0.5
Introduction to Ocean Engineering	0.5
Mechanical Mapping	3
Fundamentals of Electric Circuits I	4
Fundamentals of Analog Electronics	4
Signal and System	4
Fundamentals of Digital Electronics	4
Equations and Special Functions in Mathematical Physics	2
High Frequency Electronic Circuit	3.5
Digital Signal Processing	3
Engineering Electromagnetic Fields and Waves	3.5
Microwave Techniques and Antennas	4
Principles of Communication	4
Analysis and Detection of Random Sigma	2.5
Principles and Applications of Microcomputer	2
Electronic Measurement	2.5
Avionics System	2
Classical Control Theory	2
Microcomputer Principle and Application (English)（II）	2
Microcomputer Principle and Application Experiment （II）	1
Electronic Design Automation	2
Fiber Communication	2
Principles of Pattern Recognition	2
Fundamentals of Information	2
Principle and Application of sensors	2
Computer Network	2
Primary Multimedia Technology	2

The Principles and Applications of DSP/FPGA	2
Microwave and Radio Circuits	2
Wireless Sensor Networks	2
Digital Image Processing	3
Principles of Radar	3
Modeling and simulation of system using MATLAB	2
The Fundamentals of electronics and information	1
Speech Signal Processing	2
Civil Avionics Systems	2
Technology on Military Avionics Systems and its Applications	2
The Avionics Technology	2

Practical Works, Trainings & Graduation Thesis:

Course Title	**Credit**
Undergraduate Thesis	10
Metalworking	2
Electronic Practice	2
High Frequency Electronic Circuit Experiment	1
Engineering Internship	2
Comprehensive Experiments on Electrical & Information Engineering	2
Acknowledge Internship	1
Experiments for Fundamentals of Digital Electronics	1
Experiments for Signal and System	0.5
Experiments for Fundamentals of Electric Circuits I	1
Experiments for Fundamentals of Analog Electronics	1
Innovation and Comprehensive Experiments	2
Research Training	2
Academic Competition	2
Matlab simulation experiment	1
Experiments for Digital Signal Processing	0.5
Single Chip Microcomputer & Embedded System Course Design	1
Course Design of High-Frequency Electronic Circuit	0.5
Experiment of Communication Principle	1
DSP/FPGA Design	1
Experiment of electromagnetic field and electromagnetic wave	1

7. Electrical Engineering

This program is designed to provide a thorough background in the theoretical principles, strong field capabilities, and wider specialized knowledge in technical aspects of electrical engineering and automation.

The main courses include Fundamentals of Circuit analysis, Electronic technology, Principles of Automatic Control, Principles of Electrical Machine, Principles of Single Chip Processor, Electrical Drive, Power Electronic Technology, Power System，Electrical Testing Technology, Automation System of Electrical Drive.

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Freshman Seminars	1
Programming in C (English I)	3
C Programming Experiment (English I)	2
Credit Subtotal	18
Calculus II(2)	4
Linear algebra	3
Computing Method	2.5
Complex Function and Integral Transformation	2.5
Mechanical Mapping	3
Calculus II(1)	4
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
College Physics Experiment IV(1)（International）	1.5
College Physics IV(1)（International）	4
College Physics Experiment IV(2)（International）	1.5
College Physics IV(2)（International）	3.5
Introduction to Aeronautics	0.5
Introduction of Aerospace	0.5
Introduction to Ocean Engineering	0.5

Major Courses:

Course Title	Credit
Fundamentals of Digital Electronics	4
Fundamentals of Electric Circuits I	4
Experiments for Fundamentals of Digital Electronics	1
Experiments for Fundamentals of Electric Circuits I	1
Engineering Electromagnetic Field	2.5
Fundamentals of Analog Electronics	4
Experiments for Fundamentals of Analog Electronics	1
Principle of Automatic Control(II)	5.5
Experiment in Principle of Automatic Control(II)	1.5
Embedded System and Its Application	4
Electrical Machine	5.5
Power Electronics	3.5
Power System	4
Electrical Testing System	2.5
Electrical Drive and Control System	3.5
Power System Simulation	2.5
Lectures on frontier discipline	1
PLC Technology	2
Modern Power Supply Technology	2
Principle and Control of Novel Electrical Machines	2
Digital Servo Control System	2
MCU-Controlled Power Electronics System	2
Electromagnetic Field and Thermal Field Analysis for Electrical Machine	2
Fundamental of Smart Grid	2
Power Quality Analysis and Control	2
New energy and hybrid	1.5

Practical Works, Trainings & Graduation Thesis:

Course Title	Credit
Graduation Design (Thesis)	10
Project Design of embedded system	2
Electronic Practice	2
Acknowledge Internship	1
Engineering	2
Engineering and Research Training	2
electromechanics curriculum design	2.5
Metalworking	2
Research Training	2

8. Computer Science & Technology

The program is designed to provide a thorough grounding in the theoretical principles, basic knowledge and skills for computer science and engineering. With research ability and design ability being both emphasized, and specialty being coupled with broad scale of knowledge, students can prepare for any professional role for computer science, technology, and application, such as senior engineer or technician for educating, researching, developing, and applying.

Main Courses include Higher Mathematics, College Physics, College English, Discrete Mathematics, C language Programming, Data Structure, Algorithm Analysis and Design, Principle of Computer Network, Computer Organization, Computer Operation System, Compiling Principle, Introduction to Database, Object-Oriented Programming, Signals and Systems, Multimedia Technology, Assembly & Interface, Software Engineering, Artificial Intelligence, Computer System Architecture, Network Security, Digital Image Processing

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Calculus II(1)	4
Calculus II(2)	4
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
Linear algebra	3
Computing Method	2.5
College Physics Experiment IV(1)（International）	1.5
College Physics IV(1)（International）	4
College Physics Experiment IV(2)（International）	1.5
College Physics IV(2)（International）	3.5
Introduction to Aeronautics and Astronautics	1.5

Major Courses:

Course Title	Credit
Programming in C (English I)	3
C Programming Experiment (English I)	2
Fundamentals of Electric Circuits I	4
Experiments for Fundamentals of Electric Circuits I	1
Data Structure	3.5
Digital Logic Design	3.5
Algorithm design and analysis	2
Object Oriented Programming	2.5
Discrete Mathematics I	3.5
Computer Organization and Architecture	4
Computer Operating System	3.5
Principle of Computer Network	3
Database Concepts	2.5
Compiling Principle	3
University Computer (English)	2
University Computer Experiment (English)	1.5
Computational Social Science	1.5
Artificial Intelligence	2.5
Assembly and Interface	2.5
Software Engineering	2
Wireless Sensor Networks	2.5
Assembly and Interface Experiment	0.5
Software Engineering Experiment	0.5
Wireless Sensor Networks Experiment	0.5
Multimedia Technology	2
Network Management	2

Network Measurement	2
Mobile Computing	2.5
parallel programming	3
Digital Image Processing	2.5
Mobile Computing Experiment	0.5
Computer Science and Technology Frontier I	0.5
Computer Science and Technology Frontier II	0.5

Practical Works, Trainings & Graduation Thesis:

Course Title	**Credit**
Graduation Design (Thesis)	10
Data Structure Experiment	0.5
Digital Logic Design Experiment	0.5
Algorithm Design and Analysis Experiment	0.5
Metalworking	2
Object Oriented Programming Experiment	0.5
Computer Organization and Architecture Experiment	2
Electronic Practice	2
Computer Operating System Experiment	2
Principle of Computer Network Experiment	0.5
Database Concepts Experiment	0.5
Compiling Principle Experiment	2
Production Practice	3
Open Innovation Project	2

9. Business Administration

This program is designed to provide a thorough grounding in the theoretical principles and knowledge of management, economics, engineering, technology and certified public accountants (CPA). Students with good knowledge and abilities in application of theoretical and analytic tools and problems solving can prepare for any professional roles they might choose-marketing, management, teaching and research in enterprises, institutes, government and other community groups.

Main Courses include Management, Macro and Micro-Economics, Managerial Economics, Management Information System, Statistics, Marketing, Production Management, Accounting, Financial Management, Human Resources Management, Strategic Management.

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses:

Course Title	Credit
Mechanical Mapping	3
University Computer (English)	2
University Computer Experiment (English)	1.5
Programming in C (English II)	2.5
C Programming Experiment (English II)	1.5
Calculus II(1)	4
Calculus II(2)	4
Linear algebra	3
College Physics 1	4
College Physics Experiment IV(1)（International）	1.5
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
College Physics 2（International）	4
College Physics Experiment IV(2)（International）	1.5

Major Courses:

Course Title	Credit
Management	2
Accounting	2
Economics	4
Statistics	3
Management Information System	2

Marketing	2
Operations Research	3
Introduction to Project Management	2
Organizational Behavior	2
International Trade Theory and Practice	3
Human Resource Management	2
Production and Operations Management	3
Financial Management	3
Strategic Management	2
Logistics Management and Supply Chain	2
Frontier of Business Administration	1
Market Investigation and Forecast	2
Marketing Management	2
International Management	2
Quality Management	2
Systems Engineering	2

Practical Works, Trainings & Graduation Thesis:

Course Title	**Credit**
Undergraduate Thesis	10
Metalworking	2
Specialty Social Survey	2
Electronic Practice	2
Documents Searching	2
Term paper	2
Term Paper	2
Term paper	2
Regional Economics	2
Project Planning & Control	2
Development Tools and Technology of Information Systems	2

10. English

The English Major Department started its BA program in 1994. The current teaching staff consists of experienced experts from China, the United States, England and Australia. The English Major Department makes full use of its strength in science and engineering, especially in military science to offer students a variety of interdisciplinary undergraduate courses. The focus of teaching is mainly placed on the cultivation of students' fundamental skills such as effective and creative writing, basic translation and interpretation as well as communication, critical reading and thinking. Meanwhile, the courses aim to help English majors broaden their vision of the world and better understand human civilization. Upon graduation, the English majors are expected to exhibit proficiency in English， familiarity with science and technology, acquaintance with capability in critical thinking, and creativity and innovativeness so that they will be able to move forward academically and/or professionally. The department also provides students with opportunities to study abroad as an exchange student for about a year.

In order to satisfy the requirements put forward by the globalization and fast economical development, the English major program is planned to cultivate students who will be equipped with full competence in language as well as a wide range of knowledge at the time of their graduation. It will make the full use of its strength not only in language, but also in science and engineering, especially in military science. This will considerably help the students become capable of handling different tasks in many fields, such as foreign affairs, teaching, economy, culture, science, engineering and military operation.

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses

Course Title	Credit
Essential English（2）	4
Essential English (1)	4
Computational Thinking in the Social Sciences	2
Computational Thinking in the Social Sciences Experiment	1.5

Major courses

Course Title	Credit
English Listening and Speaking(2)	1
English Writing (1)	1
Listening Comprehension(2)	1
Oral English (2)	1
Integrated Skills of English (2)	2
English Writing (3)	2
Reading and Critical Thinking (2)	2
Interpretation Between English and Chinese	2
Reading Comprehension and Analysis (2)	1
English Listening and Speaking(1)	1
Listening Comprehension(1)	1
Oral English (1)	1
Integrated Skills of English(1)	2
English Writing (2)	2
Translation	2
Reading and Critical Thinking (1)	2

Learning English through News	2
Reading Comprehension and Analysis(1)	1
American Literature	2
Academic Writing (2)	2
English Presentation Skills and Practice	2
British Literature	2
Introduction to Linguistics	2
Academic Writing (1)	2
Simultaneous Interpretation	2
Thesis Writing	1
Correspondence Contract of Foreign Trade	2
American Society and Culture	1
Biblical Stories	2
The History of Europe and America	2
Selected Readings of English Poems and Proses	2
BEC English	2
International Trade Practice	2
English Language Testing	2
English Pragmatics	2
English for Science and Technology	2
Second Foreign Language (2)	2
English Pronunciation	1
British Society and Culture	1
Intercultural Communication	2
History of Western Civilization	2

Selected Readings of English Short stories	2
Selected Readings in Newspapers and Periodicals	2
Business Etiquettes	2
History of Literature in Europe and America	2
Statistics in Foreign Language Research	2
Introduction to Sociolinguistics	2
English Lexicology	2
English Teaching Methodology	2
English Public Speaking	2
Movie Appreciation	2
EST Translation	2
Second Foreign Language (1)	2
Second Foreign Language (3)	2

Practical Works, Trainings & Graduation Thesis:

Course Title	**Credit**
Major Practice	4
Acknowledge Internship	3
Story Retelling	1
English Drama Show	1
Reading for Practical Purpose	0.5
English Movie Dubbing	1
Public Speaking and Debating Practice in English	1
Graduation Thesis	10

11. Biosciences

In order to meet the requirement of Socialist Modernization in the 21st century (Moral, intellectual, physical and aesthetic development), the objectives of Bioscience and Biotechnology is to train the candidates with compact theoretical foundation, strong practical and innovation ability and well interdisciplinary background. After applying the proposed training program, the candidate will be able to perform bioscience and biotechnology-related research, development, production, management and teaching tasks. The graduates are competent to undertake research and teaching work in scientific institutions and colleges. Meanwhile, they are competent to undertake relevant application researches, technological development, production and administration management in industrial, medical, food, environmental protection fields and other sectors of enterprises and administrative departments.

Master the systematic and fundamental theories on the subject of Biotechnology, broad and solid technical expertise and essential major knowledge; Master the economical, management and technological knowledge of socialist market; Master the knowledge about social and human sciences, law and national defense; Awareness of development of Biotechnology Science. Master the basic experimental skills of molecular biology and cell biology related subjects.

Public Courses:

Course Title	Credit
Chinese language 1	3.5
Chinese Culture 1	2
Chinese language 2	4
Chinese Culture 2	2
Chinese Language 3	3.5
Chinese Language 4	4
Physical Education	4

Basic Courses

Course Title	Credit
College Computer(IV, English)	2
College Computer(IV, English) Experiment	1.5
Calculus II(2)	4
Linear algebra	3
Computing Method	2.5
Calculus II(1)	4
Calculus II(3)	4
Probability Theory and Mathematical Statistics	3.5
College Physics Experiment IV(1) International）	1.5
College Physics IV(1)（International）	4
College Physics Experiment IV(2)International）	1.5
College Physics IV(2)（International）	3.5

Major courses

Course Title	Credit
Organic Chemistry	3
Microbiology	3
Organic Chemistry Experiments	1
Microbiology Experiment	1
Botany	2
Zoology	2
Immunology	2
Biophysics	3
Cell Biology	3
Ecology	1
Biotechnology	2
Cell Biology Experiment	2
Genetics	3
Biochemistry	4
Molecular Biology	2

Neural Science	2
Experiment of Biochemistry	2
Experiments of Molecular Biology	1
Stem Cell Biology	2.5
Modern Mass Spectrometry	2.5
Proteomics	2
Biomaterials	3
Biomechanics	2
Biostatistics	2
Bioinformatics	2

Practical Works, Trainings & Graduation Thesis:

Course Title	**Credit**
Graduation Thesis	10
Preparation and detection techniques of biological samples	2
Frontier Exploration Experiment for Biotechnology	3
Acknowledge Internship	1
Engineering Internship	2
Commonweal Work & Social Activities	2
Animal Experiment Technique	2
Open Innovation experiment in biology	2
Experiments in research field of Biological techniques	2
Research Training	2