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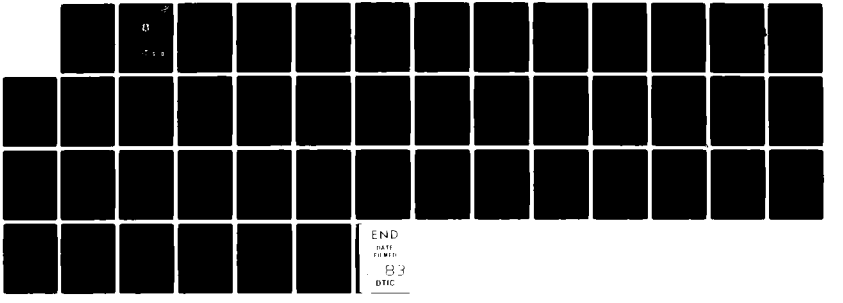

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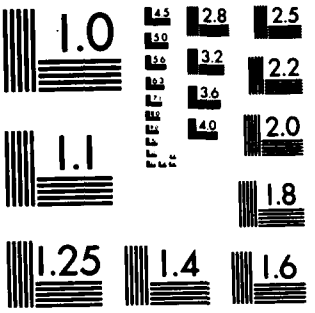

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NANJING UNIVERSITY
GENERAL INFORMATION

(Selected Articles)

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PREPARED BY:

TRANSLATION DIVISION
FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

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[Translator's note: * - Original in Chinese is not available or is not required to be translated.

** - only partially translated on available text.]

GRAPHICS DISCLAIMER

All figures, graphics, tables, equations, etc. merged into this translation were extracted from the best quality copy available.

INTRODUCTION

This university was called Zhongyang University before the Liberation. The name was changed to Nanjing University in 1949 after the Liberation. The history of the school can be traced back to 1902. The names Sanjiang Normal School, Liangjiang Normal School, Nanjing Advanced Normal College, Dongnan University and the Fourth Zhongshan University were used.

Being a comprehensive university of liberal arts and sciences, Nanjing University has fourteen departments: Chinese language, history, philosophy, economics, foreign languages, astronomy, mathematics, computer science, physics, chemistry, biology, geology, geography and meteorology. In addition, it also accommodates two research and teaching offices under the university: Marxism-Leninism and physical education.

Currently there is a teaching staff of 1,651: 83 professors, 69 associate professors, 839 lecturers, 44 instructors and 616 teaching assistants. The number of non-teaching employees amounts to 1,490.

There were 4,115 students as of 1978, of whom 3,686 were undergraduates, 156 were research students, 228 were graduate students and 45 were foreign students.

The primary responsibility of the university is: to train red and specialized qualified research personnel, teachers, and other specialized workers in the philosophical - social sciences and the natural sciences who are fully developed morally, intellectually and physically.

The existing school system for undergraduates is four years, with the first two years designated for fundamental courses and the last two years for specialized fundamentals and specialized courses. Education and training in strengthening of fundamental theories and knowledge, and basic skills are emphasized; cultivating the students' ability to analyze and solve problems is also stressed. An academic unit system was implemented and was first applied to students who were admitted in 1978; graduation is granted when 120 to 140 units have been completed. Students may petition for exemptions from certain courses and in fact will be exempted and credited with the units if that student successfully passes an examination. Subsequently, that student is allowed to take courses early which follow a prerequisite, and can graduate earlier than usual if the total number of units required by a department has been completed. The courses are designated as follows: required courses, amounting to 60-70 percent of the total units; required ellectives, amounting to 20-25 percent of the total units; and electives, 10-15 percent.

The academic system for graduate students is three years. The educational goal for the graduate students is: socialist consciousness, greater familiarity with Marxism-Leninism, possessing a systematic and solid foundation in theories, having specialized knowledge and skill in scientific experiments, understanding two foreign languages with fluency in at least one of the two, and ability to perform independently scientific research or related teaching. Of the total time in graduate study, coursework and scientific research respectively constitute one-half of the time; the third year is allocated to thesis writing and passing the oral examination.

The compilation of teaching material is emphasized in Nanjing University. In the past several years, part of the material written on fundamentals and

specialized courses has been published by the state press and listed as general teaching material for relevant departments in the country.

There is a university library as well as libraries and information rooms in each department. Each department has its essential laboratory (or station).

Nanjing University carries on the principle of combining teaching and scientific research, gradually building the school into both a teaching center and scientific research center, not only to build up both red and expert specialists in various fields for the country, but also to produce the fruits of scientific research, contributing to socilist modernization.

Nanjing University has the following scientific research organizations with full-time research workers numbering over 400: Institute of Acoustics, Institute of Synthetic Chemistry, Institute of Granite and Volcanic Rock Formation Theory, Institute of Environmental Science, Institute of Rice Grass and Beach Development, Astrophysics Laboratory, Crystal Physics Laboratory, Computer Software Laboratory, Molecular Biology Laboratory, Institute of Religion, Yuan History Laboratory, and Linguistic Theory Laboratory. For the past several years, the university has been organizing multi-discipline cooperation and definite achievements have been obtained in the areas of basic theoretical research and applied scientific research and certain characteristics have taken shape. Forty-eight achievements in scientific research from our university received prizes at the All China Scientific Conference in 1978. The university sponsors various types of scholastic activities on a regular basis, and during the "May 20th" celebration of the founding of the school, holds large scale science report meetings and discussions which involve the entire school.

There are two periodicals published by Nanjing University which have national circulation: Journal of the Natural Sciences (quarterly) and Journal of Philosophy and Social Sciences (quarterly).

The leadership system at the university implements the school president's "division of labor with individual responsibility system" under the leadership of the Party committee and each department chairman's "division of labor with individual responsibility system" under the leadership of the general Party branch.

Major members in the unversity leading body:

President: Kuang Yaming.
Vice Presidents: Zhang De, Gao Jiyu, Zhong Shiqin, and Fan Cunzhong.
Vice President and Dean of Studies: Xu Fuji
Chairman of the President's Office: Cheng Baiyang.
Assistant Dean of Studies: Wang Dezi.
Assistant General Manager: Wu Kebin.

In order to strengthen the leadership of the president and the Party committee in teaching and scientific research, a natural sciences academic committee and philosophy and social sciences academic committee have been formed as academic counsellors for the Party committee and the president. The academic committees are staffed by professors, associate professors and lecturers of higher academic caliber. The natural sciences academic committee has 29 members, with vice president Gao Jiyu as chairman; the philosophy and social sciences academic committee has 21 members, with vice president Fan Cunzhong as chairman.

Section B: General Discussion of Literature, Brief History of Chinese Literature, Brief Literature History of the Foreign Country Whose Language Is Studied by the Individual Student, Literature Criticism of the Foreign Country Whose Language Is Studied by the Individual Student, and Selected Classics of Marxism.

Scientific Research

The department's scientific research centers on language and literature of the related countries, including linguistic theory, linguistic practice, translation theory and its practice, teaching methods, literature history and authors, and study on works. In addition, translation and editing work is carried out on literature, history, politics, philosophy and dictionaries.

The main research subjects in the recent eight years were "Preliminary Discussion of Chinese to English Translation and Vice Versa," "English Lexicology," "German Grammar," "German Rhetoric," "English Phrase Dictionary," and "Literature History of Main European and American Countries."

DEPARTMENT OF ASTRONOMY

INTRODUCTION

Currently there is a single major in this department - Astronomy which has four specializations: (1) Celestial Mechanics, with emphases in the fundamental theories of celestial mechanics and artificial satellite motion; (2) Astronomy, with emphases in sidereal time measurements, variation of latitude and polar displacement; (3) Astrophysics, with emphases in solar physics of solar activity region, and physics of stars and star clusters; (4) Radio Astronomy, with emphases in solar radiation and cosmic radiation. Four research and teaching laboratories are established according to requirements of teaching and scientific research: Celestial Mechanics Research and Teaching Laboratory (R.T.L.), Astronomy R.T.L., Astrophysics R.T.L., and Radio Astronomy R.T.L. There are three laboratories and one observatory with more than 300 instruments of various kinds including one 46-cm tower

type solar telescope. In addition, there are three refracting telescopes - a 28 cm, a 15 cm, and a 13 cm instrument, a 15 cm zenith telescope, a 3.2 cm radio telescope, microphotometers, monochromatic meters, coordinate measuring apparatuses, comparators, small quartz clocks and Wil8T4 theodolites. There are over 30,000 books in the departmental library.

There is a teaching staff of 66: 3 professors, 5 associate professors, 31 lecturers, 17 instructors and 20 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Dai Wensai - Astrophysics. Currently Professor Dai is the vice president of the China Astronomy Society and the department chairman. He has done advanced studies on the origin and evolution of the solar system.

Professor Zhao Quemin - Celestial Mechanics and History of Astronomy.

Professor Qu Qinyue - Astrophysics (High Energy Astrophysics).

Associate Professor Yi Zhaohua - Celestial Mechanics (Fundamental Theories of Celestial Mechanics). Professor Yi is the chief of the department's research and teaching laboratory of celestial mechanics.

Associate Professor Liu Lin - Celestial Mechanics (Theories of Artificial Satellite Motion).

Associate Professor Miao Yongkuan - Astronomy. Currently Professor Miao is the head of the department's research and teaching laboratory of astronomy.

Associate Professor Lu Yan - Theoretical Physics.

Associate Professor Li Chunsheng - Radio Astronomy.

ACADEMIC CURRICULA

Students of this department can graduate when 130 to 140 units have been completed. There are three types of courses: required (65 percent), required electives (25 percent) and electives (10 percent).

Fundamental courses common to all specializations (the number in parentheses indicates the number of units): Philosophy (4), Political Economics (4), History of the Chinese Communist Party (4), Physical Education (4), Freshman Level Chinese Literature (6), English Language (16), General Astronomy (6), Higher Mathematics (20), General Physics (16), and Physical Mechanics (4).

Required electives common to all specializations:

For Astrophysics Specialization and Radio Astronomy Specialization: Applied Electronics (3), Computational Mathematics (3), Electromechanics (3), Thermodynamics and Statistical Physics (3), Atomic Physics and Quantum Mechanics (6), Applied Astrophysics (4), Theoretical Astrophysics (4) Magnetohydrodynamics (3), Mathematical Physics Techniques (3), Solar Physics (2), Radio Astronomy (4), and Radio Astronomy Techniques (4).

For Celestial Mechanics Specialization: Spherical Astronomy (4), Celestial Mechanics (6), Differential Equation (4), Complex Variable Function (4), Real Variable Function (4), Computation Techniques (3), Theories of Artificial Satellite Motion (4), Perturbation Theories (4), and Consistency Theories of Differential Equations (4).

For Astrometry Specialization: Spherical Astronomy (4), Celestial Mechanics (4), Astrometry (6), Data Processing (4), Probability and Mathematical Statistics (4), Sidereal Time Measurements (4), Polar Displacement and Variation of Latitude (4), Star Catalogs and Astronomical Constant (3), and Computational Mathematics (3).

Electives common to all specializations:

History of Astronomy (2), Chemistry (1), Geological Mechanics (4), Solid State Physics (4), Dialectical Materialism (4), and other courses from the liberal arts and sciences.

SCIENTIFIC RESEARCH

In the department, there is an astrophysics research laboratory and Professor Dai Wensai is the director.

The department mainly conducts research on solar physics, high energy astrophysics, star cluster configurations and the restricted three-body problem. Recently research findings have been achieved in the following areas: motion region of three bodies, mathematical techniques in celestial mechanics, density theories of star cluster eddy configuration, statistical analysis of pulsating and neutron stars, and the origin of the solar system.

DEPARTMENT OF MATHEMATICS

INTRODUCTION

There are two majors in this department: mathematics and computational mathematics. The former educates scientific research personnel in pure and applied mathematics, and trains mathematics instructors for colleges and institutes. The latter educates scientific research personnel of computational techniques, and also (mathematical) problem solving specialists using computers. Six research and teaching laboratories have been organized according to the requirements for teaching and scientific research; four of the libraries are designated for the mathematics major: (1) Research and Teaching Laboratory (R.T.L) of Geometry and Algebra, (2) R.T.L. of Theory of Functions, (3) R.T.L. of Differential Equation, and (4) R.T.L. of Applied Mathematics. Two resesrch and teaching laboratories are designated for the computational mathematics major: (1) R.T.L. of Computational Techniques, and (2) R.T.L. of Information Retrieval. There is a library with 13,000 books and 300 magazines on mathematics, in Chinese and in other languages.

There is a teaching staff of 114: 8 professors, 4 associate professors, 57 lecturers and 45 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Zeng Yuanrong - Analysis of Arbitrary Functions and Mathematical History of China. Currently Professor Zeng engages in research on spectral operator theory.

Professor Sun Guangyuan - Differential Geometry.

Professor Yu Guanglang - Complex Variable Functions.

Professor Shi Xianglin - Topology. Currently Professor Shi engages in research on critical point theory.

Professor Huang Zhengzhong - Differential Geometry. Currently Professor Huang engages in research on spectral geometry.

Professor Zhou Boxun - Theory of Numbers (Density Function) and Link Theory. Currently Professor Zhou engages in research on Linear Manifold Algebra; he is the deputy director of the university's mathematics institute, chief of the fundamental mathematics research laboratory, and chief of the research and teaching laboratory of geometry and algebra.

Professor Mo Shaokui - Mathematical Logic, currently engaging in research on Sets, Proof Theory and Recurrence Theory. Professor Mo is the chief of the mathematical logic research laboratory of the university's mathematics institute.

Professor Ye Yanqian - Differential Equation, currently engaging in research on Consistency Theory. Professor Ye is the department chairman and the director of the university's mathematics institute.

Associate Professor Xu Manying - Partial Differential Equation.

Associate Professor He Xuchu - Computational Mathematics, currently engaging in research on Optimization Theory and its Applications. Professor He is the deputy director of the university's mathematics institute, and chief of the department's research and teaching laboratory of computational mathematics.

Associate Professor Tang Shuzhao - Mathematical Statistics, currently engaging in research on Application of Manifold Analysis. Currently Professor Tang is the department vice chairman.

Associate Professor Wang Shengwang - Analysis of Arbitrary Functions, currently engaging in research on spectral operator theory. Professor Wang is the deputy chief of the department's function theory research and teaching laboratory.

ACADEMIC CURRICULA

Students following the four year system in this department may graduate when, according to individual situations, they have compl· ·d 120-140 units.

Required courses (the number in parentheses indicates the number of units) for Mathematics Major:

Philosophy (4), Political Economics (4), History of the Chinese Communist Party (4), Mathematical Analysis (18), Analytical Geometry (4), Algebra (6), Differential Equation (6), Physics (9), Foreign Languages (12), Chinese Literature (6), Functions of Complex Variables (4), and Physical Education (4).

Electives (30-40):

Real Variable Functions (4), Approximation Theory (3), Supplement to Theory of Arbitrary Functions (3), Modern Algebra I (4), Modern Algebra II (3), Topology I (4), Topology II (3), Probability Statistics I (4), Probability Statistics II (3), Differential Geometry I (4), Differential Geometry II (3), Supplement to Differential Equation (3), Supplement to Partial Differential Equation (3), Mathematical Logic I (4), Mathematical Logic II (3), Supplement to Complex Variable Function (3), Theoretical Mechanics (4), Computational Techniques (4), Computer Principles and Languages (3), Theory of Numbers (3), Second Foreign Language (6), and Graphics (3).

Electives: Nine to fifteen units can be taken from other departments.

Required courses for computational mathematics major:

Philosophy (4), Political Economics (4), History of the Chinese Communist Party (4), Mathematical Analysis (18), Analytical Geometry and Theory of Equations (4), Linear Algebra (4), Differential Equation (6), Physics (9), Foreign Language (12), Chinese Literature (6), Computational Mathematics I, II and III (15), Computer Principles and Languages (3), and Physical Education (4).

Electives (24-36):

Functions of Real Variables (4), Modern Algebra I (4), Topology I (4), Probability Statistics I (4), Differential Geometry I (4), Supplement to Differential Equation (3), Supplement to Partial Differential Equation (3), Functions of Complex Variables (4), Supplement to Arbitrary Functions (3), Approximation Theory (3), Solution of Sets of Nonlinear Equations (3), Generalized Inverse Matrix and its Computational Methods (3), Optimizing Methods (3), Information Retrieval Fundamentals (5), Information Retrieval Software (5), Graphics (3), and Second Foreign Language (6).

Electives: Six to twelve untis can be taken from any department.

SCIENTIFIC RESEARCH

In the department there is a mathematics research institute and under which there are three research laboratories: (1) fundamental mathematics research laboratory, (2) mathematical logic research laboratory, and (3) optimizing theory research laboratory.

The fields of specialization of the department's scientific research are: algebra, mathematical logic, analysis of arbitrary function, optimizing solution, differential equation (the above-named five areas have been currently designated for scientific research personnel for training graduate students), partial differential equation, permeability theory, probability statistics, mathematical algorithms in meteorological forecasting, long range analysis, differential geometry, approximation theory of functions of real variables, combinatory mathematics (graphics), algebraic geometry, topology, computational technique of general and partial differential equations, numerical algebra, numerical approximation, and information retrieval.

DEPARTMENT OF COMPUTER SCIENCE

INTRODUCTION

There are two majors in this department: software and hardware. Principal areas of study for software major are operating systems, automation program design, data processing software, artificial intelligence, software theories, and so on. Principal areas of study for hardware major are computer system construction, Chinese character display circuits and their applications, and microcomputers. According to the requirements of teaching and scientific research, two research and teaching laboratories have been organized: research and teaching laboratories of software and hardware. There is also a computer center equipped with a French built PALLAS computer. A library houses 6,400 books and 500 periodicals in Chinese and foreign languages.

Currently there is a teaching staff of 56: 1 professor, 3 associate professors, 27 lecturers, and 25 teaching assistants.

Field of specialization of the professor and associate professors:

Professor Ye Nanxun - Theory of Special Functions and Calculus (of finite differences) Method of Initial Values. Current positions: department chairman and chief of the computer center.

Associate Professor Xu Jiafu - Computer System Software, especially, system program design languages. Currently Professor Xu is the chief of the department's software laboratory.

Associate Professor Sun Zhongxiu - Computer System Software, especially, operating systems. Current positions: chief of software research and teaching laboratory, and deputy chief of software laboratory.

Associate Professor Zhang Fuyan - Computer Systems Design. Current positions: chief of hardware research and teaching laboratory, and chief of the systems construction laboratory.

ACADEMIC CURRICULA

Students following the four year system and of this department may graduate when 135 units have been completed, of which 111 units are required

courses and 24 units are electives. Students with excellent grades can proceed with the writing of the graduation thesis, which gives a credit of 10 units.

The department's required courses (the number in parentheses indicate the number of units) are: Political Science (12), Physical Education (4), Chinese Literature (6), Foreign Languages (18), Mathematical Analysis (20), Analytic Geometry (3.5), Linear Algebra (3.5), Computational Techniques (4), Mathematical Theories of Computers (4), Physics (8), Computational Principles (8), Program Design Languages (4), Fundamentals of Program Design (4), Principles of Operating Systems (4), Compiling Technique (a required course for software major) (4), and digital circuits and laboratory (a required course for hardware major, 8).

There are 15 elective courses of which 7 are for software major and 8 are for hardware major.

Elective courses for software major are: Automatic Program Design (4), Configuration of Operating Systems (4), Mathematical Logic (4), Artificial Intelligence (4), Theory of Graphics (4), Data Processing Software (4), and Software Reliability (4).

Elective courses for hardware major are: Configuration of Computer Systems (4), Graphic Data Processing Technique (4), Reliability Theory and Technique (4), Microcomputers (4), Chinese Language Data Processing (4), Data Communications and Computer Networks (4), Peripheral Equipment (4), and Automation of Mathematical System Design (4).

Students are allowed to take elective courses from other majors and departments, in addition to the above mentioned elective courses.

SCIENTIFIC RESEARCH

The department has a software laboratory and computer systems construction laboratory with their major endeavors in automatic program design, operating

systems, data processing, artificial intelligence, computer systems construction, and applications of computer science. In the past several years, the following research results have been achieved:

Development of DJS-C3 data processing system and the DJS-210 general purpose computer;

NDHD system program design and language compiler system; and

the COBOL compiler program of the DLS-C4 data processing computer.

DEPARTMENT OF PHYSICS

INTRODUCTION

The department offers the following five majors: Solid State Physics (with four fields of specialization in Magnetism, Semiconductor Physics, Crystal Physics and Low Temperature Physics), Acoustics, Nuclear Physics, Radio Physics, and Theoretical Physics. Each major provides students with well defined fundamentals in experimental and theoretical physics, and through specialized training by taking relevant courses, enabling the students after graduation to engage in development and research in physics and new technologies, or perform development and research in technical and materials science.

The current direction of research of the various majors and fields of specialization is:

Solid State Physics Major:

Specialization in Crystal Physics - Crystal Structure and Defects, Theory and Techniques of Crystal Growth, and Physical Characteristics of Crystals.

Specialization in Magnetism - Anisotropy Regime of Magnetic Crystals, and Demagnetization Regime of Permanent Magnetic Materials.

Specialization in Semiconductor Physics - Physics of Semiconductor Devices, with emphases on the research of membranes and boundary physics and impurity defects.

Specialization in Low Temperature Physics - Properties of Superconductivity, the Attainment and Measurement of Ultra Low Temperatures, Low Temperature Physics, and New Helium Liquifiers.

Theoretical Physics Major - Statistical Theories of Equilibrium and Nonequilibrium States, Theory of Superconductivity, Solid State Theory, Mechanics, and Elementary Particles.

Acoustics Major - Audio-Frequency Acoustics (including Electro-Audio Transmission Regime, Linguistic Acoustics, Noise and Techniques of Obtaining Data), Surface Wave Acoustics (including the Transmission Regime of Surface Sound Wave Propagation Laws, and Surface Wave Devices), Quantum Acoustics and Molecular Acoustics, Atmospheric Acoustics and Sound Propagation under Extreme Conditions.

Radio Physics Major - Microwave Technical Applications of Superconductive Electronics, and Data Processing.

Nuclear Physics Major - High Energy Nuclear Physics, Low Energy Nuclear Physics and its Applications (including Applications of Isotopes and Ray Technology, and Research and Development of a Low Energy Electron Linear Accelerator).

The department has the following ten research and teaching laboratories:

Fundamental Physics, Radio Fundamentals, Acoustics, Radio Physics, Nuclear Physics, Semiconductor Physics, Magnetism, Crystal Physics, Low Temperature Physics, and Theoretical Physics.

In addition to large quantities of conventional experiment instruments and equipment, the research and teaching laboratories, research institutes,

and their subordinate laboratories have the following equipment: liquid helium coolers, a complete set of electro-audio measuring instruments, a complete set of photoetching facilities, a laser generator and measuring facilities, a microwave generator and measuring facilities, ferromagnetic resonators, electron microscopes, X-ray diffraction instruments and cameras, 400 Kev high tension multipliers, a Musschenbroek spectrometer, and equipment for monocrystalline growth. In addition, there are high quality anechoic (with low frequency of 50-70 hertz) and reverberation chambers; these chambers were designed by university faculty. The department also has a department library which houses books, domestic and foreign periodicals on main physics topics.

Currently there is a teaching staff of 295: 10 professors, 9 associate professors, 169 lecturers, 3 instructors, and 104 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Wei Rongjue - Acoustics, especially Linguistic Acoustics and Physical Acoustics. Currently Professor Wei is the department chairman and the director of the acoustic research institute.

Professor Bao Jiashan - Radio Physics, especially Antennas, Microwave Ferrite, and Superconductivity Electronics. Currently Professor Bao is the department vice chairman.

Professor Shi Shiyuan - Metal Physics, Nuclear Physics, and Experimental Practices.

Professor Feng Duan - Crystal Physics and Metal Physics, especially in Crystal Defects. Currently Professor Feng is the director of the solid state physics research institute.

Professor Liang Kunmiao - Theoretical Physics.

Professor Zhou Yanbo - Theoretical Physics (Mechanics).

Professor Cheng Jun - Optics.

Professor Wu Rulin - Semiconductor Device Physics.

Professor Xiong Zijing - Semiconductor Materials.

Professor Liu Shifu - Physics.

Associate Professor Wang Yening - Crystal Physics and Metal Physics.

Associate Professor Qiu Dirong - Metal Physics (Analysis of X-ray Configuration). Currently Professor Qiu is in charge of the Physics and Chemistry Measuring and Testing Center of Jiangsu Province.

Associate Professor Cai Jianhua - Theoretical Physics (Superconductivity and Quantum Multi-body Theory).

Associate Professor Gong Changde - Theoretical Physics (Superconductivity and Multi-body Theory).

Associate Professor Wu Wenqiu - Acoustics (Audio-frequency Acoustics and Surface Wave Acoustics). Currently Professor Wu is the deputy director of the acoustics research institute.

Associate Professor Di Hongru - Magnetism. Currently Professor Di is the deputy director of the solid state physics research institute.

Associate Professor Yan Zhihua - Radio Technology.

Associate Professor Ye Quanshu - Optics.

Associate Professor Feng Zhiguang - Optics. Currently Professor Feng is the department vice chairman.

ACADEMIC CURRICULA

Under the guidance of the teachers, students will take the following kinds of courses:

(1) Required courses (the number in parentheses indicate the number of units):

Philosophy (4), Political Economics (4), History of the Chinese Communist Party (4), Physical Education (4), Foreign Languages (16), Chinese Literature (6), Higher Mathematics (15) (Analytical Geometry, Calculus, Theory of Vector Field, Differential Equation, and Linear Algebra), Fundamental Physics (18) (Mechanics, Molecular Physics and Thermophysics, Electromagnetism, Optics, and Atomic Physics), Mathematical Physics Techniques (4) (Complex Variable Functions, Mathematical Physics Equations, and Special Functions), Fundamental Physics Laboratory (10) (Mechanics, Thermodynamics and Molecular Physics, Electromagnetism, and Optics), Middle-level Physics Laboratory (6)

(High Vacuum and Electron Physics, Electromagnetic Measurements, Optics and Light Spectrum, X-ray Analysis of Crystal Structure, Nuclear Physics, Acoustics, Microwave Measurements, Low Temperature Physics, Atomic Physics, and Semiconductor Physics), Radio Fundamentals and Laboratory (7), Algorithmic Languages and Computer Practice (3), and Theoretical Mechanics (4).

(2) Electives I:

1. Electrodynamics (4), 2. Thermodynamics and Statistical Physics (4), 3. Quantum Mechanics (4), 4. Solid State Physics (4), and 5. Theoretical Physics (6).

(3) Electives II:

For specialized courses in Solid State Physics major:

Crystal Physics Specialization: Properties of Crystal Physics (4), Crystal Growth (4), and Defects and Structure of Crystals (4).

Magnetism Specialization: Ferromagnetism (4), Magnetism Measurement and Laboratory (4), and Magnetic Materials (3).

Semiconductor Specialization: Semiconductor Physics (4), Semiconductor Devices (5), Semiconductor Materials (3), and Principle of Integrated Circuits (5).

Low Temperature Physics Specialization: Low Temperature Physics (4), Low Temperature Techniques (5), Superconductive Materials (3), and Low Temperature Laboratory (3).

For specialized courses in Nuclear Physics major:

Nuclear Physics (4), Nuclear Physics Laboratory Techniques (6), Nuclear Electronics (5), Radiation and Protection (2), Neutron Physics (3), Nuclear Theories (3), and Particle Accelerator (3).

For specialized courses in Radio Physics major:

Pulse Techniques (4), Microwave Principles (5), Microwave Measurements (2), and Circuit Analysis Fundamentals (3).

For specialized courses in Acoustics major:

Acoustic Principles (4), Converter Principles (4), Acoustic Measurements and Laboratory (6), and Modern Acoustics (2).

For specialized courses in Theoretical Physics major:

Higher Quantum Mechanics (3), Advanced Mathematical Physics Techniques (3), Quantum Statistics (3), Quantum Field Theory (3), Solid State Theories (3), Continuous Medium Mechanics (5), and Elementary Particle Theories (3).

(4) Electives III:

1. Graduation Thesis (8), 2. Inter-discipline Elective Courses (4-6), 3. Mechanical Drawing (1), 4. Seminar and Discussions (3), 5. Group Theory (3), 6. Nuclei and Elementary Particles (2), 7. Data Processing (3), and 8. Chemistry (3).

Remarks: 1. Students of all majors must take required courses. 2. Students with solid state physics major must take #1-4 from Electives I. Students in Theoretical Physics major must take #1-3 from Electives I. Students with the other majors must take #5 or #1-3 from Electives I. 3. Under the guidance of their teachers, students with any major should take related courses from Electives II and III. 4. Students with any major may graduate only when at least 140 units have been completed.

SCIENTIFIC RESEARCH

Currently the department has the following scientific research organizations: (1) Acoustic research institute has four subordinate research

laboratories: surface sound waves, audio frequency acoustics, quantum acoustics and molecular acoustics, and atmospheric acoustics with sound propagation under extreme conditions. (2) Solid state physics research institute have five subordinate research laboratories: crystal physics, magnetic physics, semiconductor device physics, low temperature physics, and theoretical physics.

The research work of this department is primarily in the areas of acoustics, solid state physics, superconductive electronics, nuclear physics and the application of nuclear technology. In the recent years, research results were achieved in the following areas: surface sound waves, mean frequency spectrum of the Chinese language, theory of high TC superconductivity converted temperature, crystal defects, installation of microwave superconductive receiver, nuclear physics, the physical techniques of group representation theory, and Musschenbroek spectrum theory and its applications.

DEPARTMENT OF CHEMISTRY

INTRODUCTION

There are five majors offered by this department: (1) Inorganic Chemistry, with Chemistry of Complex Compounds as its primary direction of development; (2) Analytical Chemistry, with microanalysis and analytical techniques as the primary direction of development, along with emphasis on research in electrochemical analysis; (3) Organic Chemistry, with research on organic synthesis and the chemical structures as the primary direction of development, along with emphasis on research in medicine and agricultural chemicals; (4) Physical Chemistry, with catalysis theory and its reactions as the primary direction of development, along with emphasis on the research of synthetic laws of the molecular sieve type catalysts and the analytic regime; (5) High Molecular Chemistry, with high molecular weight synthesis, and composite material structures and properties as the primary direction of development. Based on the requirements of teaching and scientific research work, five research and teaching laboratories have been established: inorganic chemistry, analytical chemistry, organic chemistry, physical chemistry, and high molecule chemistry. Each major has a fundamental laboratory, a specialized laboratory,

and a special laboratory. There are 5,400 electronic instruments of all kinds, including infrared spectrometers, X-ray instruments, ultraviolet spectrometers, atomic absorption spectrometers, optical spectrometers, and chromatic spectrometers. There are over 47,000 books and periodicals in the departmental library; 57,000 of which are books and 21,000 are periodicals.

Currently there is a teaching staff of 212 in this department: 7 professors, 9 associate professors, 104 lecturers, 1 instructor and 91 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Gao Jiyu - Organic Chemistry, in particular, Organic Synthesis and Organic Reactions. Currently Professor Gao is the university vice president and chairman of the university natural sciences academic committee.

Professor Dai Anbang - Inorganic Chemistry and Colloidal Chemistry with emphasis on research in Chemistry of Complex Compounds. Currently Professor Dai is the department chairman and the director of the complex-compound chemistry research institute.

Professor Hu Hongwen - Organoelemental Chemistry, Chemistry of Organic Synthesis, and Theoretical Organic Chemistry. Currently Professor Hu is engaging in research on organic reactions; he is the deputy director of complex-compound chemistry research institute, and the chief of the organic chemistry research and teaching laboratory.

Professor Qiu Jiakui - Analytical Chemistry, currently engaging in research on chromatographic analysis.

Professor Gao Hong - Electrochemical Analysis and Fundamental Theories of Electrochemistry. At present, Professor Gao Hong engages in research on new methods and techniques of electrochemical analysis. Professor Gao is the director of environmental science research institute and the chief of the analytical chemistry research and teaching laboratory.

Professor Ni Zexun - Colloidal Chemistry and Surface Chemistry. Professor Ni is engaging in research on adsorption and catalytic surface properties.

Professor Fu Xiancai - Physical Chemistry and Chemical Thermodynamics. Professor Fu is engaging in research on properties of compound oxide catalysts.

Associate Professor Zhu Yong - Theoretical Organic Chemistry and Chemistry of High Molecule Synthesis. Professor Zhu is engaging in directional polymerization and graft polymerization of olefins; he is the chief of the research and teaching laboratory of high molecule chemistry.

Associate Professor Zeng Cheng - High Molecular Weight Physical Chemistry. Professor Zeng is engaging in research on quantum chemistry.

Associate Professor Zhang Xiuyou - Analytical Chemistry. Professor Zhang is engaging in research on color spectrum analysis.

Associate Professor Ding Yingru - Catalytic Chemistry. Professor Ding is engaging in research on the Musschenbroek spectrum as relating to the structure and behaviors of catalysts.

Associate Professor Xu Qinhua - Surface Chemistry and Adsorption. Professor Xu is engaging in research on the synthesis, structure and behaviors of the zeolite molecular sieves; he is the department vice chairman.

Associate Professor Qin Guanlin - Catalysis and Reaction Dynamics. Professor Qin is engaging in research of zeolite molecular sieve type catalysts.

Associate Professor Zhang Zheng - Chemistry of Organic Synthesis. Professor Zhang is engaging in research of synthesis and regime of synthetics pyrithrin insecticides.

Associate Professor Zhou Qingli- Organic and High Molecule Synthetic Chemistry. Professor Zhou is engaging in research on coupling catalysts and high molecular weight composite materials.

Associate Professor Lu Yuenjin - X-ray Research. Professor Lu is engaging in research on the crystal structure of antimony-273, and in the measurement of the crystal structure of antimony subgallate.

ACADEMIC CURRICULA

For each major, there are required (including common basic courses and specialized courses) and elective courses.

Common basic courses (the figure in parentheses indicates the number of units) for all majors are:

Philosophy (4), Political Economics (4), History of the Chinese Communist Party (4), Physical Education (4), Freshman Level Chinese Literature (6), Foreign Languages (16), Inorganic Chemistry and Laboratory (9), Organic Chemistry and Laboratory (10), Analytic Chemistry and Laboratory (8), Physical Chemistry and Laboratory (10), Material Structure (4), Physics and Laboratory (11), and Mathematics (10).

Required specialized courses:

For Inorganic Chemistry major: Research Techniques on Inorganic Compounds (4), Theoretical Inorganic Chemistry (2), Chemistry of Complex Compounds (2), and Inorganic Chemistry Specialized Laboratory (4).

For Analytic Chemistry major: Applied Electronics (2), Applied Electronics Laboratory (2), and Instrument Analysis and Laboratory (9).

For Organic Chemistry major: Organic Analysis and Laboratory (7), and Organic Synthesis and Laboratory (6).

For Physical Chemistry major: Catalytic Chemistry (3), Selected Physical Chemistry (3), and Laboratory for Physical Chemistry Major (4).

For High Molecule Chemistry major: High Molecule Chemistry and Laboratory (7), High Molecule Physical Chemistry and Physics (3), and High Molecule Physical Chemistry and Physics Laboratory (4).

Elective curricula: Chemical Engineering Fundamentals (3), Chemical Engineering Drawing (1), Radiochemistry (2), Computer Fundamentals and Computational Chemistry (4), Quantum Chemistry Fundamentals (4), Linear Algebra (3), Mathematical Physics Techniques (4), and Group Theory (2).

Students of each major may graduate when 111 to 115 units have been completed; there should be 18 common basic courses totaling 91 units, and 3 to 4 required specialized courses totaling 10 to 14 units. The graduation thesis for each major is scheduled for half a year with 10 units.

SCIENTIFIC RESEARCH

The department has a complex-compound chemistry research institute under which there are four laboratories: (1) bio-metal coordination chemistry, (2) basic chemistry of complex compounds, (3) theoretical chemistry of complex compounds, and (4) catalysis.

In addition, the department has an environmental chemistry research laboratory, which is under the university's environmental science research institute.

The scientific research areas currently in progress are: chemical simulation of nitrogen fixation, quantum chemistry and structure of complex compounds, molecular design and synthesis of compounds, and complex compounds of molecular sieves.

Major scientific research achievements in recent years are: polymerization theory of silicic acid, chemical simulation of nitrogen fixation - 7 iron-atom cluster model, fundamental research on modern polagram analysis, Musschenbroek spectrometer and its research on catalysis, coupling agents, ammonite esters, and insecticides.

DEPARTMENT OF BIOLOGY

INTRODUCTION

The department offers five majors: (1) Biochemistry, with emphasis in the structure and function of large biological molecules; (2) Zoology, with emphasis in zoology and cellular histology; (3) Animal Physiology, with emphasis in central nervous system and nerve medium; (4) Botany, with emphasis in classification of the Gramineae, in the higher flora area, and algae in the lower flora area; (5) Botanical Physiology and Biochemisty, with emphasis in cell physiology, ass metabolism.

The following six research and teaching laboratories have been organized according to the requirements of teaching and research: (1) biochemistry, (2) zoology, (3) animal physiology, (4) higher flora, (5) lower flora, and (6) botanical physiology and biochemistry. There is a library housing over 35,000 books and periodicals in Chinese and in other languages (over 22,000 books and 13,000 periodicals). There is also a plant specimen hall which houses over 50,000 specimens of higher flora.

The department has a teaching staff of 115: 5 professors, 3 associate professors, 68 lecturers, and 39 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Zheng Ji - Nutrition and Biochemistry. Professor Zheng is the chief of the biochemistry research and teaching laboratory.

Professor Zhong Chongxin - Ecological Land Botany and Botanical Geography. Professor Zhong is the chief of the high flora research and teaching laboratory, and the director of the rice grass and beach development research institute.

Professor Chen Naxun - Embryology. Professor Chen is the department chairman.

Professor Zhu Haoran - Algology. Professor Zhu is the chief of the lower flora research and teaching laboratory.

Professor Zhu Hongwen - Cytology, Histology, and Tissue Chemistry. Professor Zhu is the chief of the zoology research and teaching laboratory.

Associate Professor Xu Nainan - Parasitic Nematology. Professor Xu is the deputy chief of the zoology research and teaching laboratory.

Associate Professor Wang Jueyuan - Genetics and Breeding.

Associate Professor Zhu Dexu - Enzymology. Professor Zhu is the chief of the department's molecular biology research laboratory, and deputy chief of the biochemistry research and teaching laboratory.

ACADEMIC CURRICULA

Curricula for all majors consist of required (including common basic courses and specialized courses) and elective courses.

Common basic courses (the figure in parentheses indicates the number of units) for each major are:

Philosophy (4), Political Economics (4), Physical Education (4), History of Chinese Communist Party (4), Chinese Literature (6), Foreign Languages (16), Mathematics (10), Inorganic Chemistry and Analytic Chemistry (7-10), Organic Chemistry (5), and General Physics (5-10).

Required specialized courses:

For Biochemistry major: Physical Chemistry and Colloidal Chemistry (5), Biology (6), Animal Physiology (4), Biochemistry (12), Biochemical Analysis (6), and Biochemistry Laboratory (6).

For Plant Physiology and Biochemistry major: Physical Chemistry and Colloidal Chemistry (5), Biochemistry (5), Botany (11), Plant Chemistry (5), Plant Physiology (5), Plant Physiology Laboratory (5), and Seminar on Plant Physiology and Biochemistry (5).

For Botany major (lower flora): Biochemistry (5), Botany (11), Plant Physiology (5), Algology (10), Fungus and Lichenology (7), Bryology and Pteridology (4), Plant Slides (2), and Field Experiment (2).

For Botany major (high flora): Biochemistry (5), Botany (11), Plant Chemistry (5), Plant Physiology (5), Classification of Higher Flora (6), Natural Geography (4), Pedology (3), Plant Ecology (4), Land Botany (4), and Plant Geography (2).

For Zoology major: Biochemistry (5), Zoology (8), Microbiology (3), Genetics (3), Histology (4), Embryology (4), Cytology (4), and Animal Physiology (4).

For Animal Physiology major: Physical Chemistry and Colloidal Chemistry (5), Biochemistry (5), Biochemical Analysis (6), Zoology (4), Human Anatomy (3), Histology (4), Embryology (4), Animal Physiology (10), and Medical Electronics (3).

Elective courses: Biological Statistics (3), Isotope Tracing Techniques (2), Electron Microscopy (2), Second Foreign Language (8), and Graduation Thesis (6).

Students of all majors can graduate when 140 to 147 units have been completed, among which there should be 10 common basic courses totaling 65 to 73 units, 6 to 10 required specialized courses totaling 35 to 49 units, and elective courses totaling 33 to 40 units.

SCIENTIFIC RESEARCH

The department has the following research organizations: (1) rice grass and beach development research institute, (2) molecular biology research laboratory, and (3) environmental biology research laboratory (under the environmental science research institute of the university).

The main scientific research areas currently in progress are: means to reform and utilize beach biology (including the introduction and farming of rice grass); structure and functions of biological large molecules (enzyme); genetic laws of early maturing wheat; variety breeding of extra-early-maturing wheat; principle of acupuncture anaesthesia metabolism of plant matter; pre-Cambrian ancient algae; and biology of the Coilia nasus and artificial breeding of the dace. In the past several years, research results were achieved in the following areas: experiment on the introduction of rice grass; artificial breeding techniques of dace; principles of acupuncture anaesthesia; the production technology of sodium hepatolysin, enzymuria and coenzyme A; Chinese fossil microalgae; and early maturing characteristics of wheat.

DEPARTMENT OF GEOLOGY

INTRODUCTION

The department offers four majors: (1) Paleontology Stratigraphic Geology, with emphasis on students mastering fundamental paleontology and historical geology, and gradually acquiring the ability to engage in identifying ancient

fossils of various families and classes, and also research on historical geology; (2) Rocks, Minerals, Ore Deposits and Geochemistry within which there are four specializations: mineral rocks, ore deposits, geochemistry, and uranium geology. This major centers on providing the students with knowledge in mineralogy, petrology, mineral deposits and geochemistry, and by enhancing the students' ability to engage in research work; (3) Geotectonics and Geophysics, with emphasis on students' ability to master the knowledge of structural geology and regional geotectonics, and the ability to engage in research on the earth's structure by means of geophysics and geology; and (4) Hydrogeology and Engineering Geology, with emphasis on students mastering the knowledge of hydrogeology, engineering geology, and the ability to perform surveys.

There are seven research and teaching laboratories in the department: rocks and minerals, ore deposits, geochemistry, uranium ore geology, paleontology/historical geology, tectonic geology, and hydrogeology/engineering geology.

The department has the following primary laboratories (lab): paleontology lab, spore pollen lab, general geology lab, tectonic geology lab, mineralogy lab, optical mineral and petrology lab, sedimentary petrology lab, ore deposits science lab, applied petrology lab, hydrogeology lab, engineering geology lab, X-ray analysis (of mineral texture) lab, chemical analysis lab, isotope geology lab, spectrum analysis lab, physical prospecting lab, atomic absorption spectrum lab, etc. There is also a library which houses 13,000 books in Chinese, 13,000 books in foreign languages, 2,196 periodicals in Chinese, and 5,574 periodicals in foreign languages.

The department has a teaching staff of 151: 8 professors, 5 associate professors, 76 lecturers, 14 instructors, and 48 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Xu Keqin - Mineral Deposits Science, especially in South China's granite, tungsten, tin, iron and copper deposits. Current positions:

department chairman, and director of the research institute of granite volcanic rocks and metallogenetic theory.

Professor Zhang Zuhuan - Uranium Ore Geology and Exploration Methods. Current positions: department vice chairman, and deputy director of the research institute of granite, volcanic rocks and their formation.

Professor Chen Xu - Invertebrate Paleontology, especially the study of fossils of the dragonfly family.

Professor Sun Nai - Pyrolith Petrology, with advanced research on South China's granite petrology. Professor Sun is the chief of the research and teaching laboratory of rocks and minerals.

Professor Guo Lingzhi - Tectonic Geology, with advanced research on South China's geotectonics. Professor Guo is the chief of the research and teaching laboratory of tectonic geology.

Professor Xiao Nansen - Hydrology, with advanced research on locating underground water by means of analytic techniques on new structures. Professor Xiao is the chief of the research and teaching laboratory of hydrology and engineering geology.

Professor Hu Shouxi - Petrology Mineral Deposits, with advanced research in South China's granite and metallogenetic relationship, as well as the etched metamorphism of adjoining rocks and the metallogenetic relationship. Professor Hu is the chief of the research and teaching laboratory of mineral deposits science.

Professor Wang Dezi - Petrology, with advanced research on granites, volcanic rocks and optic mineralogy. Current positions: Assistant dean of studies, and director of scientific research department.

Associate Professor Yu Jianhua - Invertebrate Paleontology, primarily on Graptolitidae. Current positions: Director of the research institute of granite volcanic rocks and metallogenetic theory, and chief of the research and teaching laboratory of paleontology and historical geology.

Associate Professor Ji Shouyuan - Mineralogy and Crystallology, with main research in granite petrology.

Associate Professor Liu Yingjun - Geochemistry, with main research on geochemistry of rare metals. Professor Liu is the chief of the geochemistry research and teaching laboratory.

Associate Professor Shi Yangshen - Regional Architectonics, with main research in South China's history of developing regional geology.

Associate Professor Zhang Yonglu - Historical Geology and Invertebrate Paleontology, with main research on brachiopoda.

ACADEMIC CURRICULA

Students following the four year system and of this department may graduate only when 150 units have been completed. There are three kinds of courses: common requirements, specialized requirements, and electives.

Common required courses (the figure in parentheses indicates the number of units) are: Philosophy (4), Political Economics (4), History of Chinese Communist Party (4), Physical Education (4), Chinese Literature (6), English (16), Higher Mathematics (9), Chemistry (8), Physics (8), General Geology (5), Crystal Mineralogy A (6), or Crystal Mineralogy B (4), Petrology A (7), or Petrology B (5), Paleontology A (6), or Paleontology B (3.5), Historical Geology A (6), or Historical Geology B (3.5), Tectonic Geology (4), Regional Geology (3), and Ore Deposits Science (5).

Specialized required courses for majors:

For Paleontology Strata major: Biology (6), Sedimentary Phase (4), Biostratigraphy (6), and Paleontology Seminar (8).

For Mineral Petrology specialization: Mineralography (2), Techniques of Universal Stage (2), Differential Heat Analysis (1), Analysis of (Ore) Tailings (2), X-ray Analysis of Matter Facies (2), Rock Mineral Seminar (4), Applied Petrology (2), General Geochemistry (2), and Physical Chemistry and Colloidal Chemistry (2).

For Ore Deposits Science specialization: Laboratory Techniques (4), General Geochemistry (2), General Geophysics (3), and Mineral Prospecting and Exploration (2).

For Geochemistry specialization: Physical Chemistry and Colloidal Chemistry (3), General Geochemistry (4), Element Geochemistry (4), and Geochemistry Prospecting of Minerals (3).

For Uranium Ore Geology specialization: Geochemistry and Mineralogy of Uranium (4), Radioactive Physical Prospecting (5), and Uranium Ore Geology (5).

For Geotectology and Geophysics major: Geophysics (5), Fundamental Theory of Geotectology (4), Deep Structures (3), and Remote Sensing Geology (2).

For Hydrology and Engineering Geology major: Mathematical Statistics (7), Fundamental Mechanics (3), Hydrology (3), Dynamics of Ground Water (5), Engineering Geology (8), and Physical Prospecting Techniques (3).

Electives: Mathematical Statistics, Physical Chemistry and Colloidal Chemistry, General Geochemistry, Geological Mechanics, Mathematical Geology, Remote Sensing and Remote Surveying, Isotope Geology, Radioactive Hydrology, Mineralography, Applied Petrology, Temperature Measurement of Inclusion, Ore Deposits Seminar, Quantitative Chemical Analysis, Instrument Analyses, Geochemistry Specialized Laboratory, Tailings Analysis, Differential Heat Analysis, Techniques of Universal Stage, X-ray Analysis of Matter Facies, Marine Biology, Comparative Anatomy, Theory of Evolution, Second Foreign Language, and Petrology Seminar.

Three field internships are arranged for students of this department. The first is scheduled in the third semester for a duration of four weeks and the student is to become familiar with various geological phenomena. The second field internship is scheduled in the fifth semester for a duration of five weeks with emphasis on geological mapping. The third field internship is scheduled in the seventh semester for a period of six weeks; it is of a specialized nature, and it facilitates information gathering for the graduation thesis.

SCIENTIFIC RESEARCH

The department has a specialized research organization, the research institute of granite, volcanic rocks and their metallogenetic theory.

The main scientific research areas currently in progress are: (1) granite petrology; (2) basalt petrology; (3) metamorphic rocks and metamorphous volcanic rocks; (4) regional geotectonics; (5) granite-related metal minerals; (6) volcano and sedimentary rock-related iron and copper ore deposits. For many years, the department has been performing advanced research on southeastern China's granite and its related minerals; the results have been published, on many occasions, in academic periodicals such as Zhongguo Kexue [China Science], Dizhi Xuebao [Geology Journal], and Nanjing Daxue Xuebao [Nanjing University Bulletin]. In recent years, a large quantity of work was performed on the study of volcanic rocks (both land and marine facies) and the related minerals; the results are significant. In addition, a study is underway on southern China's geotectonics and independent conclusions are being formed.

DEPARTMENT OF GEOGRAPHY

INTRODUCTION

The department offers four majors: (1) Land Hydrology, based on the theories and knowledge of geophysics and natural geography, with research performed on water resources and the mechanism of run-off formation; (2) Geomorphology and Quaternary Period Geology, based on the theories and knowledge of geology, natural geography and Quaternary period geology, with research performed on geomorphologic forces, evolution and development, the Quaternary crust movement and stratum; (3) Cartography, on the theories and knowledge of mathematical principles and natural geography, using an electronic computer and automatic cartographic equipment, while students are required to draw topographic maps and special maps from various maps, diagrams, figures and data; and (4) Economic Geology, based on the theories, knowledge, mathematical principles and geography, while students work toward city planning and regional planning.

There are five research and teaching laboratories in the department: geomorphology, hydrology, cartography, natural geography, and economic geography.

The department has seven laboratories (lab): photography and surveying lab, map making and printing lab, pedology lab, sedimentation lab, spore pollen lab, micropaleontology lab, and radioactive C^{14} lab. There is a run-off experimental station. In addition, an automatic mapping lab is being planned and built.

The departmental library has a wealth of 47,300 books and periodicals in Chinese and foreign languages: 22,000 books in Chinese, 10,000 books in foreign languages, 2,500 atlases and maps in Chinese and foreign languages, 282 Chinese periodicals totaling 8,000 copies, and 251 foreign periodicals totaling 4,800 copies. The reference hall mainly houses the material collected during scientific research, and material exchanged with relevant organizations in the country.

The department has a teaching staff of 110: 6 professors, 4 associate professors, 57 lecturers, and 43 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Ren Mei'e - Geomorphology and Chinese Natural Geology, with advanced research on marine geomorphology and karst geomorphology. Professor Ren is the department chairman.

Professor Yang Huairen - Geomorphology and Quaternary Geology, with advanced research on glacial and perigracial geomorphology. Professor Yang is the chief of the geomorphology research and teaching laboratory.

Professor Li Haichen - Cartography in Special Topics.

Professor Shen Yusheng - Transportation Geography and Economic Geography of Africa.

Professor Song Jiatai - Agricultural Geography and Regional Geography, with advanced research on agricultural geography. Professor Song is the chief of the research and teaching laboratory of economic geography.

Professor Zhang Tongzhu - Agricultural Geography and Economic Geography of Africa, with advanced research of agricultural geography. Professor Zhang is the department vice chairman.

Associate Professor Liu Disheng - Cartography and Image Slide Interpretation. Professor Liu is the deputy chief of the cartography research and teaching laboratory.

Associate Professor Liu Zhenzhong - Geomorphology, with emphasis on karst geomorphology.

Associate Professor Liu Yumin - Pedology and Environmental Geography. Professor Liu is the deputy chief of the research and teaching laboratory of natural geography.

Associate Professor Zeng Zungu - Agricultural Geography and Economic Geography in Africa.

ACADEMIC CURRICULA

Students of the four year system and of this department can graduate only when 145 to 155 untis have been completed, in which there should be 91 units of common required courses, 25 to 36 units in specialized fundamental and required courses, 13 to 28 units in elective courses, and 14 to 20 units in production internship and graduation thesis.

Fundamental courses common to all majors (the figure in parentheses indicates the number of units): Philosophy (4), Political Economics (4), History of Chinese Communist Party (4), Chinese Literature (6), English (20), Mathematics (19, 13 for Economic Geography major), Physics (9), Cartography Fundamentals (3), General Geology (4), Meteorology and Climatology (4), Geomorphology (4), Hydrology (3), and Pedology and Botany (3).

Specialized required courses:

For Land Hydrology major: Hydrologic Testing and Exploration (3), Hydrologic Meteorology (4), Subsurface Hydrology (5), Applied Hydrology (8), Hydraulics (5), Run-off Theory and Laboratory (3), and Algorithmic Languages (3).

For Geomorphology and Quaternary Geology major: Mineral Petrology (4), Tectonic Geology (4), Quaternary Geology (5), Geomorphology and Quaternary Geology Research Methods (4), Hydrologic Geology (3), Algorithmic Languages (3), Remote Sensing and Aerial Photo Interpretation (3), and Chemistry (3).

For Economic Geography major: Architectural Fundamentals and Architectural Drawing (4), Regional Research and Planning (4), Overall City Planning (4), Detailed City Planning (5), Industrial Layout (4), and Communication Layout (4).

For Cartography major: Principles of Electronic Computers (3), Algorithmic Languages (3), Computational Techniques (4), Airborne Photographic Survey, Remote Sensing and Photograph Interpretation (3), Mapping (8), Map Sketching and Layout (3), and Automatic Mapping (8).

Elective courses: Chemistry, Electronics, Atmospheric Physics, Hydrothermal Equilibrium, Water Resource Protection, Limnology, River Geomorphology, Karst Geomorphology, Paleontology and Historical Geology, Coastal Geomorphology, Fundamental Geomorphic Dynamics, Engineering Geomorphology, Sedimentology, Population Geography and Urban Geography, Urban Environment, Agricultural Layout, Rural Resident Sites Planning, Foreign Urban Planning, Road Survey and Design, Water Supply and Sewage Planning and Design, Landscaping, Hydrology and Engineering Geology, Principles and Techniques of Compiling, Automatic Mapping Series and National Data Processing, Program Design, Chinese Hydrologic Geography, Chinese Natural Geography, Chinese Regional Geography, and World Natural Geography.

Common for all majors, an internship lasting 4 to 5 weeks is scheduled at the end of the second semester in a school year. A geology internship is programmed in the second year; production internship based on the requirements of the major is scheduled in the third year (a time frame of 6 to 12 weeks with a credit of 6 to 12 units); and the writing of the graduation thesis is scheduled in the fourth year (8 units).

SCIENTIFIC RESEARCH

The department has an environmental geography research laboratory, which belongs to the university's environmental science research institute.

The department is engaging in the following subject areas of major research: coastal dynamic geomorphology, run-off patterns, karst research, environment remote sensing and automatic mapping, and urban planning and regional planning. For the past several years, the department also took part in the comprehensive surveys of the Qinghai-Xizang Plateau and Mount Tuomuer in Xinjiang.

In the area of scientific research achievements, the department primarily provides research reports to relevant departments in the country as recommendations to be adopted - for example, the selection of ports and port sites, the relationship between karst growth and karst ground water, agricultural regional planning and utilization of mountainous terrains, hydrologic forecasting, environmental investigation, and the applications of computers in drawing topographic maps. Special publications were completed, such as The Chinese Quaternary Glaciers and the Ice Age, The Chinese Karst, and the Quaternary Glaciers of Eastern China.

DEPARTMENT OF METEOROLOGY

INTRODUCTION

The department offers three majors: (1) Meteorological Dynamics major, with main research in the regime and laws of weather changes, and in the study of weather prediction methods; (2) Climatology major, with main research in the laws of climatic formation and change, and in the study of climate resource utilization, climate forecasting and modification; and (3) Aerographic Physics major, with primary research in cloud physics (artificial rain), radar meteorology and atmospheric turbulence (atmospheric pollution). Three research and teaching laboratories have been formed according to the requirements of teaching and scientific research: research and teaching laboratory (R.T.L.)

of meteorological dynamics, R.T.L. of climatology, and R.T.L. of aerographic physics. The department has the following teaching stations and laboratories: meteorological observatory, internship station for weather prediction, turreted gradient observation station, meteorological satellite signal receiving chamber, meteorological radar station, cloud physics laboratory, atmospheric turbulence laboratory, microclimate laboratory, and climate data statistics room. There are in the department over 1,600 instruments of various kinds, in addition to a library and a reference room. The library houses 10,356 books and 3,433 periodicals in Chinese and in other languages. The reference room has 1,455 weather charts, 3,072 copies of climate related material, and 1,415 copies of overseas climate data.

Currently the department has a teaching staff of 91: 5 professors, 4 associate professors, 45 lecturers and 31 teaching assistants.

Fields of specialization of professors and associate professors:

Professor Huang Shisong - Synoptic Meteorology, with advanced research on atmospheric circulation and subtropical high pressure. Professor Huang is the department chairman and the chief of the research and teaching laboratory of meteorological dynamics.

Professor Ma Zhensheng - Climatology, with advanced research on climatic statistics. Professor Ma is the chief of the climatology research and teaching laboratory.

Professor Zhu Binghai - Climatology, with advanced research on Chinese climates and climatic changes.

Professor Wu Boxiong - Synoptic Meteorology, with advanced research on weather analysis.

Professor Chen Qigong - Synoptic Meteorology, with advanced research on longterm weather prediction.

Associate Professor Sheng Chengyu - Regional Climatology. Professor Sheng is engaging in research on climatic changes in China's historical periods.

Associate Professor Zou Jinshang - Weather Climatology. Professor Zou is engaging in research on maximum possible artificial rain.

Associate Professor Fu Baopu - Microclimatology. Professor Fu is engaging

in research of water body effects on wind.

Associate Professor Zhuang Yinmo - Radar Meteorology. Professor Zhuang is engaging in research on range of radar gauging of rains.

ACADEMIC CURRICULA

Curricula for various majors consist of the required (including common basic courses and specialized courses) and the elective courses.

Required courses for various majors (the figure in parentheses indicates the number of units): Philosophy (4), Political Economics (4), History of Chinese Communist Party (4), Physical Education (4), Chinese Literature (6), Foreign Languages (16), Mathematics (14), Mathematical Methods (5.5), Meteorological Mathematics (5.5), Physics (10-14), Hydraulics (6), Meteorology (8), Atmospheric Sounding (3), Synoptic Meteorology (7, 14 for Meteorological Dynamics major), and Dynamic Meteorology (4-7).

Some more required courses for climatology major: Climatology Fundamentals (6), Agricultural Meteorology (2), Climatic Statistics (6), and Microclimatology (6).

Some more required courses for aerographic physics major: Radio (6) and Aerographic Physics Fundamentals (4).

Electives for various majors:

Meteorological Dynamics major: Meteorological Statistics and Statistical Forecasts (4), Satellite Meteorology (3), Climate and Agricultural Meteorology (3), Radar Meteorology (3), Midrange Weather Forecasting (2), Long Range Weather Forecasting (2), Numerical Forecasting (4), Atmospheric Circulation (2), Tropical and Subtropical Meteorology (2), and Medium Scale Meteorology (2).

Climatology major: Dynamic Meteorology II (3), Weather Meteorology (4), Low Altitude Atmospheric Sounding (3), Dynamic Meteorology (4), Climatic

Changes and Climate Forecasting (4), and Low Altitude Aerographic Physics (4).

Aerographic Physics major: Theoretical Physics (4), Statistics (4), Radar Operations (4), Radar Meteorology (4), Pollution Meteorology Measuring Instruments and Techniques (4), Pollution Meteorology (4), and Cloud Physics (4).

Students from all majors can graduate only when 140 to 150 units have been completed.

SCIENTIFIC RESEARCH

The department has a meteorology research institute, which operates five research laboratories (R.L.): meteorological dynamics R.L., climatology R.L., low altitude meteorology R.L., artificial modification of weather R.L., and atmospheric pollution R.L.

The main scientific research areas currently in progress are: formation and forecasting of disastrous weather, the formation and changes of our country's climate and its utilization and modification, low altitude meteorology and its applications, precipitation regime of cumulus in south China and artificial effects, and atmospheric sounding theories and techniques.

Relatively solid achievements in scientific research have been made in the following topics: "Numerical Forecasting Technique on Typhoon Path," "Research on Subtropical High Pressure Configuration, Formation, Maintaining, Location Change and its Forecasting," "Process Analysis of Typhoons and Rainstorms," "Analytical Research on the Historical Data of 500 Years of Droughts and Floods in China," "Experiments and Research of Localized Artificial Rain," "Configuration Research of Turreted Wind Field in Nanjing Area," and "Distribution Rule of Atmospheric Pollution in Level and Open Regions."

THE LIBRARY

The library has a history of more than 70 years. The library had over 400,000 books in 1952 when a departmental and college reorganization took place. During these some 20 years, as the cultural and education endeavors in our country developed, the number of books has continued to grow in our library. The library currently houses nearly 2,700,000 publications in Chinese and foreign languages - 1,300,000 books in Chinese (including 300,000 ancient books), 550,000 books in foreign languages, and 850,000 copies of periodicals. Each and every department has its own library whose books and periodicals are centrally acquired, catalogued and distributed by this library. There are currently nearly 800,000 specialized books and periodicals, and it basically meets the specialized requirements of our university. The local (county) chronicles housed in the library are considered one of the largest collections among the libraries of universities and colleges in China. There is also a large collection of ancient works including ancient bibliography and archaeology, with over 1,000 rare ancient books which are predominantly woodcut-printed editions in the Ming Dynasty. The library also houses a relatively complete collection of major overseas newspapers and periodicals.

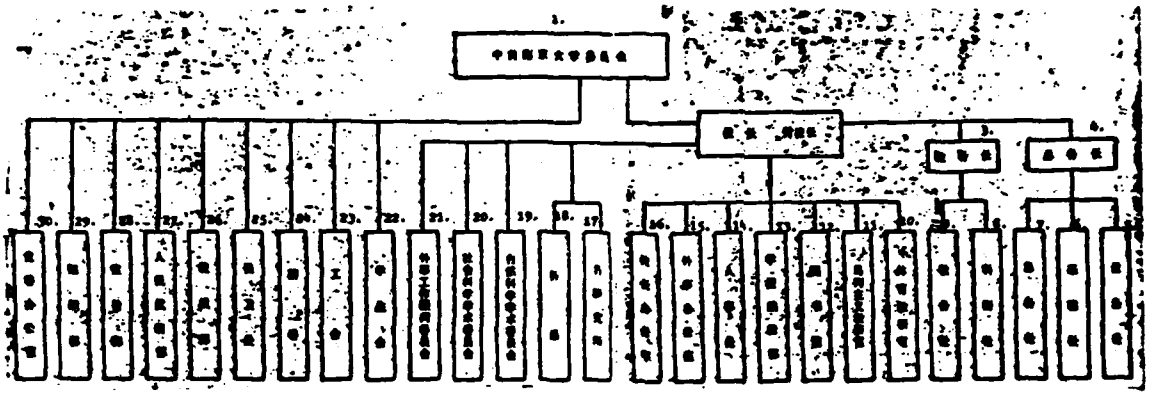
The library is directly under the leadership of the university president, and is headed by vice president Professor Fan Cunzhong. Subordinate units are: (1) office, (2) Chinese-language acquisition and cataloguing section, (3) foreign acquisition and cataloguing section, (4) periodicals section, and (5) circulating reading section. Currently the following reading rooms are being opened: literature, history and philosophy reading room; science reading room; faculty reading room, and newspaper and periodical reading room. In addition, the library has provided outside organizations with documentary materials on "500 Years of Droughts and Floods in China," and "Earthquake History of China." The library also takes part in the national bibliography project.

This year the library performed a small scale experiment on library reference information retrieval by a computer, and preliminary experience has been gained. Currently a system of library reference information retrieval by computer is gradually implemented.

The library has a working staff of over 70: 24 employees having 20-30 years library experience, 35 college or university graduates having solid theoretical background and practical experience, some possessing higher ability in scientific research and writing theses of certain academic levels.

Future emphases of the library are: (1) ancient bibliography, (2) science of ancient editions, (3) science of information, and (4) library information retrieval by computer. Major research topics are: "General Editions Science," "Development of Bibliography in China," "Problems in Chinese Typesetting," "The Evolution of Classification in China," and "General Information Science."

Organizational charts of Nanjing University



Key:

1. Nanjing University (Chinese Communist) Party Committee;
2. President, Vice President;
3. Dean of Studies;
4. General Manager;
5. Equipment Department;
6. Capital Construction Department;
7. General Services Department;
8. Scientific Research Department;
9. Office of the Dean of Studies;
10. Physical Education Research and Teaching Office;
11. Marxism-Leninism Research and Teaching Office;
12. Library;
13. University Bulletin Editorial Department;
14. Personnel Office;
15. External Affairs Office;
16. President's Office;
17. Various Research Institutes;
18. Various Departments;
19. Natural Sciences Academic Committee;
20. Social Sciences Academic Committee;
21. External Affairs Advisory Committee;
22. Student Association;
23. Labor Union;
24. Committee of Communist Youth League;
25. Security Department;
26. United Front Department;
27. Militia Department;
28. Propaganda Department;
29. Organization Department;
30. Office of Party Committee.