



# NAFSA

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## CHINA UPDATE # 6

### CHINA-U.S. EXAMINATION AND APPLICATION PROGRAMS

Since the United States and China normalized relations in January 1979, thousands of Chinese students and scholars have come to the United States to continue their studies. Several programs have been organized in specific disciplines to provide assistance to outstanding Chinese students and scholars in their efforts to come to the United States. Three of those programs are described below. As information is learned about additional programs, it will be included in the NAFSA Newsletter.

#### CHINA-U.S. BIOCHEMISTRY EXAMINATION AND APPLICATION (CUSBEA) PROGRAM

The China-U.S. Biochemistry Examination and Application (CUSBEA) Program was initiated on a nation wide basis by Professor Ray Wu of the Department of Biochemistry, Cornell University, in late 1980, before the TOEFL and GRE examinations were administered in China. The program was designed by biochemistry professors in the United States and the People's Republic of China to evaluate and assist students from the People's Republic of China who wish to continue their biochemistry studies at the graduate level in a U.S. university. Approximately 60 U.S. institutions are currently participating in the CUSBEA program, which consists of examinations in biochemistry and English and a personal interview. (Participating institutions are listed on page 5.)

The Chinese Ministry of Education sponsors the program in China. The contact person in China for the CUSBEA program is:

Mr. Zhang Long-xiang  
(Former) President }  
Beijing University } now Dept. of Chemistry? Biology?  
Beijing, People's Republic of China

The coordinator in the United States for the CUSBEA program is:

Dr. Ray Wu  
Section of Biochemistry, Molecular and Cell Biology  
Wing Hall  
Cornell University  
Ithaca, NY 14853  
Phone: 607/256-2203

Each year, professors of biochemistry from U.S. institutions participating in the CUSBEA program are selected to design the biochemistry examinations to be given to Chinese

applicants and to conduct the interviewing of final candidates in China. These professors are selected from universities that have excellent biochemistry departments; the professors usually also have experience in graduate admissions selections. The process being followed in the 1984-85 CUSBEA Program is outlined below.

### Applicant Selection

A committee appointed <sup>former</sup> by the Chinese Ministry of Education (MOE), which is headed by Zhang Long-xiang, President of Beijing University, and includes faculty from the biology department at Beijing University, asks approximately 50 of the best Chinese colleges and universities to nominate several students from their institution who are interested in and qualified for the CUSBEA Program. These students must first do exceptionally well on the Chinese National Graduate Entrance Examinations that are required for entry into graduate school (biology, chemistry, biochemistry and allied subjects) and/or have received a Master of Science degree. Once these names have been submitted, the committee makes the final selection of students to be invited to take the CUSBEA examination. In 1984, the list of such students numbered more than 400; of these, 90 were invited to take the CUSBEA examination. This group of students was specifically recommended by the relevant undergraduate institution or the institutes where each may be working currently.

### CUSBEA Examination

The CUSBEA examination was in two parts -- two and one-half hours duration for Part I, two hours for Part II -- in English. It was devised at the University of Illinois and Indiana University and was administered in three or four major cities in China in early August by the MOE appointed committee. Part I covered areas of general biochemistry; Part II covered molecular biology or chemistry. Both parts were on a level appropriate to excellent senior undergraduate students and first year graduate students in the United States. They included multiple choice questions, quantitative problems and open ended questions designed to test originality and ingenuity. (The examinations are challenging to well trained American undergraduates.) Grading was done by Chinese biochemistry faculty, aided by an answer key provided by the group that constructed the examination. Part I had a maximum of 200 points; Part II had two sections: Section I on molecular biology had a maximum of 144 points and Section II on biological chemistry also had a maximum of 144 points. The mean and standard deviation of the students interviewed were as follows: Part I -  $137.5 \pm 22.3$ ; Part II, Section I, molecular biology -  $122 \pm 12$ ; Part II, Section II, chemistry -  $110 \pm 10$ .

### English Examinations

Several methods for assessing the applicant's English language proficiency were used. First, the student's score on the English section of the Chinese National Graduate Entrance Examination was obtained. Second, the committee appointed by the MOE administered a written English exam that was designed by the Chinese Ministry of Education and which is similar to the Chinese English Proficiency Test. It was based on a maximum score of 100. A listening examination was also administered that was designed by a professor at the Beijing Language Institute. It was based on a maximum score of 30. The interviews conducted by the U.S. professors of biochemistry tested spoken English. In addition, all students selected under the CUSBEA Program for study in the United States will spend approximately eight months at the Guangzhou English Language Center at Zhongshan University in China before coming to the United States.

### Interviews

In the fall of 1984, 75 students who had the best scores on the 1984 CUSBEA exam plus two students who took the CUSBEA examination in 1983 were interviewed in Beijing and Shanghai by two U.S. professors of biochemistry and two U.S. English language specialists. The interviews consisted of separate 20 minute sessions with all four interviewers for each student. These interviews were designed to elicit information regarding the candidate's motivation, grasp of scientific information, breadth, imagination, social adjustment and command of spoken English.

Of the 77 students interviewed, the interviewers recommended 61 for study in the United States. Each of these students was advised by the interviewers to apply to five or six graduate departments in the United States. The advice and selection of departments was based on the match of the student's interest to perceived departmental strengths, geographical location and the interviewers' estimate of the likelihood of acceptance.

### Financial Support

The Chinese Ministry of Education has decided to provide fellowships for 30 of the 61 selected students. (The interviewers selected the top 30 students to receive a fellowship.) The fellowships are for one year only; the stipend is approximately \$5,000. The tuition fees will be paid by the Chinese Embassy in Washington, DC. The Chinese assume/hope that U.S. institutions receiving students on Chinese government fellowships will find the students so outstanding that they will support them financially after the initial year. They also hope state institutions will be able to waive non-resident fees for the students they accept and that biochemistry departments will supplement the stipend to raise it to a level similar to that received by their other students.

It is hoped that the remaining 31 applicants will receive financial support (a stipend plus tuition and fees) from a U.S. institution. Since the students do not have access to foreign currency, all U.S. institutions participating in the CUSBEA Program are requested to waive graduate school application fees.

### Application/Admission Procedures

Applicants' exam scores, a brief report by the interviewers and recommendations for each student who would apply to a particular program were sent by Professor Ray Wu at Cornell University in December 1984 to the participating U.S. institutions with the notation that no GRE or TOEFL scores would be available for these applicants. An additional letter of recommendation was sent from China for each student. The rank of the applicant (out of the students who took the exams) was given, with a reminder to the U.S. institution that the student's standing in the final group should be interpreted with the recognition that the initial group of students was already highly "select." The interviewing team also emphasized that it had recommended only those students of whose success in good U.S. graduate programs it felt confident. A statement, written by the applicant, describing his/her area of research interest was also sent to the U.S. institution.

Each participating U.S. institution decides how many awards it will grant (usually one or two) and ranks their applicants. U.S. institutions are requested to reach decisions on applicants to their programs by March 28, 1985. At that time, they are to notify President Zhang at Beijing University, by telegram or telex, of the names of students accepted and rejected, as well as the names of alternate students the institution is

prepared to accept if the first choices decide to go to another institution. Copies of information sent to President Zhang and decisions taken by the U.S. institutions are also sent to Professor Wu at Cornell University. U.S. institutions will be informed by telegram from President Zhang around April 9 of the names of students who will come to their university in August 1985. A second round of applications will be held between April 15 and May 10 for institutions that still have positions open for CUSBEA students.

Once a student indicates he or she will attend a particular institution, that institution sends the student a Certificate of Eligibility (IAP-66) to enable the student to obtain a J-1 visa.

Assessment of CUSBEA Program Students; Performances in the United States

During the summer of 1983, Professor Ray Wu at Cornell University conducted a survey on the performance of the Chinese students who entered graduate work in the United States in September 1982 under the CUSBEA Program. The results of that survey are given below.

SUMMARY OF PERFORMANCE OF FIRST CLASS OF CUSBEA STUDENTS\*

Students Started 1st Year Graduate Studies in September 1982  
Survey Made in July 1983

	Number of Students* Ranked in the:			
	Top 10%	Next 23% (top 33%)	Middle 33%	Bottom 33%
Course Work	14	17	7	8
Research or Lab Work	14	15	12	2
Overall Performance	14	16	12	3
Percent	31%	36%	23%	10%

\* The results of a survey of 47 of the 53 students who began graduate studies in 1982.

Institutions Participating in the CUSBEA Program

Albert Einstein College of Medicine	University of California, Davis
Baylor College of Medicine	University of California, Irvine
Carnegie-Mellon University	University of California at Los Angeles
Case Western Reserve University	University of California, San Diego
City University of New York, Graduate School and University Center	University of Cincinnati
Columbia University	University of Connecticut
Cornell University	University of Houston Central Campus
Dartmouth Medical School	University of Illinois
Emory University	University of Iowa
Harvard University	University of Kansas Medical Center
Harvard University Medical School	University of Miami
Indiana University	University of Michigan
Indiana University School of Medicine	University of Minnesota
Iowa State University	University of Nebraska, Lincoln
Johns Hopkins University School of Medicine	University of Oregon
Medical University South Carolina	University of Pennsylvania
Michigan State University	University of Pittsburgh
New York University Medical School	University of Rochester
Ohio State University	University of Rochester School of Medicine and Dentistry
Oklahoma State University	University of Tennessee
Oregon State University	University of Texas
Pennsylvania State University	University of Texas Health Science Center at Dallas
Princeton University	University of Texas Health Science Center at Houston
Purdue University	University of Utah
Rutgers University	University of Utah Medical Center
St. Louis University	Vanderbilt University
State University of New York at Buffalo	Virginia Polytechnic Institute and State University
University of Alabama	Washington University
University of Arizona	Yale University
University of California, Berkeley	

Institutions that would like to participate in the CUSBEA Program and/or wish more information about it should contact Professor Ray Wu at Cornell University (see page 1 for address and phone number).

## CHINA-U.S. PHYSICS EXAMINATION AND APPLICATION (CUSPEA) PROGRAM

The China-U.S. Physics Examination and Application (CUSPEA) Program was initiated in 1979 by Professor T.D. Lee of the Department of Physics, Columbia University, and is the prototype of similar programs in other disciplines, which include CUSBEA. It was established to enable highly qualified Chinese physics students to come to the United States for graduate study. Physics departments at 84 U.S. institutions are currently participating in the CUSPEA Program, which consists of examinations in physics and English and a personal interview. (Participating institutions are listed on page 9.)

The program is administered in China through:

Office of President Yan           ?  
Graduate School of the Chinese University of Science and Technology  
Chinese Academy of Science (Academia Sinica)  
P.O. Box 3908  
Beijing, People's Republic of China

In the United States, it is administered by:

Professor T.D. Lee  
Department of Physics  
Columbia University  
New York, N.Y. 10027  
212/280-3335

### Applicant Selection

The annual CUSPEA examinations are well publicized in physics departments throughout China. All eligible juniors and seniors in college can take the exam. Approximately 85 percent of the students who participate have just completed their junior year of college. (Those who take it between the third and fourth years, if selected, can then come to the United States immediately after graduation.) The remaining 15 percent have recently graduated. Of the more than 600 students who take part in each year's examinations, the top 100 or so, on the basis of their physics and English test scores, become CUSPEA applicants. There are no other criteria for selection.

### CUSPEA Physics Examination

The physics exam is designed each year by two professors from the U.S. institutions participating in the CUSPEA program. The three-part test is divided into sections on classical, modern and general physics. A perfect grade is 320 points; the score of the successful candidates has been in the range of 225-290. The examination is on the level of the qualifying exam taken by students in U.S. physics departments during the first year of their graduate work.

Given each summer, the CUSPEA exams are administered simultaneously in 16 cities in China: Beijing, Changchun, Chengdu, Guangzhou, Hangzhou, Hefei, Jinan, Kunming, Lanzhou, Nanjing, Shanghai, Tianjin, Wuhan, Xiamen, Xi'an and Zhengzhou. The grading is done by a special committee consisting of approximately 60 physics professors from the Chinese Academy of Science and various Chinese universities.

### English Examination

The written English exam, on a level with TOEFL, was designed by the Graduate School of the Chinese Academy of Science and is given with the physics test each summer. It is graded by Chinese foreign language experts. A student must receive a grade of at least 50 out of 100.

Spoken English is evaluated during the interviews with the U.S. professors and their spouses, which are described below, and is graded separately.

Before arrival in the United States, the students take intensive English courses to further improve their speaking and listening comprehension skills.

### Interviews

The candidates all have two interviews of about 30 minutes duration -- one on physics and the other on English. The physics interview is aimed primarily at assessing the student's background and preparation, learning something of the student's interests in various fields of research and answering the student's questions about graduate work in the United States. The English interview is aimed at evaluating the student's general ability to communicate in English and to function effectively in a U.S. graduate school environment.

### Financial Support

The students are all fully supported by their U.S. institutions. They are admitted as regular teaching or research assistants (some are awarded fellowships), and receive the institution's current graduate student stipend. Their fares to and from China are paid by the Chinese government.

### Application/Admission Procedure

The U.S. institutions participating in the program receive each fall the CUSPEA record booklet which lists the students, their physics and English scores and the interviewers' report.

Each candidate may submit pre-application forms designed for the program, in November and December, to the CUSPEA representatives of five U.S. institutions. Students' transcripts from their home universities are also sent, as are three letters of recommendation from teachers. A booklet containing questionnaires completed by each member physics department listing the fields of research available for graduate work is available to help the candidates in China choose the institutions to which they wish to apply.

The small percentage of students who do not receive offers in the first round, which ends in early February, are available for placement in a second and, if necessary, a third round.

Once a student has accepted an offer, he or she is sent the institution's regular admissions forms to complete. Once those completed forms are received, an IAP-66 Certificate of Eligibility form is prepared for and sent to the applicant to obtain a J-1 visa.

Assessment of CUSPEA Students' Performance in the United States

An evaluation survey was made in 1982 of the 128 students in the CUSPEA program. The students were ranked in five performance categories: excellent, very good, good, fair and poor. The criterion for "very good" was that all course grades should be at least A-; for "excellent," it was that the departmental comments should be superlative. About 42 percent of the CUSPEA students were rated excellent, 45 percent very good, 11 percent good, one percent fair and one percent poor. More recently only sample statistics are available; they are consistent with the earlier ones.

Institutions Participating in the CUSPEA Program

Arizona State University	State University of New York at Albany
Auburn University	State University of New York at Buffalo
Boston College	Stevens Institute of Technology
Boston University	Syracuse University
Brandeis University	Texas A and M University
Brooklyn College of the City University of New York	University of Arizona
Brown University	University of British Columbia
California Institute of Technology	University of California, Berkeley
Carnegie-Mellon University	University of California, Irvine
Case-Western Reserve University	University of California at Los Angeles
City College of the City University of New York	University of California, San Diego
College of William and Mary	University of California, Santa Barbara
Columbia University	University of California, Santa Cruz
Columbia University, Applied Physics	University of Chicago
Cornell University	University of Cincinnati
Drexel University	University of Colorado
Duke University	University of Connecticut
Harvard University	University of Georgia
Harvard University, Applied Physics	University of Hawaii
Hunter College of the City University of New York	University of Houston
Illinois Institute of Technology	University of Illinois
Indiana University	University of Iowa
Iowa State University	University of Kentucky
Johns Hopkins University	University of Maryland
Kent State University	University of Massachusetts, Amherst
Louisiana State University	University of Michigan
Massachusetts Institute of Technology	University of Minnesota
Michigan State University	University of Nebraska
Montana State University	University of Oregon
New York University	University of Pennsylvania
Northwestern University	University of Pittsburgh
Ohio State University	University of Rochester
Pennsylvania State University	University of Southern California
Princeton University	University of Texas at Austin
Purdue University	University of Utah
Queens College of the City University of New York	University of Virginia
Rice University	University of Washington
Rockefeller University	University of Wisconsin, Madison
Rutgers University	University of Wisconsin, Milwaukee
Stanford University	Vanderbilt University
Stanford University, Applied Physics	Virginia Polytechnic Institute and State University
	West Virginia University
	Yale University

Institutions that would like to participate in the CUSPEA Program and/or would like more information about it should contact Professor T.D. Lee at Columbia University (see page 6 for address and phone number).

## MATHEMATICS PROGRAM

Several years ago, the American Mathematical Society (AMS) and the Society of Industrial and Applied Mathematics (SIAM) jointly established the Committee on Chinese Students to facilitate the selection of Chinese students applying for graduate study in mathematics and applied mathematics in the United States. The program was designed to help U.S. universities evaluate applications and informally advise Chinese students about applying to graduate mathematics programs in the United States. At that time, AMS and SIAM contacted all U.S. colleges and universities that have graduate mathematics departments and asked if they would be interested in participating in such a program; most universities contacted responded affirmatively. (A list of institutions participating in this program is, unfortunately, not available.)

The program has been conducted for the past two years (1982-83 and 1983-84) and has included 20 students each year. The contact person in the United States for the Mathematics Program is:

Dr. David J. Benney  
Department of Mathematics  
Massachusetts Institute of Technology  
Room 2-341  
Cambridge, MA 02139  
Phone: 617/253-6976

The process followed in the 1983-84 Mathematics Program is briefly described below.

### Applicant Selection

The students participating in the program were selected by competition using the written examinations of various graduate schools in China.

### Interviews

In June 1984, three U.S. mathematics professors traveled to Beijing to interview the students who had been selected to apply for the program. The interview consisted of: (1) ascertaining what the students' interests were and what courses they had studied; (2) an oral examination of approximately one hour; and (3) for those students that the interviewers decided to recommend for admission to a U.S. university, a discussion with the student of various universities that might be suitable. All students recommended were, in the interviewers' opinions, qualified for admission to strong graduate programs.

### Application/Admission Procedures

Names of students recommended for admission to specific programs were sent to U.S. institution(s) with an application that included: a letter from the interviewers; the student's transcript and three letters of recommendation from the student's teachers; and a copy of the particular written examination that the student took. (The student's score on the examination was not included, as the exams taken by the applicants were not all the same and it was believed that the Chinese grading system, which is quite different from that used in the United States, might be more confusing than helpful.)

### Financial Support

Participating institutions were requested to waive application fees for the Chinese students selected for the program. They were also asked, on a purely voluntary basis, if they would contribute \$150 to the program for each matriculating student to help defray the expenses for administering the program. Finally, the Chinese government provided travel expenses to and from the United States, but it was unable to provide fellowships for mathematics students studying under this program. Therefore, if a recommended student were admitted to a university participating in the program, that institution would have been asked to provide financial support for the student, possibly in the form of a fellowship for at least one year, followed by a teaching assistantship.

### English Language Training

Most of the students recommended by the interviewers attended a special 30 week intensive English language course in China before coming to the United States. Experience had shown that graduates of this program exceeded the standards of TOEFL, and institutions participating in the program were therefore requested to accept completion of this English course as a substitute for TOEFL.

### For Further Information

Institutions that would like to participate in the Mathematics Program and/or wish more information about it should contact Professor David Benney at the Massachusetts Institute of Technology (see page 10 for address and phone number).

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