

**SIMON FRASER UNIVERSITY**  
**Senate Committee on University Priorities**  
**Memorandum**

**TO:** Senate

**FROM:** John Waterhouse  
Chair, SCUP  
Vice-President, Academic



**RE:** Dual Degree Program in China

**DATE:** January 21, 2005

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At its January 12, 2005 meeting the Senate Committee on University Priorities (SCUP) recommended the following motion:

**Motion**

That Senate approve and recommend to the Board of Governors the proposal for a Dual Degree Program in China, in the Faculty of Applied Sciences.

encl.

c: R. Blackman  
J. Munro  
G. Nicholls

# SIMON FRASER UNIVERSITY

## MEMORANDUM

**To:** Senate Committee on University Priorities

**From:** R. Blackman, Chair  
Senate Committee on Undergraduate Studies

**Subject:** Faculty of Applied Sciences  
Proposal for a Dual Degree Program in China  
(SCUS Reference: SCUS 04-32)

**Date:** December 15, 2004

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*R. Blackman*

At the SCUS meeting held on December 14, 2004, SCUS approved in principle and recommended approval by SCUP of the proposal for a Dual Degree Program in China.

The relevant documentation is attached for review by SCUP.

# A Proposal for a Dual Degree Program in China

Jock Munro, Senior Advisor, SFU International

Revision B - November 30, 2004

## I. INTRODUCTION

The Dual Degree Program in China (DDP) will have annual cohorts of Canadian and Chinese students from Simon Fraser University and Zhejiang University (ZU). They will study computing science at SFU in English and at ZU in Chinese (Mandarin) and at the completion of the five-year program receive degrees from both universities. The program has been developed jointly by members of the School of Computing Science, the Dean of Applied Sciences, and SFU International. At Zhejiang University the Colleges of Computer Science and Software Technology have been involved along with the International Programs Office.

DDP will have the following characteristics.

1. The initial target is a program cohort of 50 students each year, roughly half Canadian and half Chinese students. As a cohort, each year's students will stay together throughout the program.
2. Students will study at their own university (SFU for Canadian students; ZU for Chinese students) for the first year and will then study at ZU for the next two years of the program and at SFU for the final two years.
3. Students will be expected to be proficient in both English and Chinese (Mandarin) by the end of their first year in the program.
4. The program will lead to dual degrees conferred by both ZU and SFU.
5. SFU and ZU will each provide at least two courses each year taught by their own faculty at the other university.
6. Co-operative Education opportunities will be available for all students in both China and Canada.

This program will be an important step in the University's internationalization efforts. It aims to create graduates with good disciplinary education, a deep and fundamental cross-cultural understanding and substantial foreign language skills. As far as we know, there is no other undergraduate program now in existence that uses a joint cohort and is as ambitious for the foreign language competence of its students.

Approval of this program by ZU requires submission of an application to the Ministry of Education in China. This process is underway.

SFU's consideration of this program has three components:

2.

1. Acceptance of approximately 60 hours of ZU courses as transfer credit towards a B.Sc. with a major in Computing Science. This is presently being considered by the School of Computing Science and will not require other approval.
2. Approval to operate this international program given by the President on the recommendation of the Senate Committee on International Activities (SCIA). Information concerning DDP has been provided to SCIA at several meetings. Formal consideration by SCIA is expected to occur at its meeting in January, 2005.
3. Approval for students receiving two degrees for approximately 150 hours of course credit in a five-year program. This requires Senate approval. This paper has been prepared to provide full information about DDP in support of this request.

## II. RATIONALE

### General Rationale

Internationalization of higher education in Canada has become an imperative as global forces reduce the size of the world and increase the need for culturally informed graduates. The universality of knowledge in the information age, the competitive nature of world trade and the increasing rate of cultural exchange dictate that the international dimension of higher education must keep pace with changes occurring globally. Internationalization is therefore essential for the University to fulfil its mandate to create and share knowledge and to provide a learning environment that prepares students, faculty, and staff to function effectively in an increasingly integrated, global environment.

Developing global citizens through higher education requires real global experience. Enriched understanding of languages, cultures and the complex and important global processes described above requires immersion in foreign cultures and their academic institutions in non-English speaking countries. Already, SFU graduates who have participated in international activities will have academic, language and cultural skills that would not be possible from studying at SFU in Canada. These attributes would be increased and enhanced through increased frequency and duration of academic activity and everyday life outside Canada.

Evidence shows the value of cross-cultural student interaction in both formal and non-formal collegial situations in terms of assimilation of culture and language, especially when the exposure to new language and culture is lengthy and deep. Most student exchange programs are typically one or two semesters long and field schools are normally one semester in duration. In both cases instruction is largely in English and field schools do not usually provide an opportunity for prolonged interaction between SFU students and host country students. A deeper impact would be obtained from a Simon Fraser University program in part offered outside Canada, in cooperation with a like-minded institution of similar academic quality, where Canadian and host country students would study together in both the host country language and in English.

### China

China has been selected as the host country for DDP because of its enormous historical, cultural, political and economic importance. Simon Fraser University has been interested in program development opportunities in China for over 20 years. Our first international exchange agreement was with Jinan University in Guangzhou, China, signed by President Pedersen in 1982 and our first university mission to explore overseas exchange opportunities was to China in 1983. A considerable number of projects and programs have been carried out with Chinese institutions since then.

China has changed immensely since these early contacts. So has its university system - it is much larger, individual universities are bigger, and the quality of teaching and research at Chinese universities has shown continuous development. According to a 2003 report from Institute for Scientific Information (ISI), research output (measured by science and social science papers indexed by ISI) in China for the 1992-2002 period ranked 9<sup>th</sup> in the world (Canada was 6<sup>th</sup>). Enrollment in public institutions of higher learning in China is to grow to 16 million by 2005, an increase of 1 million per year from 2001 (total enrollment in Canadian universities is about 1 million). The Ministry of Education has committed itself to build a limited number of universities to world class status. As part of this, it has used university amalgamation to create universities that are genuinely comprehensive in terms of the range of disciplines offered.

The choice of Computing Science for the discipline focus of DDP was made by the two universities. This is supported by the rapid development of all forms of information technology in China and the likelihood that there will be a large demand for the skills that DDP graduates will possess.

### **Zhejiang University**

Zhejiang University (ZU) is located in Hangzhou, capital of Zhejiang province, about 150 kilometers southwest of Shanghai. ZU's origins date to 1897. It is typically ranked as the 3<sup>rd</sup>, 4<sup>th</sup>, or 5<sup>th</sup> best university in China. (In the World University Rankings published by Shanghai Jiaotong University, ZU and SFU are in the same grouping.) Hangzhou, which has a metropolitan population of about 6 million, is known in China as the "garden city" and is a leading destination for domestic tourists.

ZU has 27,000 undergraduate students and 16,000 graduate students with over 8,000 faculty and staff members. Its academic organization is built around 21 different schools covering almost all SFU fields and many others, including a School of Medicine. It has a wide variety of agreements with foreign universities, including an existing student exchange agreement with SFU.

ZU was selected from a list of six of China's best universities for Simon Fraser's first international dual degree program for three reasons:

- The quality of the university;
- Its interest in and commitment to developing this program;
- The suitability of Hangzhou as a location.

### **III. RISKS**

There are five risks that could impede the successful operation of DDP.

1. This is a complex program that will require considerable administrative attention from both universities, especially during its first years. While every effort has been made to provide for this, successful management of DDP could prove more demanding than we expect.
2. We believe that there will be considerable student interest in this program because it offers an exceptional educational opportunity. However, the program also involves a serious commitment from students and so we could be mistaken about student interest, especially on the Canadian side.

3. Every effort has been made to seek advice on how best to provide second language education for Canadian students learning Chinese. But, even if student interest in DDP meets our expectations, it may be more difficult than we expect to reach sufficient fluency in the second language; this could mean that students drop out of the program or that they are unable to follow their cohort to China in the second year. The risk of a serious problem of this type for Chinese students is, we believe, lower.
4. Both groups of students will require student visas to proceed to the second year (Canadian students) and fourth year (Chinese students). There should be no problems for Canadian students obtaining student visas for China. However, recent experience suggests that difficult student visa approval procedures could make it impossible for all Chinese students to obtain Canadian student visas
5. Finally, any international program has geopolitical risks. This program depends on the continuation of satisfactory relations between Canada and China.

## **IV. PROPOSED PROGRAM**

The details of the articulation between SFU and ZU programs are still being worked out by the SFU School of Computing Science and the ZU Colleges of Computer Science and Software Technology. This section describes the general structure of the DDP.

### **Simon Fraser University Degree**

Students will complete the normal requirements for a B.Sc. degree with a major in Computing Science. For both Chinese and Canadian students about 50-60 hours of this will be taken in the 2<sup>nd</sup> and 3<sup>rd</sup> years of the program at ZU. Chinese students might also transfer some hours from their 1<sup>st</sup> year at ZU. Most upper division courses will be taken at SFU in the 4<sup>th</sup> and 5<sup>th</sup> years of the program.

### **Zhejiang University Degree**

Students will complete the requirements for a Bachelor's degree in the Colleges of Computer Science and Software Technology. As mentioned above, the articulation process between SFU courses and ZU courses is ongoing.

### **Instruction**

Courses at SFU will be taught in English by SFU faculty and other course instructors. Courses at ZU will be taught in Chinese by ZU faculty and other course instructors. (However, English-language textbooks are often used in the ZU courses that DDP students will take.) At both universities, courses may be offered as special sections for DDP students or DDP students may take regular sections of courses.

Each year, ZU will arrange for two courses to be taught at SFU by ZU faculty as Visiting Professors. Similarly, each year SFU will arrange for two courses to be taught at ZU by SFU faculty members.

### **Language and Culture Courses**

At the start of the program a Chinese language placement examination will be given to Canadian students who

already have some facility in the Chinese language. Canadian students who have no Chinese will complete 15 hours of Chinese language courses in their first two semesters (one course in the fall and three courses in the spring) and take a semester-long Chinese language immersion course at ZU in the summer semester of their first year. We have received advice from several sources that this should be enough to equip Canadian students with adequate language fluency to take courses taught in Chinese beginning in the fall of their second year in the program. Students will take a language proficiency test before beginning the immersion course at ZU.

We expect the Chinese students to enter the program with a relatively higher level of English language proficiency than Canadian students' proficiency in Chinese. Chinese students will take an additional three English language courses before coming to take courses at SFU in English. Students will be expected to meet SFU's TOEFL or IELTS standards.

For Canadian students the curriculum will include courses in Chinese culture, society, politics, and history taught both at SFU and ZU. We are exploring the best ways of providing similar courses about Canada for Chinese students. The joint student cohorts will provide excellent social opportunities for learning about each other's countries. We plan to begin this process with a web site during the first year of the program.

### **Co-operative Education**

DDP will offer optional co-operative education opportunities in both China and Canada for both Canadian and Chinese students. We are considering ways to arrange the three co-op semesters that will be necessary for students to receive a co-op certificate.

### **Leaving the Program**

Students who decide to leave the program will be able to transfer their credits to the same or other programs at SFU according to normal University regulations.

Some students may fall behind their cohort. Where this lag is minor, every reasonable effort will be made to keep the student in the same cohort. If this is impossible, the student should be able to join the next year's cohort. Implementation details will be established later.

## **V. DUAL DEGREES**

Students will receive two degrees, one from each university, for completing the requirements of DDP. The general rationale for dual degrees is that combining study in two institutions or two fields accelerates the learning process and so allows students to learn more in a similar time period. Most dual degree programs, including this one, require more time for the two degrees, but less than twice as much. DDP students will receive degrees from both SFU and ZU with approximately 150 credit hours.

SFU has many examples of the dual degree "principle". The most pertinent is the general rule at SFU that students can receive a second degree by completing the required 45 hours of upper division credit in a different field than the first degree.

There are numerous world examples of what is being proposed for DDP. Some examples follow.

1. Michigan State University and the University of Ottawa offer a dual degree program in law. Students

- receive a J.D. degree from Michigan State and an LL.N. degree from Ottawa after two years of study at each university.
2. The Thayer School of Engineering at Dartmouth College and 17 other U.S. liberal arts colleges offer a dual B.E. and B.Sc. program. Students take two years at their home institution, one year at Dartmouth, the fourth year back at their home institution, and a fifth year at Dartmouth to receive both degrees.
  3. American University in Washington, DC offers several dual degree programs with universities in Asia. For example, students study for two years at AU and two years at Ritsumeikan University in Kyoto, Japan and receive degrees from both universities.
  4. In Europe, dual degree programs in different countries are becoming more common. The credential awarded in these programs is sometimes "joint" (conferred jointly by both universities) and sometimes "dual" (separate degrees conferred by each university). Because of variations in university structures for undergraduate programs in different European countries, more of these degrees are at the graduate level. The European University Association is actively promoting the development of more joint degree programs.

## VI. RECRUITMENT AND ADMISSION OF STUDENTS

### Recruitment

As noted earlier, we believe that there will be substantial student interest in this program just because it is unique and provides such an interesting opportunity. However, DDP's requirements are demanding and the program will likely only appeal to students who are academically well-prepared, willing to try something different, and able to see the future advantages of being able to work in an occupation where their knowledge of China will be valuable. We plan to promote DDP across Canada and our hope is that we will attract excellent students to SFU who would not otherwise have come here to study. We will also, of course, promote this program provincially among Grade 12 students and selectively among first year students at Simon Fraser. The program will experience attrition and so we are planning to start each cohort with 38 Canadian students in order to have 25 finish.

We are advised that DDP should have no difficulty in reaching its student targets among Chinese students. ZU is very selective in its admission decisions and the opportunity to receive a Canadian and a Chinese degree after five years of study should appeal to an elite group of Chinese students.

### Admission Standards and Procedures

Students will first be admitted to their home university. Admission of Chinese students to SFU and Canadian students to ZU will occur at the end of the first year. All admission decisions are dependent on students attaining the level of language proficiency in Chinese or English required by each institution.

For Canadian students, the usual academic standards for direct admission to the School of Computing Science at SFU will apply to those admitted to DDP. In addition to the usual documentary requirements for admission, applicants will be asked to prepare a short statement explaining their interest in DDP. Admission to DDP itself will be conditional until an admission interview to be held near the end of the first semester of study. The purpose of this will be to assess suitability for participation in this program. Students whose admission is not confirmed may continue in the regular undergraduate program in Computing Science.



Chinese students will be admitted to DDP by ZU following their first semester of study at ZU. The only SFU requirement for these admission decisions is that applicants' scores on the NCEE university entrance exam be above the prescribed minimum for direct admission to SFU. At the present time, ZU's entrance requirements for graduates of Chinese high schools are more demanding than SFU's.

Both Canadian and Chinese students will be expected to maintain the minimum academic standing required for continuation in the undergraduate program in Computing Science at SFU (currently a cumulative GPA of 2.4). A method for applying this standard to grades in courses taken at ZU will be developed.

## VII. FINANCIAL PLAN

### Tuition Fees

Canadian students will pay SFU tuition fees throughout the program. Chinese students will pay ZU fees in years 1,2, and 3 and SFU international student fees in years 4 and 5. Canadian students will also pay a \$700 annual program fee to partially cover the extra costs of administering DDP.

### Program Revenues and Costs

The enrollment model on which program revenues are based is attached as an appendix to this paper. A portion of tuition fees will be credited to DDP revenues. Also, credit hours taken by Canadian students will be counted towards the University's various enrollment targets.

In steady-state, reached in 2009/10, the annual direct costs of DDP will be about \$400,000 and its annual assigned revenues will be \$850,000. In addition, approximately \$300,000 annually will be transferred to the Faculty of Applied Sciences to account for instructional costs for DDP Chinese students (as foreign students, they will fall outside the FTE-based budget allocations to Faculties). The annual surplus will be used to offset revenue shortfalls in the years before steady-state is reached.

### Student Costs

Canadian students should be eligible for the same financial aid as if they remained in Canada and will also be able to use the funding sources that are available to assist students currently participating in international co-op, exchange programs, and field schools. We will seek to arrange registration procedures so that this is possible. Costs of food and accommodation at ZU should be about 60 percent of Canadian levels (or about \$800 less per semester). Students will be responsible for their own travel costs. Experience with other international study opportunities at SFU (field schools and exchange programs) suggests that DDP would be financially possible for many students.

Tuition fees for Chinese students will be higher than if they only studied in China and so will their accommodation and food costs. They will be responsible for their own travel costs. We are advised that the extra expenses for Chinese students to participate in DDP will not make the program financially impossible for a sufficient number of students.

While in Canada, Chinese students will be eligible for the same financial aid as other foreign students. In addition, a scholarship program will be established to provide scholarships totaling not less than \$60,000 annually.

## VIII. GOVERNANCE AND ADMINISTRATION

DDP will be governed by a Memorandum of Understanding that will be signed by SFU and ZU once all approvals are in place. We do not anticipate that the program would need a separate governing body with representatives from both institutions. Any disagreements concerning the operation of the program will be resolved by negotiations between the two universities.

At Simon Fraser, the academic affairs of DDP will be the responsibility of a Program Director who will be a faculty member from, and appointed by, the School of Computing Science. The Program Director will be advised by a committee with membership from the School of Computing Science, the Dean of Applied Sciences, the Asia Canada Program, the Language Learning Institute, and SFU International. SFU's general responsibility for the international relationship with ZU will be centrally provided, probably by SFU International. Necessary administrative support for the ongoing operation of DDP will be provided within Computing Science and centrally. Considerable assistance has been provided by various administrative and academic departments in bringing DDP to its present state of development.

## IX. FURTHER DEVELOPMENTS

We believe that the model proposed for DDP offers considerable promise for extension to other universities in China, and elsewhere, and to other disciplines. There are no current plans to bring other dual degree programs forward for approval but exploration of possible opportunities is ongoing. The Senate Committee on International Activities will be involved in further academic program developments of this or similar types. Development of such programs will also be guided by the China Programs Advisory Committee that has been appointed by the Vice President, Academic.

## APPENDIX

### DDP Enrollment Model

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CD=Canadian students; CN=Chinese students	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
CD Enrollment Year 1	38	38	38	38	38	38	38	38
CD Enrollment Year 2		32	32	32	32	32	32	32
CD Enrollment Year 3			29	29	29	29	29	29
CD Enrollment Year 4				26	26	26	26	26
CD Enrollment Year 5					25	25	25	25
Total CD Enrollment	38	70	99	125	150	150	150	150
CN Enrollment Year 1	38	38	38	38	38	38	38	38
CN Enrollment Year 2		33	33	33	33	33	33	33
CN Enrollment Year 3			32	32	32	32	32	32
CN Enrollment Year 4				26	26	26	26	26
CN Enrollment Year 5					25	25	25	25
Total CN Enrollment	38	71	103	129	154	154	154	154
Total Students	76	141	202	254	304	304	304	304
Total at SFU	38	38	38	90	140	140	140	140
Total at ZU	38	103	164	164	164	164	164	164