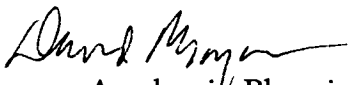


SIMON FRASER UNIVERSITY

OFFICE OF THE VICE-PRESIDENT, ACADEMIC

MEMORANDUM

To: Senate

From: D. Gagan, Chair 
Senate Committee on Academic Planning

Subject: Proposed Non-Credit Certificate Programs
(Reference: SCAP 96-66)

Date: December 9, 1996

Action undertaken by the Senate Committee on Continuing Studies and the Senate Committee on Academic Planning gives rise to the following motion:

Motion:

"that Senate approve and recommend approval to the Board of Governors, as set forth in S.97 - 12 , the following:

- a) Non-Credit Certificate Program in North American Business Practices
- b) Non-Credit Certificate Program: UniGIS - A Telelearning Program in Geographic Information Systems."

SIMON FRASER UNIVERSITY

Memorandum

To: Alison Watt, Secretary
Senate Committee on Academic
Planning

From: Jack Blaney, Chair
Senate Committee on
Continuing Studies

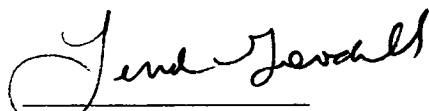
Re: Proposals for Certification of
Non-Credit Programs

Date: November 20, 1996

Enclosed are two proposals for Non-Credit Certificate Programs:

- North American Business Practices Certificate Program
- UniGIS: A Telelearning Certificate Program in Geographic Information Systems

The Senate Committee on Continuing Studies has recommended that both proposals go forward to SCAP for consideration, approval and forwarding to Senate. Please place these proposals on the agenda for the next Senate Committee on Academic Planning.

for 

Jack Blaney
/encl.



SIMON FRASER
UNIVERSITY
AT HARBOUR CENTRE

FACULTY OF BUSINESS ADMINISTRATION

**PROPOSAL FOR A
NON-CREDIT
CERTIFICATE PROGRAM
in
NORTH AMERICAN BUSINESS PRACTICES**

prepared by

Kathryn Hanson, Associate Director
Extension Credit, Continuing Studies
and
Ilean Madrid, Director
Professional Programs, Continuing Studies

November 13, 1996

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1. PURPOSE

The Program in North American Business Practices is the first of a contemplated series of certificate programs designed specifically for international students with a good command of English (e.g., TOEFL score of 530 or better) who wish to advance their English language skills through participation in a short-term, content-driven program of study and at the same time obtain a credential from a respected North American university.

A survey of 501 international students studying ESL at five member schools of the Private English Language Schools Association (PELSA)* -- designed by SFU Continuing Studies and administered by PELSA officials in July 1996 -- indicated general/strong interest in the following certificate programs: North American Business Administration (303/101),[§] Tourism and Hospitality Management (285/102), Marketing (274/104), and Liberal Arts (220/80).

2. BACKGROUND

According to UNESCO which collects data on the number of students who study outside their own countries, 1.4 million students studied abroad in 1992. Globally there will be 1.8 million international students in the year 2000, 2.8 million in 2010 and 4.9 in 2025. In particular, Asia is forecast to constitute a demand for 800,000 new international university places in the years to 2010 and a further 1.5 million places in the following fifteen years.

Although there is currently no accurate measurement of how many international students are now in Canada, and no way of determining how many plan to study in Canada in the future, we do know that Canada is

* The Private English Language Schools Association (PELSA) is a self-regulating umbrella organization that was created to raise the quality and standards of ESL training in Vancouver. Among the criteria for membership in PELSA are TESL certification of all instructors and balanced student representation from South America, Europe, and Asia. Member schools include: Canada Language Centre, The Canadian College of English Language, Columbia College, Language Studies Canada, Pacific Language Institute, Vanwest College, and Westcoast English Language Center.

[§] The second figure is a subset of the first, here and in the following data.

many plan to study in Canada in the future, we do know that Canada is lagging behind other major countries in its educational offerings to international students, particularly at the university level. Students who come to Canada to learn English often proceed to the US or Australia to complete the next step in their education or professional development, simply because there are few programs available to them here.

This lack of opportunity in Vancouver for ESL students seeking university-level content courses was one of the key findings of a feasibility study for a language centre at Harbour Centre commissioned by the Faculty of Arts, Continuing Studies and Harbour Centre and undertaken last winter. As a result, one of its primary recommendations was that SFU should position itself as a provider of "top of the pyramid, next step" educational opportunities for the growing number of international students attracted to Vancouver for ESL training. Citing the highly successful certificate programs for international students offered by Berkeley and UCLA as possible models, and noting PELSA's interest in collaborating with SFU to develop and market similar programs, the feasibility study placed a high priority on the early implementation of this recommendation for several reasons:

- Many institutions have recently come to recognize the sheer size of the international student marketplace and are seeking participation as a means of generating income.
- More than accessing a supplementary source of revenue, however, participation in this marketplace represents an opportunity to expand international institutional relations.
- By virtue of its status as a university, Simon Fraser will attract a high quality of student; but it is not as well known as many other universities in the international arena and needs to establish itself with a selection of high quality professional development and academic programs geared specifically to international students.
- Building on the strengths of the David Lam Centre, the addition of several well-regarded certificate programs for international students would strengthen SFU's position in the minds of local as well as international organizations as an important centre for intercultural education.
- Increased opportunities for faculty involvement in intercultural classrooms and in international exchanges with partner institutions

abroad would contribute to the interculturization of the University at large.

The Program in North American Business Practices is our first step in creating "next step" opportunities for international students in Vancouver.

3. NON-CREDIT CERTIFICATE PROGRAM IN NORTH AMERICAN BUSINESS PRACTICES

Preparing for a managerial position in the competitive global business environment is a challenge. A credential from a well-respected university such as Simon Fraser University, and the experience of living in a large cosmopolitan city can help distinguish and differentiate managers early in their careers. The non-credit Certificate Program in North American business Practices has been developed to assist international students in achieving this edge. Built around the process of developing a business plan and launching an enterprise within North America, the program combines seminar work in five core areas with a major group project, field trips, and supplementary skills building seminars.

4. THE CANDIDATES

This program is intended for people considering a career in management and for entry-level managers who do not have an undergraduate business degree from a North American institution but who wish to enhance their overall knowledge of the North American business environment and current business practices.

Since the program will be conducted in English, it is important that students be able to speak, read and write academic English, including the ability to absorb complex factual data, participate in a classroom setting and interact competently with other students during group sessions.

Although the program has been designed with international ESL students as the primary target, Canadian students and other native speakers of English may participate. For all candidates, the program will offer a unique opportunity for an intercultural educational experience.

5. THE PROGRAM

Focusing on international case studies, the program is built around the process of planning, developing, and launching an international business venture. The following are proposed core courses:

1. Cross-Cultural Business Communications
2. Doing Business in North America
3. Financial Decision Making Tools
4. International Marketing and Sales
5. Launching the New Enterprise

5.1 Proposed Program Content

The proposed program comprises the five core courses outlined above, complemented by skills building seminars and related field trips. SFU faculty and program directors would ensure that program modules and curriculum are consistent with the needs of the client group and would ensure, wherever possible, that case studies and projects be used to link course material with specific situations faced by participants in their workplace. The following are the proposed courses and topics of study:

5.11 Cross-Cultural Business Communications

- a) understanding the significant effects that business environment, social customs and cultural framework all have on communications
- b) examination of different types and styles of communications
- c) assessment of one's own personal communications style - building on strengths of that style

- d) developing effective listening skills
- e) establishing/cultivating effective communications mechanisms within the international organization
- f) becoming sensitive to how people of different cultures communicate while in conflict and practicing skills in managing conflict across cultures

5.12 *Doing Business in North America*

- a) understanding NAFTA and its implications for companies wishing to enter this market or continue to do business in Canada, the United States or Mexico
- b) how the international business environment of trading blocks, tariffs and social/environmental concerns affect where and how business is done
- c) understanding the Canadian political/legal system and structure and how it affects doing business, specifically how certain industries are regulated and by which levels of government law
- d) comparative management study of cultural differences which can either impede/prevent or support business success
- e) steps, processes and implications of some of the many approaches to doing business in North America - i.e.. setting up a new enterprise, creating a joint venture, negotiating licensing agreements, securing agents, contracting, consulting, establishing partnerships
- f) North American business structure and the emergence of new structures in response to globalization of markets, changing technologies, public policy initiatives, inter-corporate alliances and other factors

5.13 *Financial and Decision Making Tools*

- a) basic financial statements and the process of financial reporting
- b) finance models for identifying and assessing opportunities
- c) assessing financial and operating performance

- d) applying financial tools in work-related decisions

5.14 *International Marketing and Sales Management*

- a) examination of the factors that lead to success in marketing in North America or in unfamiliar cultures
- b) understanding the impact that North American culture, political structure, financial institutions, economic and legal systems have on product, price, promotion, distribution, service, packaging
- c) conducting market research and preparing a successful marketing plan
- d) gaining practical tools to assess customer needs and bring about appropriate action on the part of the organization and the client
- e) acquiring techniques for customer service management

5.15 *Launching the New Enterprise*

- a) conducting internal analysis/external analysis
- b) identifying corporate mission, goals and stakeholders
- c) examining strategic synthesis to determine if current strategy continues to be effective in a constantly changing business environment
- d) synthesizing and integrating concepts from all management functions and work experiences
- e) examining the global dimension of corporate level strategy

5.2 Skills Building Seminars

The above courses would be complemented by seminars designed to enhance specific skills identified as most crucial to effective business leaders. These seminars include topics which Continuing Studies at Simon Fraser University currently offers at the Harbour Centre campus. Seminars will be led by instructors experienced in delivering programs to international managers and professionals. Topics could include:

Building Effective Teams
Business Writing
Critical Skills in Strategic Problem Solving
Developing Mentoring Skills
Managing and Resolving Conflict
Improving Project Results
Negotiating Creative Winning Solutions
Presentation Skills - Communicating for Results
Skills for Effective Decision Making

5.3 Fields Trips, Business Site Visits

Site visits to businesses in Western Canada and the Pacific Northwest USA will give participants the chance to observe and discuss the practical application of classroom topics. Students would be able to inspect facilities and meet with business and community leaders to gain further insights into actual business enterprises.

6. FACULTY

Course sessions will be lead by faculty from Simon Fraser University as well as business professionals, thereby offering a balance between theory and the practical application of employment skills. Instructional methods will involve participants in an active learning process by creating opportunities for working together with colleagues to explore options, plan strategies, practice new skills, and seek solutions to problems posed through real work examples.

Among other criteria, faculty will be chosen for their ability to address the intercultural needs of mature ESL learners, many of whom are competent professionals. The following individuals have expressed an interest in teaching or advising:

Neil Abramson (International Marketing and Sales)

Bradly Condon (Doing Business in North America)
Howard Haugom (Financial Decision Making Tools)
Jean Legault (Launching the New Enterprise)
Rosalie Tung (Cross-Cultural Business Communications)

Neil Abramson, BA MA MBA PhD (W Ont). A businessman and entrepreneur for twelve of the past sixteen years, Dr. Abramson is now both an Assistant Professor of Policy and Corporate Strategy at Simon Fraser University and a director of GSI (Growth Strategies International). His main areas of expertise include general management; human resource management; experiential and case-based teaching and training; quantitative and qualitative survey research methods and techniques; international business strategies; and, strategic planning. Dr. Abramson has specialized in helping Canadian companies doing business in China, Southeast Asia and the United States. The results of his work have been published in many practical oriented media such as Industry Canada publications, Business Quarterly and Canada China Business Forum, as well as several prestigious academic publications. He is also very familiar with the various issues aboriginal communities across Canada face. He has worked with aboriginal communities in Saskatchewan, Northwest Territories, Ontario, and B.C.

Bradly Condon, BA (UBC) LLM (Calgary) LLB (McGill), is the Director of the Council for North American Business Studies, a member of the Board of Directors of the Canadian Foundation for the Americas, and teaches international trade policy at Simon Fraser University. He is a trilingual lawyer and international speaker with expertise in issues involving international trade and environmental law. Professor Condon has held teaching positions at McGill Law School in Montreal and the Anglo-American Institute in Mexico City. He has published numerous articles on the constitutional law, the North American Free Trade Agreement and the environment both in Canada and in Mexico. He frequently addresses business groups on trade and environmental law in the Vancouver area. Professor Condon regularly serves as a commentator on international trade and environmental issues for the national and international media.

Howard Haugom, BA MA (UVIC) PhD (SFU). His major areas of study, research and teaching include international finance, international trade, macroeconomic policy, resource economics and strategic planning. He has worked as a Treasury Board Analyst for the British Columbia Ministry of Finance where he prepared economic forecasts and budget papers. Dr. Haugom has also worked for Canadian Pacific Ltd. in Montreal as an International Economist. Currently, besides teaching regularly at Simon Fraser University, he is president and owner of Quilts Etc., a retail chain of linen stores throughout British Columbia and Alberta and he is a director and owner of JHL International Trading Company. Dr. Haugom also has extensive small business development experience, including the development of business plans, marketing strategies, financing, cash flow analysis, and evaluating businesses using financial and accounting data.

Jean Legault, BA MCom MAcc (Montreal) CA, is a professor at Université du Québec in Montreal and a business consultant for small business and venture capital institutions. His teaching and consulting areas of expertise are accounting for the decision-making process, entrepreneurship, and business risk valuation and financing. Professor Legault was appointed, in 1994, as consultant of the Standing Committee on Industry, House of Commons, on a study dealing with financing of small business. He was also co-author of the report *Taking Care of Small Business* October 94, House of Commons, Report of Standing Committee on Industry.

Rosalie L. Tung, BA (York), MBA, PhD (Br Col), is the Ming & Stella Wong Professor of International Business at Simon Fraser University. Formerly, she served as Wisconsin Distinguished Professor, Business Administration, with the University of Wisconsin. She also has served on the faculties of the Wharton School (University of Pennsylvania) and the University of Oregon, and as a visiting professor at Harvard University, the University of California, Los Angeles, the University of Manchester Institute of Science and Technology (England), and the Copenhagen Business School (Denmark). Dr. Tung has published eight books and many articles on international business in academic and professional journals, and has served on the Board of Governors of the Academy of Management, and as treasurer and member of

the executive board, Academy of International Business. She is involved in management development and consulting around the world.

7. METHODS/PROCESSES

7.1 Format

In order to provide the highest level educational experience, the ideal format for this Certificate Program is an integrated approach with a cohort class of 15-25 participants per offering. Program sessions would be held at Simon Fraser University at Harbour Centre and begin in January, 1997.

7.2 Timeline

The 125 hours of classroom program will be delivered in units of 2.5 classroom hours over a span of 13 weeks. This breaks down to 10 hours of classroom time per week and approximately 25 hours total per course. Additionally, blocks of time would be scheduled each day for study and group project work. The following represents a typical program week:

	Monday	Tuesday	Wednesday	Thursday	Friday
a.m.	course 1	study time group work	course 1	study time group work	seminar/ field trip
p.m.	study time group work	course 2	study time group work	course 2	seminar/ field trip

7.3 Schedule

Calendar for January, 1997

Application deadline	December 2, 1996
Orientation	January 16
Classes begin	January 20
Session ends	April 18
Holidays	March 28, 31

Calendar for September, 1997

Application deadline	July 25, 1997
Orientation	September 4, 1997
Classes begin	September 8, 1997
Session ends	December 12, 1997
Holidays	October 13, November 11

8. EVALUATION

Course work will be evaluated by class tests, short papers, class presentations, class participation, and a final group project (written and presented).

A certificate is awarded upon completion of the program, including the five required courses (125 hours of instruction) with a grade of C+ or higher, and attendance at all mandatory seminars and field trips. Participants must complete all units with no individual course grade lower than a C.

Participants who maintain an A grade average will be awarded a certificate with distinction.

9. INTERNSHIP (option for future consideration) **

This is the opportunity to enrol in an internship program designed to provide relevant work experience in a professional environment. Internships would begin at the conclusion of the certificate program. Internship positions are unpaid in accordance with Canadian immigration policy. Fees for placement in the internship program would be additional to the program fees.

** The internship option is not being considered for the January 1997 intake. The option will be reviewed and advice sought regarding its implementation in future offerings of the certificate program.

10. ADMISSION TO THE PROGRAM

Applicants to the program should have a minimum of high school graduation but preferably two years post-secondary education. Several years of practical business experience in their native country is an advantage. The admission criteria will be reassessed based on the pilot. This program is not executive level education but an introduction to North American Business at approximately the second or third year undergraduate level.

10.1 English Language - Applicants must have a level of English proficiency which would allow them to engage in conversation with fluent speakers of English and to understand lectures given in English. A TOEFL score of 530, Cambridge Certificate, or some comparable measure and/or recommendation from a PELSA member school is required.

10.2 Visa Requirement - Students must hold a valid student visa. Upon formal admission to the program, students will be issued a letter confirming their status with the University.

11. TUITION COSTS

CDN \$6,000 (tax deductible and GST exempt) per 13 week program includes all instruction in the five required courses, participation in skills seminars, on-site business visits, a welcome social function. The total tuition fee of CDN \$6,000 must be paid in full 30 days before the beginning date of the session.

12. HOUSING

A homestay program is not contemplated at this time. At least initially, most students will come to the program following participation in an ESL course in Vancouver and will therefore already have accommodation. Housing information, such as that supplied to SFU students at the Burnaby campus, could be arranged. We'll know more about what is required or needed following the pilot cohort.

UniGIS
A TeleLearning Program in
Geographic Information Systems

towards a
Non-credit Certificate Program

at
Simon Fraser University

Thomas K. Poiker
Department of Geography

October 1996

UniGIS
A TeleLearning Program in
Geographic Information Systems
towards a
Non-credit Certificate Program

Thomas K. Poiker
September 1996

Executive Summary

We are proposing that Simon Fraser University offer a non-credit, teleLearning program in Geographic Information Systems (GIS) of the equivalent of 400 instructional hours, resulting in a Certificate for GIS. The course is organized by the Department of Geography in consultation with Continuing Studies.

Structure:

1. The UniGIS Consortium of the Directors of the UniGIS sites in Europe and North America.
2. The Program Advisory Board, consisting of the local UniGIS Directors, the Geography Chairperson, Associate Dean for Continuing Studies, an alumnus representative (as soon as available), one student representative and one representative each from related Government and Industry.
3. The Directors, consisting of the Director and the Associate Director.
4. The Staff, consisting of an Administrative Assistant, a Content Assistant and two TAs for software supervision.

Much of the instructional material will come from the UniGIS Consortium, with expansions and adoptions to the North American situation and the SFU expectation to be handled here, in collaboration with Continuing Studies. Continuing Studies will function in an advisory function, as it often does for non-credit programs.

The program is to be self supporting after the first year. If it is not successful, it can be closed down without financial loss to the University. In order to help us with the start, UniGIS has offered to forgo the payments to UniGIS (some 15% of the proceeds).



UniGIS
A TeleLearning Program in
Geographic Information Systems

September 1996

Introduction

GIS software revenues are over half a Billion US\$ and there does not seem to be any downturn in sight. The number of installed systems is growing continuously and with it is the number of people who work with the software and need education and training.

Daytime education and training of GIS is relatively well represented in North America. Most Universities with Geography and/or Surveying programs offer at least one course in the subject and many Surveying and Resource Management programs offer similar education. Equally, technical colleges provide technical programs, either in year-long courses or as weekly and evening programs.

But there is little for those who have a job and family and therefore cannot move to a place of learning. Many of these people have had some practical GIS training and need mainly theoretical education. For these, some type of telelearning is a good environment:

- The program can be taken at home with no loss of salary
- There are no extra living expenses
- The mode of communication (email and the World Wide Web) is familiar to all and comfortable to most potential students.

UniGIS - A GIS Telelearning Program

What is GIS?

A Geographic Information System (GIS) is a set of computer software, hardware for the capture and collection, storage, retrieval, transformation, analysis and display of geographically referenced data and the skills to operate these systems. In addition, GIS as a discipline incorporates all the spatial knowledge and concepts that is necessary to properly use a GIS. The discipline of GIS comprises:

- Concepts of spatial thinking
- The knowledge of capturing, editing and structuring geographic and attribute data
- Geographic modelling and spatial analysis
- Cartographic visualization
- The management of spatial systems
- The interaction between spatial data and society

Thus, GIS incorporates training and education. Both are necessary for a properly prepared person.

UniGIS - A GIS Telelearning Program

UniGIS, The TeleLearning Program

We are proposing that Simon Fraser University offer a non-credit, TeleLearning program in Geographic Information Systems with the equivalent of 400 instructional hours (the equivalent of 30 credits), resulting in a Certificate for GIS. The program will last over a period of two years or six semesters.

A group of European Universities has developed a telelearning program under the name of UniGIS for a post-graduate diploma and (in some Universities) a Masters degree in GIS. The initial group of Universities that developed the program were Manchester Metropolitan University, Salford University and the University of Huddersfield. The Free University of Amsterdam and the University of Salzburg (Austria) joined two years later. In the meantime, there are about ten sites in Europe and South Africa. In North America, Simon Fraser University is the first site but one or two will follow later.

The individual sites are fairly independent in their choice of material. The number of courses varies between 10 and 14 and sometimes includes three week-long workshops. We are going to have twelve courses, combining the UK with the Salzburg material (translated) and writing some of our own.

The Certificate Program is designed to be a free-standing distance learning program presented to professional standards. It will satisfy the requirements of a wide range of employers for the professional development of Information Technology personnel and middle management. It will also satisfy the needs of individuals for professional development to increase job mobility and career prospects.

The program will provide students with the knowledge to:

- translate management and scientific problems into GIS
- design and implement appropriate methods of data capture
- design spatial analysis procedures within GIS
- design and use databases within GIS
- design map output in a variety of media
- implement quality control procedures
- manage a GIS project and implement GIS within an organization.
- study the social implications of GIS

The courses are as follows:

Course 1: GIS - An Overview

Course 2: Concepts for Spatial Thinking

Course 3: Spatial Data

Course 4: Attribute Data

Course 5: Data Acquisition and Data Quality

Course 6: Geostatistics
Course 7: Spatial Operations
Course 8: Spatial Analysis
Course 9: Spatial Modelling
Course 10: Visualization
Course 11: Organizational and Social Aspects of GIS
Course 12: Applications

Some of these courses will be optional and replaceable by others that are under development by different UniGIS sites (the first three are proposed by SFU):

GIS and Forest Applications (with Hungary)
GIS and First Nations Issues
Digital Terrain Models
Database Theory II
Advanced Project Management
Remote Sensing and GIS
Cadastral Applications
ArcView Applications
MapInfo Applications

The program will have many benefits for the local GIS program at Simon Fraser University:

- Much teaching material will be produced and updated annually which will be available for credit course use.
- The course buy-out of the Director will bring in outside instructors with new viewpoints.
- The program will provide funds for at least two graduate students
- To a large percentage, the students are already in GIS positions, sometimes influential ones, and will therefore spread SFU's name
- There will be funds available to support the software purchase and maintenance in the GIS operation. These purchases would otherwise not be possible.
- The Program Assistants can function part-time as Lab Assistants.

UniGIS - A GIS Telelearning Program

Admission Arrangements

Admission to the Program is determined by an assessment of the candidate's academic qualifications, work experience, attitude and commitment to the field of GIS.

General Entry Requirements

The program is open to graduates with a Bachelor degree or the equivalent in any subject from a recognized university and to those with recognized professional qualifications.

Additionally, applicants will normally be expected to have appropriate experience of working in GIS or a related field, prior to entry.

Candidates who can demonstrate substantial practical experience in a field related to GIS and who do not have degree level qualifications, may be considered for admission. Attitude and commitment are particularly important here.

Candidates with a degree level qualification who lack practical experience but can demonstrate sufficient motivation to develop a career in GIS will also be considered for admission.

Students having an inadequate background in Geography, Computer knowledge or related studies but who are otherwise eligible for admission to the program may be required to undertake pre-requisite courses.

The first offering of the program will start in September 1997.

Cost of The Program

Tuition fees for the offering at Simon Fraser University are Can\$ 4,000 per year. This, normally, covers six courses. However, if the student delays completion of the courses and takes longer than two years to complete the program, additional time is charged in semester units. The purchase of a PC computer, modem, GIS (ArcView 3) and other programs (MS Word and Access) and travel costs to a meeting will have to be handled separately by the student.

Payment options are available. We do not plan to offer registration in individual courses or the sale of course material.

UniGIS - A GIS Telelearning Program

Certificate Program Structure

Academic Organization

The Certificate Program is organized to achieve the stated aims through a range of learning strategies that are conducted at a distance. The program is made up of 12 courses, each with the equivalent of 2.5 credits or approximately 35 contact hours. They will last an average of seven weeks. The program will be presented within a period of two years.

The Material

Each course starts out with the shipment of study packs, written by one or more of the academic contributors in the Consortium. In addition, a package of similar length of articles from the academic and trade literature is distributed. The North American package will be a combination of the Manchester material, translations of the Salzburg material and original writings.

Seminar

UniGIS is a distance learning program and therefore is based on the assumption that personal contact is not necessary for the teaching process. However, we are aware that some personal contact will allow the development of a group spirit that is beneficial for the exchange of ideas. Secondly, we believe that attending a larger GIS conference is an important factor in the understanding of the field's position within the GIS community.

UniGIS-SFU will therefore hold several three-day (extended weekend) seminars in different corners of the continent and each student is obliged to attend at least one of them over the duration of the program. In other words, the program staff is going to make the long travels and the students come to the closest conference available. There is no fee for these seminars. Their costs are covered by the program fees.

Learning Strategies

A range of learning strategies is employed with an emphasis on student centered learning. These include the study material, collaborative discussions, self assessment exercises, site-examined assignments, contacts with Assistants and the Program Director, a help-line and seminars. All components, except the materials and seminars, are going to be handled via email and the World Wide Web.

UniGIS - A GIS Telelearning Program

Organization

It is proposed:

- That a non-credit, program be offered by the Department of Geography with a Certificate to be offered after upon completion of twelve courses (normally two years).
- That the course is organized by the Department of Geography in close consultation with Continuing Studies.
- **Directors**
 - Director: Dr. Thomas K. Polker
 - Associate Director: Dr. Margaret Schmidt
- **Staff:**
 - One Administrative Assistant
 - One Program Assistant
 - Two Teaching Assistants
- **The UniGIS Consortium**

The Consortium consists of the Directors of the UniGIS sites. Director is Professor James Petch, Department of Geography, Manchester Metropolitan University. The Consortium meets once a year to discuss curriculum and other questions. It arranges for the development and exchange of courses and supervises the quality of the materials (content).
- **The Program Advisory Board**

We propose a Site Committee, consisting of

 - Director, UniGIS program at SFU
 - Associate Director, UniGIS program at SFU
 - Chairperson, Geography Department
 - Associate Dean for Continuing Studies or delegate
 - One representative of the Industry
 - One representative of the Government
 - One Alumnus or Alumna of the program (when available)
 - One student of the program

UniGIS - A GIS Telelearning Program

The Program Advisory Board supervises the administrative side and certifies (in consultation with Continuing Studies) the content of the program. The Directors report to the Board on a regular basis through meetings and reports. It is proposed to have one annual meeting and one report per semester.

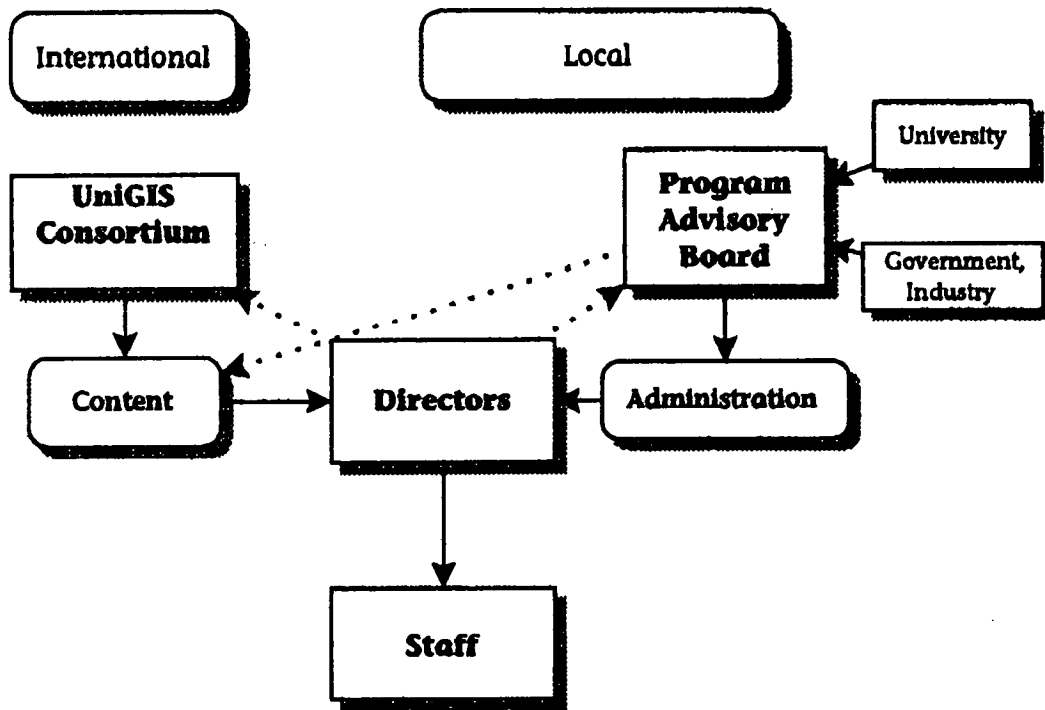


Figure 1: Organization

UniGIS - A GIS Telelearning Program

Market Analysis

To get some idea whether such a course could be financially viable, we have made some inquiries, including the UniGIS course directors and Dr. Karen Kemp, Assistant Director, National Center for Geographic Information and Analysis, who has developed a special program for a European Post secondary GIS education in Vienna and has spent nine months with Longman Publishers in England studying the feasibility of a GIS correspondence program.

UniGIS is the only course of its type at this time and there is no competition in sight. Longman undertook a major market survey and determined that the market was large, however, did not pursue the venue because it could not find sufficient support from Universities to maintain the program.

To forecast the market for SFU, a comparison with the European programs might be in order. In 1995, there were three programs operating: Out of Manchester with most of the students from the U.K., from Amsterdam with Dutch students (but in English) and from Salzburg with students from Austria, Germany and Switzerland. There were a total of approximately 125 students per year. Applications for the program were (and still are) outnumbering the number of accepted students.

The sales of Geographic Information Systems in North America is far larger than in these European countries. It can therefore be expected that there will be many more applications for the program than in Europe, yet we are planning to accept not more than 40 students per University.

We have been guaranteed that the UniGIS Consortium is not planning to extend the program in North America but to limit it to three institutions. The other two universities are still in the early stages of negotiations.

The Student Body

Through the five years of its existence, approximately 250 students have completed the program. It is interesting to note that, independent of the country, the student cohorts show very similar characteristics:

- The majority is between 25 and 35 years of age.
- 80% of them have at least a Bachelor degree, 20% do not.
- Almost all have extensive experience in the usage of a GIS program.

UniGIS - A GIS Telelearning Program

Operation

The operational framework of our site will be developed in close consultation with Simon Fraser's Continuing Studies.

The course materials are original writings by established GIS researchers and instructors, combined with relevant articles from academic publications. We do not plan to use regular textbooks for the program but each course contains numerous suggestions for further study and the experience from Europe tells us that many students take advantage of more literature. Each student will be required to own a PC, with links to email and the World Wide Web. The material goes to the students via mail but after that, all interaction (discussions, assignments, exams) will be handled via email and the Web. Practical work will be assigned using ArcView 3.0 from the Environmental Science Research Institute.

UniGIS has ongoing research projects to develop new techniques for the management of the programs, especially with respect to the interaction with students. At this time, most sites are moving to email for the preferred means of communication (discussions, assignments, exams, etc) and by next year, some will have moved to the Web. We at Simon Fraser University are planning to start with a combination of email and WWW. The author is in close contact with the TeleLearning Network of Excellence, especially the Virtual University project at SFU.

We expect that other departments at SFU with interests in GIS (Resource and Environmental Management, Kinesiology, Archeology, Biology, Computing Science, etc) will want to stay informed of our development. However, we don't expect to have students participate in the program who are registered as undergraduates or graduates at SFU.

Marketing

The GIS profession is reachable with relative ease through a handful of professional conferences and two professional journals. Much of the advertisement can be obtained for free or relatively little.

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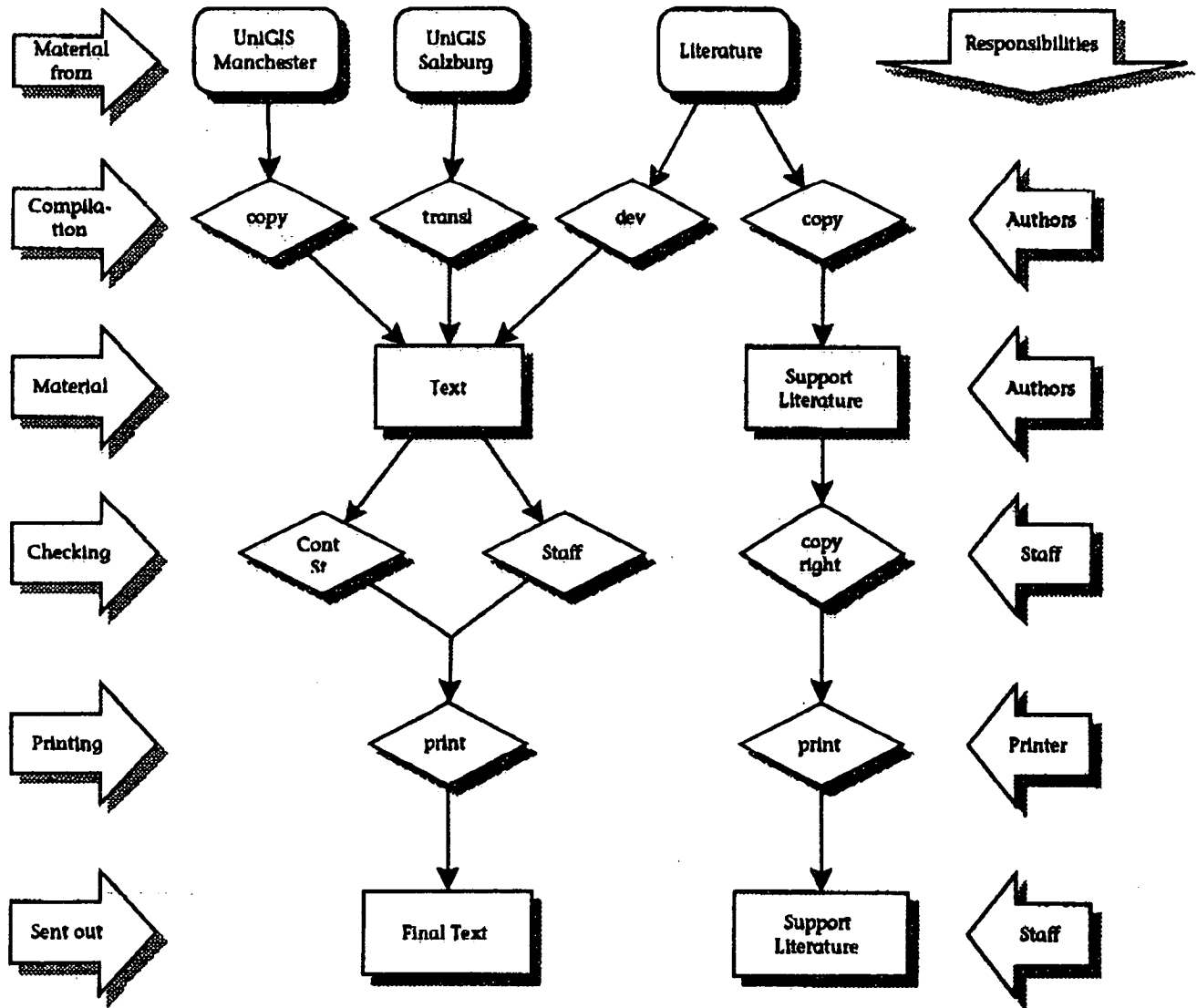


Figure 2: Course Material Production

The creation of a course starts with the material that has already been developed by the Manchester and the Salzburg groups. These materials, besides being in the wrong language (for the Salzburg courses), are concentrated too much on the European situation and need more structure to adapt to the standards set by our Continuing Studies. Besides, every academic has a different outlook on the content of a program. It is therefore expected that the equivalent of four to six courses will have to be developed

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to adapt the course to the North American conditions. Over the years, more new material will be developed. In addition, we are planning to develop special courses for Forestry, Native Issues and Digital Terrain Models.

Material from Manchester is directly copied, Salzburg material is translated and both are combined with newly developed material. This is then checked for typos, grammar and style by the Content Assistant and for general appearance and structure by Continuing Studies. Equally, articles from publications are collected, copyright costs are determined and the material is combined as appendix to the text. There are no extra costs for the University Library.

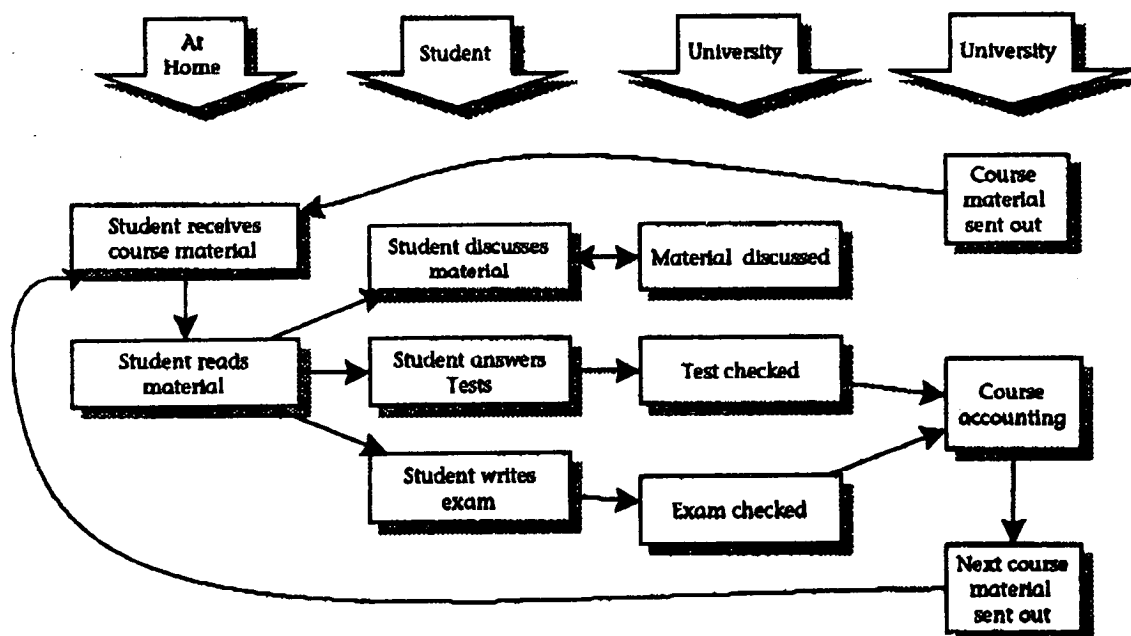


Figure 3: Course Traffic

The material for each course is sent out to students by regular mail. After that, everything will go via email or the World Wide Web, possibly using Virtual-U, a program presently in beta version at Simon Fraser University.

Besides the control of the material by staff and Continuing Studies, the students are also involved in a continuous critique of the program through a student questionnaire that has to be filled out after the completion of each course.

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Workload

Director: The time needed by the Director for the supervision of the course is estimated to be three hours per week of general supervision plus one hour per student per course per year (according to information from Salzburg). This comes to about 800 hours per year or 24 hours per week. The Director would therefore be a halftime faculty position. Program revenues will be used for a one course buy out per semester for the Program Director. This money will be used to replace, if not expand, credit course offerings.

The workload for the **Associate Director** is minimal.

In the first year, 40 students mean two halftime positions for the **Administrative and the Content Assistants** plus one graduate assistant for application supervision. With 80 students, these positions would become full-time plus two graduate assistants. It is likely not advisable to merge the two halftime assistant positions in the first year.

Costs and budget

The program is planned to provide full cost recovery. There will be no cost occurring for the University.

Action Plan

The following Action Plan has been considered reasonable by members of UniGIS.

May 1996: The brochure was ready. The course was announced at the ESRI Users Conference (the largest GIS conference in North America), over the network and some magazines like ARC/NEWS (ESRI).

Month 1, Year 0 (September 1996): A test program with a dozen students was started.

Month 8, Year 0 (April 1996): The first registrations come in, we are able to forecast whether we will reach the planned class size (40 students).

Month 11, Year 0 (July 1997): course 1 is sent to the printer and staff is trained.

Month 1, Year 1 (September 1997): course 1 is sent out. Staff is ready for administration and consultation.

Month 1, Year 2 (September 1998): Two classes of students will run parallel.

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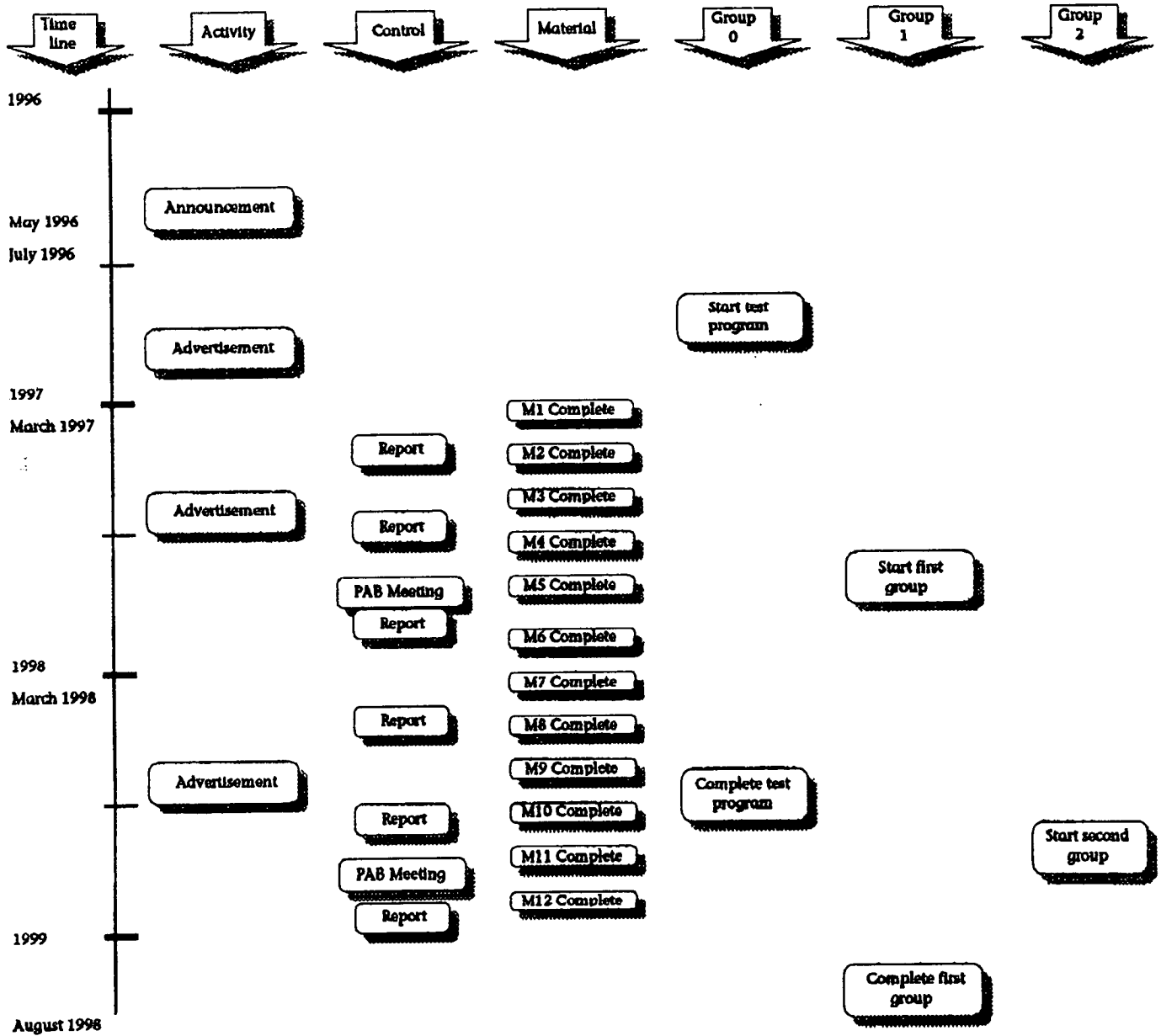


Figure 4: Action Plan

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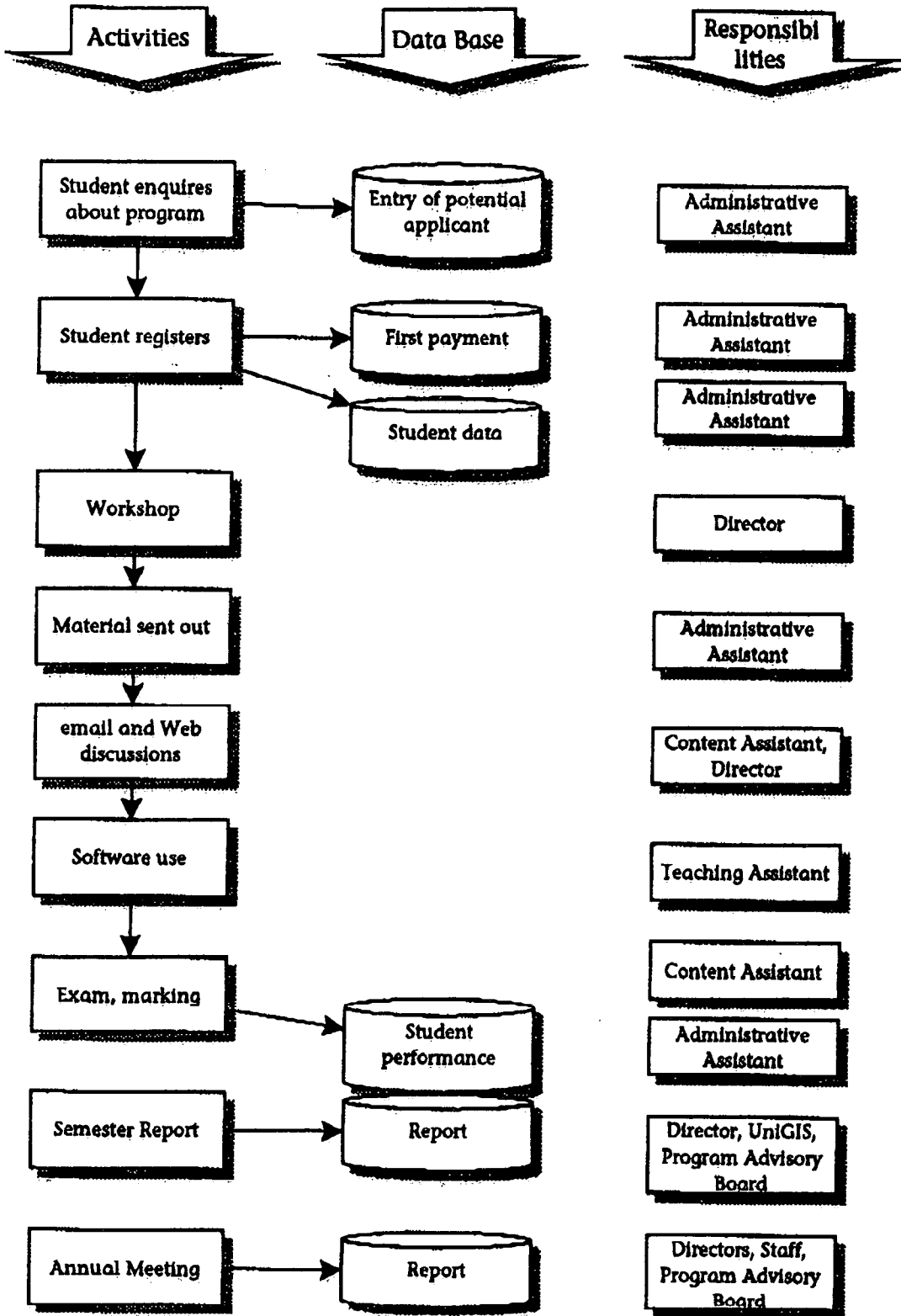


Figure 5: Organizational Diagram