Survey of Science and Agriculture Graduates, 2004

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Foreword

In this publication, the National Institute of Higher Education, Research, Science and Technology (NIHERST) presents the results of the Survey of Science and Agriculture Graduates, 2004. This study is the third of its kind to be conducted by NIHERST; similar tracer studies of graduates from the Faculty of Engineering were undertaken in 1989 and 2001.

The frame of the study included all Trinidad and Tobago nationals who graduated from the Faculty of Science and Agriculture of The University of the West Indies (UWI) over the period, 1999-2003. This sample survey was designed to obtain information on the current status of the science and agriculture graduates and included data on the following characteristics: gender, age, area of specialisation, employment status, length of time taken to acquire first job, sector of employment, income levels, job satisfaction, relevance of academic qualifications and graduates pursuing further education. Key indicators of job mobility, migration and under-employment were also monitored.

In keeping with official policy for the overall development of Trinidad and Tobago's human resource capacity in science and technology, this study focuses on useful information on the status, supply and demand for UWI science and agriculture graduates of 1999-2003. It also provides a framework from which further studies can be undertaken, in addition to data on the relevance of local academic programmes to the actual job market in Trinidad and Tobago.

This information can, therefore, assist researchers, policy-makers, educators and academicians engaged in curriculum reform and development.

NIHERST wishes to thank UWI and the science and agriculture graduates who willingly provided the data collated in this report.

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Executive Summary

- Of the sample of Science and Agriculture graduates surveyed (440), 332 or 75% responded and of these109 (33%) were males and 223 (67%) were females, representing a ratio of 1 male to 2 females.
- Females out-numbered their male counterparts significantly in all areas of specialisation except Computer Science.
- The most popular areas of specialisation among the graduates were Chemistry (21%) and Computer Science (21%).
- The majority of males (37%) majored in Computer Science while females (23%) opted for Chemistry.
- Twelve percent (12%) of the graduates had migrated.
- A job mobility rate of 46% was observed; this was most significant amongst Chemistry and least amongst Mathematics majors.
- As at 1st March, 2004, the unemployment rate of 6% amongst the graduates was below the national figure of 10.2% for the 1st quarter, 2004.
- A substantial percentage (64%) of the majors had obtained employment within the same year of graduation.
- Public agencies provided approximately 60% of the graduates with their first job opportunities while the private sector absorbed 40%.
- A significant proportion (45%) of the faculty's graduates reported gross monthly incomes of under $4,000 in their first jobs. However, the modal income of males was $4,000-$5,999 compared with less than $4,000 for females.
- Approximately one third of all majors (36%) indicated that their first employment was less than 50% related to their area of specialisation.
- Most majors (46%) indicated that the subject area of specialization was the main reason for their job recruitment.
- Over one third of the graduates gave a medium rating to 'theory content' (43%), 'laboratory content' (36%), 'project work' (39%) and 'research work' (38%) as components of university education that contributed to their ability to cope with their jobs. 'Guidance from lecturers' (43%) and 'computer training' (37%) received a low rating.

- Data on the components of job satisfaction reflected high rating in both 'interesting work' and 'job security', while 'income', 'working conditions' and 'career advancement' received medium rating by the graduates.
- Of the response from the 332 Science and Agriculture majors who graduated with a first degree between 1999-2003, 14% had obtained post-graduate qualifications mainly at the M.Sc. level (74%) in Agricultural sciences, Botany, Zoology and Chemistry.
- The survey data also indicate that 34% of the majors were pursuing post-graduate studies, approximately half at the M.Sc. level (48%) and one quarter (24%) at the M.Phil. level.
- Sixty percent, (60%) of the graduates had obtained or were pursuing post-graduate qualifications in fields similar to their first degrees, 16% were in Social Sciences and 11% in Engineering programmes.

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METHODOLOGY

Introduction

The Survey of Science and Agriculture Graduates, 2004 is the third in a series of tracer studies conducted by NIHERST. Similar to previous studies, this graduate tracer enquiry was undertaken to assess the current status of the output of science and agriculture graduates for the five-year period, 1999-2003. This methodology describes the objectives, scope, coverage, data collection and processing of the results of the study.

Objectives

The major objectives of the study were to determine:

- the employment status of Trinidad and Tobago nationals who graduated from the Faculty of Science and Agriculture, UWI, from 1999 to 2003,
- a career profile of these graduates based, inter alia, on occupation, income, the length of time taken to acquire first job and sector of employment,
- migration and job mobility,
- relevance of academic qualifications and the level of job satisfaction and
- the number of graduates pursuing further education by field of study.

Scope/Coverage

The frame for the study was obtained from UWI. It contained a total of 1103 Trinidad and Tobago nationals who graduated between 1999-2003 in the various areas of specialisation in science and agriculture. These include:

- Agriculture
- Computer Science
- Mathematics
- Biochemistry
- Biology and Environmental and Natural Resources Management
- Botany and/or Zoology
- Chemistry
- Physics

A 40% sample was selected by systematic random sampling with due consideration being taken to reflect the population by year of graduation and area of specialisation

Table A shows the population and response rate by year graduated while Table B gives the percentages. Of the total 1103 graduates, 440 or 40% were surveyed. Three hundred and thirty-two (332) graduates or 75% responded and of the non-response of 108 graduates or 25%, 22 or 5% could not be contacted, 52 or 12% had migrated and 34 or 8% refused to participate.

Table A: No. of Graduates Surveyed, Response and Non-Response by Year

Year graduated	No. of graduates						
	Population	Surveyed	Responded	Non-response			
				Total	No contact	Migrated	Refused
All Years	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	1103	440	332	108	22	52	34
1999	228	92	65	27	3	20	4
2000	246	99	70	29	7	12	10

2001	224	90	67	23	3	8	12
2002	209	85	66	19	5	8	6
2003	196	74	64	10	4	4	2

Table B: Percentage of Graduates Surveyed, Response and Non-Response by Year

Year graduated	Percentage of graduates						
	Population	Surveyed	Responded	Non-response			
				Total	No contact	Migrated	Refused
All Years	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	100	40	75	25	5	12	8
1999	100	40	71	29	3	22	4
2000	100	40	71	29	7	12	10
2001	100	40	74	26	3	9	13
2002	100	41	78	22	6	9	7
2003	100	38	86	14	5	5	3

Data Collection

A draft questionnaire was designed to incorporate the underlying objectives and a pilot survey was conducted. The final questionnaire was mailed to each graduate and subsequently monitored through personal contacts, the telephone and e-mail.

Data Processing

As completed questionnaires were collected, data were edited for consistency and omissions. Where discrepancies were identified, questionnaires were returned to the field for verification and correction as necessary. Edited data were captured in the Statistical Package for the Social Sciences (SPSS) version 11.0 software which was used to produce the tabulations in this report.

Survey Results

The results of the survey are presented in the various tabulations and graphics which follow.

Table 1: Total Graduates by Major and Year

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**1103**	**227**	**246**	**224**	**210**	**196**
Agriculture	186	39	53	44	31	19
Computer Science	236	47	45	36	48	60
Mathematics	76	18	13	14	20	11
Biochemistry	97	21	15	26	19	16
Biology and Environment *	52	0	0	5	20	27
Botany and Zoology	125	30	42	25	14	14
Chemistry	237	57	53	53	42	32
Physics	94	15	25	21	16	17

* Biology and Environmental and Natural Resources Management

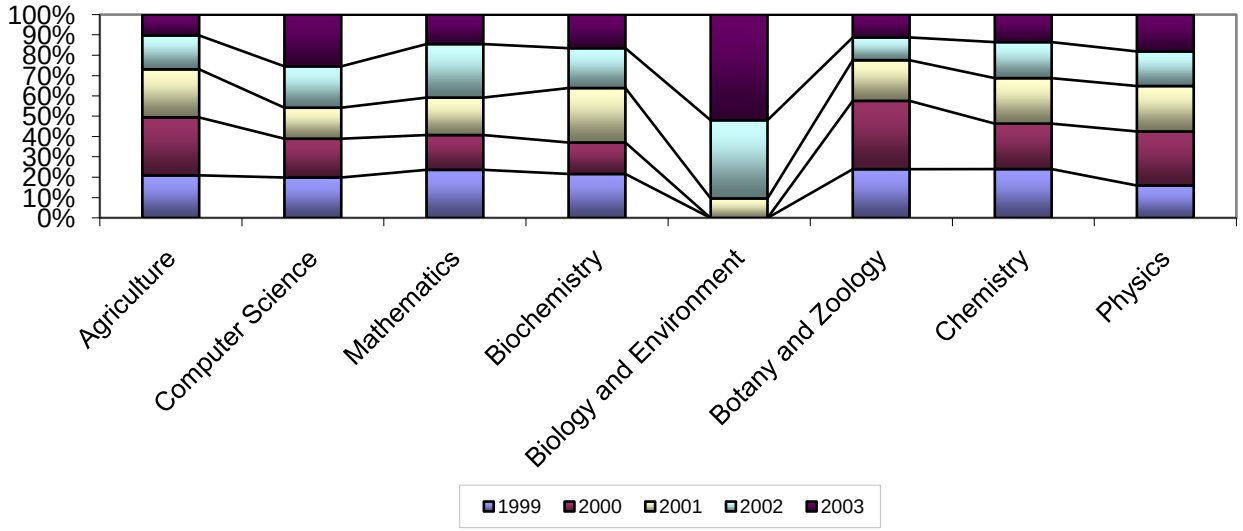
Over the five-year period, 1999 to 2003, 1,103 students graduated with a bachelor's degree from the Faculty of Science and Agriculture of The University of the West Indies. Of all graduates, 33% were males and 66% were females. The output of graduates remained constant at about 20% annually (Table 1a). By major, however, a substantial decline was observed in Agriculture with 2003 accounting for only 10% of the total graduates compared with 21% in 1999.

Table 1a: Percentage of Graduates by Major and Year
Row percentage of Table 1

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**21**	**22**	**20**	**19**	**18**
Agriculture	100	21	28	24	17	10
Computer Science	100	20	19	15	20	25
Mathematics	100	24	17	18	26	14
Biochemistry	100	22	15	27	20	16
Biology and Environment	100	0	0	10	38	52
Botany and Zoology	100	24	34	20	11	11
Chemistry	100	24	22	22	18	14
Physics	100	16	27	22	17	18

Similar trends can be seen in Mathematics, Biochemistry, Botany and Zoology and Chemistry. Twenty-five percent (25%) of the graduates in Computer Science and 52% in Biology and Environment qualified in 2003. It should be noted that the Biology and Environment majors were introduced in the academic year, 1998/1999.

Chart 1: Percentage of Graduates by Year within Major



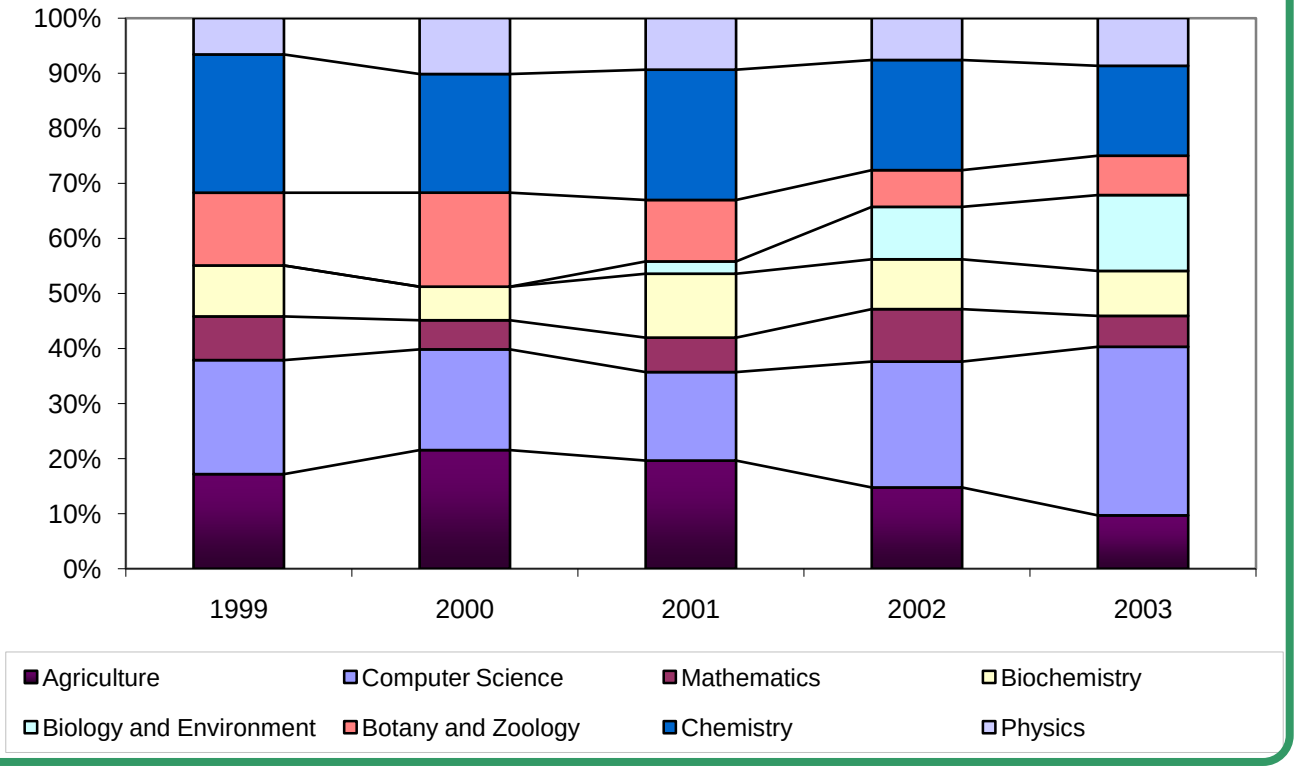
Source: Table 1a

Table 1b: Percentage of Graduates by Major and Year
Column percentage of Table 1

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**100**	**100**	**100**	**100**	**100**
Agriculture	17	17	22	20	15	10
Computer Science	21	21	18	16	23	31
Mathematics	7	8	5	6	10	6
Biochemistry	9	9	6	12	9	8
Biology and Environment	5	0	0	2	10	14
Botany and Zoology	11	13	17	11	7	7
Chemistry	21	25	22	24	20	16
Physics	9	7	10	9	8	9

Of the total graduates in 1999, 25% majored in Chemistry and 21% in Computer Science. In 2003, however, Computer Science accounted for the majority of graduates (31%) compared with Chemistry (16%) (Table 1b). In general, less than 10% of the Faculty's graduates of the years under review majored in Mathematics and Physics.

Chart 2: Percentage of Graduates by Major within Year



Source: Table 1b

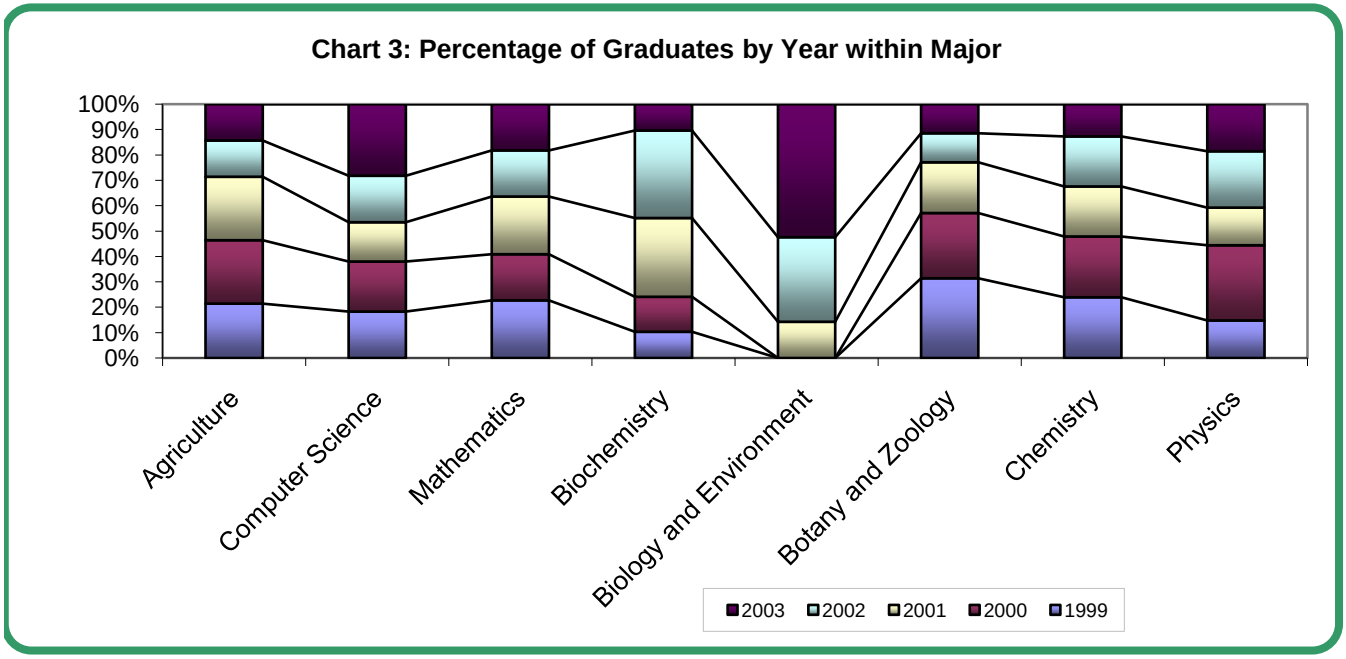
Table 2: No. of Graduates by Major and Year

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**332**	**65**	**70**	**67**	**66**	**64**
Agriculture	56	12	14	14	8	8
Computer Science	71	13	14	11	13	20
Mathematics	22	5	4	5	4	4
Biochemistry	29	3	4	9	10	3
Biology and Environment	21	0	0	3	7	11
Botany and Zoology	35	11	9	7	4	4
Chemistry	71	17	17	14	14	9
Physics	27	4	8	4	6	5

Table 2 shows the distribution of the sample of graduates who participated in the survey by major and year. The data indicate that over the period, 1999 to 2003, the majority of graduates in Computer Science (28%) and Biology and Environment (52%) qualified in 2003 while graduate output decreased in Agriculture (14%), Mathematics (18%), Botany and Zoology (11%) and Chemistry (13%) (Table 2a).

Table 2a: Percentage of Graduates by Major and Year
Row percentage of Table 2

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**20**	**21**	**20**	**20**	**19**
Agriculture	100	21	25	25	14	14
Computer Science	100	18	20	15	18	28
Mathematics	100	23	18	23	18	18
Biochemistry	100	10	14	31	34	10
Biology and Environment	100	0	0	14	33	52
Botany and Zoology	100	31	26	20	11	11
Chemistry	100	24	24	20	20	13
Physics	100	15	30	15	22	19

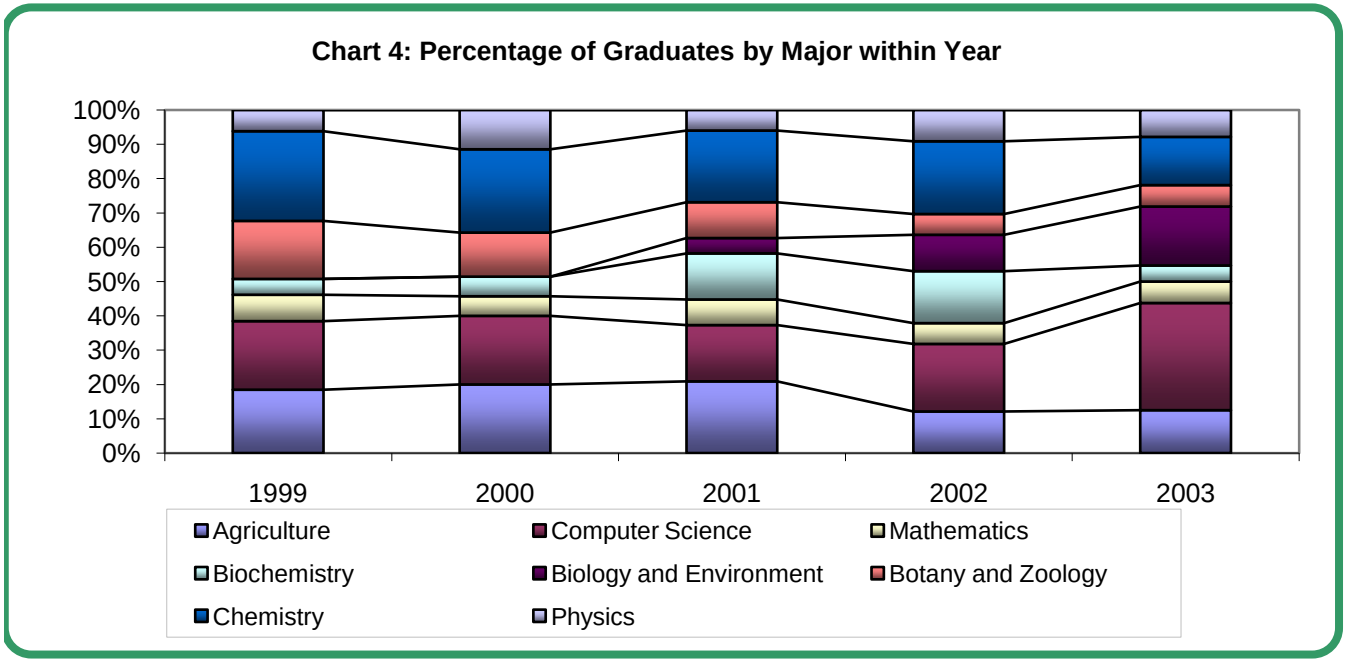


Source: Table 2a

Table 2b: Percentage of Graduates by Major and Year
Column percentage of Table 2

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**100**	**100**	**100**	**100**	**100**
Agriculture	17	18	20	21	12	13
Computer Science	21	20	20	16	20	31
Mathematics	7	8	6	7	6	6
Biochemistry	9	5	6	13	15	5
Biology and Environment	6	0	0	4	11	17
Botany and Zoology	11	17	13	10	6	6
Chemistry	21	26	24	21	21	14
Physics	8	6	11	6	9	8

Table 2b above, representative of Table 1b, shows Computer Science (31%) as the most popular of the majors in 2003, responding to the growth and demand for qualified manpower in the information, communication and technology sector. Biology and Environment increased their popularity since their commencement in 1998/1999 and accounted for 17% of the graduates in 2003.



Source: Table 2b

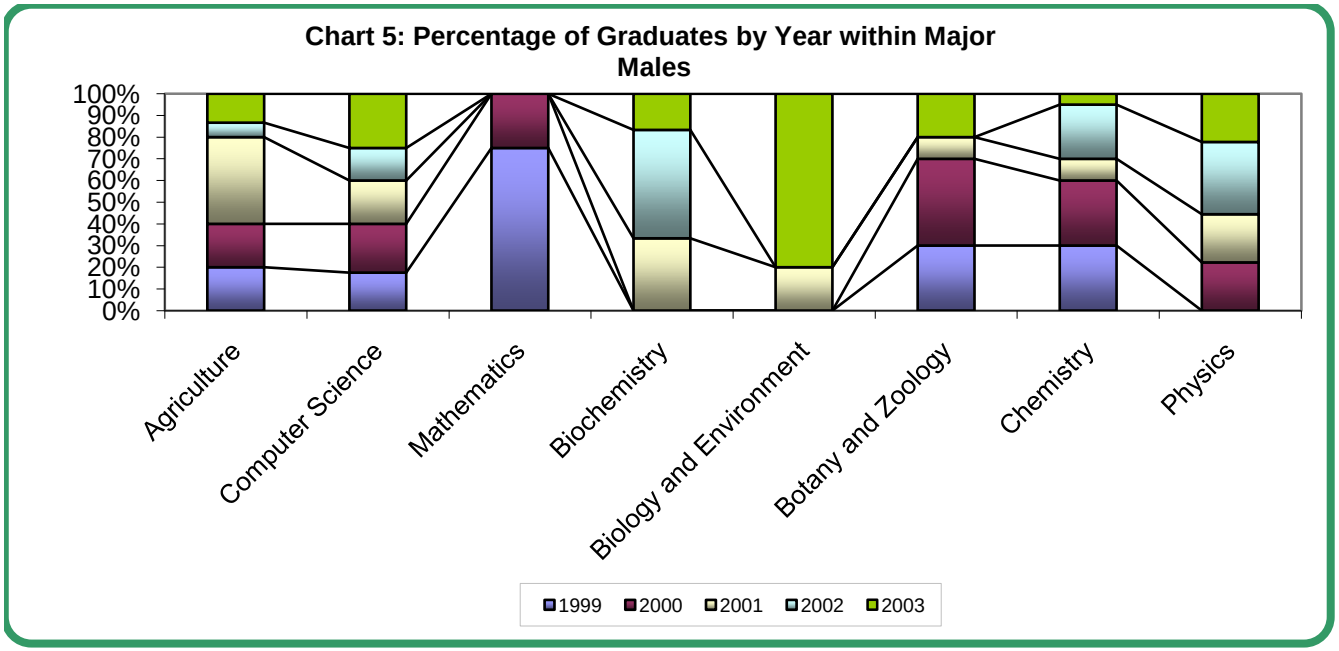
Table 3: No. of Graduates by Major and Year
Males

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**109**	**22**	**25**	**22**	**18**	**22**
Agriculture	15	3	3	6	1	2
Computer Science	40	7	9	8	6	10
Mathematics	4	3	1	0	0	0
Biochemistry	6	0	0	2	3	1
Biology and Environment	5	0	0	1	0	4
Botany and Zoology	10	3	4	1	0	2
Chemistry	20	6	6	2	5	1
Physics	9	0	2	2	3	2

Similar to the population, the male to female response to the study was 1 to 2 (Tables 3 and 4). Females out-numbered their male counterparts significantly in all areas of specialisation except Computer Science. Over the period, 1999 to 2003, Computer Science was the selected major amongst most male graduates (37%) (Table 3b) while females (23%) opted for Chemistry (Table 4b).

Table 3a: Percentage of Graduates by Major and Year
Males
Row percentage of Table 3

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**20**	**23**	**20**	**17**	**20**
Agriculture	100	20	20	40	7	13
Computer Science	100	18	23	20	15	25
Mathematics	100	75	25	0	0	0
Biochemistry	100	0	0	33	50	17
Biology and Environment	100	0	0	20	0	80
Botany and Zoology	100	30	40	10	0	20
Chemistry	100	30	30	10	25	5
Physics	100	0	22	22	33	22

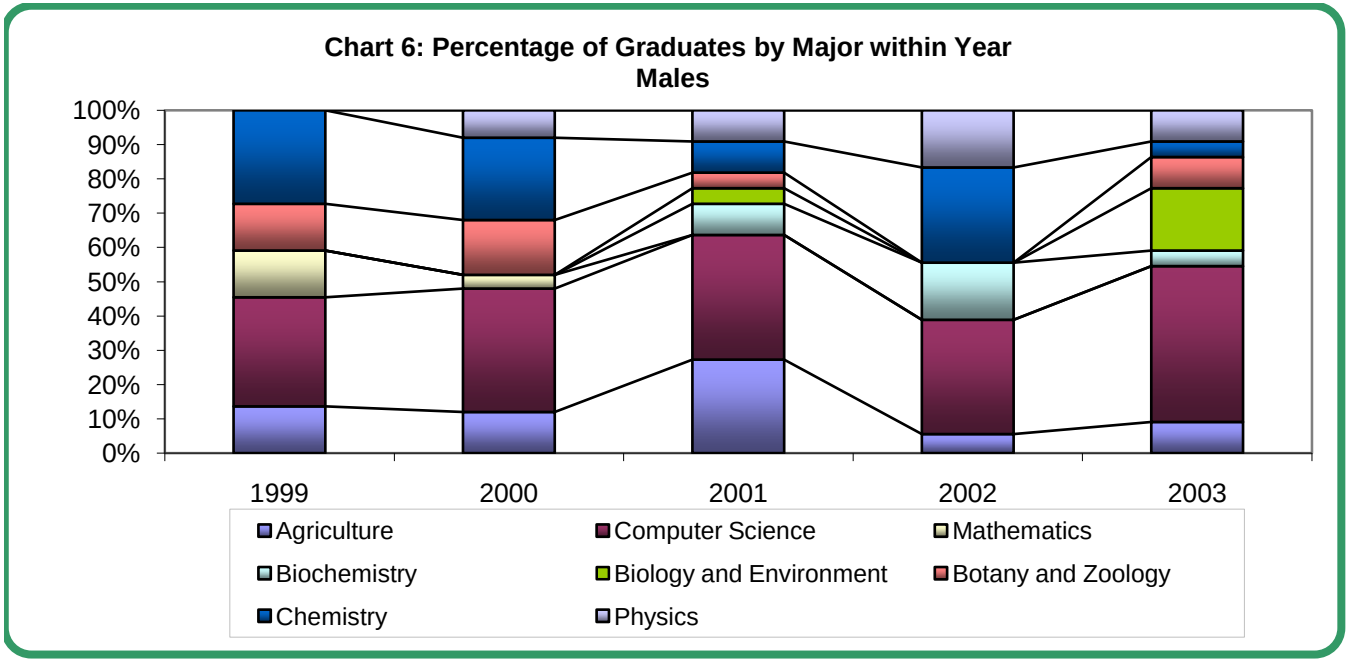


Source: Table 3a

Table 3b: Percentage of Graduates by Major and Year
Males
Column percentage of Table 3

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**100**	**100**	**100**	**100**	**100**
Agriculture	14	14	12	27	6	9
Computer Science	37	32	36	36	33	45
Mathematics	4	14	4	0	0	0
Biochemistry	6	0	0	9	17	5
Biology and Environment	5	0	0	5	0	18
Botany and Zoology	9	14	16	5	0	9
Chemistry	18	27	24	9	28	5
Physics	8	0	8	9	17	9

In 2003, however, the majority of the male (45% - Table 3b) and female (24% - Table 4b) graduates majored in Computer



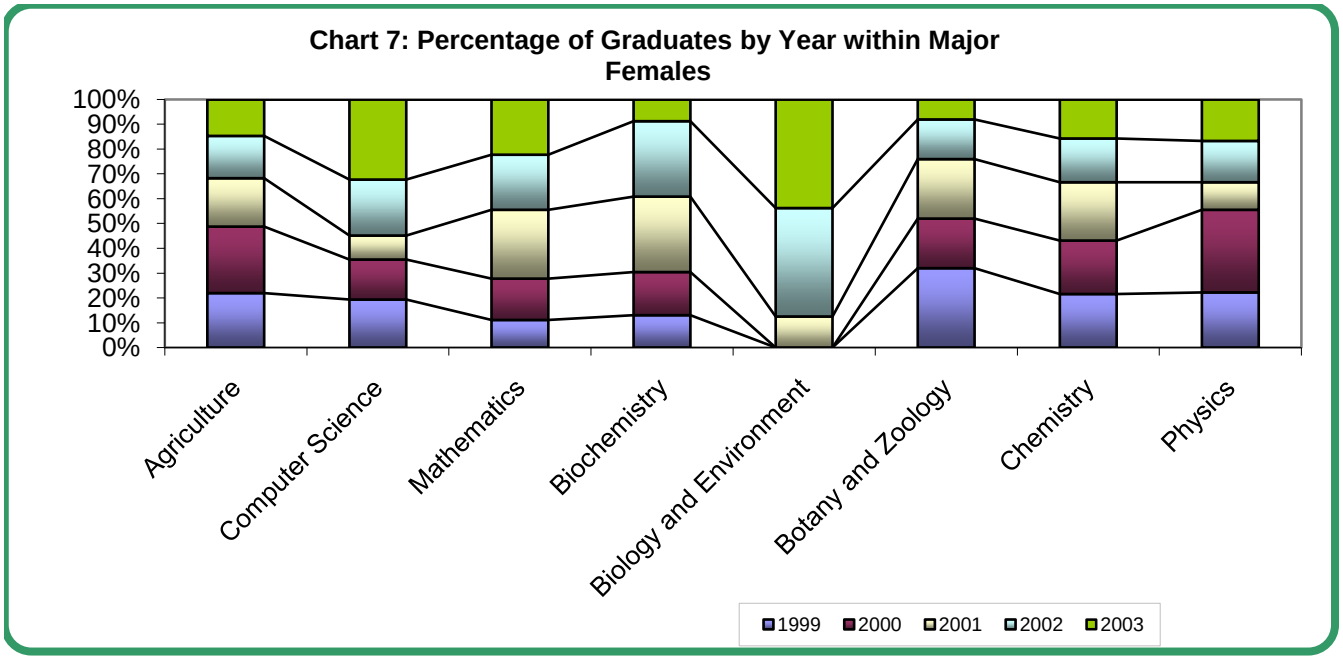
Source: Table 3b

Table 4: No. of Graduates by Major and Year
Females

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**223**	**43**	**45**	**45**	**48**	**42**
Agriculture	41	9	11	8	7	6
Computer Science	31	6	5	3	7	10
Mathematics	18	2	3	5	4	4
Biochemistry	23	3	4	7	7	2
Biology and Environment	16	0	0	2	7	7
Botany and Zoology	25	8	5	6	4	2
Chemistry	51	11	11	12	9	8
Physics	18	4	6	2	3	3

Table 4a: Percentage of Graduates by Major and Year
Females
Row percentage of Table 4

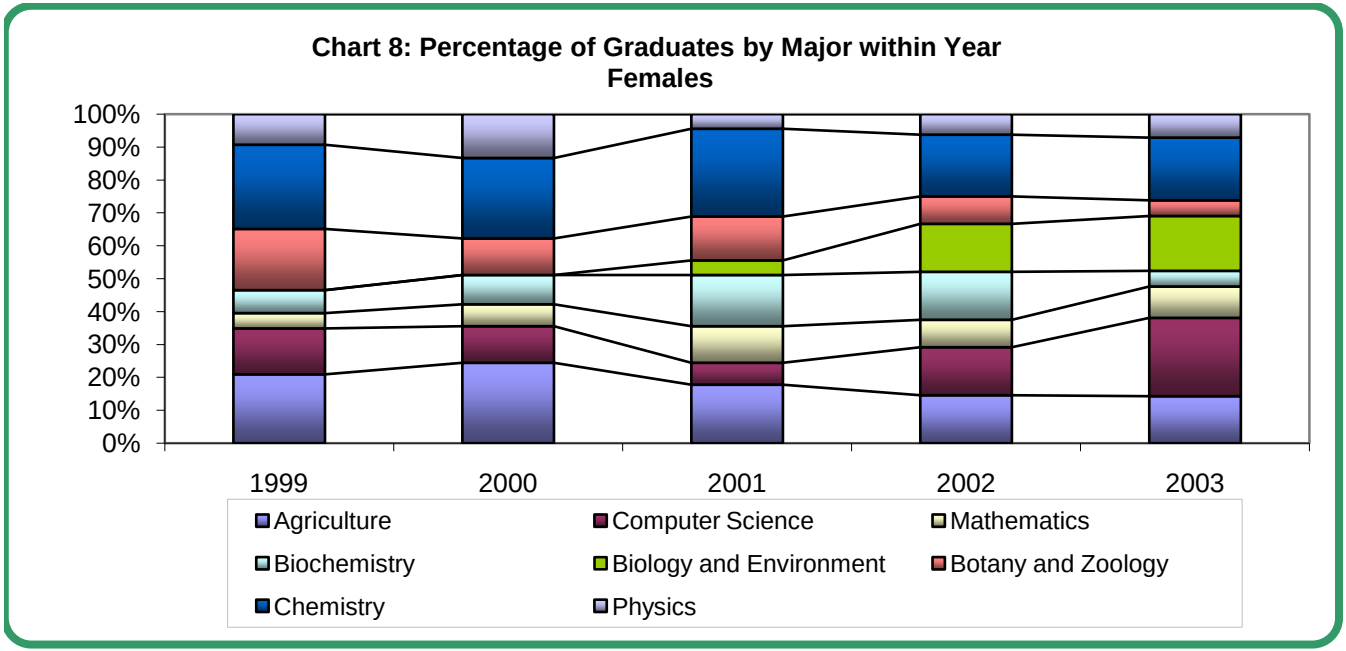
Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**19**	**20**	**20**	**22**	**19**
Agriculture	100	22	27	20	17	15
Computer Science	100	19	16	10	23	32
Mathematics	100	11	17	28	22	22
Biochemistry	100	13	17	30	30	9
Biology and Environment	100	0	0	13	44	44
Botany and Zoology	100	32	20	24	16	8
Chemistry	100	22	22	24	18	16
Physics	100	22	33	11	17	17



Source: Table 4a

Table 4b: Percentage of Graduates by Major and Year
Females
Column percentage of Table 4

Major	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**100**	**100**	**100**	**100**	**100**
Agriculture	18	21	24	18	15	14
Computer Science	14	14	11	7	15	24
Mathematics	8	5	7	11	8	10
Biochemistry	10	7	9	16	15	5
Biology and Environment	7	0	0	4	15	17
Botany and Zoology	11	19	11	13	8	5
Chemistry	23	26	24	27	19	19
Physics	8	9	13	4	6	7



Source: Table 4b

Table 5: No. of Graduates by Age and Year

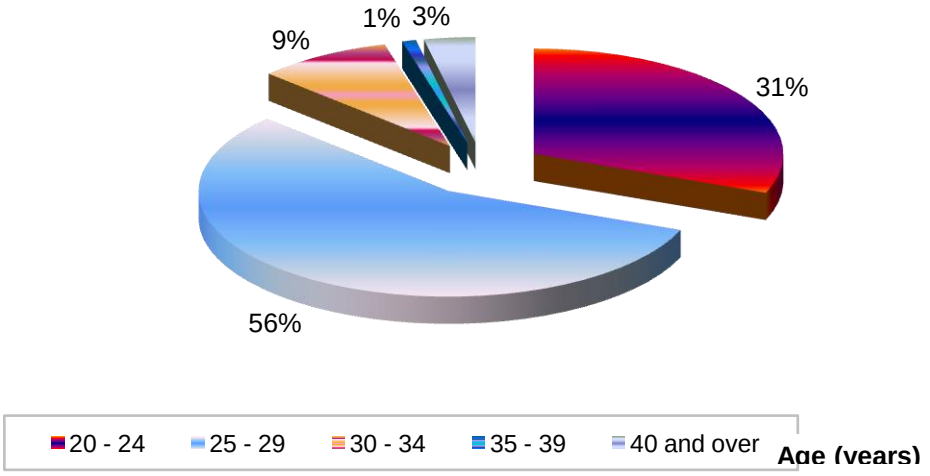
Age	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All ages	**332**	**65**	**70**	**67**	**66**	**64**
20 - 24	103	0	3	20	40	40
25 - 29	186	49	55	39	22	21
30 - 34	29	10	9	5	3	2
35 - 39	3	1	0	2	0	0
40 and over	11	5	3	1	1	1

As at 2004, the modal age group of the graduates of the five-year period, 1999 to 2003, was 25-29 years (Table 5) and 87% were under the age of 30 (Table 5a). Further review of the data by gender shows that 78% of the males (Table 6a) were between 20-29 years of age compared with 92% in the case of females (Table 7a).

Table 5a: Percentage of Graduates by Age and Year

Age	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All ages	**100**	**100**	**100**	**100**	**100**	**100**
20 - 24	31	0	4	30	61	63
25 - 29	56	75	79	58	33	33
30 - 34	9	15	13	7	5	3
35 - 39	1	2	0	3	0	0
40 and over	3	8	4	1	2	2

Chart 9. Percentage of Graduates by Age



Source: Table 5a

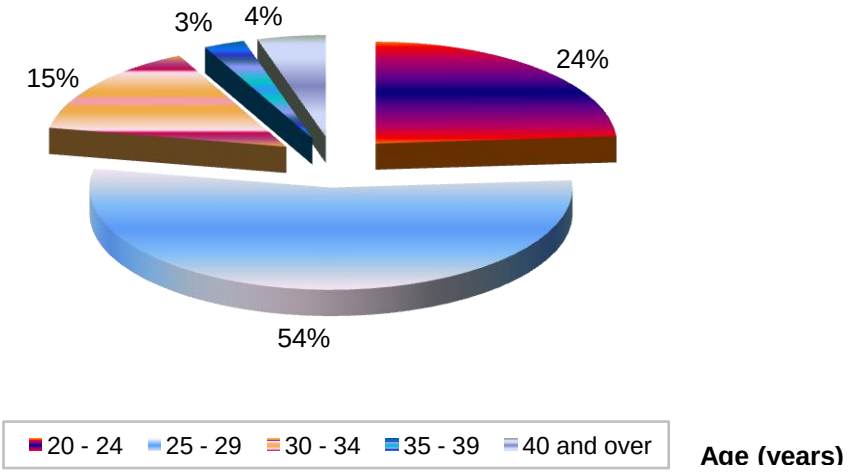
Table 6: No. of Graduates by Age and Year
Males

Age	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All ages	**109**	**22**	**25**	**22**	**18**	**22**
20 - 24	26	0	2	4	8	12
25 - 29	59	13	17	13	7	9
30 - 34	16	6	4	2	3	1
35 - 39	3	1	0	2	0	0
40 and over	5	2	2	1	0	0

Table 6a: Percentage of Graduates by Age and Year
Males

Age	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All ages	**100**	**100**	**100**	**100**	**100**	**100**
20 - 24	24	0	8	18	44	55
25 - 29	54	59	68	59	39	41
30 - 34	15	27	16	9	17	5
35 - 39	3	5	0	9	0	0
40 and over	5	9	8	5	0	0

Chart 10. Percentage of Graduates by Age - Males



Source: Table 6a

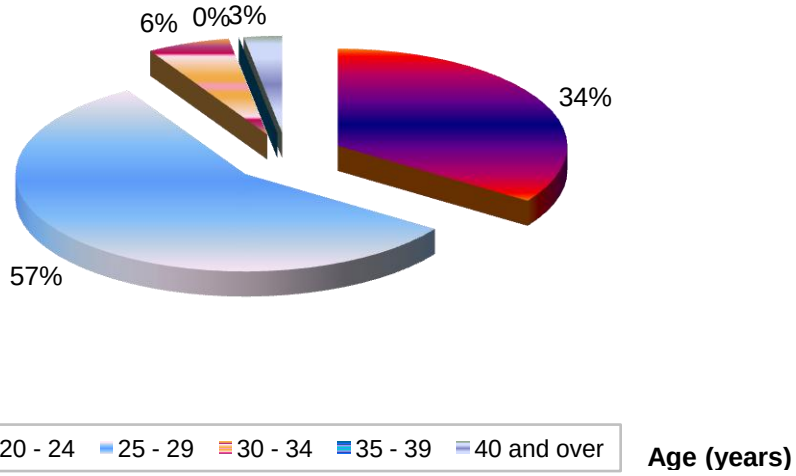
Table 7: No. of Graduates by Age and Year
Females

Age	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All ages	**223**	**43**	**45**	**45**	**48**	**42**
20 - 24	77	0	1	16	32	28
25 - 29	127	36	38	26	15	12
30 - 34	13	4	5	3	0	1
35 - 39	0	0	0	0	0	0
40 and over	6	3	1	0	1	1

Table 7a: Percentage of Graduates by Age and Year
Females

Age	Total	Year graduated				
		1999	2000	2001	2002	2003
	(1)	(2)	(3)	(4)	(5)	(6)
All ages	**100**	**100**	**100**	**100**	**100**	**100**
20 - 24	35	0	2	36	67	67
25 - 29	57	84	84	58	31	29
30 - 34	6	9	11	7	0	2
35 - 39	0	0	0	0	0	0
40 and over	3	7	2	0	2	2

Chart 11. Percentage of Graduates by Age - Females



Source: Table 7a

Table 8: No. of Graduates with A'Levels by Subject and Gender

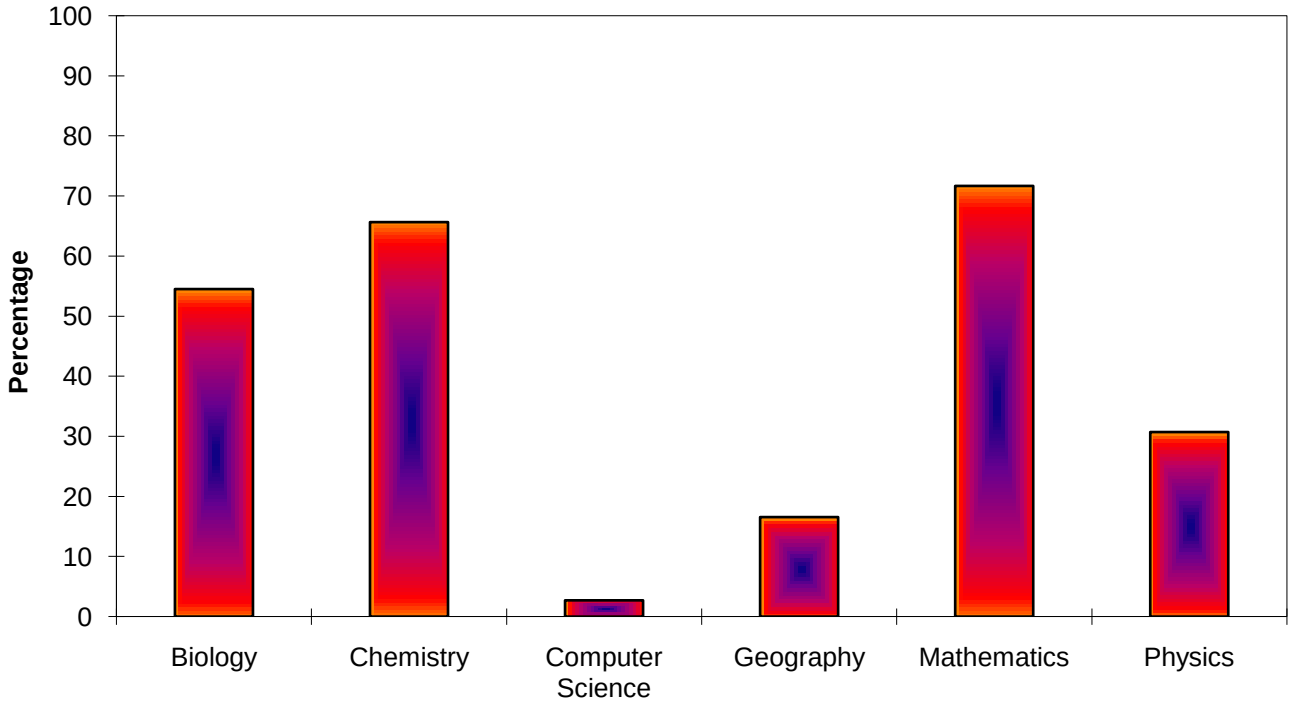
Subject	No. of graduates with A'Levels		
	Total	Male	Female
	(1)	(2)	(3)
Biology	181	47	134
Chemistry	218	73	145
Computer Science	9	5	4
Geography	55	12	43
Mathematics	238	79	159
Physics	102	44	58

Of the subjects shown in Table 8 above, Mathematics was the most popular. Seventy two percent (72%) of the total 332 graduates had obtained A'Level passes in this subject, followed by Chemistry (66%) and Biology (55%) (Table 8a). The least A'Level passes were observed in Computer Science (3%). By gender, a similar proportion of males and females had attained A'Level passes in Mathematics and Chemistry. The majority of graduates (68%) had obtained three A'Levels in satisfying matriculation requirement of their degree program. Ten percent (10%) held alternative admission qualifications such as a diploma from a technical or similar institution.

Table 8a: Percentage of Graduates with A'Levels by Subject and Gender

Subject	Percentage of graduates with A'Levels		
	Total	Male	Female
	(1)	(2)	(3)
Biology	55	43	60
Chemistry	66	67	65
Computer Science	3	5	2
Geography	17	11	19
Mathematics	72	72	71
Physics	31	40	26

Chart 12. Percentage of Graduates with A'Levels by Subject



Source: Table 8a

Table 9: No. of Graduates by Major and Employment Status
(March 1, 2004)

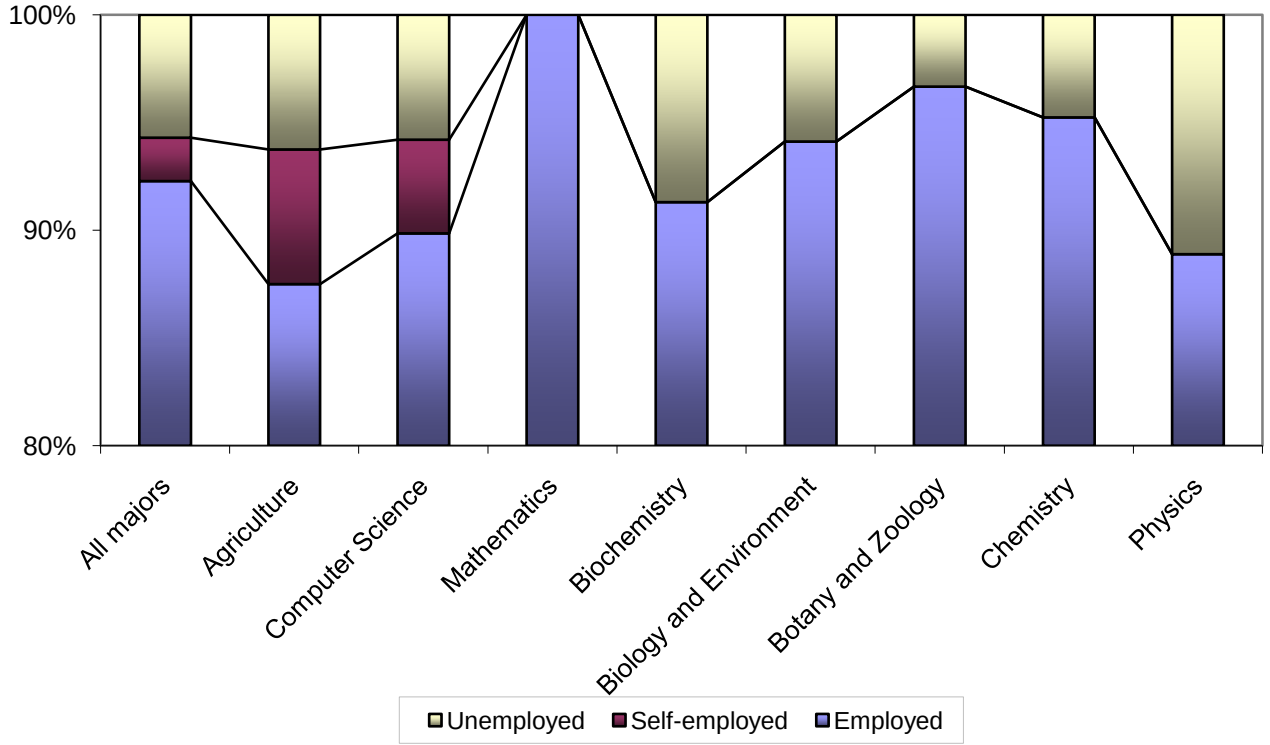
Major	Total	Employment status		
		Employed	Self-employed	Unemployed
	(1)	(2)	(3)	(4)
All majors	**298**	**275**	**6**	**17**
Agriculture	48	42	3	3
Computer Science	69	62	3	4
Mathematics	21	21	0	0
Biochemistry	23	21	0	2
Biology and Environment	17	16	0	1
Botany and Zoology	30	29	0	1
Chemistry	63	60	0	3
Physics	27	24	0	3

The data reveal that 94% of the graduates were employed and 6% unemployed as at March 1, 2004 (Table 9a). As entrepreneurs, only 2% with majors in Agriculture and Computer Science were self-employed. Graduates in Mathematics reported full employment while the largest unemployment rates were observed among Physics (11%) and Biochemistry (9%) majors. Of all 332 respondents, 30 (9%) were classified as students and 4 (1%) did not want work.

Table 9a: Percentage of Graduates by Major and Employment Status
(March 1, 2004)

Major	Total	Employment status		
		Employed	Self-employed	Unemployed
	(1)	(2)	(3)	(4)
All majors	**100**	**92**	**2**	**6**
Agriculture	100	88	6	6
Computer Science	100	90	4	6
Mathematics	100	100	0	0
Biochemistry	100	91	0	9
Biology and Environment	100	94	0	6
Botany and Zoology	100	97	0	3
Chemistry	100	95	0	5
Physics	100	89	0	11

Chart 13. Percentage of Graduates by Major and Employment Status



Source: Table 9a

Table 10: No. of Graduates by Major and Employment Status
Males

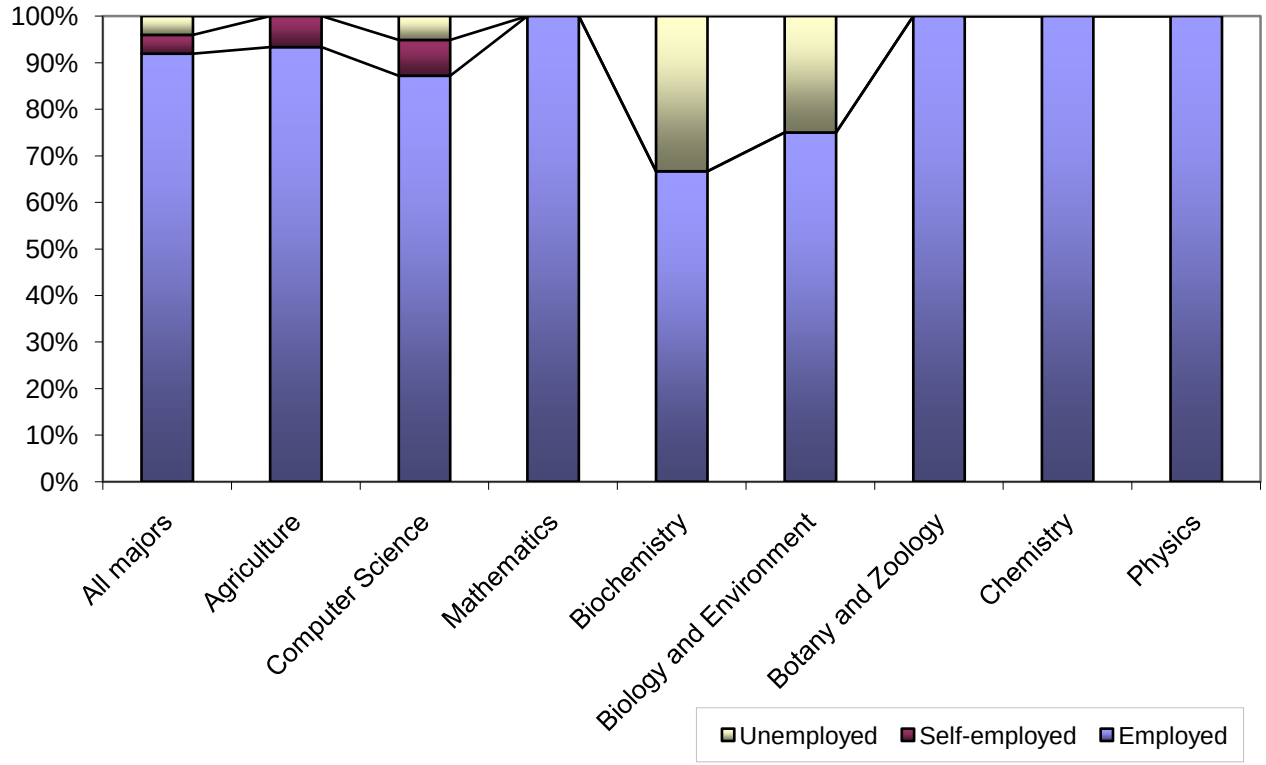
Major	Total	Employment status		
		Employed	Self-employed	Unemployed
	(1)	(2)	(3)	(4)
All majors	**99**	**91**	**4**	**4**
Agriculture	15	14	1	0
Computer Science	39	34	3	2
Mathematics	4	4	0	0
Biochemistry	3	2	0	1
Biology and Environment	4	3	0	1
Botany and Zoology	7	7	0	0
Chemistry	18	18	0	0
Physics	9	9	0	0

Employment amongst males (96%) (Table 10a) was slightly above that of females (93%) (Table 11a). Unemployment amongst males who majored in Biochemistry (33%) and Biology and Environment (25%), and of females in Physics (17%) was significant.

Table 10a: Percentage of Graduates by Major and Employment Status
Males

Major	Total	Employment status		
		Employed	Self-employed	Unemployed
	(1)	(2)	(3)	(4)
All majors	**100**	**92**	**4**	**4**
Agriculture	100	93	7	0
Computer Science	100	87	8	5
Mathematics	100	100	0	0
Biochemistry	100	67	0	33
Biology and Environment	100	75	0	25
Botany and Zoology	100	100	0	0
Chemistry	100	100	0	0
Physics	100	100	0	0

Chart 14. Percentage of Graduates by Major and Employment Status
Males



Source: Table 10a

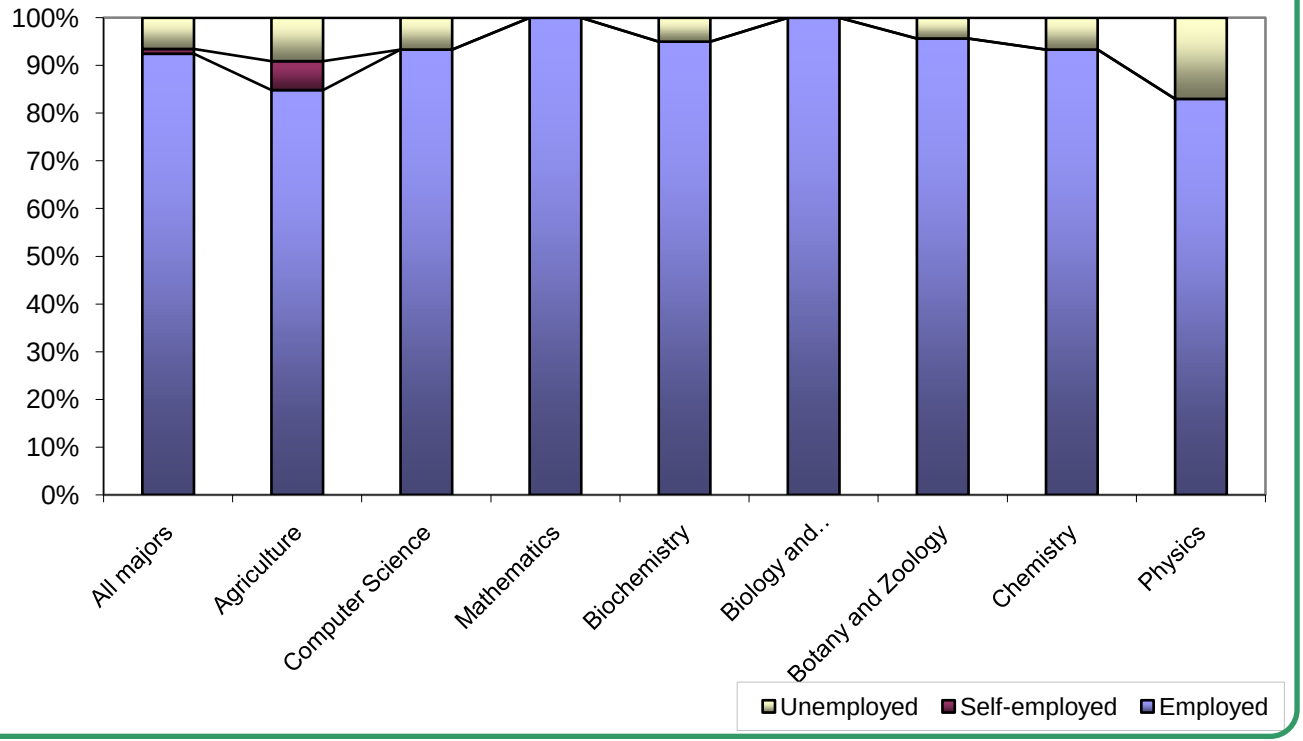
Table 11: No. of Graduates by Major and Employment Status
Females

Major	Total	Employment status		
		Employed	Self-employed	Unemployed
	(1)	(2)	(3)	(4)
All majors	**199**	**184**	**2**	**13**
Agriculture	33	28	2	3
Computer Science	30	28	0	2
Mathematics	17	17	0	0
Biochemistry	20	19	0	1
Biology and Environment	13	13	0	0
Botany and Zoology	23	22	0	1
Chemistry	45	42	0	3
Physics	18	15	0	3

Table 11a: Percentage of Graduates by Major and Employment Status
Females

Major	Total	Employment status		
		Employed	Self-employed	Unemployed
	(1)	(2)	(3)	(4)
All majors	**100**	**92**	**1**	**7**
Agriculture	100	85	6	9
Computer Science	100	93	0	7
Mathematics	100	100	0	0
Biochemistry	100	95	0	5
Biology and Environment	100	100	0	0
Botany and Zoology	100	96	0	4
Chemistry	100	93	0	7
Physics	100	83	0	17

Chart 15. Percentage of Graduates by Major and Employment Status
Females



Source: Table 11a

Table 12. No. of Graduates by Year and First Employment

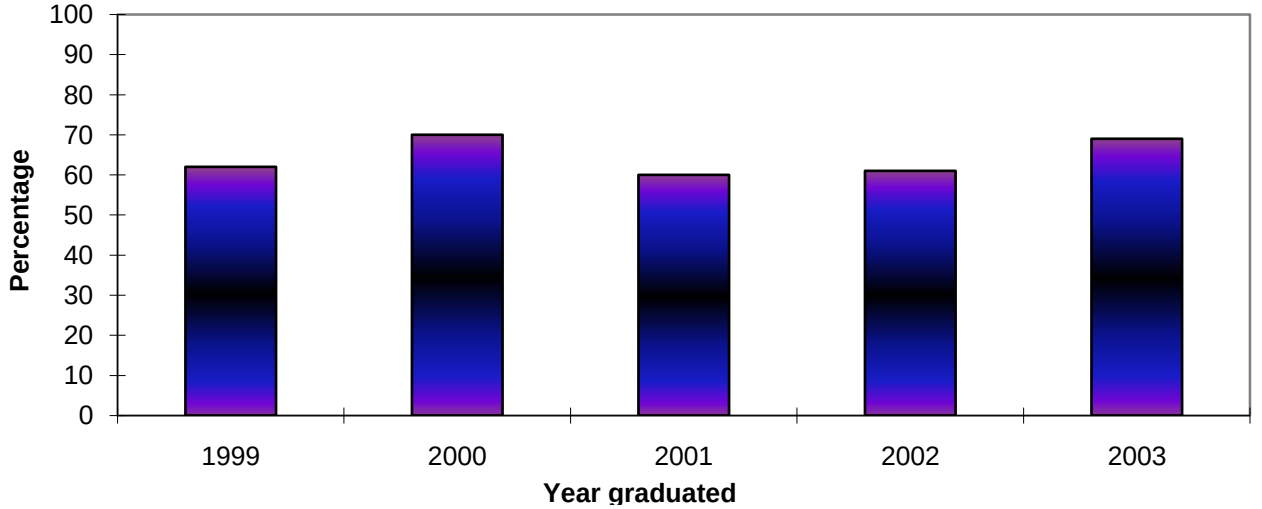
Year graduated	Total	First year of employment						
		1999	2000	2001	2002	2003	2004	Never worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1999	65	40	20	3	0	0	0	2
2000	70		49	13	5	2	0	1
2001	67			40	14	4	3	6
2002	66				40	19	2	5
2003	64					44	8	12

The survey results show that approximately 70% of the graduates of 2000 and 2003 obtained their first jobs in the same year of graduation compared with 60% of 1999, 2001 and 2002 (Table 12a).

Table 12a. Percentage of Graduates by Year and First Employment

Year graduated	Total	First year of employment						
		1999	2000	2001	2002	2003	2004	Never worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1999	100	62	31	5	0	0	0	3
2000	100		70	19	7	3	0	1
2001	100			60	21	6	4	9
2002	100				61	29	3	8
2003	100					69	13	19

Chart 16. Percentage of Graduates with First Job in Year Graduated



Source: Table 12a

Table 13. No. of Graduates by Year and First Employment
Males

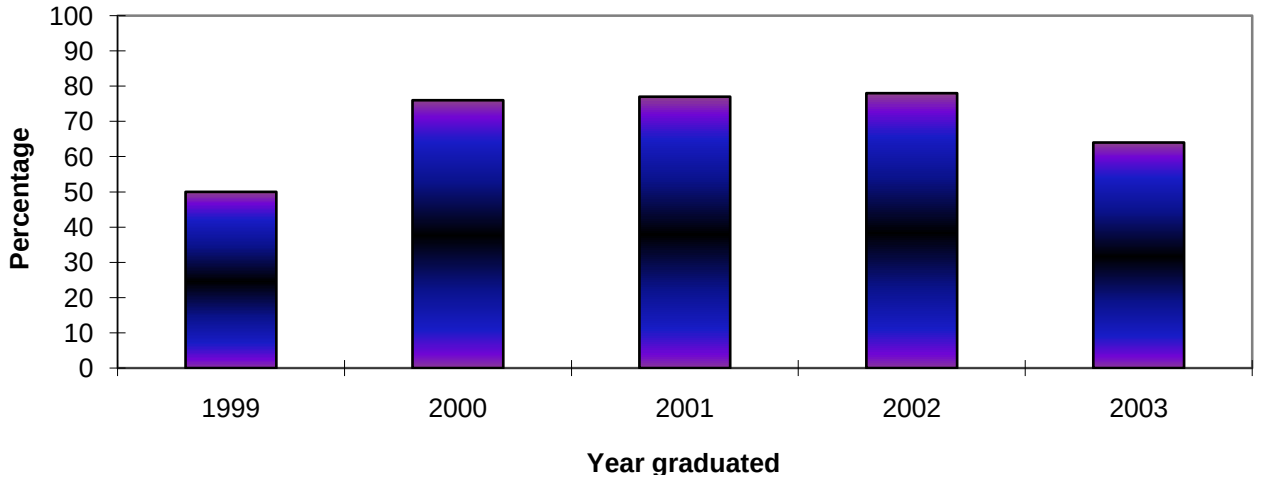
Year graduated	Total	First year of employment						
		1999	2000	2001	2002	2003	2004	Never worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1999	22	11	9	1	0	0	0	1
2000	25		19	5	1	0	0	0
2001	22			17	2	1	0	2
2002	18				14	2	0	2
2003	22					14	4	4

Over 75% of the male graduates of the period 2000 to 2002 reported a first employment in their graduation year. A substantial proportion of the graduates (41%) of 1999 proceeded to their first jobs in 2000 (Table 13a).

Table 13a. Percentage of Graduates by Year and First Employment
Males

Year graduated	Total	First year of employment						
		1999	2000	2001	2002	2003	2004	Never worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1999	100	50	41	5	0	0	0	5
2000	100		76	20	4	0	0	0
2001	100			77	9	5	0	9
2002	100				78	11	0	11
2003	100					64	18	18

Chart 17. Percentage of Graduates with First Job in Year Graduated
Males



Source: Table 13a

Table 14. No. of Graduates by Year and First Employment
Females

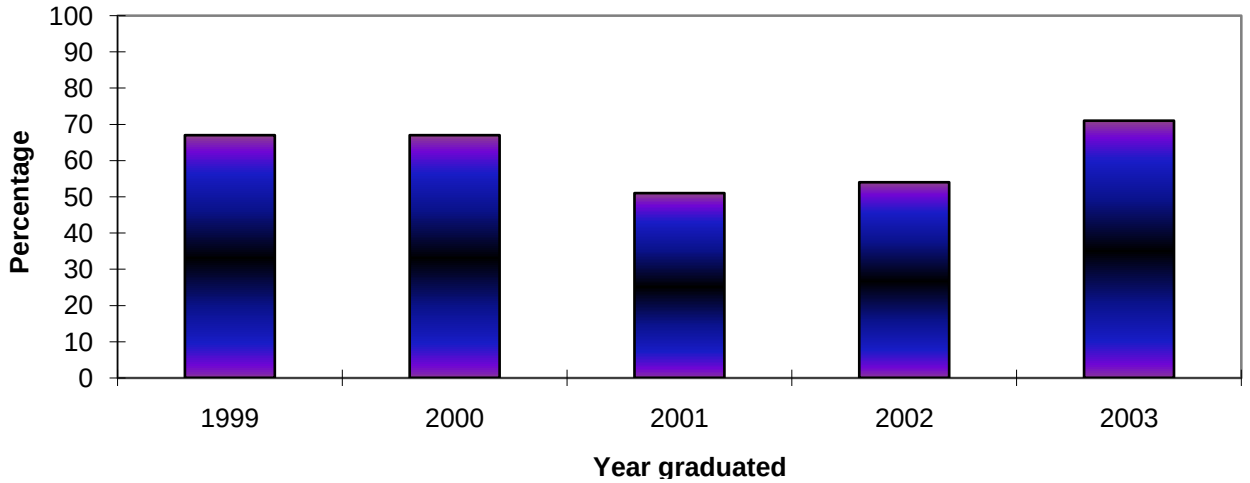
Year graduated	Total	First year of employment						
		1999	2000	2001	2002	2003	2004	Never worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1999	43	29	11	2	0	0	0	1
2000	45		30	8	4	2	0	1
2001	45			23	12	3	3	4
2002	48				26	17	2	3
2003	42					30	4	8

Compared with an employment rate of 67% in both 1999 and 2000, the percentage of female graduates who acquired their first jobs in the same year of graduation declined to 51% in 2001 and to 54% in 2002, and thereafter increased substantially to 71% in 2003 (Table 14a).

Table 14a. Percentage of Graduates by Year and First Employment
Females

Year graduated	Total	First year of employment						
		1999	2000	2001	2002	2003	2004	Never worked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1999	100	67	26	5	0	0	0	2
2000	100		67	18	9	4	0	2
2001	100			51	27	7	7	9
2002	100				54	35	4	6
2003	100					71	10	19

Chart 18. Percentage of Graduates with First Job in Year Graduated
Females



Source: Table 14a

Table 15. No of Graduates by Major and Sector of Employment - First Job

Major	Total	Sector of employment					
		Government	Research institutions	Higher education	Public utilities	Public enterprises	Private enterprises
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**306**	**103**	**18**	**33**	**10**	**13**	**129**
Agriculture	53	27	0	8	0	1	17
Computer Science	68	19	1	3	7	5	33
Mathematics	21	8	0	2	0	1	10
Biochemistry	24	5	2	3	1	0	13
Biology and Environment	18	8	2	1	1	0	6
Botany and Zoology	33	12	2	8	0	2	9
Chemistry	64	14	6	3	1	3	37
Physics	25	10	5	5	0	1	4

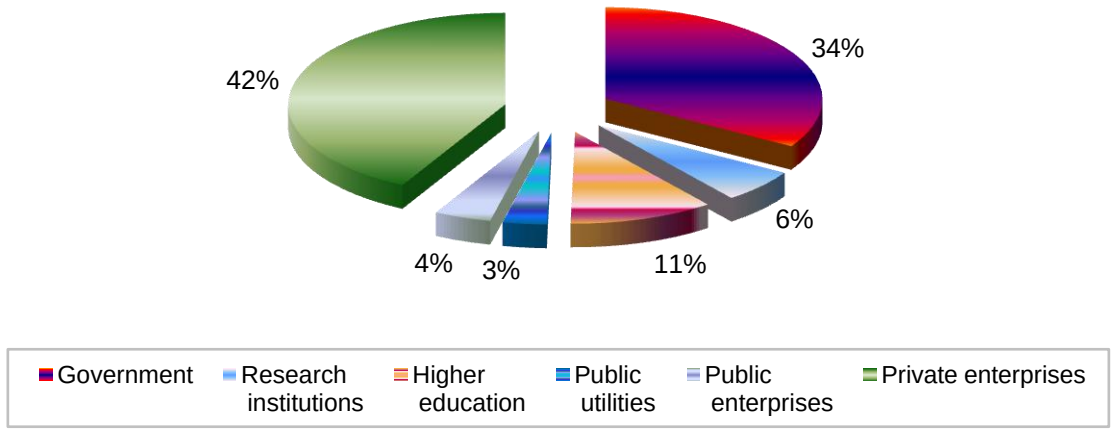
Table 15 shows the distribution of graduates by major and sector of first employment. Public agencies provided 58% of the graduates with their first jobs compared with 42% by private enterprises (Table 15a).

Table 15a. Percentage of Graduates by Major and Sector of Employment - First Job

Major	Total	Sector of employment					
		Government	Research institutions	Higher education	Public utilities	Public enterprises	Private enterprises
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**34**	**6**	**11**	**3**	**4**	**42**
Agriculture	100	51	0	15	0	2	32
Computer Science	100	28	1	4	10	7	49
Mathematics	100	38	0	10	0	5	48
Biochemistry	100	21	8	13	4	0	54
Biology and Environment	100	44	11	6	6	0	33
Botany and Zoology	100	36	6	24	0	6	27
Chemistry	100	22	9	5	2	5	58
Physics	100	40	20	20	0	4	16

Most Biochemistry (54%) and Chemistry (58%) majors, and approximately 50% of Computer Science and Mathematics majors were employed by the private sector. The central government was seen as the first substantial employer of the graduates with majors in Agriculture (51%), Biology and Environment (44%), Botany and Zoology (36%) and Physics (40%).

Chart 19. Percentage of All Majors by Sector of Employment - First Job



Source: Table 15a

Table 16. No of Graduates by Major and Sector of Employment - First Job
Males

Major	Total	Sector of employment					
		Government	Research institutions	Higher education	Public utilities	Public enterprises	Private enterprises
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**33**	**6**	**10**	**5**	**6**	**40**
Agriculture	15	8	0	2	0	1	4
Computer Science	39	10	1	3	5	3	17
Mathematics	4	1	0	0	0	0	3
Biochemistry	2	0	0	1	0	0	1
Biology and Environment	4	2	0	0	0	0	2
Botany and Zoology	9	3	1	1	0	1	3
Chemistry	18	7	2	1	0	1	7
Physics	9	2	2	2	0	0	3

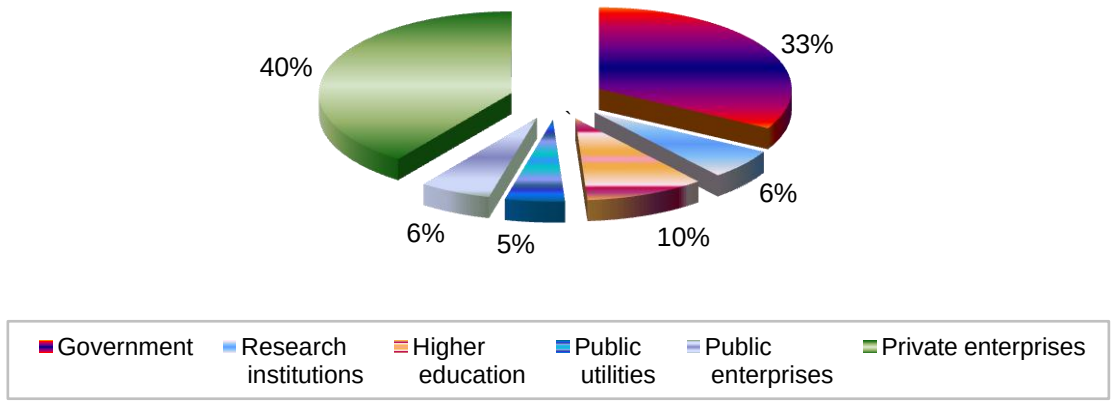
By gender, the pattern of employment was similar to that as reviewed for all graduates with approximately 60% public to 40% private sector job placement (Tables 16a and 17a).

Table 16a. Percentage of Graduates by Major and Sector of Employment - First Job

Males

Major	Total	Sector of employment					
		Government	Research institutions	Higher education	Public utilities	Public enterprises	Private enterprises
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**33**	**6**	**10**	**5**	**6**	**40**
Agriculture	100	53	0	13	0	7	27
Computer Science	100	26	3	8	13	8	44
Mathematics	100	25	0	0	0	0	75
Biochemistry	100	0	0	50	0	0	50
Biology and Environment	100	50	0	0	0	0	50
Botany and Zoology	100	33	11	11	0	11	33
Chemistry	100	39	11	6	0	6	39
Physics	100	22	22	22	0	0	33

Chart 20. Percentage of All Majors by Sector of Employment - First Job
Males



Source: Table 16a

Table 17. No of Graduates by Major and Sector of Employment - First Job
Females

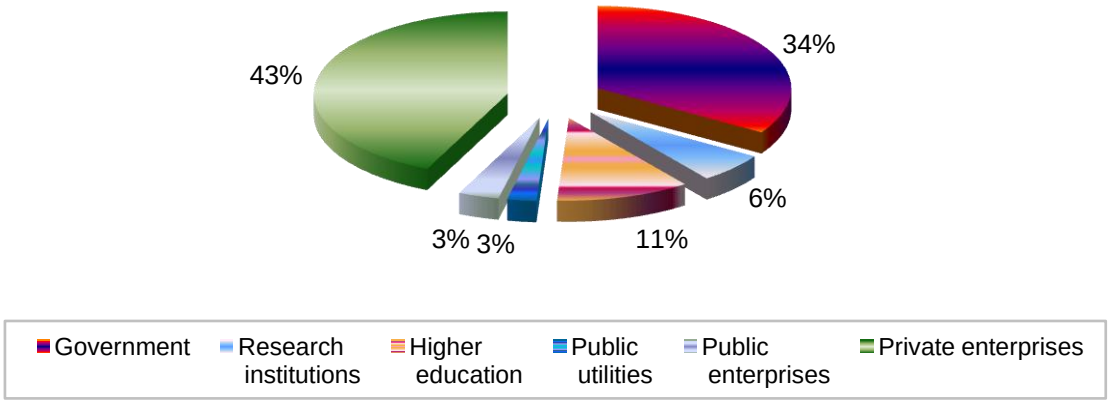
Major	Total	Sector of employment					
		Government	Research institutions	Higher education	Public utilities	Public enterprises	Private enterprises
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**206**	**70**	**12**	**23**	**5**	**7**	**89**
Agriculture	38	19	0	6	0	0	13
Computer Science	29	9	0	0	2	2	16
Mathematics	17	7	0	2	0	1	7
Biochemistry	22	5	2	2	1	0	12
Biology and Environment	14	6	2	1	1	0	4
Botany and Zoology	24	9	1	7	0	1	6
Chemistry	46	7	4	2	1	2	30
Physics	16	8	3	3	0	1	1

Table 17a. Percentage of Graduates by Major and Sector of Employment - First Job

Females

Major	Total	Sector of employment					
		Government	Research institutions	Higher education	Public utilities	Public enterprises	Private enterprises
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**34**	**6**	**11**	**2**	**3**	**43**
Agriculture	100	50	0	16	0	0	34
Computer Science	100	31	0	0	7	7	55
Mathematics	100	41	0	12	0	6	41
Biochemistry	100	23	9	9	5	0	55
Biology and Environment	100	43	14	7	7	0	29
Botany and Zoology	100	38	4	29	0	4	25
Chemistry	100	15	9	4	2	4	65
Physics	100	50	19	19	0	6	6

Chart 21. Percentage of All Majors by Sector of Employment - First Job
Females



Source: Table 17a

Table 18. No. of Graduates by Major and Gross Monthly Income - First Job

Major	Total	Gross monthly income					
		< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**306**	**137**	**105**	**26**	**7**	**2**	**29**
Agriculture	53	25	18	3	0	0	7
Computer Science	68	15	34	7	3	1	8
Mathematics	21	4	11	4	0	0	2
Biochemistry	24	16	4	2	0	0	2
Biology and Environment	18	11	4	1	0	1	1
Botany and Zoology	33	22	6	2	1	0	2
Chemistry	64	33	20	4	2	0	5
Physics	25	11	8	3	1	0	2

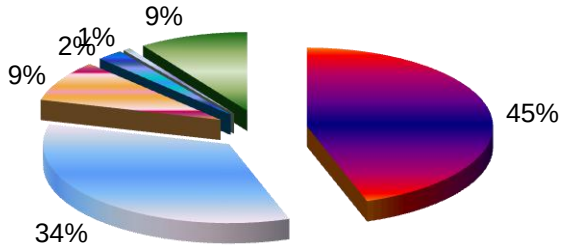
Table 18 shows the distribution of graduates and the gross monthly incomes of their first jobs. Including all majors, a significant proportion (45%) reported gross monthly incomes of under $4,000, especially amongst Biochemistry (67%), Botany and Zoology (67%) and Biology and Environment (61%) majors (Table 18a).

Table 18a. Percentage of Graduates by Major and Gross Monthly Income - First Job

Major	Total	Gross monthly income					
		< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**45**	**34**	**8**	**2**	**1**	**9**
Agriculture	100	47	34	6	0	0	13
Computer Science	100	22	50	10	4	1	12
Mathematics	100	19	52	19	0	0	10
Biochemistry	100	67	17	8	0	0	8
Biology and Environment	100	61	22	6	0	6	6
Botany and Zoology	100	67	18	6	3	0	6
Chemistry	100	52	31	6	3	0	8
Physics	100	44	32	12	4	0	8

The modal monthly income range of Mathematics and Computer Science graduates (50%) was $4,000 - $5,999. Six percent (6%) of Biology and Environment majors reported incomes in the range of $10,000 - $14,999.

Chart 22. Percentage of All Majors by Gross Monthly Income - First Job



< $4,000 | $4,000 - $5,999 | $6,000 - $7,999 | $8,000 - $9,999 | $10,000 - $14,999 | Not stated

Source: Table 18a

Table 19. No. of Graduates by Major and Gross Monthly Income - First Job
Males

Major	Total	Gross monthly income					
		< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**29**	**43**	**6**	**5**	**2**	**15**
Agriculture	15	5	4	1	0	0	5
Computer Science	39	8	22	0	3	1	5
Mathematics	4	0	3	0	0	0	1
Biochemistry	2	1	0	0	0	0	1
Biology and Environment	4	1	1	1	0	1	0
Botany and Zoology	9	4	3	1	1	0	0
Chemistry	18	6	6	3	1	0	2
Physics	9	4	4	0	0	0	1

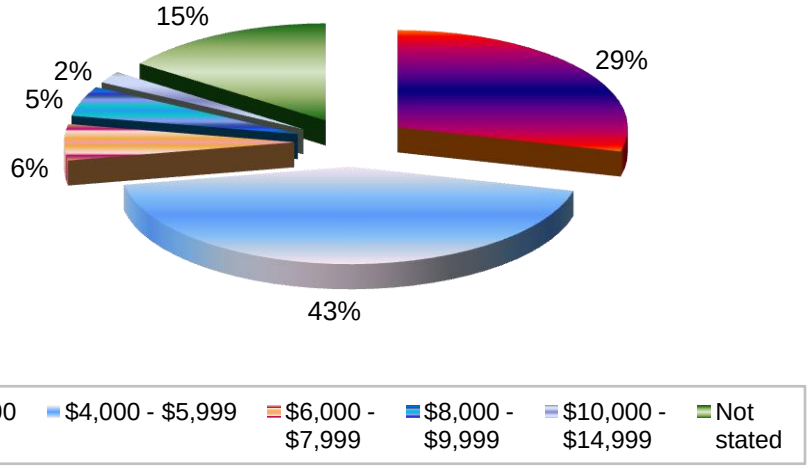
The study shows significant differences between the genders in respect of the gross monthly incomes in their first jobs. Most males (43%) reported gross incomes in the range $4,000 - $5,999, monthly whereas the majority of females (52%) received under $4,000 (Tables 19a and 20a).

Table 19a. Percentage of Graduates by Major and Gross Monthly Income - First Job
Males

Major	Total	Gross monthly income					
		< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**29**	**43**	**6**	**5**	**2**	**15**
Agriculture	100	33	27	7	0	0	33
Computer Science	100	21	56	0	8	3	13
Mathematics	100	0	75	0	0	0	25
Biochemistry	100	50	0	0	0	0	50
Biology and Environment	100	25	25	25	0	25	0
Botany and Zoology	100	44	33	11	11	0	0
Chemistry	100	33	33	17	6	0	11
Physics	100	44	44	0	0	0	11

In addition, 7% of the male compared with 1% of the female graduates received employment incomes of $8,000 and over.

Chart 23. Percentage of All Majors by Gross Monthly Income - First Job Males



Source: Table 19a

Table 20. No. of Graduates by Major and Gross Monthly Income - First Job
Females

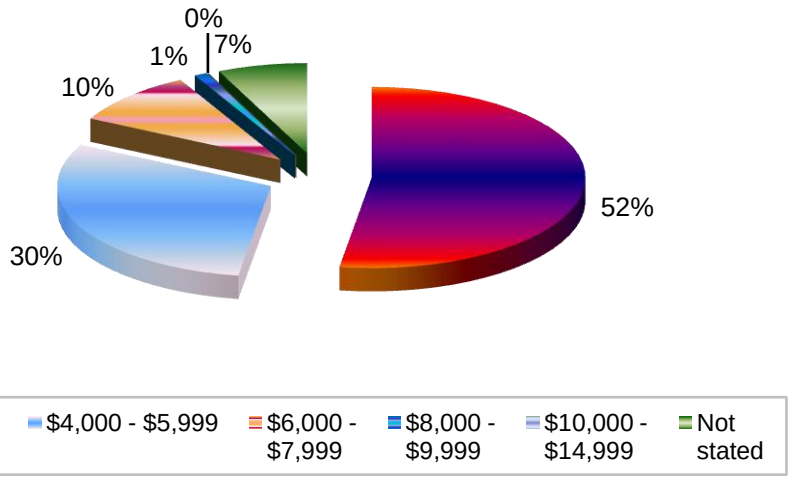
Major	Total	Gross monthly income					
		< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**206**	**108**	**62**	**20**	**2**	**0**	**14**
Agriculture	38	20	14	2	0	0	2
Computer Science	29	7	12	7	0	0	3
Mathematics	17	4	8	4	0	0	1
Biochemistry	22	15	4	2	0	0	1
Biology and Environment	14	10	3	0	0	0	1
Botany and Zoology	24	18	3	1	0	0	2
Chemistry	46	27	14	1	1	0	3
Physics	16	7	4	3	1	0	1

The disparity was substantial amongst Biology and Environment majors with 25% males to 71% females reporting incomes of under $4,000. A similar proportion of male and female graduates in Computer Science and Physics earned less than $4,000. monthly.

Table 20a. Percentage of Graduates by Major and Gross Monthly Income - First Job
Females

Major	Total	Gross monthly income					
		< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All majors	**100**	**52**	**30**	**10**	**1**	**0**	**7**
Agriculture	100	53	37	5	0	0	5
Computer Science	100	24	41	24	0	0	10
Mathematics	100	24	47	24	0	0	6
Biochemistry	100	68	18	9	0	0	5
Biology and Environment	100	71	21	0	0	0	7
Botany and Zoology	100	75	13	4	0	0	8
Chemistry	100	59	30	2	2	0	7
Physics	100	44	25	19	6	0	6

Chart 24. Percentage of All Majors by Gross Monthly Income - First Job Females



Source: Table 20a

Table 21. No. of Graduates by Major and Relevance of University Education to First Job

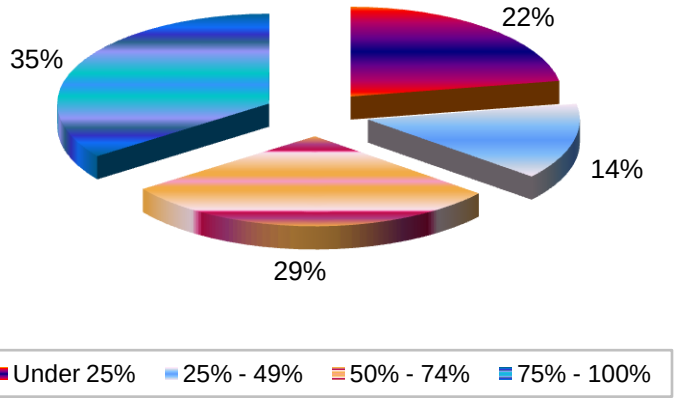
Major	Total	Relevance of university education to first job			
		Under 25%	25% - 49%	50% - 74%	75% - 100%
	(1)	(2)	(3)	(4)	(5)
All majors	**306**	**68**	**42**	**89**	**107**
Agriculture	53	13	7	19	14
Computer Science	68	6	10	26	26
Mathematics	21	3	2	4	12
Biochemistry	24	7	6	6	5
Biology and Environment	18	4	2	4	8
Botany and Zoology	33	11	4	4	14
Chemistry	64	18	7	18	21
Physics	25	6	4	8	7

The majority of graduates (35%) indicated that the relevance of university education to their first jobs was within the 75% - 100% range and accumulatively 64% reported a relevance of 50% and above (Table 21a). Mathematics majors (57%) reported the highest level of relevance of university education to their first jobs while Botany and Zoology majors (33%) reported the lowest level of relevance.

Table 21a. Percentage of Graduates by Major and Relevance of University Education to First Job

Major	Total	Relevance of university education to first job			
		Under 25%	25% - 49%	50% - 74%	75% - 100%
	(1)	(2)	(3)	(4)	(5)
All majors	**100**	**22**	**14**	**29**	**35**
Agriculture	100	25	13	36	26
Computer Science	100	9	15	38	38
Mathematics	100	14	10	19	57
Biochemistry	100	29	25	25	21
Biology and Environment	100	22	11	22	44
Botany and Zoology	100	33	12	12	42
Chemistry	100	28	11	28	33
Physics	100	24	16	32	28

Chart 25. Percentage of All Majors by Relevance of University Education to First Job



Source: Table 21a

Table 22. Percentage of Graduates by Major and Reason for Changing Job

Major	Reason for job change					
	Income	Security	Satisfaction	Environment	Relevance to education	Further education
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**54**	**33**	**39**	**27**	**22**	**25**
Agriculture	41	38	41	28	10	34
Computer Science	50	31	39	33	22	19
Mathematics	75	50	25	0	50	25
Biochemistry	56	25	25	13	13	25
Biology and Environment	50	50	38	25	0	25
Botany and Zoology	63	25	50	25	38	25
Chemistry	61	35	39	33	28	28
Physics	43	29	43	14	29	0

'Income' was identified as the major reason for job mobility by graduates (54%); 39% indicated 'satisfaction' and 33%

Table 23. No. of Graduates by Major and Industry of Employment
(as at March 1, 2004)

Major	Total	Industry of employment								
		Agri-culture	Petro-leum and gas	Manu-facturing	Elec-tricity and water	Con-struction	Dis-tribution	Trans-port and com-muni-cation	Business services	Com-munity service s
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
All majors	**281**	**3**	**23**	**21**	**5**	**3**	**11**	**1**	**61**	**153**
Agriculture	45	2	1	5	0	1	2	0	5	29
Computer Science	65	0	4	2	4	1	3	1	25	25
Mathematics	21	0	1	0	0	0	0	0	8	12
Biochemistry	21	0	1	2	0	0	1	0	4	13
Biology and Environment	16	0	0	2	1	0	1	0	3	9
Botany and Zoology	29	1	3	1	0	0	0	0	5	19
Chemistry	60	0	10	9	0	0	3	0	8	30
Physics	24	0	3	0	0	1	1	0	3	16

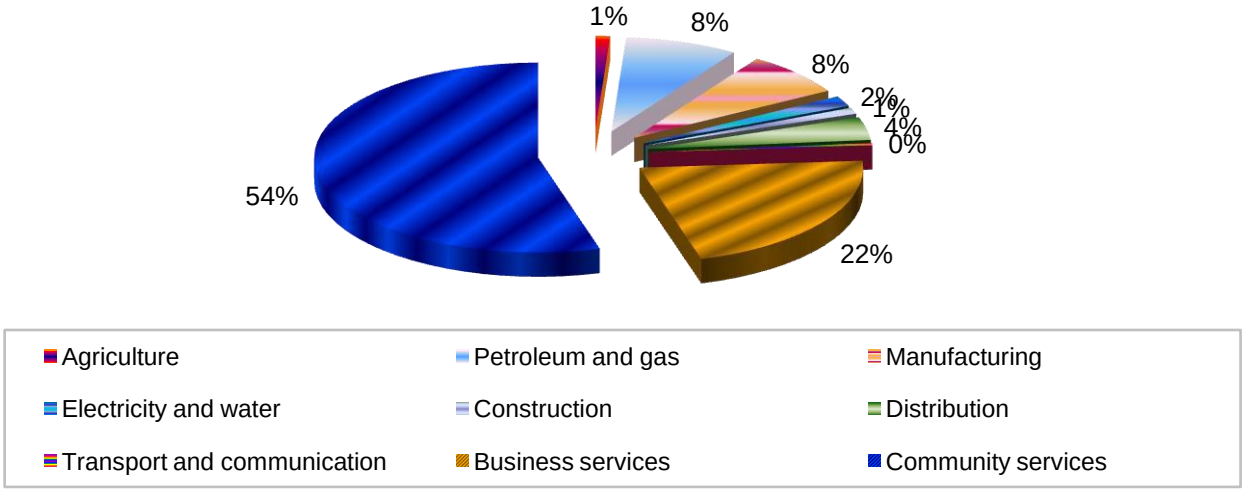
As at March 1, 2004, most graduates (54%) were employed in Community services of which the central government is a significant component (Table 23a).

Table 23a. Percentage of Graduates by Major and Industry of Employment
(as at March 1, 2004)

Major	Total	Industry of employment								
		Agri-culture	Petro-leum and gas	Manu-facturing	Elec-tricity and water	Con-struction	Dis-tribution	Trans-port and com-muni-cation	Busines s services	Com-munity service s
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
All majors	**100**	**1**	**8**	**7**	**2**	**1**	**4**	**0**	**22**	**54**
Agriculture	100	4	2	11	0	2	4	0	11	64
Computer Science	100	0	6	3	6	2	5	2	38	38
Mathematics	100	0	5	0	0	0	0	0	38	57
Biochemistry	100	0	5	10	0	0	5	0	19	62
Biology and Environment	100	0	0	13	6	0	6	0	19	56
Botany and Zoology	100	3	10	3	0	0	0	0	17	66
Chemistry	100	0	17	15	0	0	5	0	13	50
Physics	100	0	13	0	0	4	4	0	13	67

Business services absorbed 22% of the graduates, Petroleum and gas (8%), and Manufacturing (7%).

Chart 26. Percentage of All Majors by Industry of Employment



Source: Table 23a

By major, a substantial proportion (38%) of Computer Science and Mathematics graduates was employed in Business services. Among the Chemistry majors, 17% were employed in Petroleum and gas, and 15% in Manufacturing.

Table 24. No. of Graduates by Major and Gross Monthly Income
(as at March 1, 2004)

Major	Gross monthly income							
	Total	< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	$15,000 and over	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All majors	**281**	**40**	**84**	**90**	**21**	**16**	**2**	**28**
Agriculture	45	8	19	12	1	0	0	5
Computer Science	65	6	14	25	6	7	0	7
Mathematics	21	1	8	7	2	0	1	2
Biochemistry	21	3	11	5	0	0	0	2
Biology and Environment	16	7	5	2	0	0	0	2
Botany and Zoology	29	7	7	7	3	4	0	1
Chemistry	60	6	14	22	7	3	1	7
Physics	24	2	6	10	2	2	0	2

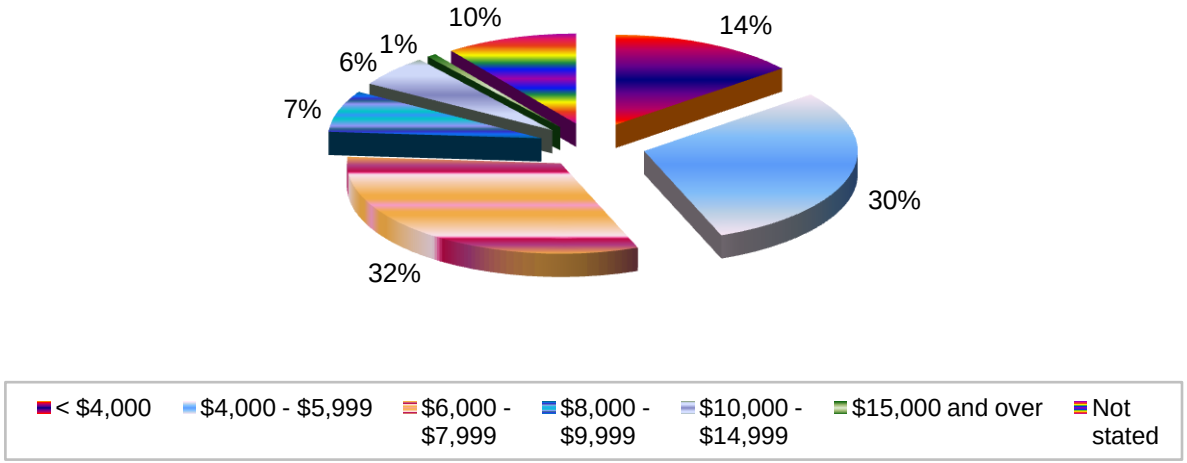
Subject to the varying periods of job experience in the range of less than one year to five years, Table 24a shows that the gross monthly remuneration of approximately one third of the graduates was in each of the income groups $4,000 - $5,999 and $6,000-$7,999.

Table 24a. Percentage of Graduates by Major and Gross Monthly Income
(as at March 1, 2004)

Major	Gross monthly income							
	Total	< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	$15,000 and over	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All majors	**100**	**14**	**30**	**32**	**7**	**6**	**1**	**10**
Agriculture	100	18	42	27	2	0	0	11
Computer Science	100	9	22	38	9	11	0	11
Mathematics	100	5	38	33	10	0	5	10
Biochemistry	100	14	52	24	0	0	0	10
Biology and Environment	100	44	31	13	0	0	0	13
Botany and Zoology	100	24	24	24	10	14	0	3
Chemistry	100	10	23	37	12	5	2	12
Physics	100	8	25	42	8	8	0	8

Graduates with a Biochemistry and a Biology and Environment major which commenced in the academic year 1998/1999 were the lowest paid. Excluding Agriculture, between 15% - 24% of the graduates in the remaining majors reported gross monthly incomes of $8,000 and over.

Chart 27. Percentage of All Majors by Gross Monthly Income



Source: Table 24a

Table 25. Percentage of Graduates by Major and Gross Monthly Income
(as at March 1, 2004)
Males

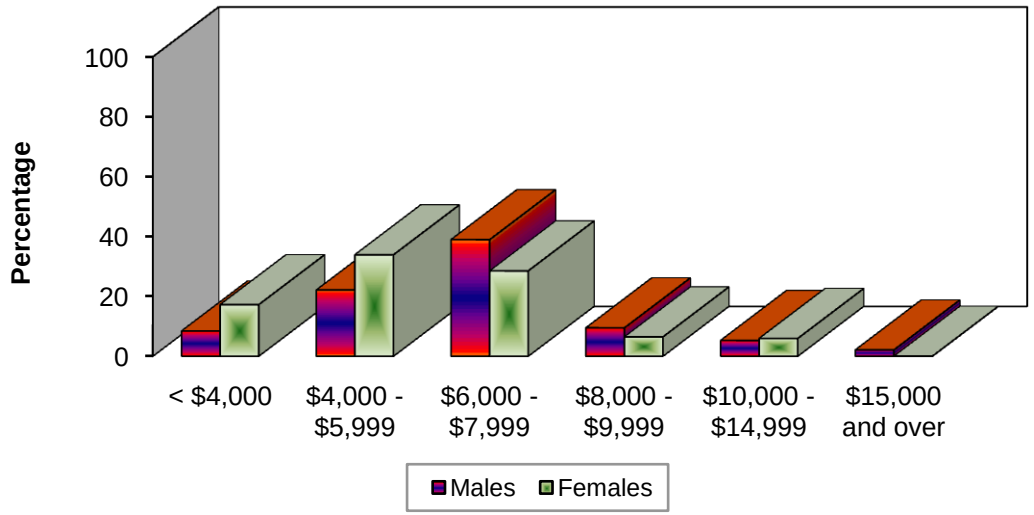
Major	Gross monthly income							
	Total	< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	$15,000 and over	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All majors	**100**	**8**	**22**	**39**	**9**	**5**	**2**	**14**
Agriculture	100	20	33	20	0	0	0	27
Computer Science	100	8	22	41	14	5	0	11
Mathematics	100	0	0	50	0	0	25	25
Biochemistry	100	0	100	0	0	0	0	0
Biology and Environment	100	0	33	33	0	0	0	33
Botany and Zoology	100	14	14	43	14	14	0	0
Chemistry	100	6	11	50	11	6	6	11
Physics	100	0	22	44	11	11	0	11

Table 25 shows that male graduates received higher monthly incomes than their female counterparts (Table 26). The modal income group of the employed male graduates was $6,000 - $7,999 compared with $4,000 - $5,999 for females.

Table 26. Percentage of Graduates by Major and Gross Monthly Income
(as at March 1, 2004)
Females

Major	Gross monthly income							
	Total	< $4,000	$4,000 - $5,999	$6,000 - $7,999	$8,000 - $9,999	$10,000 - $14,999	$15,000 and over	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All majors	**100**	**17**	**34**	**28**	**6**	**6**	**0**	**8**
Agriculture	100	17	47	30	3	0	0	3
Computer Science	100	11	21	36	4	18	0	11
Mathematics	100	6	47	29	12	0	0	6
Biochemistry	100	16	47	26	0	0	0	11
Biology and Environment	100	54	31	8	0	0	0	8
Botany and Zoology	100	27	27	18	9	14	0	5
Chemistry	100	12	29	31	12	5	0	12
Physics	100	13	27	40	7	7	0	7

Chart 28. Percentage of All Majors by Gender and Gross Monthly Income



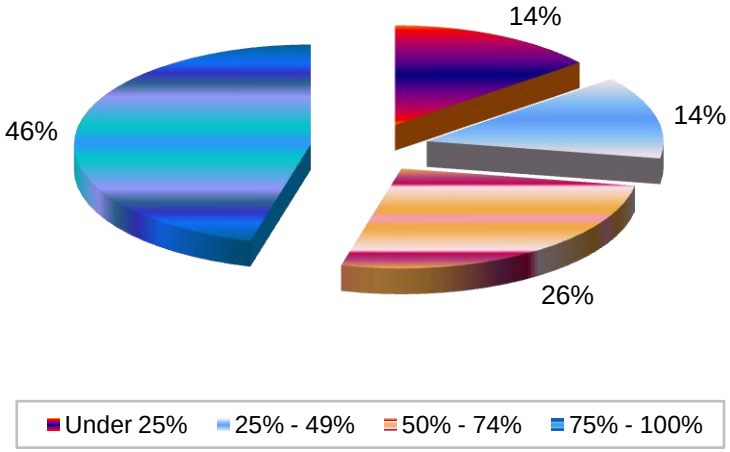
Source Tables 25 & 26

Table 27. Percentage of Graduates by Major and Relevance of University Education to Job
(as at March 1, 2004)

Major	Relevance of university education to current job				
	Total	Under 25%	25% - 49%	50% - 74%	75% - 100%
	(1)	(2)	(3)	(4)	(5)
All majors	**100**	**14**	**14**	**26**	**46**
Agriculture	100	24	13	27	36
Computer Science	100	11	14	31	45
Mathematics	100	0	19	10	71
Biochemistry	100	24	10	33	33
Biology and Environment	100	19	13	25	44
Botany and Zoology	100	14	10	21	55
Chemistry	100	12	15	23	50
Physics	100	13	13	38	38

As compared to their first jobs a higher percentage of graduates (46%) indicated a university education to job relevance in the range of 75% - 100%. The majority of Mathematics majors (71%) reported the highest level of relevance of university education to their current jobs. Approximately one quarter (24%) of Agriculture and Biochemistry majors recorded an education to job relevance of less than 25%.

Chart 29. Percentage of All Majors by Relevance of University Education to Job



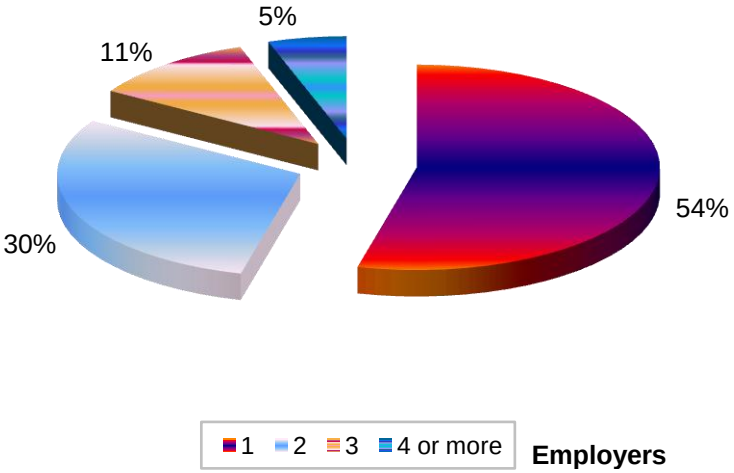
Source: Table 27

Table 28. Percentage of Graduates by Major and Number of Employers

Major	Number of employers				
	Total	1	2	3	4 or more
	(1)	(2)	(3)	(4)	(5)
All majors	**100**	**54**	**30**	**11**	**5**
Agriculture	100	53	28	9	9
Computer Science	100	57	31	9	3
Mathematics	100	81	19	0	0
Biochemistry	100	46	50	4	0
Biology and Environment	100	72	17	6	6
Botany and Zoology	100	55	21	12	12
Chemistry	100	33	38	23	6
Physics	100	72	20	8	0

Table 28 reveals that 46% of all graduates held two or more jobs after graduation. Job mobility was most significant amongst Chemistry and least amongst Mathematics majors.

Chart 30. Percentage of All Majors by Number of Employers



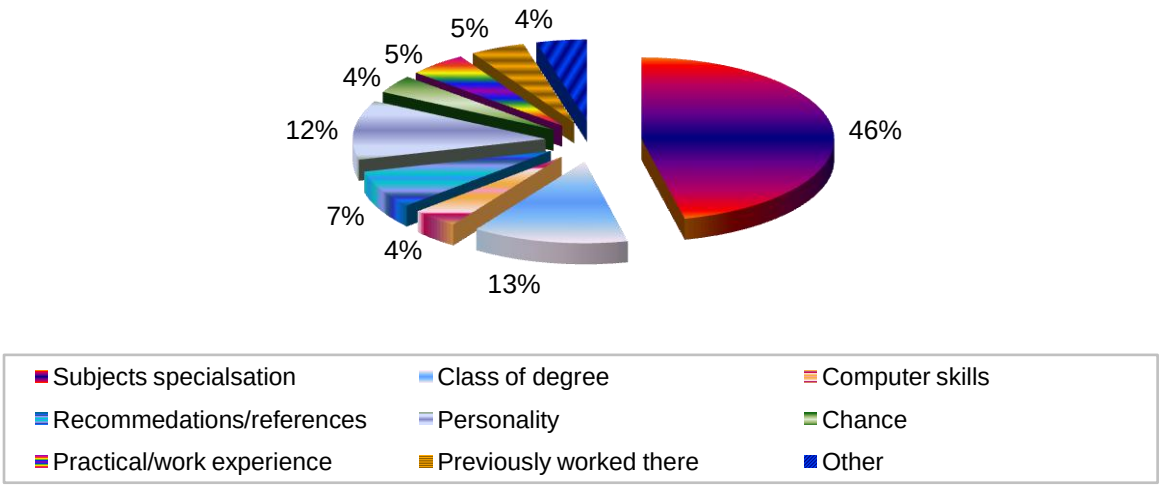
Source: Table 28

Table 29. Percentage of Graduates by Major and Most Important Reason for Recruitment

Major	Most Important Reason for Recruitment									
	Total	Subjects special-sation	Class of degree	Com-puter skills	Recommendations/ references	Per-sonality	Chance	Practical/ work experience	Previously worked there	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
All majors	**100**	**46**	**13**	**4**	**8**	**12**	**4**	**5**	**5**	**4**
Agriculture	100	51	8	2	4	13	6	4	6	8
Computer Science	100	47	12	10	6	13	1	4	4	1
Mathematics	100	57	10	5	0	14	5	5	0	5
Biochemistry	100	42	13	0	13	21	4	4	0	4
Biology and Environment	100	50	22	0	0	6	6	0	6	11
Botany and Zoology	100	48	9	0	18	12	3	3	6	0
Chemistry	100	36	17	2	11	9	3	9	6	6
Physics	100	52	20	8	4	4	4	4	4	0

Including all majors, most graduates (46%) were of the opinion that the subject area of specialisation was mainly responsible for their job recruitment. One fifth of the majors in each of Biology and Environment and Physics stated that the class of degree was an important indicator in employment while a similar proportion of Biochemistry majors cited personality as a key contributor.

Chart 31. Percentage of Graduates by Most Important Reason for Recruitment



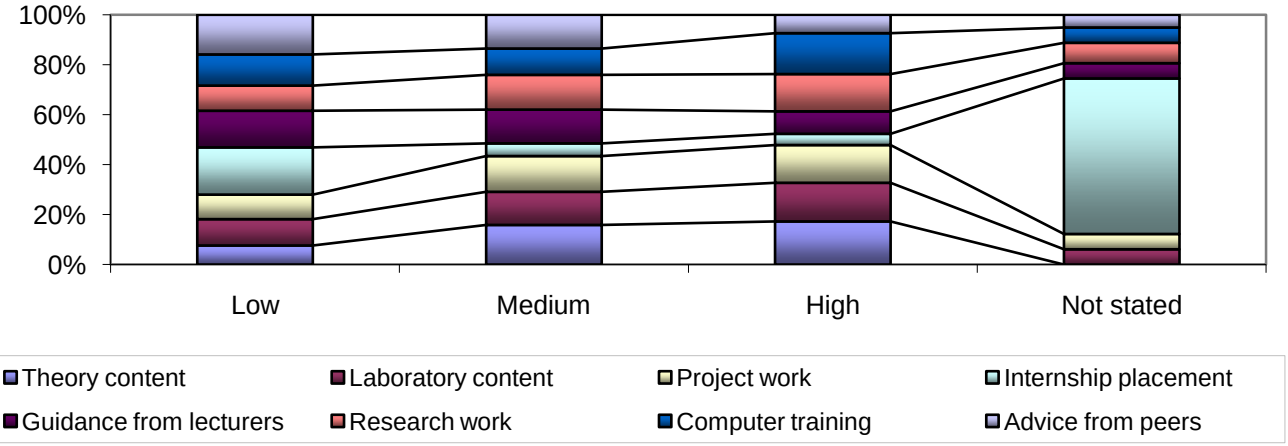
Source: Table 29

Table 30. Percentage Rating of the Contribution of Components of University Education to Cope with Job
All Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	**100**	**22**	**43**	**34**	**0**
Laboratory content	100	31	36	31	2
Project work	100	29	39	30	2
Internship placement	100	56	14	9	22
Guidance from lecturers	100	43	37	18	2
Research work	100	30	38	30	3
Computer training	100	37	29	32	2
Advice from peers	100	47	37	15	2

Including all majors, Table 30 reveals that a relatively large percentage of graduates gave a low rating to 'internship placement' (56%), 'guidance from lecturers' (43%), 'advice from peers' (47%) and 'computer training' (37%) as aspects of university education that contributed to their ability to cope with their jobs. A medium ranking was shown for 'theory content' (43%), 'laboratory content' (36%), 'project work' (39%) and 'research work' (38%).

Chart 32: Percentage Rating of the Contribution of Components of University Education to Cope with Job
All Majors



Source: Table 30

Table 30a. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Agriculture Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	20	49	31	0
Laboratory content	100	49	29	18	4
Project work	100	18	44	36	2
Internship placement	100	51	13	24	11
Guidance from lecturers	100	44	33	22	0
Research work	100	22	40	38	0
Computer training	100	33	24	40	2
Advice from peers	100	53	31	16	0

Table 30b. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Computer Science Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	20	48	32	0
Laboratory content	100	32	39	26	3
Project work	100	29	42	28	2
Internship placement	100	54	12	6	28
Guidance from lecturers	100	55	28	14	3
Research work	100	34	35	26	5
Computer training	100	17	32	49	2
Advice from peers	100	31	48	19	3

Table 30c. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Mathematics Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	14	67	19	0
Laboratory content	100	38	33	24	5
Project work	100	38	24	29	10
Internship placement	100	57	14	5	24
Guidance from lecturers	100	33	43	19	5
Research work	100	24	43	24	10
Computer training	100	24	33	33	10
Advice from peers	100	33	43	19	5

Table 30d. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Biochemistry Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	24	43	33	0
Laboratory content	100	24	33	43	0
Project work	100	38	38	19	5
Internship placement	100	76	0	0	24
Guidance from lecturers	100	33	52	14	0
Research work	100	43	33	24	0
Computer training	100	62	14	19	5
Advice from peers	100	67	29	5	0

As a component of university education to cope with their jobs, most graduates in Biochemistry (62%) (Table 30d), Biology and Environment (56%) (Table 30e), Botany and Zoology (45%) (Table 30f) and Chemistry(50%) (Table 30g) ranked 'computer training' in the low category.

Table 30e. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Biology and Environmental and Natural Resources Management Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	38	25	38	0
Laboratory content	100	31	38	25	6
Project work	100	38	44	13	6
Internship placement	100	50	0	6	44
Guidance from lecturers	100	44	38	13	6
Research work	100	25	44	25	6
Computer training	100	56	6	38	0
Advice from peers	100	50	31	19	0

A high ranking was given to 'laboratory content' by Biochemistry majors (43%) and a similar rating to 'theory content' and 'laboratory content' by graduates in Chemistry (45%).

Table 30f. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Botany and Zoology Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	28	38	35	0
Laboratory content	100	17	55	28	0
Project work	100	24	41	35	0
Internship placement	100	55	10	10	24
Guidance from lecturers	100	38	45	14	3
Research work	100	38	35	21	7
Computer training	100	45	31	21	3
Advice from peers	100	48	31	14	7

Table 30g. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Chemistry Majors

Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	23	32	45	0
Laboratory content	100	27	28	45	0
Project work	100	25	40	35	0
Internship placement	100	55	23	8	13
Guidance from lecturers	100	40	38	20	2
Research work	100	27	38	35	0
Computer training	100	50	33	17	0
Advice from peers	100	50	40	10	0

Table 30h. Percentage Rating of the Contribution of Components of University Education to Cope with Job

Physics Majors

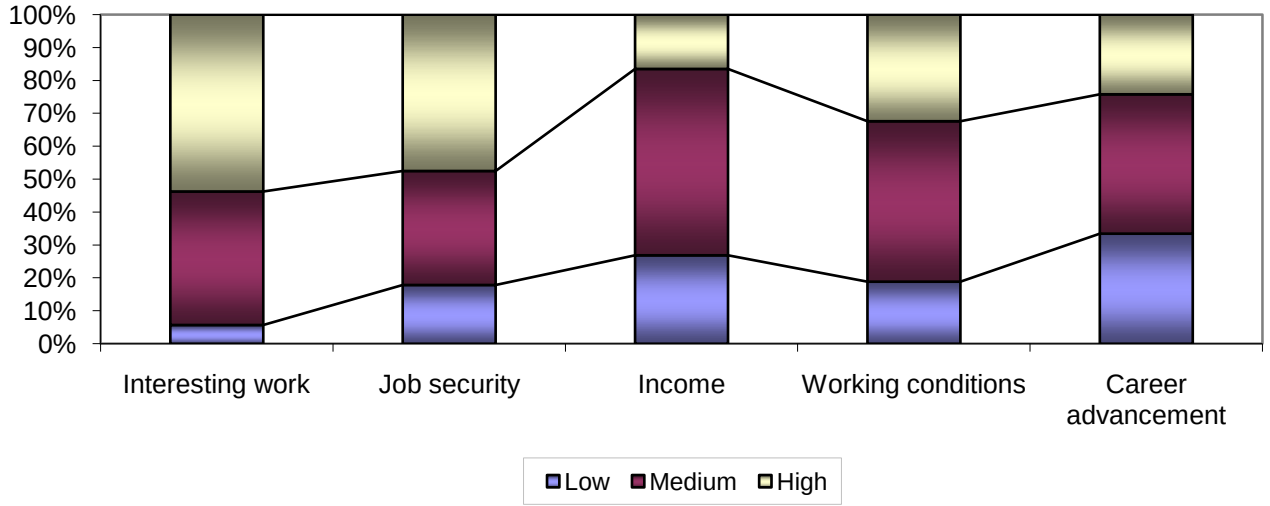
Component of education	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	(5)
Theory content	100	21	50	29	0
Laboratory content	100	21	46	33	0
Project work	100	42	29	29	0
Internship placement	100	54	21	0	25
Guidance from lecturers	100	38	38	25	0
Research work	100	25	42	33	0
Computer training	100	29	38	33	0
Advice from peers	100	58	25	17	0

Table 31. Percentage Rating of Components of Job Satisfaction

Components	Rating - %				
	Total	Low	Medium	High	Not stated
	(1)	(2)	(3)	(4)	
Interesting work	**100**	**6**	**41**	**54**	**0**
Job security	100	18	35	47	0
Income	100	27	56	16	1
Working conditions	100	19	49	32	0
Career advancement	100	33	42	24	0

Most graduates stated that 'interesting work' (54%)and 'job security' (47%) provided a high degree of job satisfaction while a medium rating was shown for 'income' (56%), 'working conditions' (49%) and 'career advancement' (42%). In addition, a substantial proportion of all majors (33%) ranked 'career advancement' in the low category of job satisfaction.

Chart 33. Percentage Rating of Components of Job Satisfaction



Source: Table 31

Table 32. No. of Graduates by Major and Post-graduate Qualification

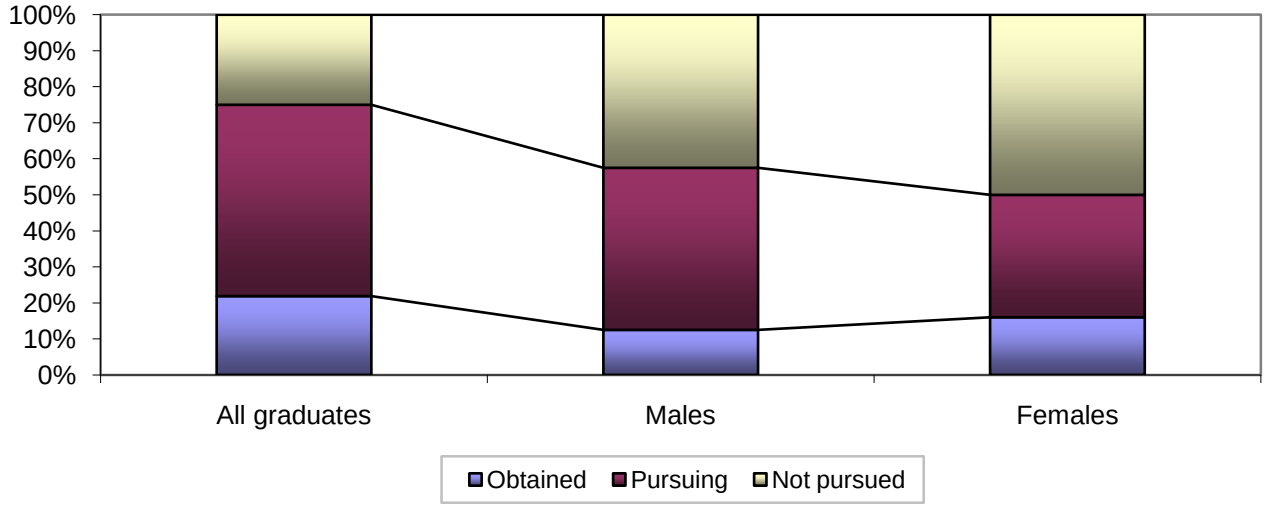
Major	Post-graduate qualification			
	Total	Obtained	Pursuing	Not pursued
	(1)	(2)	(3)	(4)
All majors	**332**	**47**	**114**	**171**
Agriculture	56	20	21	15
Computer Science	71	3	20	48
Mathematics	22	1	5	16
Biochemistry	29	2	9	18
Biology and Environment	21	0	6	15
Botany and Zoology	35	10	13	12
Chemistry	71	8	29	34
Physics	27	3	11	13

Agriculture and Botany and Zoology majors showed a relatively higher propensity to further their education (Table 32a). Approximately fifty percent of all natural science and agriculture graduates of the period 1999 to 2003 obtained (14%) or were pursuing (34%) post-graduate qualifications in 2004 (Table 32a). A review of the data by major also indicates that 41% of the Chemistry and Physics were registered in post-graduate programmes. By gender, the percentage of male and female participation in post-graduate education was similar (Tables 33a and 34a).

Table 32a. Percentage of Graduates by Major and Post-graduate Qualification

Major	Post-graduate qualification			
	Total	Obtained	Pursuing	Not pursued
	(1)	(2)	(3)	(4)
All majors	**100**	**14**	**34**	**52**
Agriculture	100	36	38	27
Computer Science	100	4	28	68
Mathematics	100	5	23	73
Biochemistry	100	7	31	62
Biology and Environment	100	0	29	71
Botany and Zoology	100	29	37	34
Chemistry	100	11	41	48
Physics	100	11	41	48

Chart 34. Percentage of Graduates by Post-graduate Qualification and Gender



Source: Tables 32a, 33a, 34a

Table 33. No. of Graduates by Major and Post-graduate Qualification
Males

Major	Total	Post-graduate qualification		
		Obtained	Pursuing	Not pursued
	(1)	(2)	(3)	(4)
All majors	**109**	**11**	**39**	**59**
Agriculture	15	4	6	5
Computer Science	40	1	12	27
Mathematics	4		3	1
Biochemistry	6	1	2	3
Biology and Environment	5	0	1	4
Botany and Zoology	10	1	5	4
Chemistry	20	3	6	11
Physics	9	1	4	4

Table 33a. Percentage of Graduates by Major and Post-graduate Qualification
Males

Major	Total	Post-graduate qualification		
		Obtained	Pursuing	Not pursued
	(1)	(2)	(3)	(4)
All majors	**100**	**10**	**36**	**54**
Agriculture	100	27	40	33
Computer Science	100	3	30	68
Mathematics	100	0	75	25
Biochemistry	100	17	33	50
Biology and Environment	100	0	20	80
Botany and Zoology	100	10	50	40
Chemistry	100	15	30	55
Physics	100	11	44	44

Table 34. No. of Graduates by Major and Post-graduate Qualification
Females

Major	Total	Post-graduate qualification		
		Obtained	Pursuing	Not pursued
	(1)	(2)	(3)	(4)
All majors	**223**	**36**	**75**	**112**
Agriculture	41	16	15	10
Computer Science	31	2	8	21
Mathematics	18	1	2	15
Biochemistry	23	1	7	15
Biology and Environment	16	0	5	11
Botany and Zoology	25	9	8	8
Chemistry	51	5	23	23
Physics	18	2	7	9

Table 34a. Percentage of Graduates by Major and Post-graduate Qualification
Females

Major	Total	Post-graduate qualification		
		Obtained	Pursuing	Not pursued
	(1)	(2)	(3)	(4)
All majors	**100**	**16**	**34**	**50**
Agriculture	100	39	37	24
Computer Science	100	6	26	68
Mathematics	100	6	11	83
Biochemistry	100	4	30	65
Biology and Environment	100	0	31	69
Botany and Zoology	100	36	32	32
Chemistry	100	10	45	45
Physics	100	11	39	50

Table 35. No. of Graduates by Major and Level of Post-graduate Qualification Obtained

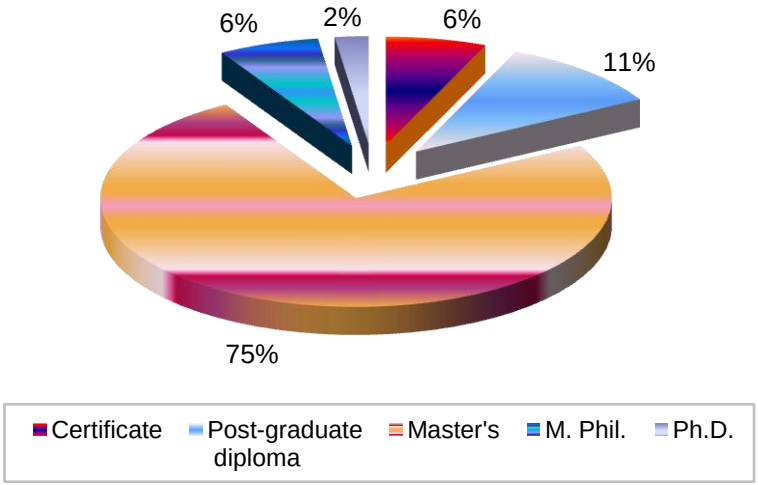
Major	Total	Qualification obtained				
		Certificate	Post-graduate diploma	Master's	M. Phil.	Ph.D.
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**47**	**3**	**5**	**35**	**3**	**1**
Agriculture	20	2	1	16	1	0
Computer Science	3	1	1	1	0	0
Mathematics	1	0	0	0	1	0
Biochemistry	2	0	1	0	0	1
Biology and Environment	0	0	0	0	0	0
Botany and Zoology	10	0	1	8	1	0
Chemistry	8	0	1	7	0	0
Physics	3	0	0	3	0	0

Seventy four percent (74%) of the post-graduate qualifications were at the master's degree level, obtained mainly by Agriculture, Botany and Zoology and Chemistry majors (Table 35a).

Table 35a. Percentage of Graduates by Major and Level of Post-graduate Qualification Obtained

Major	Total	Qualification obtained				
		Certificate	Post-graduate diploma	Master's	M. Phil.	Ph.D.
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**6**	**11**	**74**	**6**	**2**
Agriculture	100	10	5	80	5	0
Computer Science	100	33	33	33	0	0
Mathematics	100	0	0	0	100	0
Biochemistry	100	0	50	0	0	50
Biology and Environment	0	0	0	0	0	0
Botany and Zoology	100	0	10	80	10	0
Chemistry	100	0	13	88	0	0
Physics	100	0	0	100	0	0

Chart 35. Percentage of All Majors by Level of Post-graduate Qualification Obtained



Source: Table 35a

Table 36. No. of Graduates by Major and Level of Post-graduate Qualification Pursued

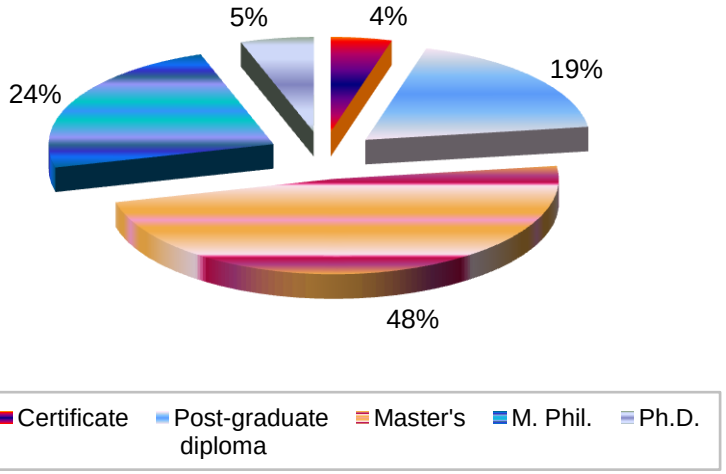
Major	Total	Qualification pursued				
		Certificate	Post-graduate diploma	Master's	M. Phil.	Ph.D.
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**114**	**5**	**21**	**55**	**27**	**6**
Agriculture	21	1	4	10	5	1
Computer Science	20	3	2	14	1	0
Mathematics	5	0	3	1	1	0
Biochemistry	9	0	0	5	3	1
Biology and Environment	6	0	0	4	2	0
Botany and Zoology	13	0	3	4	6	0
Chemistry	29	1	6	12	6	4
Physics	11	0	3	5	3	0

The data reveal that of the post-graduate qualifications pursued, the majority was at the master's degree level (48%) and M.Phil. (24%). The doctorates (5%) consisted mainly of graduates in Chemistry (Table 36a).

Table 36a. Percentage of Graduates by Major and Level of Post-graduate Qualification Pursued

Major	Total	Qualification pursued				
		Certificate	Post-graduate diploma	Master's	M. Phil.	Ph.D.
	(1)	(2)	(3)	(4)	(5)	(6)
All majors	**100**	**4**	**18**	**48**	**24**	**5**
Agriculture	100	5	19	48	24	5
Computer Science	100	15	10	70	5	0
Mathematics	100	0	60	20	20	0
Biochemistry	100	0	0	56	33	11
Biology and Environment	100	0	0	67	33	0
Botany and Zoology	100	0	23	31	46	0
Chemistry	100	3	21	41	21	14
Physics	100	0	27	45	27	0

Chart 36. Percentage of Graduates by Level of Post-graduate Qualification Pursued



Source: Table 36a

Table 37. No. of Graduates by Field and Post-graduate Qualification Obtained or Pursuing

Field	Total	Post-graduate qualification				
		Certificate	Post-graduate diploma	Master's	M. Phil.	Ph.D.
	(1)	(2)	(3)	(4)	(5)	(6)
All fields	**161**	**8**	**26**	**90**	**30**	**7**
Natural Science	39	3	3	11	17	5
Engineering	18	0	1	17	0	0
Medical Science	8	1	1	2	4	0
Agricultural Science	36	2	2	25	6	1
Social Science	26	2	7	17	0	0
Education	12	0	12	0	0	0
Environmental Management	22	0	0	18	3	1

Sixty percent (60%) of the graduates had obtained or were pursuing post-graduate qualifications in the fields of Natural Science, Agriculture or Environmental Management, similar to their first degrees; 16% were registered in Social Sciences and 11% in Engineering programmes (Table 37a).

Table 37a. Percentage of Graduates by Field and Post-graduate Qualification Obtained or Pursuing

Field	Total	Post-graduate qualification				
		Certificate	Post-graduate diploma	Master's	M. Phil.	Ph.D.
	(1)	(2)	(3)	(4)	(5)	(6)
All fields	**100**	**100**	**100**	**100**	**100**	**100**
Natural Science	24	38	12	12	57	71
Engineering	11	0	4	19	0	0
Medical Science	5	13	4	2	13	0
Agricultural Science	22	25	8	28	20	14
Social Science	16	25	27	19	0	0
Education	7	0	46	0	0	0
Environmental Management	14	0	0	20	10	14

Table 38. No. of Graduates by Major and Reason for Not Pursuing Post-graduate Qualification

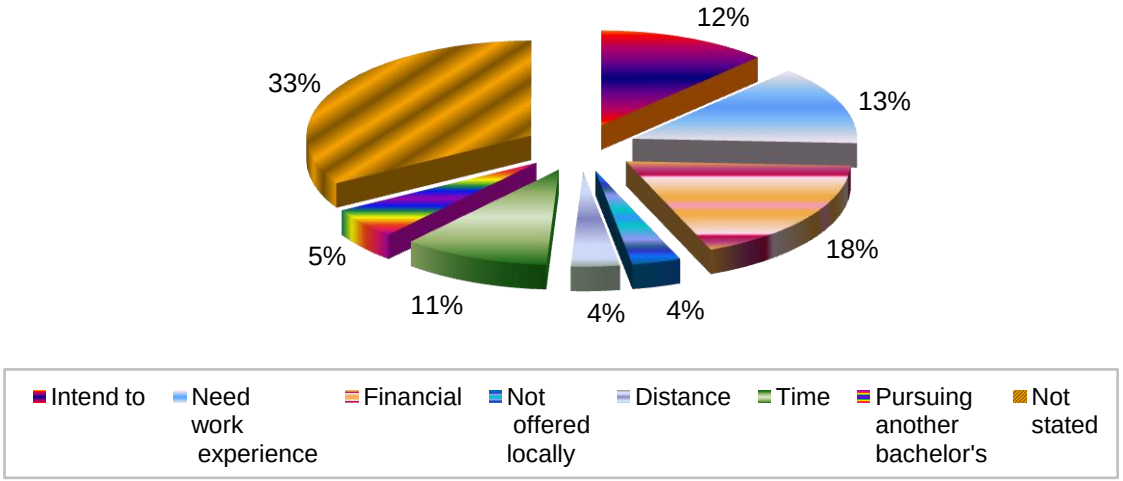
Major	Total	Reason							
		Intend to	Need work experience	Financial	Not offered locally	Distance	Time	Pursuing another bachelor's	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All majors	**171**	**21**	**23**	**31**	**6**	**6**	**18**	**9**	**57**
Agriculture	15	0	2	3	0	2	3	0	5
Computer Science	48	7	9	5	1	2	5	2	17
Mathematics	16	4	2	2	1	1	1	1	4
Biochemistry	18	1	0	6	1	0	2	2	6
Biology and Environment	15	1	0	3	1	0	0	1	9
Botany and Zoology	12	1	1	3	0	0	0	1	6
Chemistry	34	3	8	7	1	1	4	2	8
Physics	13	4	1	2	1	0	3	0	2

Approximately one fifth of all majors(18%) indicated that they did not pursue post-graduate qualification due to financial constraints (Table 38a).

Table 38a. Percentage of Graduates by Major and Reason for Not Pursuing Post-graduate Qualification

Major	Total	Reason							
		Intend to	Need work experience	Financial	Not offered locally	Distance	Time	Pursuing another bachelor's	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All majors	**100**	**12**	**13**	**18**	**4**	**4**	**11**	**5**	**33**
Agriculture	100	0	13	20	0	13	20	0	33
Computer Science	100	15	19	10	2	4	10	4	35
Mathematics	100	25	13	13	6	6	6	6	25
Biochemistry	100	6	0	33	6	0	11	11	33
Biology and Environment	100	7	0	20	7	0	0	7	60
Botany and Zoology	100	8	8	25	0	0	0	8	50
Chemistry	100	9	24	21	3	3	12	6	24
Physics	100	31	8	15	8	0	23	0	15

Chart 37. Percentage of All Majors by Reason for Not Pursuing Post-graduate Qualification



Source: Table 38a

Table 39. No. of Post-Graduates by Major and Country of Awarding Institution of Qualification

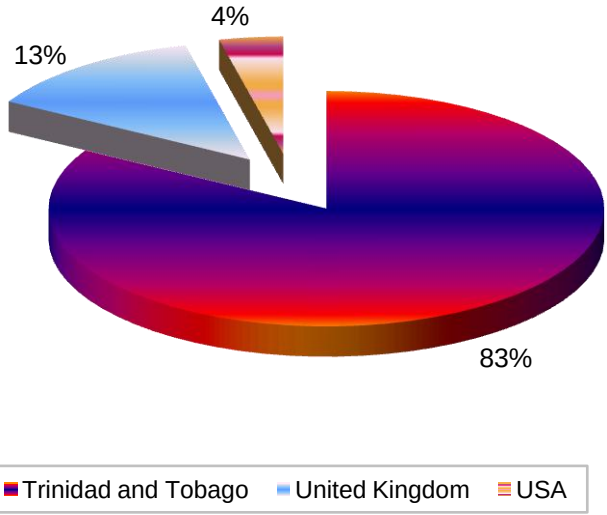
Major	Total	Country of awarding institution		
		Trinidad and Tobago	United Kingdom	USA
	(1)	(2)	(3)	(4)
All majors	**161**	**134**	**21**	**6**
Agriculture	41	40	1	0
Computer Science	23	14	7	2
Mathematics	6	5	1	0
Biochemistry	11	10	1	0
Biology and Environment	6	5	1	0
Botany and Zoology	23	20	2	1
Chemistry	37	28	6	3
Physics	14	12	2	0

A substantial proportion of the post-graduates (83%) stated that the country of the awarding institution of their qualifications was Trinidad and Tobago and 13% indicated the United Kingdom, comprising mainly Computer Science and Chemistry majors
(Table 39a).

Table 39a. Percentage of Post-Graduates by Major and Country of Awarding Institution of Qualification

Major	Total	Country of awarding institution		
		Trinidad and Tobago	United Kingdom	USA
	(1)	(2)	(3)	(4)
All majors	**100**	**83**	**13**	**4**
Agriculture	100	98	2	0
Computer Science	100	61	30	9
Mathematics	100	83	17	0
Biochemistry	100	91	9	0
Biology and Environment	100	83	17	0
Botany and Zoology	100	87	9	4
Chemistry	100	76	16	8
Physics	100	86	14	0

Chart 38. Percentage of All Majors by Country of Awarding Institution of Qualification



Source: Table 39a

Table 40. No. of Post-Graduates by Major and Place of Residence

Major	Total	Place of residence	
		Trinidad and Tobago	Abroad
	(1)	(2)	(3)
All majors	**161**	**152**	**9**
Agriculture	41	40	1
Computer Science	23	23	0
Mathematics	6	6	0
Biochemistry	11	10	1
Biology and Environment	6	6	0
Botany and Zoology	23	19	4
Chemistry	37	35	2
Physics	14	13	1

Table 40a reveals that 94% of the post-graduates were resident in Trinidad and Tobago while pursuing further

Table 40a. Percentage of Post-Graduates by Major and Place of Residence

Major	Total	Place of residence	
		Trinidad and Tobago	Abroad
	(1)	(2)	(3)
All majors	**100**	**94**	**6**
Agriculture	100	98	2
Computer Science	100	100	0
Mathematics	100	100	0
Biochemistry	100	91	9
Biology and Environment	100	100	0
Botany and Zoology	100	83	17
Chemistry	100	95	5
Physics	100	93	7