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## School of Computing Students Survey May 2010

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# **School of Computing Student Survey 2010**

**Jane Ferris**

**School of Computing May, 2010**

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## 2010 School of Computing Student Survey

The survey was produced to inform the school review process of the student's experience on the programmes of the school. The School of Computing (SoC) UnderGraduate (UG) programmes surveyed were:

- DT211 (BSc Computing)
- DT248 (BSc Computer Science)
- DT249 (BSc Information Systems and Information Technology).

The PostGraduate (PG) research students associated with research groups of the SoC (AIG, EGG, K-Camp, Robotics and UCRG)<sup>1</sup> and the taught programmes (below) were also surveyed.

DT202 (MSc. Computing Assistive Technology)  
DT209/DT217 (MSc. Computing Knowledge Management)  
DT210/230 (MSc. Computing Information Technology)  
DT258 (MSc. in Digital Games)  
DT264 (PgCert. Software Development)

The students surveyed were those studying at the Dublin location. None of the franchised programmes were included in the survey.

The students' survey was designed in collaboration with the programme chairs and the head of school. The survey was coordinated by Jane Ferris. The survey was a voluntary anonymous online survey. Students were able to skip questions and select more than one option in some questions. This was to reduce frustration with participation in the survey and ensure that the survey was completed.

The survey was delivered to the students through their college email account and was administered through the use of surveymonkey.com. Due to the voluntary nature of the survey the response rate was not expected to be large. To increase response rates a prize draw was introduced and the significance of the survey to the school and instructions to partake in the survey were communicated by the Head of School. The survey was open for a total of three weeks (launched week 8 before Easter break and closed week 9 of semester 2).

The survey does not address the students' assessment of the quality of the modules they took. This is the remit of the DITs quality assurance procedures documents (Q6 and resulting Q7 forms).

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<sup>1</sup>**AIG (Artificial Intelligence Group), EGG (Experimental Gaming Group), UCRG (Ubiquitous Computing Research Group)**

The survey sought to assess the students experience within SoC and students opinions of the schools infrastructure and facilities. Questions asked sought to discover many things such as who are the students of the school (what is their nationality, their county of residence, values they hold, career aspirations and computing interests)? This analysis is of great benefit to the school in developing operational strategies for education and marketing.

The students' economic circumstances were assessed through questioning the distance travelled, grants received, employment and college related expenses. The survey questioned the students' educational route to the school. In particular to clarify the second level subjects and qualifications students received as presently there is big range in the CAO (Central Admissions Office) points of students entering the programme.

### Student Population and survey sample.

The student population of the UG programmes DT211, DT228 and DT249 are 117, 221 and 220 respectively. The survey sample for UG was 136. This relates a response rate of 25%.

Undergraduate courses	Population	Survey Sample	Response rates (%)
DT211 Year 1	46	7	15%
DT211 Year 2	32	13	41%
DT211 Year 3	27	6	22%
DT211 Year 4	12	8	67%
DT228 Year 1	60	33	55%
DT228 Year 2	60	16	27%
DT228 Year 3	56	4	7%
DT228 Year 4	45	4	9%
DT249 Stage 1	72	8	11%
DT249 Stage 2	44	11	25%
DT249 Stage 3	44	7	16%
DT249 Stage 4	60	7	12%

The Full Time (FT) UG population is 338. The FT UG response rate was 30.5%.

The Part Time (PT) UG population is 220. The PT UG response rate was 15%.

The difference between FT and PT response rates may relate to the voluntary nature of the survey and the lack of appeal of a small prize draw to busy employed PT students.

Postgraduate courses	Population	Survey Sample	Response rates (%)
DT202	5	1	20%

DT209	7	0	0%
DT210	38	2	5%
DT217	33	3	9%
DT230	12	3	25%
DT264	14	3	21%
PhD	34	12	35%

The PG population of research students associated with the research groups of the SoC is estimated to be 34 . The survey sample for the PG PhD students was 24. This relates a response rate of 35%.

The survey was launched at the start of the Easter break, students were absent from college for the two thirds of the 'life' of the survey. This had a negative impact on response rate. Another impact on response rates was the timing of the survey in relation to final year project deadlines the response rates for these students was not expected to be large. The response rate for students in final stages of their programmes was 13%. This is the lowest response rate yet is not significantly less than the average expected response rate of 17% for online surveys (Gordon, 2010). Overall the response rates for the survey are very good with the exception of FT UG seniors.

### Male female response rate

Females appear to have far greater response rate than male respondents. One third of all PT and 7% of FT respondents were female. UG female response rates were 34%.

PG female response rates were 22.5%. MSc female response rate was the lowest with 15% but this was buoyed by a response rate of 60% of female PhD students.

### Our Students

#### Age

The average age of UG students surveyed is 22.5 years. FT UG and PT UG are 19 and 26 years old respectively.

The average age of PG students surveyed is 29 - 35 years. 54.5% and 42% of MSc and PhD students are in the age brackets of 29-35 years old respectively.

#### Sex

As is the national trend in Science the majority of students were male; 79.5% of UG and 70% of PG were male.

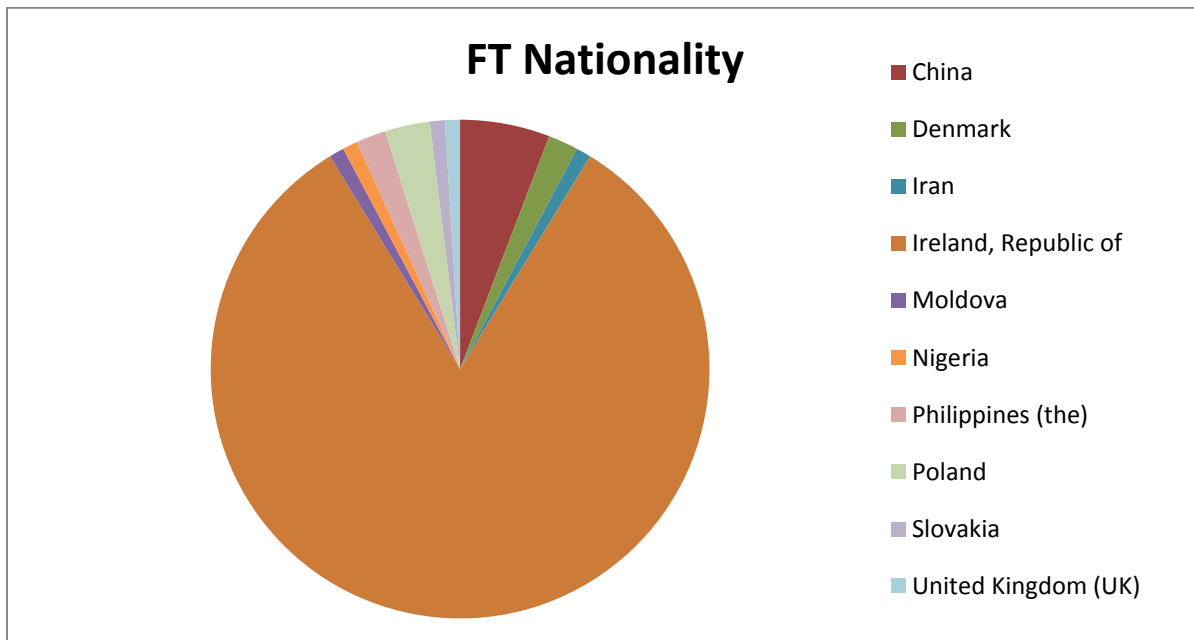
92% of FT UG are male in contrast to only two thirds of the PT sample survey being male. This is a reflection of the overall increased female participation on DT249.

67% of MSc students and 73% of PhD students are male.

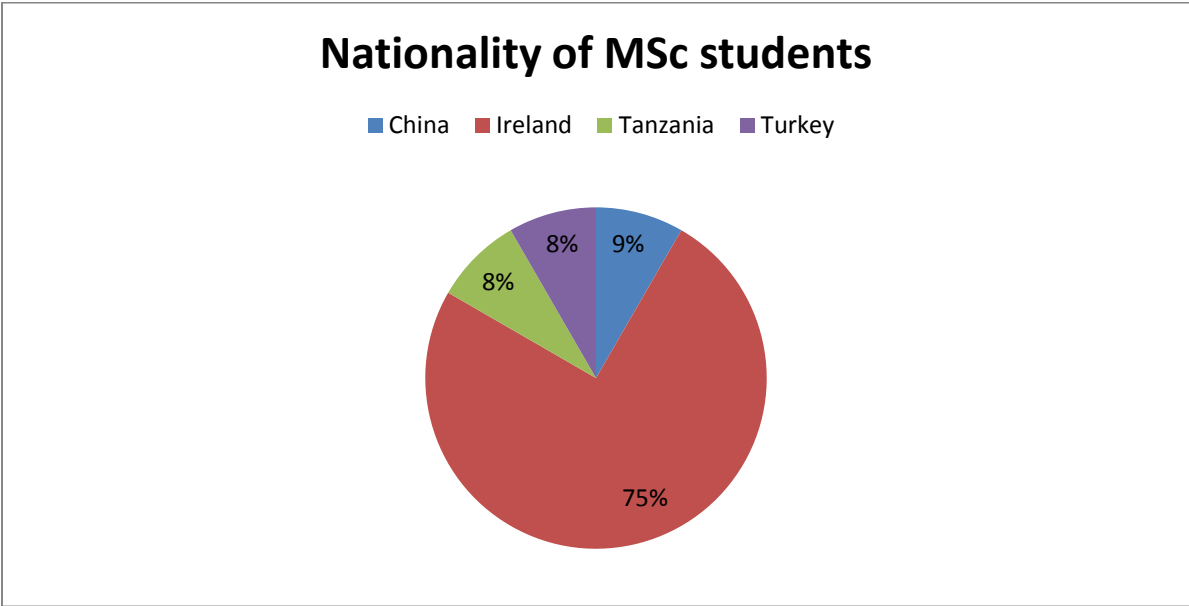
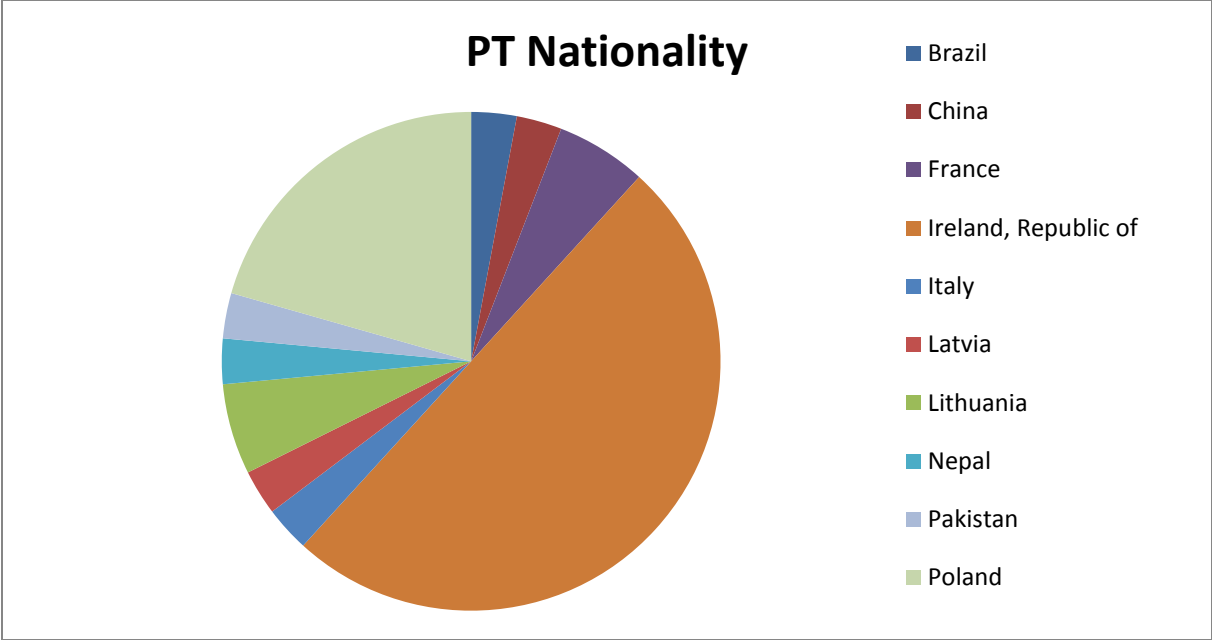
### Nationality

Of the sample surveyed on the UG programmes 74% were Irish, 7% were Polish and 5% were Chinese. The remaining 14% constituted students from 14 other countries (Brazil, Denmark, France, Iran, Italy, Latvia, Lithuania, Moldova, Nepal, Nigeria, Pakistan, (the) Philippines, Slovakia and Britain). 8 of the 14 countries are European countries. This is a reduction in the numbers from 72% reported in the Euro student survey 2006.

83% of the FT students are Irish. China is the next nationality represented with 4.5%. On the PT UG programme 52% are Irish. Or conversely 17% of FT and 48% of the PT students are international students. Due to the international franchises of the School it might have been expected that there were more FT International students than PT. This was not evident in the survey sample.



The country most representative in the UG survey was Poland. This is a reflection of 2006 population demographic of Polish people aged 25-35 representing 6% of the total population (CSO, 2006). Of the international students surveyed 59% of PT and 67% of FT had a certificate of proficiency in English or equivalent.



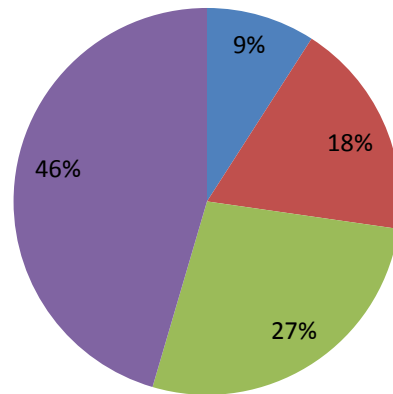
It is expected that more international students are involved in PG studies in Ireland than Irish students. In 2006 it was reported that Irish students registered for PG studies represent half the number of International students at that level (Euro student survey, 2006). The survey found that this was not the case in SoC.

55% of PG students are Irish. 75% of the MSc students and 24% of the PhD students were Irish. Tanzania represents 23% and China 14% of the PG students. These are the two countries with DIT franchises. The other 8% of PG students are from Brazil and Turkey.



## Nationality of PhD students

■ Brazil ■ China ■ Ireland ■ Tanzania



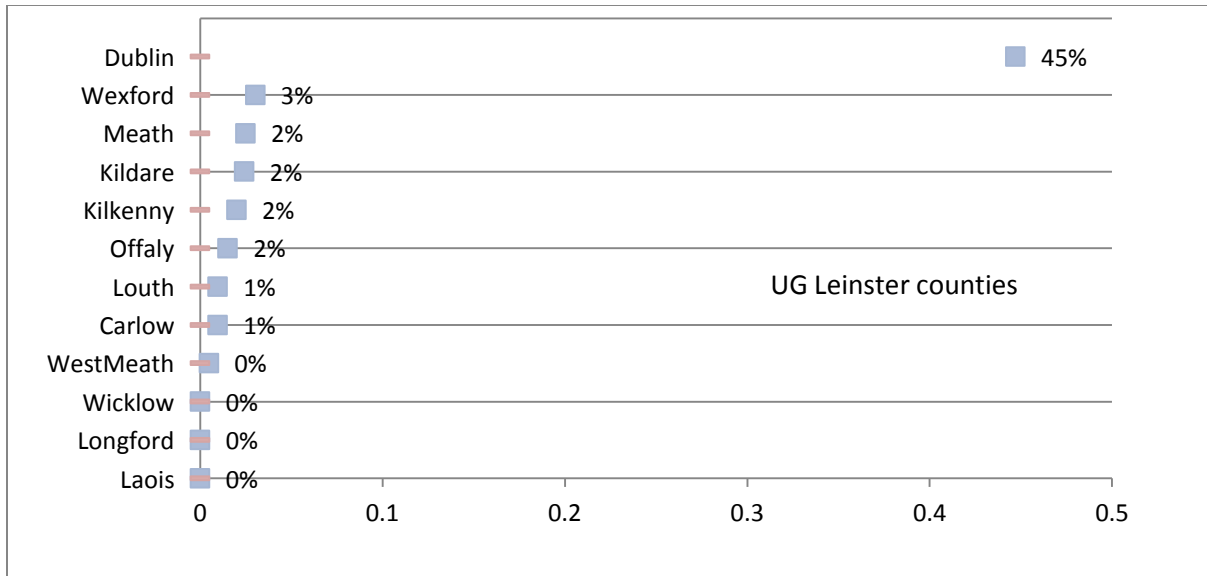
### English Language skills of International students

63% of (59% PT and 67.5% FT) UG had a certificate of proficiency in English or equivalent qualification. (MSc and 75% PhD) PG had a certificate of proficiency in English or equivalent qualification.

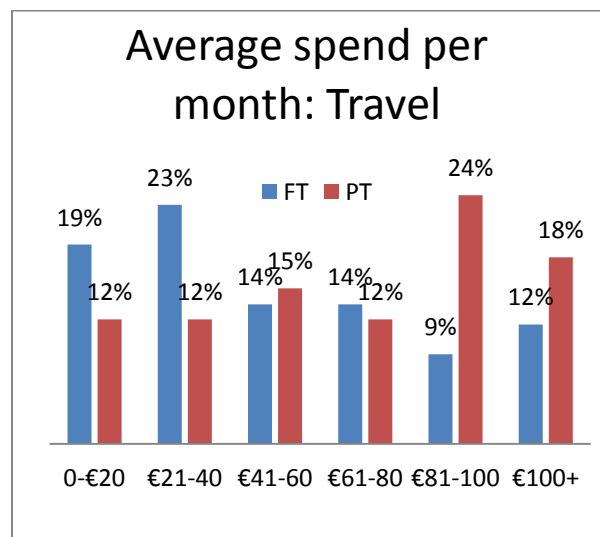
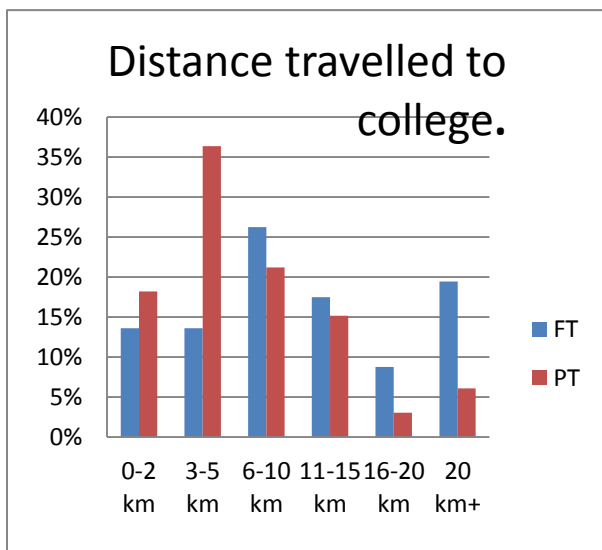
### Irish students.

The survey sample of Irish students found that 96% of UG and 100% of PG are from Leinster.

It would be expected that the commuter counties would feature strongly and this is evident in the survey for UG. 8% of UG and 25% of PG students are travelling further than the immediate boundary counties with Dublin, are from

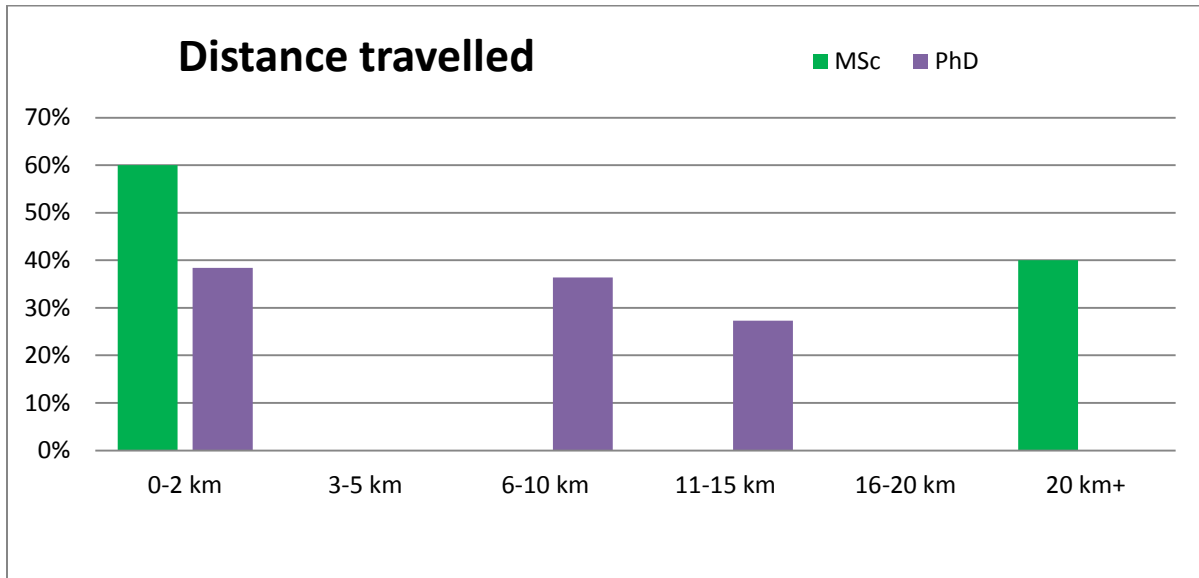


It appears that the UG students are travelling further and spending a significant amount on travel expenses to attend DIT. This is perhaps due to high rents in Dublin City and the economic downturn requiring students to commute further distances.



Of the PG survey sample which was heavily influenced by large participation from DT230 and PhD students, 57% of the Irish students are from Dublin, 100% are from Leinster. The other

respondents are from counties that don't have boundaries with Dublin. More PG students are travelling long distances to college (20% travel more than 20kms).



Students were questioned about long commutes and working to finance college expenses. UG students felt that there was no negative effect.

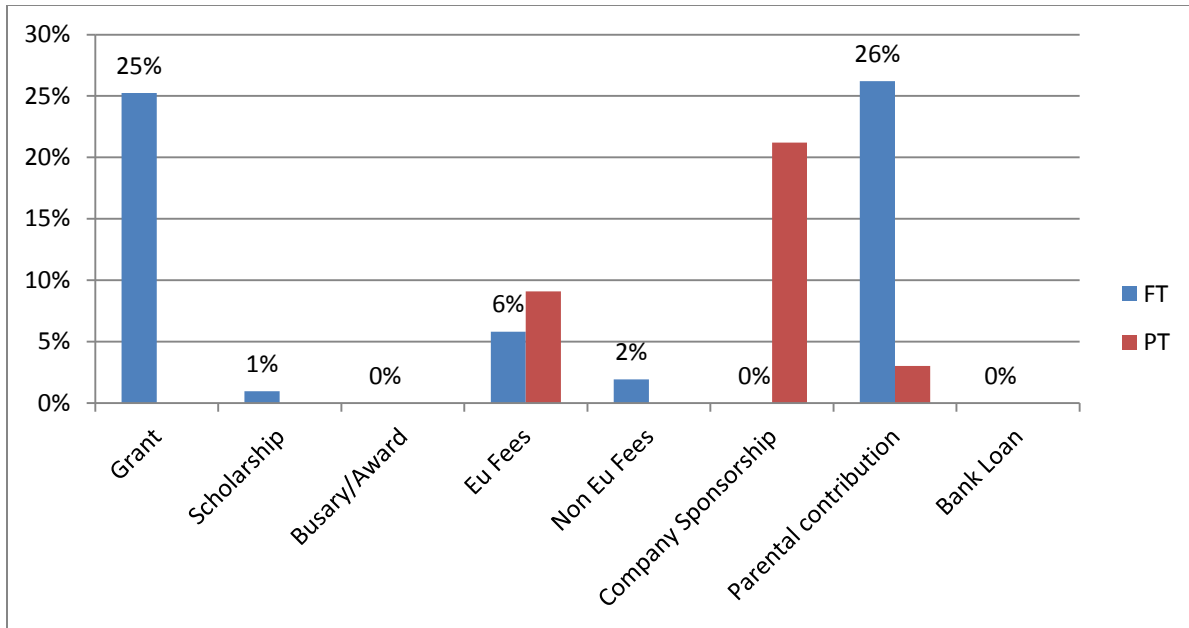
UG students ranked the negative effects on coursework of other commitments such as work as

1. Missed lectures (51%)
2. Falling behind in coursework (34%)
3. No participation in club/societies (25%)

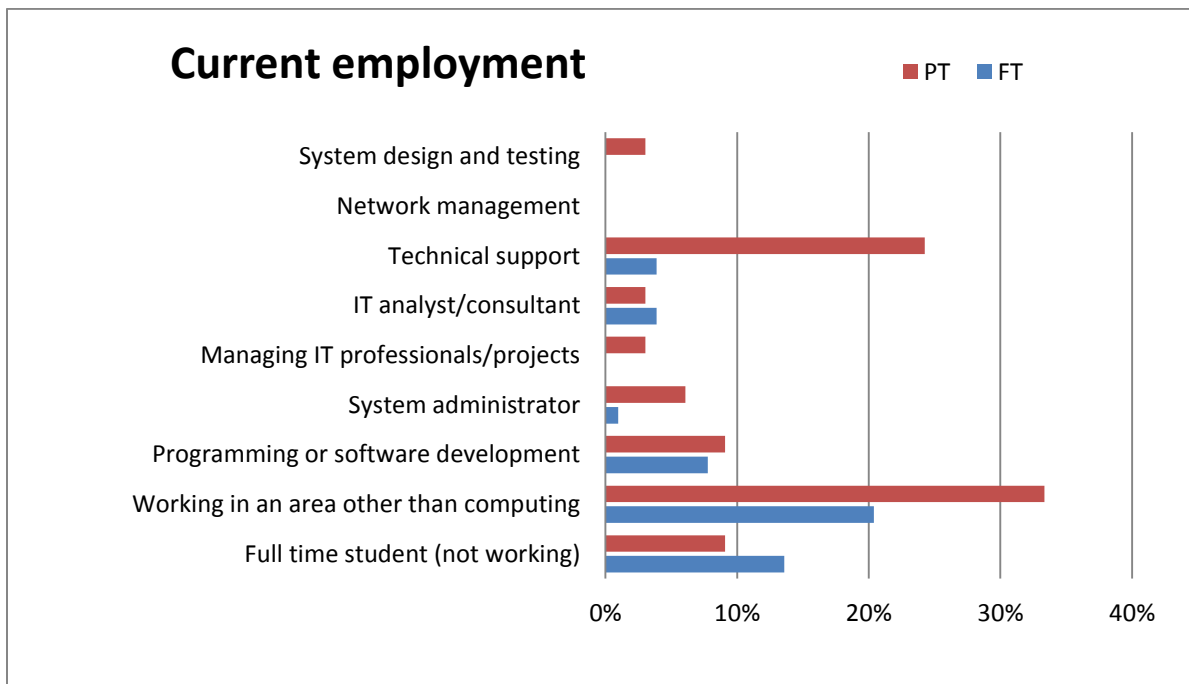
PG also did not feel that work and travel did not affect their college. All respondents felt that the most significant negative effect was falling behind in coursework (100%). Followed by

### **Economic circumstances of students**

56% of the FT students surveyed are not employed outside of college. Responses to how students finance college see (figure \_ ) place half the students reliant on state (25%) or parental (26%) contributions . Those FT students that worked were employed in an area other than IT (55%) and working for financial reasons both for essentials such as rent (27%) and social spending (27%). 34% of the total sample worked 10+ hours per week. Of those working 66% worked 10-20 hours per week and 21% worked 20+hours per week.

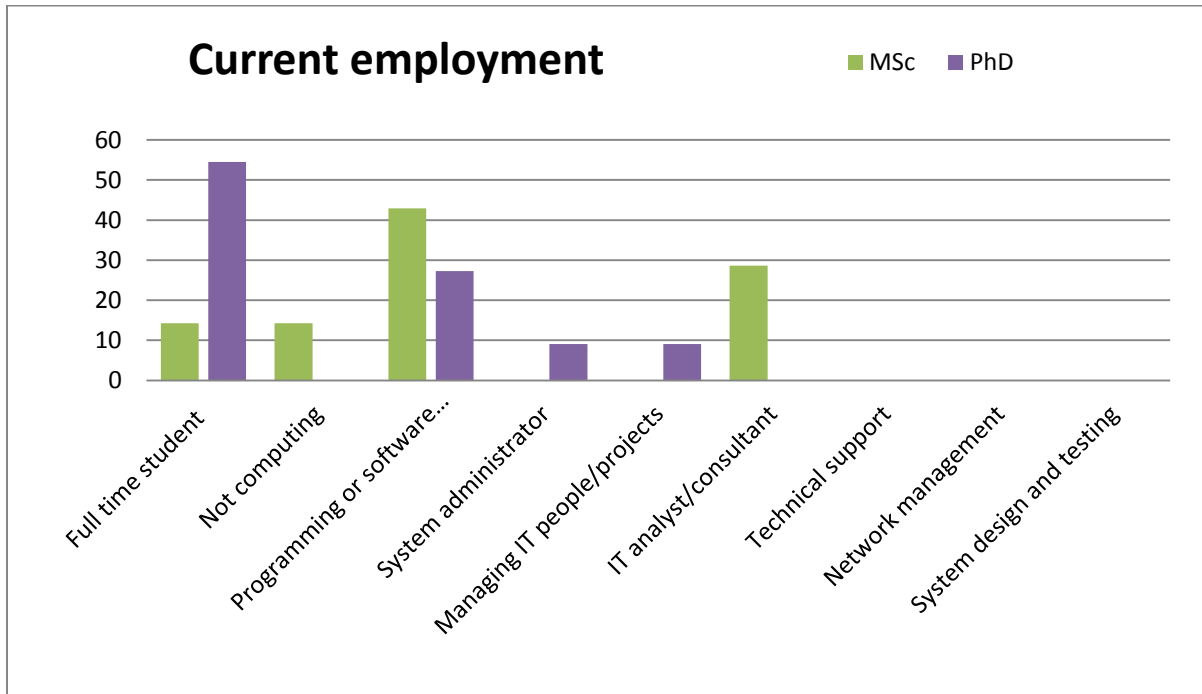


It was expected that the PT cohort would be employed. The survey found that 53% were employed in course related employment, 37% were employed in an area other than computing and 10% were unemployed. Those that worked in a computing related field had been working for 1-3 years.



Our UG students differ from the student characterised in the Euro student survey as the amount of students supported by parents is half that reported in the 2007 study. Of those students that do work more work in a course related area than expected. This also differs from

the Euro student report findings. A striking similarity is that there is no evidence of student loans or scholarships financing UG study.



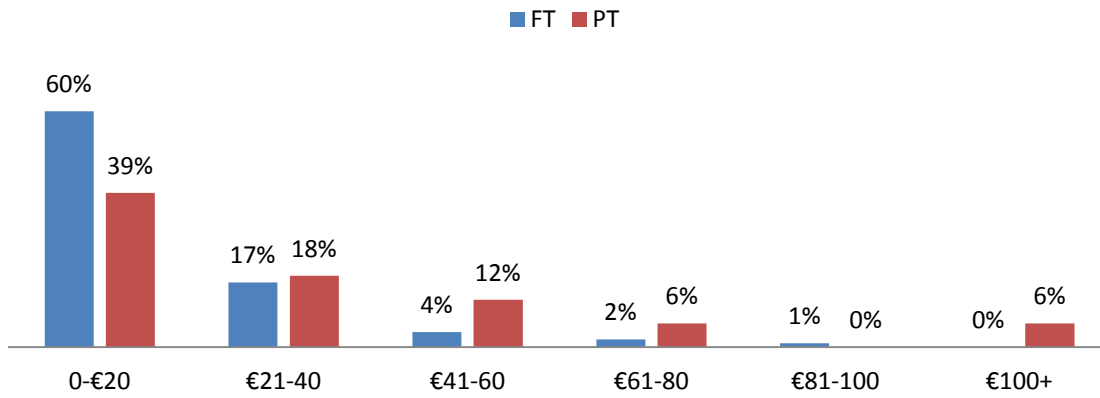
PG students have high levels of employment (42%). This is due to the high response rate from the PT MSc cohort. The average PG student works in the area of programming, developing or testing (35%) and has 3 years experience (35%)

The recent downturn has had little effect on the educational plans of UG and PG students.

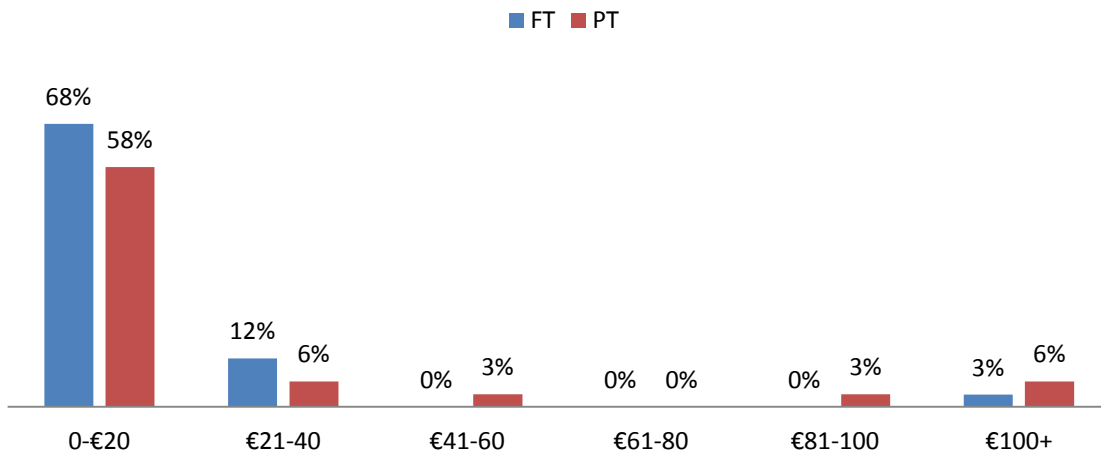
### College related spending

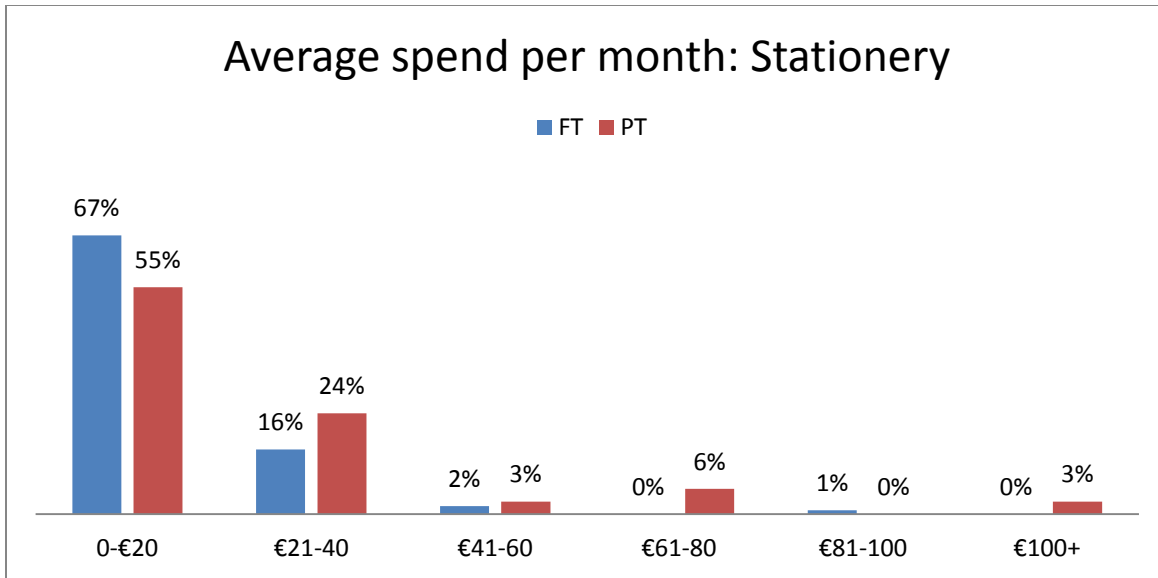
Only the UG cohort were asked to report on the average spend per month. See fig \_ and figs \_ below for a comparison of the groups. It is fair to say that students are not stretched financial providing resources for the programmes. The biggest spend for UG students are travel costs.

## Average spend per month: Computing resources



## Average spend per month: Books



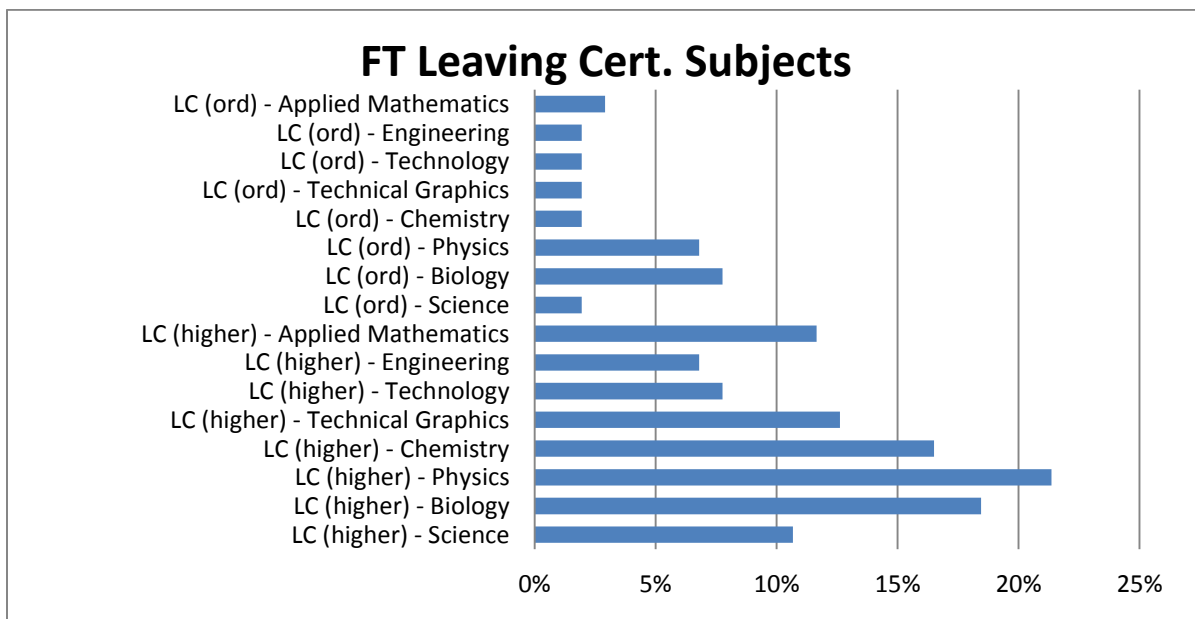


### Educational routes

The UG and PG students were asked questions to enlighten the school on the previous education of students. The detail of this information is not available anywhere else.

### Second level subjects taken

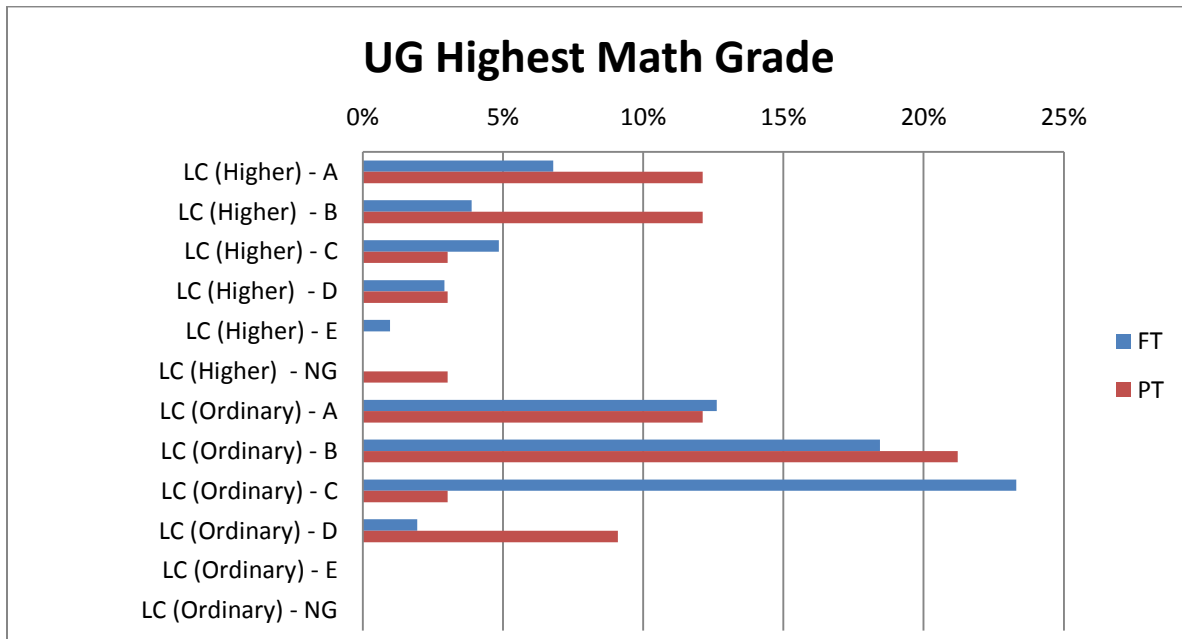
UG FT students were asked which cognate subject they had studied. Fig illustrates the response to the question. Over 25% of the FT UG studied Physics.



### Highest math grade

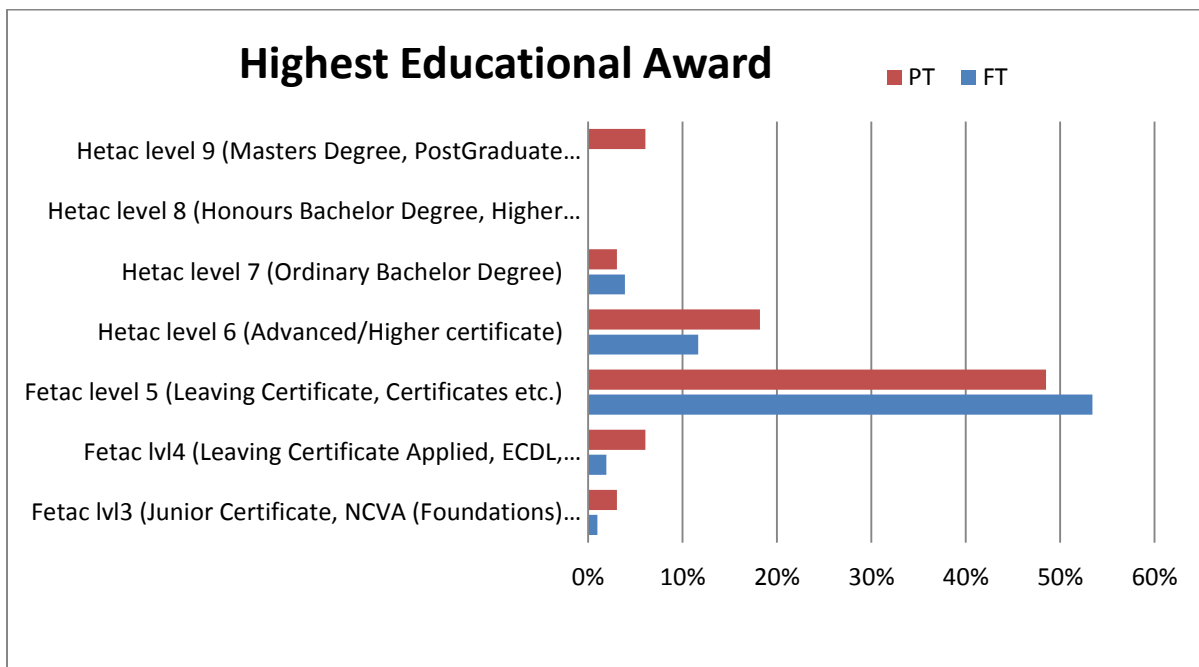
UG students were asked to select their highest math grade in state exams or equivalent. The PT UG students appear to have stronger math ability based on the survey sample.

The students were asked to provide the number of CAO points they received. The majority of FT UG skipped this question and the resulting average is 330 pts. PT UG students' average was 410 pts. They appear to be the stronger set of UG in all the information provided by students.



### Educational path

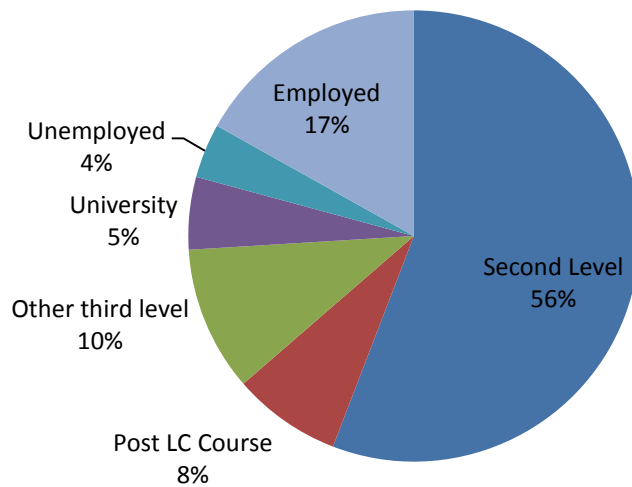
The highest educational awards received by students to date were requested. This question and that which ask what students did prior to starting on the programme illustrate the many pathways to Computer Science Degrees in the school .





56% of the UG students have proceeded from second level education. This is 30% less than the 87% reported by Euro student 2006 survey. The majority of the others (23%) have proceeded from other places of education. 4% have come from the live register to education this is expected to increase significantly in 2010-11.

### FT: Year before starting programme?



## Why Computing at the SoC, DIT.

FT UG students were asked to assess the importance of a wide range of criteria important to them as individuals. The aim was for the student to loosely define their character. They chose the following as the most important

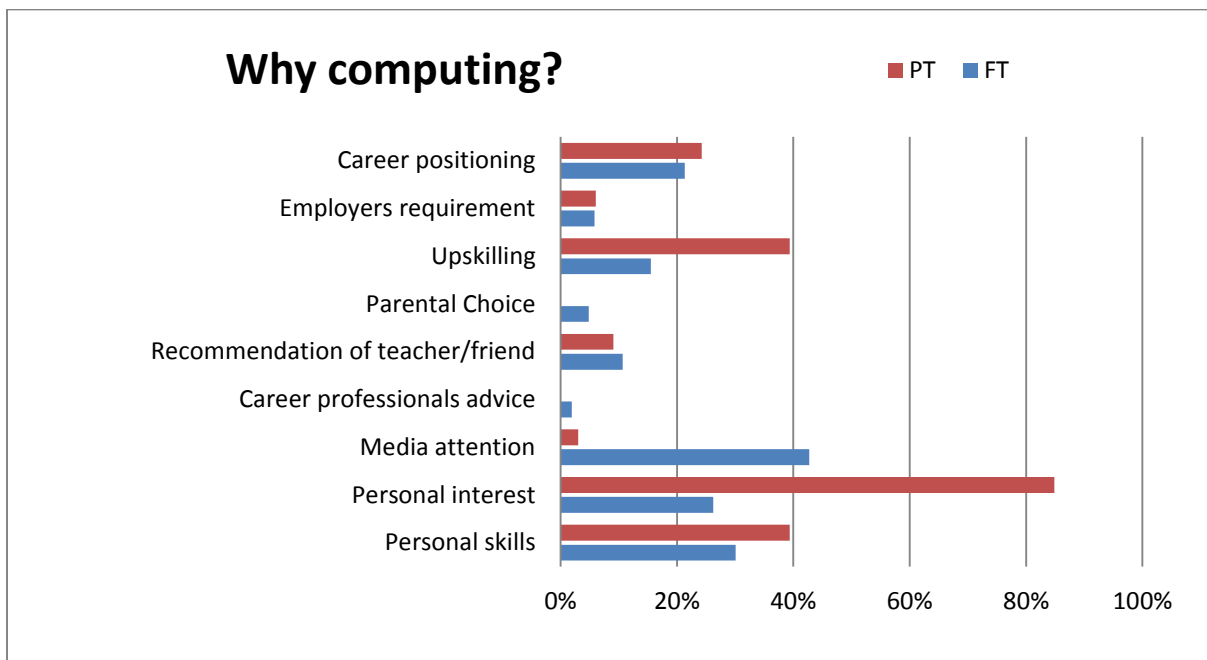
Achievement (complete tasks, results) – important (48%)

Order (organization, stability) – important (46%)

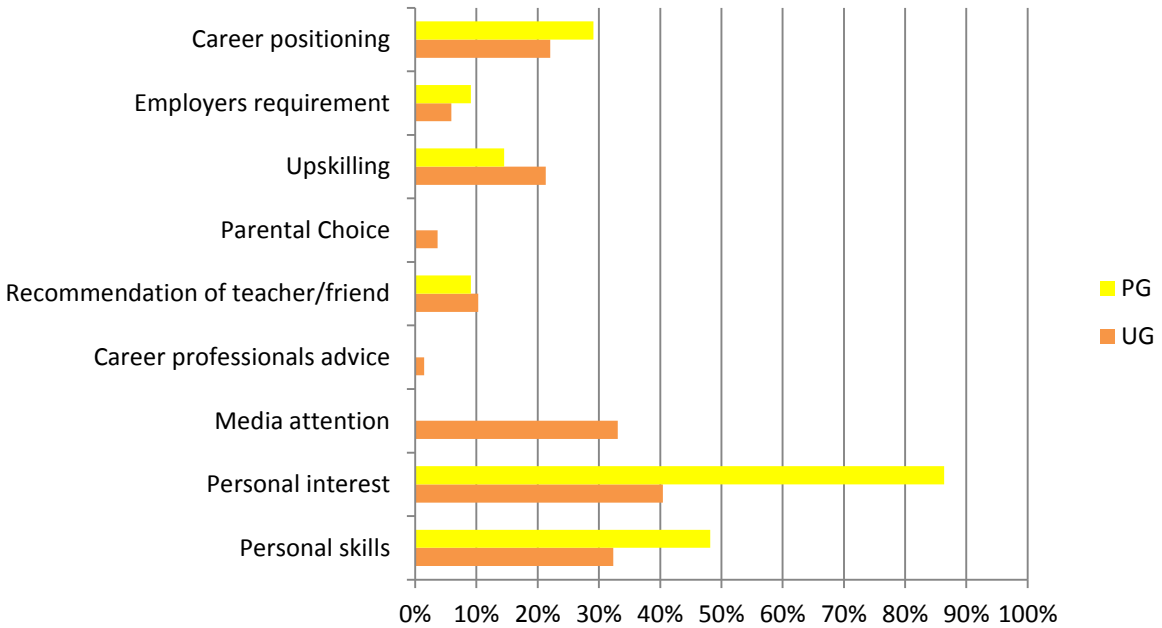
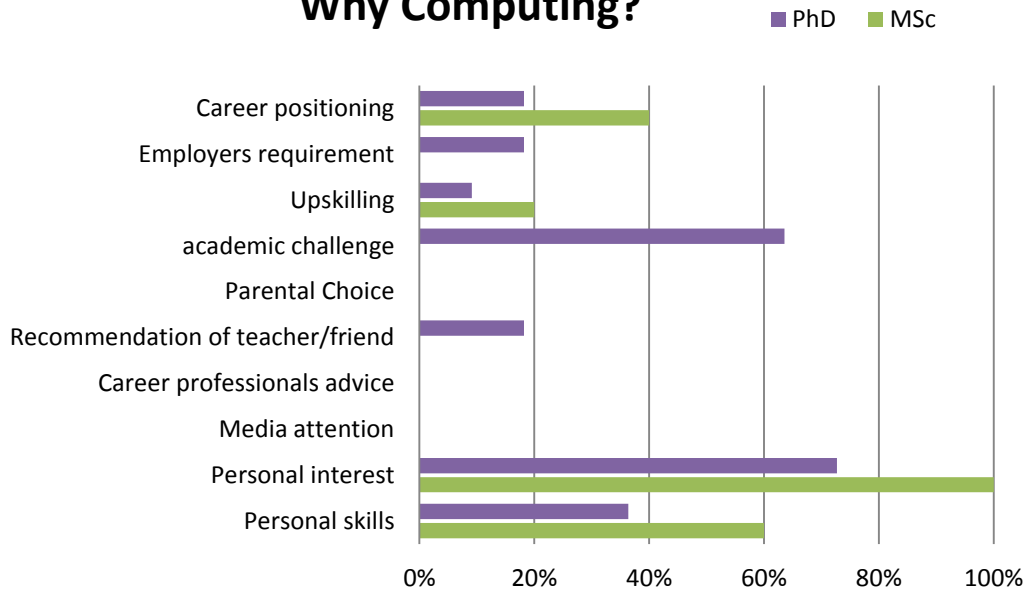
Advancement (moving ahead, growth) – important (44%)

Learning (commitment to understanding) – important (42%)

All students were asked to answer why they have chosen computing as a career. Surprisingly for FT UG students media attention (43%) is the most influencing factor. PT students have chosen on the basis of personal interest (85%) and skills (35%).



## Why Computing?



# Appendices

## Full Time Profile

Summary of Students Survey of experience of DT228 and DT211

Programme	DT228								
Degree award	Honors degree (in 4 years)								
Year	1								
Advanced Entry	No								
Age	19yrs								
Nationality	Irish (83%)								
Sex	Male (92%)								
County	Dublin (62%)								
Employed	No (47%) Of those that work 47% work 10-20hrs/week in an area other than computing for financial (necessary for rent/bills and social spending)								
Finance college	Parental contributions (26%) Grant (25%)								
Travel each day to college	6-10km (26%)								
Travel impacts	No negative impact (33%) <table border="1" data-bbox="771 856 1373 968"> <tr> <td>Missed morning lectures (36%)</td> </tr> <tr> <td>Falling behind in coursework (24%)</td> </tr> <tr> <td>No participation in club/societies (18%)</td> </tr> </table>	Missed morning lectures (36%)	Falling behind in coursework (24%)	No participation in club/societies (18%)					
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Falling behind in coursework (24%)									
No participation in club/societies (18%)									
Attendance	<table data-bbox="181 968 1498 1150"> <tr> <td>Lectures</td> <td>76-100%</td> </tr> <tr> <td>Tutorials</td> <td>76-100%</td> </tr> <tr> <td>Labs</td> <td>76-100%</td> </tr> <tr> <td>Study/read for the course</td> <td>3-5 hrs/week</td> </tr> </table>	Lectures	76-100%	Tutorials	76-100%	Labs	76-100%	Study/read for the course	3-5 hrs/week
Lectures	76-100%								
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Study/read for the course	3-5 hrs/week								
Spends on programme related materials	<table data-bbox="181 1150 1498 1325"> <tr> <td>Books</td> <td>0-€20</td> </tr> <tr> <td>Computing resources (usb)</td> <td>0-€20</td> </tr> <tr> <td>Stationery (including printing)</td> <td>0-€20</td> </tr> <tr> <td>Travel</td> <td>€61-80, €100+</td> </tr> </table>	Books	0-€20	Computing resources (usb)	0-€20	Stationery (including printing)	0-€20	Travel	€61-80, €100+
Books	0-€20								
Computing resources (usb)	0-€20								
Stationery (including printing)	0-€20								
Travel	€61-80, €100+								
Intended employment	Programming or software development								
Dream job	Games industry (228) networking, developing (211)								
Recent downturn	Unaffected plans								
Define yourself	Achievement (complete tasks, results) – important (48%) Order (organization, stability) – important (46%) Advancement (moving ahead, growth) – important (44%) Learning (commitment to understanding) – important (42%)								
Why Computing as a career?	Media attention (43%) Personal skills (30%) Personal interest (26%)								
Why your course rather than other computer courses?	Course content (25%) Reputation of DIT (23%) Options offered (20%)								
Heard about the programme (top 3)	Open days (CAO and Part-Time) (35 %) Prospectus (29%) Careers Guidance (17%),								

	Prospectus on-line (17%)
Top three choices (CAO/personal preferences)	Yes (63%)
Level of parental influence	Very supportive (23%), supportive (23%)
Leaving Cert Exams	330pts (7%) – <i>question skipped by majority</i>
highest Math grade	Leaving Certificate (Lower level) – C (23%)
What did you do before entering programme?	Second level (42%)
What subjects studied in second level	
Junior Certificate (Higher level) - Science	28%
Leaving Certificate (Higher level) - Physics	21%
Leaving Certificate (Higher level) - Biology	18%
How do you learn best? Select your top five.	Assignments (43%) Practical's (labs) (37%) Lectures (31%) Google (26%) Projects (26%)
Preferred subject to be included on the programme	Website design (32%) Security (28%) Cloud computing (26%) Forensic computing (25%) Games programming (22%) Website management (22%) Software development (20%)

## Part Time Profile

Summary of Students Survey of experience of DT249

Programme	DT249								
Degree award	Honors degree (in 4 years)								
Year	2								
Advanced Entry	no								
Age	24-28yrs								
Nationality	Irish								
Sex	Male								
County	Dublin								
Employed	Working in an area other than computing (sales, marketing, cardiology and others)								
Finance college	Company sponsorship								
Travel each day to college	3-5km								
Travel impacts	Negatively <table border="1" data-bbox="768 783 1373 894"> <tr> <td>1. Missed lectures (30%)</td> </tr> <tr> <td>2. Falling behind in coursework (30%)</td> </tr> <tr> <td>3. Missed social and family events (24%)</td> </tr> </table>	1. Missed lectures (30%)	2. Falling behind in coursework (30%)	3. Missed social and family events (24%)					
1. Missed lectures (30%)									
2. Falling behind in coursework (30%)									
3. Missed social and family events (24%)									
Attendance	<table data-bbox="181 898 1498 1037"> <tr> <td>Lectures</td> <td>76-100%</td> </tr> <tr> <td>Tutorials</td> <td>76-100%</td> </tr> <tr> <td>Study/read for the course</td> <td>1-2 hrs/week</td> </tr> </table>	Lectures	76-100%	Tutorials	76-100%	Study/read for the course	1-2 hrs/week		
Lectures	76-100%								
Tutorials	76-100%								
Study/read for the course	1-2 hrs/week								
Spends on programme related materials	<table data-bbox="181 1041 1498 1220"> <tr> <td>Books</td> <td>0-€20</td> </tr> <tr> <td>Computing resources (usb)</td> <td>0-€20</td> </tr> <tr> <td>Stationery (including printing)</td> <td>0-€20</td> </tr> <tr> <td>Travel</td> <td>€21-40</td> </tr> </table>	Books	0-€20	Computing resources (usb)	0-€20	Stationery (including printing)	0-€20	Travel	€21-40
Books	0-€20								
Computing resources (usb)	0-€20								
Stationery (including printing)	0-€20								
Travel	€21-40								
Intended employment	Programming or software development								
Dream job	Games industry								
Recent downturn	Unchanged attitude to studies								
Why Computing as a career?	Personal interest (85%) Personal skills (35%) Up skilling (35%)								
Why DT249 rather than other computer courses?	Reputation of DIT (58%) Course content & (42%) Location of the college (39%)								
How did you hear about the programme?	dit.ie (48%) Recommendation of a friend/colleague (27%) comp.dit.ie (27%) Prospectus on-line (24%)								
Top three choices (CAO/personal preferences)	Yes (45%)								
Leaving Cert Exams	Yes in 1996/97 with 410pts								
highest Math grade	Leaving Certificate (Lower level) – B (%)								
Highest qualification before entering DT249?	Fetac level 5 (LC)								

How do you learn best? Select your top five.	<p>Lectures (55%)  Practical's (labs) (42%)  Teaching labs (theory and practical together) (42%)  Problem-based learning (42%)  Handwritten slides/handouts (39%)  Electronic presentation (39%)</p>
Preferred subject to be included on the programme	<p>Cloud computing (39%)  Website design (36%)  Website management (33%)  Database administration (24%)  Software development (24%)  Network design and planning (24%)  Database design and planning (24%)  Security (24%)</p>
Modules/Electives top 5	<p>Security and Cryptography (64%)  Advanced Internet Development (58%)  Artificial Intelligence (48 %)  Games Programming (45%)  Spatial Databases (39%)</p>
Programme wants	<p>Teaching labs (lecture and practical together) (73%)  One module followed by a lab each evening (39%)  Blended learning (one or more modules delivered on-line) (36%)</p>
documents used to gather information throughout the year about DT249 (on line or printed)	<p>Web courses modules (85%)  Lecturer's website (70%)  Information published on comp.dit.ie (48%)  Programme information/document (45%)  DIT prospectus (42%)</p>



## MSc Profile

Summary of Students Survey of experience of DT202, DT209, DT217, DT210, DT230, DT258 and DT264

Programme	DT210/230
Intended time frame	2 and 3 years (36%)
FT/PT	PT (83%)
Age	29-35 yrs (42%)
Nationality	Irish (75%)
English language skills	Yes (100%)
Sex	Male (67%)
County	Dublin (67%)
Travel each day to college	0-2km, 11-15km and 20km+ (25%)
Employed	Yes (75%) related to high proportion of PT respondents 20hrs+ per week (58%)
Computing experience	Programming, developing and testing (43%) for 1-2 years (25%)
Finance college	Company sponsorship (60%)
Negative impact of other factors on college work	Falling behind in coursework (100%) Missing evening lectures (80%) No participation in clubs/societies (60%)
Attitude to study	Unaffected by recent downturn (50%)
Average attendance	Lectures 76-100% (75%) Tutorials 76-100% (54.5%) Labs 76-100% (73%)
Programme delivery	Teaching labs 50% Related modules on the same day 50%
Intended career	IT consultant (27%)
Prior to starting Programme	Employed (42%)
Why Computing?	Personal interest (90%), personal skills (64%) and career positioning (54.5%)
Why DIT?	Reputation of DIT (67%), specific research options and reputation of staff (44.5%)
How did you hear about the research opportunity?	Information on dit.ie (42%) and Information on comp.dit.ie (33%)
Other 3 <sup>rd</sup> levels applied to	DCU (60%) and UCD (40%)
Average time spent per week	Reading 0-5 and 6-10 hrs per week (42%) Developing (incl. coding) 0-5 hrs per week (70%) writing 0-5 hrs per week (73%)
How do you learn best	Lectures and assignments (70%)

## PhD Profile

Programme	PhD
Intended time frame	4 years (54%)
Age	29-35 yrs (54.5%)
Nationality	Tanzanian (45.5%)
English language skills	Yes (75%)
Sex	Male (73%)
County	Dublin (50%)
Employed	No (91%) The 1 that is employed works 20hrs+
Computing experience	Programming, developing and testing (28%) for 3-5 years
Finance college	Scholarship (40%) Grant (40%)
Intended career	R&D (50%) and teaching (40%)
Travel each day to college	6-10km (36%)
Primary degree location	DIT (64%)
Why Computing?	Personal interest (73%) and academic challenge (64%)
Why DIT?	Reputation of DIT (67%), specific research options and reputation of staff (44.5%)
How did you hear about the research opportunity?	Recommendation of a friend/colleague (55.5%) and employer's recommendation (44.5%)
Other 3 <sup>rd</sup> levels applied to	UCD and Trinity (9%)
Average time spent per week	
Reading	11-15 hrs per week (45.5%)
Developing (incl. coding)	6-10 hrs per week (54.5%)
writing	11-15 hrs per week (36.5%)
Do you feel supported in the following areas	
Library facilities	Agree (73%)
Availability of texts	Agree (73%)
IT Facilities	Agree (73%)
Availability and access to IT equipment	Agree (64%)
Facilities for discussion with peers	Disagree (36.5%)
Facilities for discussion with supervisor	Strongly agree (27%)
Facilities for research (desk)	Agree (54.5%)
Administrative support	Agree (63.5%)
Financial support (conference travel)	Undecided (22%)
Barriers to preparing the thesis?	Personal family commitments (55.5%) and lack of research experience (44.5%)
PhD structure preference	
Computing modules with a smaller thesis	Strongly Agree (40%) and undecided (40%)
One research thesis	Agree (54.5%)
Would you recommend the programme?	Yes (73%)