

# The Quality Handbook of Turku Centre for Computer Science – TUCS

Åbo Akademi University/ University of Turku/ Turku School of Economics  
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## **1. INTRODUCTION**

### **1.1 The quality handbook of TUCS**

The quality handbook of TUCS has been written according to the regulations of Åbo Akademi University, since ÅAU acts as the account department of TUCS. Within the relevant Finnish legislation and the regulations of Åbo Akademi University, this quality handbook is one of the documents that guide and describe TUCS, as well in daily operations as in strategical planning and decision making.

#### **1.1.1 The role of the handbook**

The purpose of the handbook is

- to support the strategy and vision of TUCS and the Affiliate Institutions
- to improve and to ensure a high quality of the activities
- to document the procedures and practises followed in TUCS
- to introduce TUCS activities and procedures to new personnel

#### **1.1.2 The official version of the handbook**

The official electronic version of the handbook is electronic and the version can be found at <http://www.tucs.fi/qualitywiki/>

#### **1.1.3 Filing and revision register**

Previous versions and a revision register of the handbook will be filed in the Intranet. Only TUCS office staff will have access to the Intranet.

#### **1.1.4 Systematic for the documentation**

The documentation is based on different kinds of documents, policy documents (visions, strategies), process descriptions and report documents (reports and minutes showing the results).

## **2. THE STEERING MECHANISMS OF TUCS**

### **2.1 TUCS organisation and its administration**

Turku Centre of Computer Science (TUCS) is the coordinating organization of research and education of Information and Communication Technologies (ICT) in the Turku region. TUCS is a joint special unit of its Affiliate Institutions. TUCS was established in 1994.

TUCS coordinates research, education and other interaction within the society, in the field of Information Technology. The activities are carried out in TUCS Master's and Graduate Schools, and TUCS Research Centres, with a wide international focus.

TUCS activities are directed by the statutes of TUCS and by other laws and regulations for the universities involved.

[The statutes of TUCS in Finnish](#)

[The statutes of TUCS in Swedish](#)

## **2.1.1 Affiliations**

### **2.1.1.1 TUCS Affiliate Institutions**

TUCS is a joint special unit of TUCS Affiliate Institutions. TUCS is funded by the Affiliate Institutions and operates for them. The Affiliate Institutions are institutions of higher education in the Turku region that all agree together with the TUCS Board to coordinate their efforts in the ICT area jointly with TUCS.

The Affiliate Institutions are

- The Department of Information Technologies, Åbo Akademi University
- The Department of Information Technology, University of Turku
- The Department of Mathematics, University of Turku
- The Institute of Information Systems Sciences, Turku School of Economics
- The Unit of Telecommunication and e-Business, Turun ammattikorkeakoulu

### **2.1.1.2 TUCS Affiliate Departments**

TUCS Affiliate Departments are the departments at the TUCS Affiliate Institutions that primarily participate in the TUCS cooperation.

### **2.1.1.3 TUCS Research Centres**

TUCS coordinates research in the Research Centres. Centres that usually span between TUCS Affiliate Departments and typically consist of laboratories. Additionally there are some laboratories that are not affiliated with centres. Further on in this document the term Research Centres is considered to cover also these independent laboratories.

## **2.1.2 Decision making bodies**

The decision making bodies of TUCS comply with the regulations of ÅAU for meeting practice. Detailed information (in Swedish) at <https://www.abo.fi/personal/media/2722/beharend.pdf>

### **2.1.2.1 TUCS Board**

TUCS Board consists of members from the participating departments and student representatives from all Affiliate Institutions. The composition of the TUCS Board is agreed among the Affiliate Institutions. The Board has representatives of both faculty and students. All members have a personal deputy member, who is elected in the same way as the ordinary.

The Chair and vice Chair of the Board is elected of and by the members. The term of office is three years. The current Board is elected for the period 1.1.2006 – 31.12.2009, due to the prolonging of the term of office for one year.

The notice of a board meeting is sent by the Chair (or the vice chair if the chair is prevented) and TUCS director, and the notice has to be sent three weekdays before the meeting takes place. The meeting must be valid and the members present have to constitute a quorum. The meeting constitutes a quorum when the chairman and at least five members of the board are present. The meetings take usually place on Mondays (in the afternoon) approximately once a month during the autumn and spring semester.

The tasks and duties of the Board are described in the Statutes of TUCS;

[The statutes of TUCS in Finnish](#)

[The statutes of TUCS in Swedish](#)

### **2.1.2.2 The Graduate School Committee (GSC)**

The Graduate School Committee consists of three members from ÅAU, three members from UTU (two members from the Department of Information Technology and one member from the Department of Mathematics (science)), and one member from TSE (economics).

The doctoral students are represented by two ordinary members and one deputy, and preferably the members represent all three universities. The student representatives do not take part in the ranking process of new students or in the handling of the study reports, but they can fully participate in any other meetings, including the second evaluation meeting where the funding proposal is discussed. See the [minutes of TUCS Board May 12<sup>th</sup> 2008](#), item 5.

The Board nominates the committee and its chair. See the [minutes of TUCS Board December 17<sup>th</sup>, 2007](#)

The GSC duties are

- to evaluate and propose new Ph.D. students according to guidelines and budget frame established by TUCS Board
- to recommend on the continuation of the financing and status of the GS students based on the Study Reports
- the development of TUCS Graduate School according to the strategy established by TUCS Board.

The TUCS GS Committee has responsibility for the management and execution of the application processes, management of the GS and related quality processes, student selection based on TUCS Board guidelines and directives, student evaluation and planning, execution of marketing and further planning activities within the frame of the budget approved by TUCS Board, and coordination of GS courses and curricula. The Graduate School Director makes decisions based on the GS committee and TUCS Board decisions and executes them and reports to the TUCS Board and to the Ministry of Education on Graduate School operations.

The Board made the delegation decision to the GSC [February 11<sup>th</sup>, 2008](#), item 4.

Concerning the student selection process, TUCS Board makes proposals and gives statements to the faculties of the universities or to their corresponding institutions, about the joint curricula and student selection, but the student selection is always the responsibility of one of the three universities involved in the TUCS-cooperation. The same university that has taken a student into a Master's program or as a doctoral student is also responsible of granting the degree.

A student may be accepted to study for a Master's degree in a Master's programmes involved in the TUCS-cooperation, if he/she has a suitable lower degree, which may be a Finnish Bachelor level degree or an equivalent degree from abroad. The eligibility for the studies for the PhD degree requires a Master's degree from a suitable field, or a foreign degree that is equivalent to a Master's degree. The faculties perform the student selection without examining grades in the Finnish Matriculation Examination or from the Finnish upper secondary level vocational school diploma.

In the student selections, for education leading to a Master's degree or PhD degree, the applicants are not divided into separate quotas and both Finnish and foreign applicants are subject to the same selection criteria established by the faculties.

According to the statutes, TUCS upholds, as one of the central activities, a joint graduate school of Åbo Akademi University, University of Turku and Turku School of Economics – the TUCS Graduate School. TUCS Graduate School is a project funded by the Academy of Finland, coordinated by Åbo Akademi University and the responsible director is TUCS Director. The students of the graduate school study for the doctoral degree in one of the three involved universities and are accepted by each university. E.g. according to the statutes of the University of Turku, the right to conduct doctoral studies is granted by the faculty. This means that TUCS does not perform student selection described in the university law, but decides on qualifying applicants for the doctoral school's teaching and supervision arrangements, as well as for financial support for the involved departments. Financial support may only be granted for activity costs, such as travels and printing, or also for doctoral education related salaries. TUCS, however, does not employ graduate students, since they are employed by their TUCS Affiliate Departments. The employing departments are also responsible for the salary costs in accordance with the state salary system. TUCS subsidizes the involved department by a fixed amount per each qualified doctoral student.

Thus, the task of TUCS, in the selection of doctoral students, is to provide expertise, giving a statement on the applicant's eligibility for graduate studies and scientific skills, which the faculties may use in their student selection, and to grant a doctoral student status that enables financial support to be targeted for the departments since they have the employer responsibilities.

When selecting graduate school students, TUCS uses a multiphase process, which is documented in the minutes of TUCS Board. After the motion by the TUCS Board student members, a specific evaluation criteria was introduced as a part of the process, aiming to improve the equality of the applicants and to increase the openness and transparency of the processing.

1. The process begins with preparations, where the TUCS GS coordinator prepares a summary of the merits of the applicants. For this purpose the TUCS Board sets the evaluation criteria, which is divided into objective (measurable) and subjective (open for personal consideration) parts. According to the criteria, national and foreign applicants are considered as equal as possible and they are applicable for equal scores both in objective and subjective evaluation.
2. The second phase is the evaluation, where an independent group of experts, set by the TUCS Board, evaluates the applicants, placing them in the order of superiority based on their abilities. The group comes up with a concluding evaluation in a joint meeting, where they take into consideration all factors relating to the eligibility of the applicants.
3. Next is the preparation of the proposal. The TUCS GS Director prepares a proposal of applicants to be qualified for financial support (both for mere activities and for salary subsidy), taking the TUCS Graduate School into holistic consideration. As for the qualifications of the applicants, the preparation of the proposal leans on the evaluation by the aforementioned group of experts. Additionally all other factors relating to the decision are taken into account, such as the quality of supervision arrangements for each applicant and the

- funding to enable four year full-time graduate studies, gender equality, and fairness for all partner universities of the graduate school network and the represented research areas.
4. The group of experts is asked for a statement of the proposal and all possible disagreements are presented to and resolved by TUCS Board.
  5. The next practical, decisive phase is the decision of TUCS Board, where the final proposal and statement are approved to be delivered to the TUCS GS Director for making the decision for funding the departments, and, when needed, to the departments and faculties to support their student selection decision and employment decision.
  6. Finally, the TUCS Director, as the responsible project leader, makes the financing decision based on the TUCS Board statement.

### **2.1.2.3 TUCS Director and Vice Director**

The duties of the Director and the Vice Director are defined in the Statutes of TUCS, paragraph 8. [The statutes of TUCS in Finnish](#) and [The statutes of TUCS in Swedish](#).

The Vice Director takes up the Directors duties when the Director is prevented from carrying out the duties.

The current division of duties and responsibilities between the directors can be found in the [Board minutes April 24<sup>th</sup>, 2006](#), paragraph 6 and appendix 5.

### **2.1.3 Presenting officers**

#### **2.1.3.1 TUCS Director**

The Director acts as presenting officer in TUCS Board and sends together with the Chair of TUCS Board the notice of a Board meeting.

#### **2.1.3.2 TUCS Vice Director**

The Vice Director acts also as presenting officer in TUCS Board.

#### **2.1.3.3 Administrative officer and Coordinator**

TUCS has a Coordinator for TUCS Graduate School and an Administrative Officer (financial affairs) who act as presenting officers in the Board. The Coordinator presents items related to the Graduate School and the Administrative Officer items related to financial and other administrative matters. The Administrative officer acts as the secretary of the Board.

#### **2.1.3.4 Administrative group**

The Administrative Group (AG) consist of the Department Heads participating in TUCS. The AG usually discusses current matters before they are presented to TUCS Board. The Administrative Group is only an advisory body and discussions help the presenting officers to prepare items for the Board.

## **2.2 Strategic control**

### **2.2.1 TUCS strategy**

[TUCS strategy](#) for the years 2006-2010 was approved by the Board September 19<sup>th</sup>, 2005, item 4.

### **2.2.2 Personnel plan**

TUCS has an administrative staff of two persons and a technical staff of one person, a graduate school coordinator, and a Director. The Directorship can be shared by two persons working halftime. In addition, TUCS can have project personnel and civil service persons.

## **2.3 Operational control**

### **2.3.1 The result negotiations with the rectors**

TUCS result negotiations takes place once a year (in the autumn). The rectors and other administrative staff from all Affiliate Institutions attend the meeting. The TUCS participants are the directors, the administrative officer responsible for financial affair, the chair and vice-chair of the Board and the department heads participating in TUCS.

The development and activities during the past year is reported, also statistics of the activities is presented. Major development issues are discussed, and mandate to prepare and realize different activities are decided on.

### **2.3.2 Responsibility and Authority**

The TUCS Director carries the responsibility and authority in TUCS, carrying out in the daily operations and the decisions made by the TUCS Board. This is defined in the TUCS statutes.

### **2.3.3 Leadership responsibilities**

The Director (and the Vice Director as deputy) is the head of the centre and its employees. The Directorship can be shared by a Director and Vice Director working halftime. The duties and responsibilities are then divided between them in a way approved by the Board.

The Chair of TUCS Board is the superior of TUCS director. The roles of Director and Vice Director as well as Chair and Vice Chair of the Board are stated in TUCS statutes.

Also TUCS Graduate School has a Director, who can be TUCS Director or someone else, as decided by the Board. TUCS Board nominates Graduate School Committee and its Chair. The task of the GS Committee is to prepare a proposal for 1) evaluating and selecting new Ph.D. students according to guidelines and budget frame established by TUCS Board and 2) decide on the continuation of the financing and status of the GS students based on the Study Reports, and 3) develop TUCS Graduate School according to the strategy established by TUCS Board.

### **2.3.4 Communication system**

Information and notices of meeting are sent through e-mail. Staff meetings (for TUCS staff) are arranged on random bases, the same concerns the communication with the administrative staff at the departments.



Board meeting and Graduate School meeting are arranged on regular bases and all information are sent electronically, e.g. by e-mail or by electronic documents on the server.

[The minutes of TUCS Board meeting](#) are available on TUCS web pages. The appendices are only accessible for Board members.

## **2.4 Quality control**

The quality handbook is checked once a year and updated always when needed. All persons involved in TUCS activities are encouraged to suggest refinements and improvements to the handbook. Major changes are to be approved by TUCS Board.

## **3. HUMAN RESOURCES**

### **3.1 Personnel**

The positions as TUCS director and vice-director are part-time and based on temporary contracts, the directors are appointed for a maximum of five years at a time. The Directors are employed by their departments and TUCS compensates to the departments an agreed percentage of their salaries.

The two administrative officers have an appointment for the time being. The administrative officer responsible for the Graduate School acts as the Coordinator with funding from the Ministry of Education for a five year period. Also the office secretary has an appointment for the time being.

The technical planner has a temporary appointment on a one year basis. The laboratory engineer position is temporary and the work is usually done on a one-year contract by a person undergoing non-military service or a master student. The non-military service is usually carried out through ÅAU.

In addition, two MSc degree level coordinators with temporary appointments have been employed.

#### **3.1.1 Personnel policy**

The personnel are encouraged to participate in training courses and other activities for the personnel. The personnel of TUCS office can participate in all activities arranged by the Affiliate Institutions (with some restrictions). Especially the training courses are important since the Affiliate Institutions have in some cases a somewhat different approach in solving changes.

The personnel have development discussions with the director once a year, or more often if needed.

More information for the personnel can be found at  
<http://www.utu.fi/en/staff/> (UTU)  
<http://www.abo.fi/personal/?setlanguage=en> (ÅAU)  
<http://www.tse.fi/EN/Pages/Default.aspx> (TSE)

### **3.1.2 Safety and security**

TUCS doesn't have an own safety or security plan. The applied safety and security plans are the joint ones of the ICT-Building. More information about the Affiliate Institutions' plans can be found at the web pages of [ÅAU](#), [UTU](#), [TSE](#) and [TuAMK](#).

### **3.1.3 Cooperation (with other personnel)**

TUCS staff is constantly in contact and cooperates with both the administrative and teaching personnel of the Affiliate Institutions and other actors in the TUCS community. Since TUCS constantly tries to develop and find new actors and financiers, the cooperation covers also other third parties, both locally and internationally.

### **3.1.4 Equality and equal rights**

TUCS emphasize equality and equal rights in all elections of personnel and doctoral students.

## **3.2 Doctoral students**

All doctoral students are employed by their home university. The exception is the doctoral students receiving TUCS grant paid directly by TUCS (through ÅAU).

### **3.2.1 Doctoral Student policy**

See paragraph 5.3.2.

### **3.2.2 Student influence**

#### **3.2.2.1 Formal means of influence**

In the Graduate School Committee (GSC) the doctoral students are represented by two ordinary members and one deputy. The members should preferably represent all three universities. The students members in the GSC can not take part in the ranking process of new students nor in the study report process, but they can fully participate in any other meetings, including the second evaluation meeting where the funding proposal is discussed.

To TUCS Board the master students in the ICT field nominate two members and the doctoral students' one member. All three universities should be represented by the student members. All members have a personal deputy member, who is elected in the same way as the ordinary.

#### **3.2.2.2 Participation in the planning process and development**

See paragraph 5.3.2

### **3.2.3 Student union**

The student union membership is voluntary for doctoral students. The membership gives some benefits, e.g. sport activities.

### **3.2.4 Study environment**

The study environment is very international, with researchers and doctoral students from many different countries. The working language is English.

## **4. THE MANAGING OF RESOURCES**

### **4.1 Financing**

TUCS has project accounts at the Åbo Akademi University, University of Turku and Turku School of Economics and follows the regulations of the institution in question for these accounts.

The planning of the budget starts in September for the coming year. A first version of the next year's budget is presented at the result negotiation with the three rectors and university administrations. A final and updated budget is presented and approved by TUCS Board at the first Board meeting of the year.

Some of the incomes are confirmed well in advance, while others are only an estimate. The general planning of the financing is continuous. TUCS constantly seeks for new funding sources and activities according to TUCS strategy.

#### **4.1.1 Basic funding**

TUCS Affiliate Institutions grant the basic funding for TUCS. The amount is negotiated every year at the result negotiations.

#### **4.1.2 External project funding**

According to the current regulations, external funding projects are applied for through the university where the project leader is employed. Currently most projects have been applied for through UTU since the current directors are both employed by UTU. Projects for TUCS Graduate School and/or Nordic Master School are applied for through ÅAU. In general, all funding applications have to be approved by the Research Service Unit of the home university, since TUCS can't sign any funding applications by itself (some exceptions, since the universities have different regulations).

Currently TUCS has external funding from

- Academy of Finland
- Ministry of Education
- Nordplus
- Tekes
- The industry and other organisations

Other external incomes are obtained by arranging conferences and summer schools. During 1999-2006 TUCS received funding from the municipalities in the area.

#### **4.1.3 Selling and pricing services**

The selling or pricing services are conducted according to the regulations of the home university of the project.

#### **4.1.4 Foundations**

The Foundation of Åbo Akademi University grants different kinds of funding for doctoral students and others who preferably are in connection with Åbo Akademi University. The foundation grants funding for the printing costs of the dissertations, for travelling expenses and for research grants. The Foundation of ÅAU also grants funding for arranging conferences and summer schools.

The Turku University Foundation grants different kind of funding for doctoral students and researcher of University of Turku. For the most part, the funding is for travel expenses and research grants.

#### **4.1.5 Invoices**

The invoices are handled according to the regulations of the home university. A major part of the invoices is paid through ÅAU. The main reason is that TUCS staff, employed by ÅAU, has no right to handle invoices at UTU or TSE. The TUCS invoices addressed to UTU or TSE are handled by the university's own staff. At TSE the invoices are approved by the department head and the invoices at UTU are approved by the TUCS director or TUCS vice director, who both are employed by the department.

### **4.2 Infrastructure**

#### **4.2.1 Premises**

TUCS premises lie on the 6th floor of the ICT building. The facilities in the premises consist of office rooms for staff members and students of TUCS. There is a conference room that can be divided into two separate rooms. There are also two coffee rooms.

The location at ICT building provides well with TUCS coordination work as three of the Affiliate Departments are also located in the same building.

#### **4.2.2 Data system**

TUCS is provided with computer networks from University of Turku, Åbo Akademi University and Turku School of Economics. TUCS laboratory engineer facilitates TUCS premises with network sockets to any of these networks. The access to the network for people and devices is controlled and administrated by the Computing Centres of University of Turku, Åbo Akademi University and Turku School of Economics.

TUCS personnel are provided with user accounts and data services by the Computing Centre of Åbo Akademi University.

There are SPARK WLAN base stations located to cover the TUCS premises and provide with SPARK WLAN connectivity.

TUCS provides its staff and students with printing, scanning, faxing and copying service through shared equipment in the hallway. If specially needed, such equipment is also provided through devices for personal use. The staff and students have a laptop computer available for TUCS related mobile work. Also a video projector is available.

TUCS provides and supports personal workstations for the staff members. The students are to acquire their own workstations, possibly through their affiliate university.

TUCS Laboratory Engineers keep the laboratory engineers of the Affiliate Departments informed of the state of services provided by TUCS. Generally wide cooperative contact is maintained between these.

## **5. MAIN ACTIVITIES**

The main activities are

1. Coordinating research and education at the Affiliate Departments
2. Maintaining and developing the common infrastructure
3. Running the graduate school
4. Coordinating and initiating joint societal activities and collaboration with industry and trade

Detailed plans are regularly discussed and approved by TUCS Board.

### **5.1 Coordination**

TUCS coordinates research and education in the field of Information Technology.

The centre is commissioned to:

- contribute, coordinate, and promote ICT-research
- coordinate concerted ICT-education
- coordinate allocation of resources concerning concerted actions in research and education
- be responsible for PhD education in ICT
- promote cooperation between the centre, the faculties and departments of the universities, and the private sector
- promote development of new innovations and applications in ICT as well as maintain and enhance national and international cooperation in ICT education and research

TUCS coordinates the following activities

- TUCS Graduate School
- Nordic Master School in Innovative ICT (NMS iICT)
- the auditorium booking system for the ICT-house
- the TUCS Publication Series
- the course database
- the personnel database
- the marketing of the IT-education (to some extent)

### **5.2 Research**

Research in TUCS is done in TUCS Research Centres. The administrative tasks and project management are mostly handled by the departments, but in some cases by TUCS office. TUCS office is especially involved in joint project initiatives, and in arranging meetings, seminars and conferences.

### **5.3 Education**

#### **5.3.1 PhD education**

##### **5.3.1.1 Student selection**

TUCS selects new students for TUCS GS-status or for TUCS-GS funding twice a year: in the spring for both financed and status positions and in the autumn for status positions. The faculties at the Affiliate Institutions admit the students the right to conduct doctoral studies and eventually grant the doctoral degrees. The Affiliate Departments employ the students and thus take the employment responsibilities. For the students selected to TUCS funding, TUCS supports the

Affiliate Departments towards the doctoral student's salary costs according to the approved funding decisions.

### **An eligible TUCS applicant**

TUCS GS is open for applications from women and men from everywhere, who have a Master's degree from a university in Computer Science, Mathematics, Information Systems, Bioinformatics, Computer Engineering, Communication Systems, Microelectronics, or in a closely related field. The degree should be equivalent to a Master's degree awarded by a Finnish university. In exceptional cases, TUCS can also consider applicants with a Bachelor's degree for the Graduate School. This is possible only if the applicant's all grades are maximal or almost maximal (90 % of the grades must be maximal). Applicants, who will get their Master's degree before the end of March, the same year, can apply (or by the end of the year in the fall's status application round).

The language requirements can be found at <http://tucs.fi/education/graduate/language.php>

### **Evaluation criteria**

In the fall 2007, TUCS Board has set up new evaluation criteria for the student selection. The criteria were developed in order to clarify the student selection principles and also increase the transparency. Several other ICT field graduate schools in Finland were consulted when developing the criteria. TUCS is targeting to select students, who are most likely to graduate in four years, which is the time frame the Finland's Academy has set to the duration of the PhD studies. That potential of the applicants is tried to be measured by looking at the success in Master level studies (average of all course grades and the grade on the Master's thesis work), publications, number of PhD courses completed, study time in the Master's degree, relevant work experience, success in the matriculation examination, motivation letter, research interests, recommendation letters and general impression. Other guidelines of the Finland's Academy are to lower the dissertation age and encourage the research career of the minority gender in the field (women in ICT field). TUCS pursues these goals by supporting the start of PhD studies directly or within two years after the Master's degree of the applicants who have graduated with top grades. The evaluation criteria are planned to benefit such applicants in the first place. Yet also such applicant, who has graduated a few years earlier and has shown his/her potential for the doctoral degree by advancing in the PhD studies, ranks high in the criteria.

There are two parts in the criteria: objective evaluation and subjective evaluation. The objective evaluation is done by the GS Coordinator. It is based on measured facts (only in the assessment of the publications there is some room for speculation, and thus the scientific evaluators (the members of the GS Committee) are encouraged to use their expertise and evaluate how highly each individual publication should be ranked). The subjective evaluation is done by the members of the GS Committee. All members participating in the evaluation process are professors. Each application is evaluated by two evaluators. The director of the GS Committee together with the GS Coordinator delivers the evaluation responsibilities. The evaluator should not be the supervisor of the applicant concerned, but he/she should be familiar with the scientific field.

The criteria are also divided so that different things are evaluated for the newly graduated Masters (within the same or the previous year) and for those who have graduated earlier. The points are calculated for all applicants with the "earlier graduated-category" and then separately for the newly graduated Masters

according to the “newly graduated Masters-category”. For the “new Masters” the better points/ranking is selected.

The evaluation criteria developed in fall 2007, were modified according to the experiences from the spring application round 2008 during the winter 2008-2009, and the new criteria to be used in the spring 2009 application round were confirmed by TUCS Board in February 2009.

Spring and fall 2009 guidelines for the numeric evaluation of the TUCS Graduate School student selection can be found at <http://www.tucs.fi/education/graduate/evaluation.2009.php>

## **The Application Round to TUCS Graduate School**

### *Timetable for the application round*

1. Deadline for applications
2. Deadline for completing the applications
3. GS Committee meeting 1 (confirming the evaluation points and the ranking order)
4. Deadline for supervisors to show interest and suggest a funding plan
5. GS Committee meeting 2 (GS Committee members comment on the proposal for the TUCS Board)
6. Deadline for the supervisors to show interest and suggest a funding plan.
7. Director asks the supervisors for the funding arrangements for the applicants that are planned to be proposed for funding at the Board.
8. Director, Vice-Director or Coordinator prepares the matter to the Board meeting (the director is presenting the item)
9. Decisions about finance are made at the Board Meeting
10. The applicants are informed on the decision concerning themselves first by email and then by an official letter
11. Deadline for the approved applicants to accept the position (email answer to the first announce email is enough)
12. The new students start on September 1 or January 1 (if nothing else agreed on)

### **5.3.1.2 TUCS Graduate School positions**

There are two types of positions in TUCS GS: financed positions and status positions.

Students in the finance positions receive salary/grant for a fixed period of time, usually by four year, but sometimes shorter. The length of the salary/grant is decided when the student is selected and it depends on how advanced he/she already is to graduation (PhD) and/or how long he/she has previously received finance from the departments/projects within TUCS community. After the four years have gone, the student can apply for few extra months. If the student has not graduated when the finance ends, he/she is moved to TUCS status.

Students with TUCS status do not receive salary/grant, but they are entitled to all same benefits as the students in the financed positions. TUCS status can be full-time or part-time. The students can have the full-time status for five year (including the financed period) and the part-time status for three more years after that. The part-time status can be used also in the beginning or in the middle of the studies, for instance if the student is working full-time somewhere else.

The benefits that all TUCS students are entitled to are e.g. belonging to the tucgsstudents-emailing list, possibility to apply for TUCS travel grant, publishing in TUCS publications services, possibilities to participate in short courses and summer schools etc. organized by TUCS (mostly for free), possibility to get TUCS business cards, possibility to engage in TUCS social activities etc. TUCS requires that all applicants have at least one committed supervisor (examinator, who must be professor or docent). A second supervisor is also possible. Others can also guide the student in the PhD work, but they are not official supervisors.

Most of the TUCS students get an office (mostly shared) in their own department, but some students get an office in TUCS premises (mostly shared).

Tutors have been previously organized to the international applicants, but from 2008 they have been organized to everyone, who is interested in having one. The tutor would preferably come from the same research field, but it is not necessary, if suitable ones are not found.

An orientation meeting is organized in September/early October to all new TUCS students. The time of the meeting should be set so that as many as possible can attend, especially so that the new international students who have just arrived in Finland can attend.

The TUCS student has the right for guidance from his/her supervisor. The practices vary from case to case. A guide for supervisors is planned to be written in 2009 in order to clarify the responsibilities of the supervisor(s) and the student.

TUCS students are also entitled for technical support. Most students receive it from their departments, but the students who have offices in TUCS premises; most often get the technical support from the TUCS (Laboratory engineer or technical planner).

As new services TUCS is creating a mentor programme and an internship programme. The mentor programme means that each year or every other year the students are asked, whether they are interested in having a mentor. The GS Coordinator tries to find suitable mentors and match them with the interested students. The mentor would preferably be a former TUCS student, graduated few years ago and currently working outside academia. The aim of the mentor programme is to increase the working life awareness and preparedness of the PhD students. This is important, as more PhD students than before probably are pursuing jobs outside academia in the future.

TUCS is also pursuing an internship programme. It means that students can go for an internship period in a company or research centre in Finland or abroad. Negotiations have been started. The challenge lies in finding a suitable project that would benefit both the company and the PhD project. The intention is that the internship period would not remarkably slow down the speed of the PhD studies.

TUCS students can do a part of their research/degree in a foreign country at another university. The most natural contacts are usually created and thus the positions found via the research groups. Sometimes the students have been active by themselves and for instance at a conference found a contact, who has invited them for the exchange period. Usually TUCS has paid the salary (only the already financed students) and the travel expenses of the visit, but some other solutions are also possible.



International contacts and peers of the TUCS PhD students can also apply for an exchange period at TUCS. TUCS can for instance pay the guest's travel and accommodation expenses for the period, whereas the home university pays the salary.

### **5.3.1.3 Follow-up of the studies**

#### **Study Report Procedure**

All Ph.D. students are obliged to hand in a study report once a year. The reporting period is January-December and the reports are done in February (-March). The decisions made at the board meeting concerns the period 1.9-31.8.

#### *Timetable for the Study Report Procedure*

1. GSC meeting 1
2. Reporting deadline for the students
3. Deadline for supervisors
4. GSC meeting 2 (decisions are made)
5. Announcement of the decisions to the Board meeting

#### *Timetable for GS Coordinator*

1. GSC meeting 1 (planning)
2. Decide about the timetable together with the GSC, TUCS Board and Staff
3. Inform the students about the upcoming reporting deadline
4. Inform the GSC members and the board about the timetable
5. Review the system, read about which problems occurred last year and make necessary changes to the system. Test the system.
6. Inform the students
7. Inform the supervisors about the upcoming deadline for statements
8. Ask for missing study reports
9. Send "automatic" mail about the supervisors' statements deadline to the supervisors
10. Ask for missing statements
11. Make a summary and a proposal for the GSC meeting 2
12. Prepare the agenda with the TUCS Director and send it to the members of the GSC, TUCS Director/TUCS Vice-Director at least three work days before the meeting.
13. GSC meeting 2 (make decisions on continuation of the finance and TUCS status)
14. Make an updated summary and an announcement to the Board meeting
15. Inform the students

A student loses his/her TUCS position, if he/she does not fill in the study report each year. Sometimes the student may him/herself ask for ending the TUCS status. These cases mostly happen when a student finds another employment and career, and is not aiming at continue with PhD studies, at least not for many years. TUCS status is also finished in cases when a student has joined another Graduate School. If the progress of a student is very low without any good reason, it should be discussed with the supervisor and the problem should be found as early as possible. Most often the reason for the slow progress is some other job (for the status students), or plenty of teaching or administrative duties. The reason may also lie in the quality of the supervision, the student does not reach the supervisor often enough. Low motivation or an unclear research plan may also lie behind the problem. If the problems are recognized early enough, they can be solved more easily and the progress improves the next year. It is everyone's virtue that students do not spend unnecessarily long time at doing the PhD or drop-out after many years of study.

### **5.3.2 Master's level education**

TUCS promotes cooperation between the Affiliate Departments in their Master's level education. The Affiliate Research Institutes are encouraged to provide their Intermediate and Advanced level courses that are lectured in English as TUCS-courses. A TUCS-course is one that is freely attend able by any student of the TUCS Affiliate Departments, as long as they meet the preliminary requirements for the course.

TUCS coordinates all affiliated Master's level educations, but especially focuses on international education on this level. Intake and curricula are the responsibilities of the faculties and the Affiliate Departments.

### **5.3.3 Bachelor level education**

TUCS promotes cooperation between the Affiliate Departments in their Bachelor level education. TUCS coordination is clearly more focused on Doctoral and Master's level education than on Bachelor level education.

## **5.4 3rd task**

### **5.4.1 NMS iICT**

TUCS coordinates Nordic Master School in Innovative ICT (NMS iICT) which is a network of five world-class scientific universities in the Nordic countries and their international ICT Master's Degree Programmes. The students study in one of the Master's Degree Programmes at one university, but can customize their studies with an exchange period at another university of the NMS network. In addition the the world-class high technology, an essential part of the NMS programme is educating the students in Business and Innovation skills. Therefore the NMS iICT programme certificate, along with the M.Sc. Degree is a unique merit, giving the student an edge for their future career.

### **5.4.2 TUCS publication series**

TUCS Publication series promote the Finnish ICT research for the world. TUCS promotes digital publication to increase the visibility of scientific results. TUCS National series promotes the dissemination of the results in the national languages, Finnish and Swedish.

### **5.4.3 Into ICT**

Into ICT web portal was developed in cooperation with TUCS and Turku Chamber of Commerce (Turun Kauppakamari) in order to increase the cooperation between the ICT companies and universities. The portal is supposed to help the students and the recruiters to meet and create contacts to each other.

### **5.4.4 Turku Innovation Platform (TIP)**

Turku Innovation Platform is a collaboration project of universities in Southwest Finland, with the following main goals: to increase knowledge in entrepreneurship, to increase general business know-how, to improve the quality of innovations and the performance of company start-ups. The purpose of the project is to enhance the regional innovation system and the research-to-business activities of universities, along with developing a platform for different types of coordinated activities that enables the realisation of the aforementioned goals.

#### **5.4.5 Alumni**

TUCS mentor program in order to create and strengthen contacts to the industry and to open up new views for the doctors' job opportunities outside academia. The mentors will be former TUCS PhD students currently working outside the universities. We try to find suitable pairs or groups so that the mentor would be from the same field as the mentoree(s) and both would have similar interests for the program and their careers in general. The duration of the mentoring relationship is not strictly determined and can be decided by the mentor and the mentoree. Usually it is recommended that there would be meetings at least three or four times per year, but this is just one practice. The main point is to communicate, create networks and hear the experiences of an older colleague. At the same time, the mentor maintains contact with the university and learns what is going on in that scene.

### **6. SUPPORTING UNITS AT THE UNIVERSITIES**

TUCS uses services provided by the supporting units at all Affiliate Institutions.

#### **6.1 The administration unit**

##### **6.1.1 General administration**

Most of the general administration is handled through ÅAU, but some of the administration is managed through UTU and TSE. The division of the tasks are explained more in detail below.

##### **6.1.2 The Office for Academic and Student Affairs**

All three universities have their own offices for academic and student affairs. The offices handle all matters concerning students and studies.

##### **6.1.3 Economy unit**

ÅAU is the account unit for TUCS and therefore most of the economy administration is managed through ÅAU. TUCS has its own area of responsibility (No. 950) at UTU, but only personnel employed by UTU can access the economy systems. Neither have the personnel at TUCS office access to the economy systems used at TSE.

For the time being the situation is problematic, since most instructions and forms are not accessible without a username to UTU or TSE.

##### **6.1.4 Personnel services**

The administrative personnel are in general hired by ÅAU and the personnel services used are provided by ÅAU. The current directors' work part-time and they are employed by their home university (UTU for the current directors). All doctoral students are employed by their home university, even those who receive TUCS funding. Grant receivers are not employed (neither by their home university nor TUCS) and the grants are paid directly by TUCS.

Since TUCS is a department at all three universities the TUCS personnel have the right to use the personnel services at ÅAU, UTU and TSE, at least to some extent. But since the information usually requires a username, the information is not accessible for others than employees.

### **6.1.5 Research services**

TUCS uses the research services units at [UTU](#) and [ÅAU](#), depending on the home university of the project.

### **6.1.6 Technical services**

All external posting is done through the [Technical Services Unit](#) at ÅAU, but the internal posting is arranged to all three universities. Most of the office supplies are also bought through the Technical Services Unit.

## **6.2 Supporting units of the independent institutions**

### **6.2.1 Computing Centres of the three Universities**

TUCS makes purchases through the Computing Center of Åbo Akademi University. TUCS students rely on the support of their affiliate university Computing Centre. TUCS laboratory engineers co-operate with the three universities' Computing Centres.

### **6.2.2 Uniprint**

[Uniprint](#) is one of the printing companies TUCS uses for printing. For printed publications of the TUCS series, Uniprint is one of the three printing companies who are asked for an offer.

### **6.2.3 Library**

TUCS delivers publications to the Finnish National Library's Doria service through the libraries of the three universities.

TUCS acquires ISBN-numbers for TUCS publications through the Library of Åbo Akademi University.

TUCS provides the ICT library with a complete collection of printed TUCS publications.

## **7. PROCEDURES OF QUALITY CONTROL AND ASSESSMENT**

### **7.1 Evaluation methods**

#### **7.1.1 Evaluation of research**

The most significant method of quality assurance in research is peer referee practice that has long traditions within the TUCS Research Institutions. Peer refereeing takes place within the Research Institutions, as well as with external cooperation partners. TUCS promotes peer referee practice, but the responsibility lies on the researchers and the supervisors of the graduate students.

#### **7.1.2 Evaluation of education and supervision + research education**

TUCS perceives an academic responsibility on all students of the Affiliate Institutions. TUCS takes into attention all feedback from the students and also, especially facilitates for this through the TUCS GS Survey and having student members as part of the TUCS Board and the TUCS GS Committee.

### **7.1.2.1 PhD education**

Dissertations of TUCS GS students are all reviewed by two external reviewers, approved by the faculty and supervised by one or more supervisor.

TUCS GS-students annually fill in a Study Report to report of their progress in studies. This aims to assure the quality of the work the students are doing. The students also annually fill in a survey of their experience as TUCS GS-students. This report is used to reflect the quality of education and supervision by TUCS and the TUCS Research Institutions.

The TUCS Graduate School funding by the Academy of Finland also periodically requires applying for renewal, upon which a report of the past funding period is required.

In order to develop further and improve the service, TUCS needs to get regular feedback from the students. The main way to collect the feedback is done by an annual TUCS Students Survey. Two or three TUCS PhD students (+ the GS coordinator) make the survey, the results go through statistical analysis and are finally presented in a discussion meeting. TUCS Director responds to the results, answers questions and is open for discussion in the meeting.

A summary of the results and conclusions of both the survey and the discussion meeting is sent to all TUCS students and the GS Director. The same questions can be used every year, yet some changes can and should be made when considered appropriate.

### **7.1.2.2 Master's and Bachelor level education**

The responsibility of the evaluation of the quality of Master's and Bachelor level education lays on the TUCS Affiliate Departments and Faculties.

### **7.1.3 Evaluation of support functions**

Most support functions are provided by the TUCS Affiliate Departments that have their own quality evaluation methods.

The TUCS local technical support runs a support request ticket service, where the amount of open tickets can be measured, as well as the rate in which they are processed.

Feedback on the support functions provided by TUCS for the Graduate School students is received through the annual GS-student survey.

### **7.1.4 Evaluation of the third task**

TUCS quality in the interaction with the society can be evaluated through the attitudes of students, regional decision makers and cooperation partners, including the TUCS Affiliate Institutions.

The rate of publications in the TUCS series, especially in the National series, is a measure of interaction. Another measure is the amount of conferences and external projects run by TUCS.

TUCS promotes discussion and feedback within the TUCS community, Science Park and companies.

## **7.2 Methods for the follow-up**

### **7.2.1 Ensuring legality**

Legality is ensured by following the TUCS statutes. TUCS uses the legal services of all Affiliate Institutes when legislation issues arise.

### **7.2.2 Assessing the leadership**

TUCS strategies and results are evaluated in the result negotiations annually.

### **7.2.3 Report of activities and closing of the accounts**

The TUCS report and activities, and the closing of the accounts is done as a part of the economical operations of ÅAU, UTU and TSE.

### **7.2.4 General statistics follow-up**

Statistics are gathered, at least once a year, for different purposes, especially for the result negotiations, of the student intake and granted degrees of all levels within the TUCS Affiliate Departments and TUCS Graduate School; total funding, including basic and external funding; publications; travels; international contacts; organized conferences and workshops; TUCS-courses and courses organized especially by TUCS.

### **7.2.5 Follow-up of graduates**

TUCS is starting up Alumni activities.

Follow-up of graduates is also aided by the recruitment services of the Affiliate Institutes.

### **7.2.6 Investigation of work climate**

The work climate of a staff, as small as 8 people, is discussed in the daily conversations.

## **7.3 Methods of development**

### **7.3.1 Routines for correcting deviations**

Deviations are corrected, firstly by the TUCS Director in person and further on, with the support and assistance of the Affiliate Institutes.

### **7.3.2 Routines for handling evaluation and follow-up results**

The evaluation and follow-up results are considered when revising this quality handbook. In more urgent cases, TUCS Board is addressed, as the responsibility of strategic guidance lies there.