



**The Executive Summary  
Report on Quality Assurance  
for  
the Academic Year 2005 and 2006**



**Quality Assurance Subdivision  
Academic Support Division  
Suriname University of Technology**

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**for**  
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**Academic Support Division**  
**Suranaree University of Technology**



## Preface

Suranaree University of Technology (SUT) has been conducting quality assurance in education for every academic year since 1998. SUT's quality assurance system conforms to the university policy of "combining services, coordinating missions". The results of the quality assurance in each year have been implemented to determine the ways to enhance strong points and diminish weak points, following the Key Performance Indicators (KPIs). These results will help to set future policies, make improvements and, overall, help SUT to manage the university's strategic plan and putting these into practice in highly achievable ways.

SUT hopes that the executive summary report on quality assurance for the academic years 2005 and 2006 will facilitate the development of better quality education keeping in line with the pledge and vision of the university.



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# **The Report on Quality Assurance for Academic Year 2005**

## **Executive Summary**

Suranaree University of Technology (SUT) is the first public autonomous university in Thailand, outside the civil service system and under the supervision of the Royal Thai Government. The university focuses on learning, teaching, and research in science and technology, necessary for the country's development and based on the administrative principle of "combining services, coordinating missions". SUT has been using quality assurance at the undergraduate level continuously since academic year 1998. In academic year 2004, the university developed several assessment indices, (hereafter, Key Performance Indicators or KPIs) to cover the missions of both undergraduate and graduate levels in the following areas: Research, academic services, and art and culture conservation. Altogether, there are 13 factors 37 KPIs; the university has used these factors and KPIs for quality assurance since academic year 2004. In academic year 2005 (May 2005 - April 2006), the quality assurance committees summarized the strengths and weaknesses of the university as follows:

1. In overall perspective, the result of the quality assurance assessments places the university at 3.77 out of a 5.00 scale.
2. When considering each KPI, out of 37 KPIs, 11 KPIs were rated as "very good" as follows:
  - 1) KPI 1.2 Working in accordance with the annual year plan of the university.
  - 2) KPI 3.1 Percentage of lecturers with a doctoral degree.



- 3) KPI 4.1 A Percentage of undergraduate students withdrawing per year.
- 4) KPI 5.4 The average use of online databases per academic year per person.
- 5) KPI 9.1 The number of students participating in student activities or related projects.
- 6) KPI 9.4 Budget for student activities per student.
- 7) KPI 11.1 The number of distinct projects for academic services.
- 8) KPI 12.1 The number of art and culture conservation projects per year.
- 9) KPI 13.1 Academic lectures (such as seminars, guest lecturers, personal development activities, etc.) per year.
- 10) KPI 13.3 Relationships with communities around the university and in Nakhon Ratchasima province.
- 11) KPI 13.4 The number of international activities at the university.

There are 6 KPIs for which the university scored low

- 1) KPI 3.2 The percentage of lecturers who achieve academic title with the university.
- 2) KPI 4.1 B The percentage of graduate students who withdraw per year.
- 3) KPI 4.2 The percentage of undergraduate students who graduate within the curriculum period per year.

- 4) KPI 9.2 The number of students involved with student activities or projects as a percentage of the student body.
  - 5) KPI 10.1 The number of completed research projects by permanent lecturers at all levels.
  - 6) KPI 10.2 The number of articles published in peer review journals per permanent lecturers at all levels.
3. From the result of quality assurance, when the 6 weak KPIs are re-arranged and grouped based on the necessity for the university plan in the next academic year, the key areas can be classified into 2 groups. The quality assurance committees have suggestions as follows:

A. KPIs about students

- 1) KPI 4.1 B The percentage of graduate students who withdraw per year.
- 2) KPI 4.2 The percentage of undergraduate students who graduate within the curriculum period per year.
- 3) KPI 9.2 The number of students involved with student activities or projects as a percentage of the student body.

From the consideration of KPIs about students, the university should

- 1) Analyze the cause of these low results by conducting institutional research to analyze the causes and determine ways to solve problems of KPI 4.1 B and 4.2.

- 2) Have measures to attract students with good grades both from within and outside of university, especially for the graduate level. This can include trying to recruit high-potential students by advertising, providing scholarships, and research funding.
- 3) Have plans to promote student/faculty activities from within faculties and departments so that faculty members may teach the students valuable life skills.

#### B. KPIs about lecturers

- 1) KPI 10.1 The number of completed research projects by permanent lecturers at all levels.
- 2) KPI 10.2 The number of articles published in peer review journals per permanent lecturers at all levels.
- 3) KPI 3.2 The percentage of lecturers who achieve academic titles.

In accordance with the university's mission as "a research university" and with its strength as a graduate school (71.32% of the lecturers having a doctoral degree) the university should

- 1) Analyze why there are so few completed research projects compared to the number of lecturers and analyze any problems and obstructions for conducting research. The university should follow up any delays in research. (However, at meeting# 13 on 30 October 2006, the academic senate noticed that it is not a pressing situation because big research projects often cannot be finished within a year, and not every lecturer has a research project. This has resulted in lower scores in evaluation compared with the criterion that had been set.)

- 2) Promote lecturers and students to publish research articles in national and international peer review journals by counting the workload for publishing a research article as equal to the teaching workload.
- 3) Promote lecturers and personnel to conduct research by providing research funding for a variety of necessary research projects including research projects concerning learning and teaching, innovation and invention, and graduate theses.
- 4) Promote and motivate lecturers without academic titles or lecturers who would like to get higher academic title to do academic work in the form of textbooks, books, and published research articles. Their teaching workload can be decreased by increasing time spent in such research or writing activity.
- 5) Increase the number of high potential lecturers at the university.

# **The Report on Quality Assurance for Academic Year 2006**

## **Executive Summary**

Suranaree University of Technology (SUT) is the first public autonomous university in Thailand, outside the civil service system and under the supervision of the Royal Thai Government. The university focuses on learning, teaching, and research in science and technology fields necessary for the country's development and based on the administrative principle of "combining services, coordinating missions". SUT has been using quality assurance in undergraduate level continuously since academic year 1998. In academic year 2006, the university developed Key Performance Indicators or KPIs combined with KPIs from the Office for National Education Standards and Quality Assessment (Public Organization) (ONESQA) consisting of 11 factors, 47 KPIs. For academic year 2006 (May 2006 - April 2007), the university carried out the quality assurance and summarized the results of quality assurance as follows:

1. In overall perspective, the result of the quality assurance assessments place the university at 4.15 out of a 5.00 scale.
2. When considering each KPI, out of a 47 KPIs, 38 KPIs were rated as "very good" as follows:
  - 1) KPI 1.1 An nual operation plan conforms to vision and missions.
  - 2) KPI 1.2 Strategic plan links to national strategy.
  - 3) KPI 1.3 Working plan follows the operation plan.
  - 4) KPI 2.1 Percentage of standard curriculum per the total amount of curriculum.
  - 5) KPI 3.1 Percentage of lecturers with doctoral degrees per permanent lecturers.

- 6) KPI 3.3 Adhering to the professional code of ethics.
- 7) KPI 3.4 B Satisfaction of graduate students towards lecturers (See the average scores of teacher evaluation by the students).
- 8) KPI 4.3 The number of students or alumni who are awarded certificates in academic, professional, ethics or academic awards or others related areas concerning the quality of SUT graduates in national and international contexts in the last three years.
- 9) KPI 4.4 The number of theses and academic works receiving national and international awards in the last three years.
- 10) KPI 4.6 Percentage of published articles from doctoral theses per the total number of doctoral theses.
- 11) KPI 4.7 Percentage of graduates at the undergraduate level who subsequently find employment, work freelance, or further their higher education within a year after getting their degrees.
- 12) KPI 4.8 Percentage of graduation of undergraduate students who find employment in their fields of study.
- 13) KPI 4.9 Satisfaction of employers, entrepreneurs, and supervisors (in particular, graduate school advisors).
- 14) KPI 5.1 Total expenditures for library, computer, and information technology services per student.
- 15) KPI 6.1 A Potential of administrative database system.

- 16) KPI 6.2 Quality of the university council.
- 17) KPI 6.3 Development of the institution as a knowledge-based organization based on the results of Internal Quality Audit and External Quality Audit.
- 18) KPI 6.4 Using resources inside and outside the university.
- 19) KPI 6.5 Percentage of permanent lecturers who participated in academic conferences or academic paper presentation inside and outside the country.
- 20) KPI 6.6 Budget for staff development of lecturers both inside and outside the country per permanent lecturers.
- 21) KPI 6.7 Percentage of permanent personnel in supporting learning and teaching who receive knowledge and skills development in their profession inside and outside the country.
- 22) KPI 6.8 Satisfaction of people who receive the services in the form of “combining services, coordinating missions”.
- 23) KPI 7.1 Learning processes focus on student-centered learning with an emphasis on self-study.
- 24) KPI 7.2 B GPA of graduate students’ courses per academic year.
- 25) KPI 7.3 B GPAX of graduate students.
- 26) KPI 8.1 Percentage of budget for art and culture development.

- 27) KPI 8.3 Percentage of students who participated in activities/projects which were valuable for their self-development.
- 28) KPI 9.1 Money supported research and creative works of the institution, as expenditure per permanent lecturer.
- 29) KPI 9.2 Total expenditure for supported research and creative works from outside of the institution.
- 30) KPI 9.5 Percentage of research and creative works published and/or applied at both national and international levels per the number of permanent lecturers.
- 31) KPI 9.8 Approved and certified patents awarded for research and creative works in the last five years.
- 32) KPI 10.1 Value of the institution in providing academic services, knowledge, and skills for society per permanent lecturers.
- 33) KPI 10.2 Implementing knowledge and experience from academic services and profession in learning, teaching and research development.
- 34) KPI 10.3 Percentage of activities/projects and academic services which response to the needs for development and strengthening of society, community and country and the world per permanent lecturers.
- 35) KPI 10.4 Percentage of lecturers who serve as advisors, external thesis committees, academic committees, and professional committees at national and international levels per permanent lecturers.



- 36) KPI 10.5 Achievement in academic according to the missions of the institution.
- 37) KPI 11.1 Continuous development of educational quality, as defined by the Internal Quality Audit.
- 38) KPI 11.2 Effectiveness of Internal Quality Audit.

There are 4 KPIs that indicate weaknesses in quality assurance as follows:

- 1) KPI 4.1 B Percentage of graduate students withdrawing per year.
- 2) KPI 4.2 Percentage of undergraduate students who graduate within the period of curriculum per year.
- 3) KPI 4.5 Percentage of published articles from master's theses per the total number of master's theses.
- 4) KPI 9.7 Percentage of research articles cited in refereed journals or in national and international database per permanent lecturers.

3. From these results, the 4 KPIs were re-arranged and classified into 2 groups as follows:

A. KPIs about students

- 1) KPI 4.1 B Percentage of graduate students withdrawing per year.
- 2) KPI 4.2 Percentage of undergraduate students who graduate within the period of curriculum per year.

- 3) KPI 4.5 Percentage of published articles from master's theses per the total number of master's theses.

In considering these KPIs about students, it was determined that the university should:

- 1) Carry out the development of methods to attract students with good grades both from inside and outside the university to study at the university to produce concrete results. According to the study, the main cause of students' withdrawal is low grades. Issues to address include:
  - Trying to recruit high-potential students all year round. Determine which departments will join with the Center for Educational Services to recruit high-potential students.
  - Increasing various and "value" scholarships such as for learning, teaching assistantships, research assistantships and additional research funding for high-potential students as "manpower" or "friends helping friends" projects.
- 2) Institute measures to reinforce and promote undergraduate students to graduate within the period of curriculum and with concrete result such as
  - Develop remedial exams in foundation courses at the undergraduate level with a high rate of failure such as Calculus, Physics, Engineering Statics and Engineering Materials. Use these results to decrease the problem of repeated study and to provide more opportunities for students to study continuously.

- Adjust the curriculum to focus on practice and learning from experience in the form of blended learning.
- 3) Revise the graduate curriculum to include publishing in high quality journals at national and international levels or receiving an approved and certified patent as criteria for graduation for every curriculum (This had been done in the SUT rules in graduate education 2007).
  - 4) In the long run, the university should find the causes of withdrawal of undergraduate and graduate students each year. The research can be used to find the causes and determine the preventive measures. Select the person who will take these responsibilities and establish a time frame for solving the problem.
  - 5) The university with the support of the departments should strengthen the system for supporting learning and teaching as follows:
    - Remedial teaching program for foundation courses.
    - Revise the training of learning skills at early levels to decrease of the drop-out rate.

#### B. KPIs about lecturers

- 1) KPI 9.7 Percentage of the number of research articles cited in refereed journals or in national and international databases per permanent lecturers.

In accordance with the missions of the university as a “research university” and with its strength as a graduate school (73.63% of doctoral degree lecturers), the university should do as follows:

- 1) Motivate and support lecturers to publish their research articles in national and international peer review journals and support their advancement by:
    - Providing research instruments to potential lecturers to produce high impact factor works that lead to citations in refereed journal or national and international database.
    - Encouraging the lecturers who receive academic titles to publish their research articles especially in refereed journals or national and international databases.
  - 2) Invite well-respected specialists from each field and scholars who promote “hot issues” to stay and teach and conduct research at the university.
  - 3) Seek high potential permanent lecturers who can produce research articles cited in refereed journals or national and international database that match the needs of the university.
4. From the comparative study of data on the results based on the factors and KPIs of quality assurance from academic year 2004 to academic year 2006, as an overall perspective, it was found that 8 KPIs should be addressed urgently. If not, they might affect the lower score of the assessment next year.
- 1) KPI 4.1 Percentage of graduate and undergraduate students who drop out per year.
  - 2) KPI 4.7 Percentage of undergraduate students who graduate and find employment, work freelance, and/or further their higher education within a year.

- 3) KPI 6.5 Percentage of permanent lecturers who participate in academic conferences or have presented their academic works inside and outside the country.
- 4) KPI 7.2 GPA of students in courses per academic year both at undergraduate and graduate levels.
- 5) KPI 7.3 GPAX per year of students both at undergraduate and graduate levels.
- 6) KPI 8.3 Percentage of students who participate in activities/projects for student development per the amount of students.
- 7) KPI 9.2 Total expenditure for supported research and creative work from outside of the institution
- 8) KPI 10.3 Percentage of activities/ academic services and professional projects that respond to the need for development and strengthening of society, community, country, and the world.

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