Contents

Message from the Dean	3
History	2
Core Values	2
Philosophy, Vision, and Mission and Targets	4
Administration, Resources and Progress	,
 Reorganization 	Ģ
 Department of Mathematics 	10
 Department of Chemistry 	12
 Department of Industrial Chemistry 	14
 Department of Biology 	10
 Department of Physics and Materials Science 	1′
 Department of Geological Sciences 	18
 Department of Computer Science 	20
 Department of Statistics 	22
 Science and Technology Service Center 	23
 Materials Science Research Center & Multidisciplinary Science Research Center 	24
• Faculty of Science Office	24
• The Faculty of Science Fund	25
 Achievements 	20
 Student Admission 	28
 Honours and Awards 	33
 Alumni News 	34
 Academic Development (TQF) 	3.5
 Scholarships 	30
 Student Activities 	38
 The Faculty of Science Alumni Association, Chiang Mai University 	39
Educational Quality Control	40
Research Articles in 2009	4
Research Publications	42
Academic Collaborations	42
Public Relations	44

 Cultural, Natural Resources and Environmental Support 	48
 Development of Administrative System in the Faculty of Science 	50
Outstanding Personnel	53
 Knowledge Management 	56
Appendix	
 Organization of the Faculty of Science, Chiang Mai University 	61
 Administrative Structure of the Faculty of Science, Chiang Mai University 	62
 Budgets (Income-Expenditure 2008-2009) 	63
Personnel (by Category)	63
 Buildings and Vehicles 	64
 Administrative Staff 	66
 Heads of Department 	67
 Annual Report Working Group 	68



Message from the Dean

The Faculty of Science of Chiang Mai University was one of the first 3 faculties established at the same time as the inception of Chiang Mai University (CMU) in 1964. At present, it comprises the Office of the Dean and 8 academic departments,

namely: Mathematics, Chemistry, Industrial Chemistry, Biology, Geological Sciences, Physics and Materials Science, Computer Science, and Statistics.

In the fiscal year 2009 (1 October 2008–30 September 2009), which is the period coinciding with the 2nd semester of the academic year 2008 and the 1st semester of the academic year 2009, the Faculty of Science was responsible for 33 buildings with a total space of more than 97,000 square meters, 555 personnel classified as 321 academic staff and 234 personnel of other categories, 1,097 students classified as 816 Bachelor's degree students, 221 Master's degree students and 60 Ph.D. students, and a total of 49 degree programs of which 13 were for Bachelor's degrees, 1 for a Graduate Diploma, 22 for Master's degrees and 13 for Ph.D. degrees. In addition, there were more than 10,000 students from other faculties enrolled in various courses run by the Faculty of Science in each semester.

Also in the fiscal year 2009, the Faculty of Science received a total budget of 372 million Baht of which 284 million Baht was from the Government and 90 million Baht from the University's own income. This enabled the production of 740 graduates comprising 537 at the Bachelor's degree level, 160 at the Master's degree level and 43 at the Ph.D. level. More than 200 research papers were published in internationally refereed journals and a wide range of academic services were provided.

Based on its vision, the Faculty of Science "shall be a place to produce graduates aiming at high quality research at the international level with a sound management system and provision of resources for development which leads to self-reliance". The Faculty administration during the past year has therefore strived to carry out its mission and conduct its operational plans in accordance with this vision, which is also in accordance with the vision of Chiang Mai University.

This Annual Report for 2009 now describes the main activities completed within the past fiscal year (October 2008–September 2009). In particular, it highlights the Faculty's achievements in terms of graduate production, educational quality development, research, academic services to the general public, promotion of arts and culture, conservation of natural resources and the environment, academic cooperation with other institutions both within the country and abroad, as well as the various supporting activities carried out by the various departments in the Faculty of Science and the CMU Faculty of Science Fund.

The successful implementation of all of these tasks during this past year can be attributed to the close cooperation of the academic staff, supporting personnel of all categories, students at both undergraduate and graduate levels, and administrators at all levels. On behalf of the Faculty of Science, may I take this opportunity to express my sincere thanks to all of these people who have played their part in making the past year such a successful year for all of us.



The Faculty of Science, as well as Chiang Mai University, was established in 1964. The Faculty currently consists of 33 buildings which are situated in an area of 36 rai. Our mission is to produce high quality graduates in both pure and applied science disciplines that the nation as a whole and the local community need. Although the Faculty continues to grow and develop, we still focus on our 4 main tasks of teaching, conducting research, academic services for the community, and natural resources and environmental conservation. During its first decade, the Faculty of Science offered 5 Bachelor's degree courses in mathematics, chemistry, physics, biology, and geology. In 1974 and 1989, 8 Master's and 3 Doctoral degree programs were launched respectively. Since 1964, the Faculty of Science has had 9 Deans whose names and terms of office are listed in the following table.

Dean	Term
Professor Dr. Buarej Kamthong	1964-1970
Associate Professor Sompong Cheuntragool	1970-1978
Associate Professor Dr. Udom Sriyotha	1978-1982
Professor Dr. Tavisakdi Ramingwong	1982-1990
Associate Professor Dr. Garune Klunklin	1990-1994
Professor Dr. Kittichai Wattananikorn	1994-2000
Associate Professor Boonrucksar Soonthornthum	2000-2005
Associate Professor Dr. Mongkon Rayanakorn	2005-2010
Associate Professor Dr. Sampan Singharajwarapan	2010-Present

Core Values

The Faculty of Science, Chiang Mai University, defines its core values as:

S - C - I - C - M - U				
S	=	Success		
C	=	Competitiveness		
I	=	Innovativeness		
C	=	Collaboration		
M	=	Morality		
U	=	Unity		



The Faculty of Science will continue to teach and conduct research in order to generate new knowledge and understanding which can be passed on from generation to generation. As an academic institution, the Faculty of Science is committed to researching existing knowledge and exploring areas of new knowledge that can be beneficial for the nation's sustainable development.



The Faculty of Science aims to be recognized at both national and international levels for excellence in teaching and research in science and technology and for the provision of high quality academic services to society as a whole as it moves towards self-sufficiency.

Mission and Targets

- 1. To provide higher-level education in science and technology for students both inside and outside the Faculty with the emphasis on achieving academic excellence to international standards
- 2. To produce high quality research in both basic and applied science and technology that can be useful in developing the country
- 3. To provide academic services for the communities in the country as a whole but especially in the Northern Region
- 4. To promote Thai culture and the sustainable use of natural resources and the environment
- 5. To improve the quality of administration and management in all aspects in accordance with good governance and self-sufficiency economy philosophies

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Administration, Resources and Progress

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Reorganization

The Faculty of Science has reorganized its various sections as shown in the table below:

Previous Section Organization	Present Section Organization	Missions of each section after reorganization
Secretarial Office	Secretarial Office	Planning and provision of academic services
2. Mathematics Department	2. Mathematics Department	
3. Chemistry Department	3. Chemistry Department	
Industrial Chemistry Department	4. Industrial Chemistry Department	Management of teaching and
5. Biology Department	5. Biology Department	research activities and
6. Geology Department	6. Geology Department	preservation of our religious and cultural heritage
7. Physics Department	7. Physics and Materials Science Department	and cultural nertiage
Computer Science Department	8. Computer Science Department	
9. Statistics Department	9. Statistics Department	
	10. Science and Technology Service Centre	Transfer knowledge and provide academic services as requested
	11. Materials Science Research Centre	Conduct research, innovate and transfer knowledge in Materials Science
	12. Multidisciplinary Science Research Centre	Conduct research, innovate and transfer interdisciplinary scientific knowledge

Department of Mathematics

1. History of the Department

The Department of Mathematics was one of the 5 original departments in the Faculty of Science when Chiang Mai University was first established in 1964. The Department of Mathematics offers the following 5 Bachelors, Masters, and Doctoral degree programs:

Bachelor of Science Program in Mathematics	Since 1964
Master of Science Program in Teaching Mathematics	Since 1975
Master of Science Program in Mathematics	Since 1983
Doctor of Philosophy Program in Mathematics	Since 1991
Doctor of Philosophy Program in Applied Mathematics	Since 1999

In the academic year 2009, there were 45 lecturers and 10 supporting staff in the department. The ratios of Professors: Associate Professors: Assistant Professors: Lecturers = 3:9:10:23, with Bachelor's degrees: Master's degrees: Doctoral degrees = 2:16:27. There were 193 Bachelor's students, 38 Master's students and 32 Doctoral students.

2. Vision and Mission

Vision

To produce high quality mathematicians who have knowledge, ethics and high moral standards, conduct mathematical research of international quality, and demonstrate good management.

Mission

- 1. To provide undergraduate and graduate education in mathematics for students both inside and outside the Faculty of Science with the emphasis on achieving international standards
- 2. To produce high quality research at both basic and integrated levels in order to help solve problems and develop the nation's society
- 3. To provide academic services that meet the needs of the local community and the country as a whole
- 4. To promote art and culture, local traditions, and the sustainable use of natural resources from within the environment
- 5. To improve the quality of administration and management in accordance with Thammathirat governance and self-sufficient economy philosophies

3. Achievements in 2009

- 1. In 2009, staff in the Department of Mathematics achieved the following distinctions:
 - 1.1 Professor Dr. Suthep Suantai was awarded an Outstanding Lecturer in Science and Technology 2009 (Golden Elephant) Award from Chiang Mai University.
 - 1.2 The Fixed Point Theory Research Group, chaired by Professor Dr. Sompong Dhampongsa, received an Outstanding Research Group Award 2006-2009 from the Commission on Higher Education Commission (CHE) at the CHE-USDC Congress II. At this Congress, Mr. Sarawut

- Puapong and Miss Warunan Intakon, doctoral students in the Department of Mathematics, also received Best Doctoral Thesis Awards.
- 1.3 Professor Aumnuay Kananthai received a Distinguished Alumni Award from the Faculty of Science in the 40th Anniversary Celebrations of the Faculty of Science, Chiang Mai University, 2009.
- 1.4 Associate Professor Prateep Chankong was awarded a Best Thesis Advisor Award for 2008 and 2009 from Chiang Mai University.
- 1.5 Ajarn Atichart Kettapun, the Coordinator of the Mathematics and Archaeological Science Research Unit, restored a 500 years old wall painting in Wat Umong on Suthep Road using integrated mathematics and science.
- 2. Research funding in 2009 totalled 5,260,947 Baht
- 3. National and international publications in 2009: 47 articles
- 4. Alumni
 - 4.1 Miss Foifon Srisawat won 1st Prize in the women's individual category in the Origami Airplane Contest 2009 in Chiba, Japan.
 - 4.2 Professor Dr. Somyot Plubtieng (former doctoral student) received an Outstanding Researcher of the Year Award 2009 from the National Research Council of Thailand (in Physical Science and Mathematics).
- 5. The Mathematical Alumni Association donated scholarships for the 45th Anniversary Celebrations of the Department of Mathematics totalling 191,000 Baht.



Professor Dr. Sompong Dhampongsa, Head of the Fixed Point Theory Research Group, received an Outstanding Research Group, Award 2006-2009 from the Commission on Higher Education (CHE) and the CHE-USDC Congress II.

Department of Chemistry

1. History of the Department

The Department of Chemistry was one of first 5 departments in the Faculty of Science since Chiang Mai University's inception in 1964 and Chemistry Building 1 was the first building of the Faculty of Science. Since then, the Department of Chemistry has been committed to ongoing development based on its mission to achieve national and international recognition.

The Department of Chemistry opened its current Bachelors, Masters, and Doctoral degree programs in Chemistry in 1964, 1974 and 1989 respectively. In 1989, the Department also opened its Bachelor degree program in Biochemistry and Biochemical Technology. The Department provides service courses in General Chemistry and Biochemistry for undergraduate students from several other faculties.

2. Vision and Mission

Vision

The Department of Chemistry, acting as a source of knowledge and research, aims to produce high quality graduates, create new knowledge, and develop and solve problems with the emphasis on Green Chemistry and Chemistry Innovation for the benefit of society.

Mission

- 1. To produce graduates who are knowledgeable about chemistry, can compete at international level, are up-to-date with modern technology, and can continue to improve and develop themselves throughout their lives
- 2. To conduct research both for educational purposes and to create new knowledge for innovation and integration with related disciplines
- 3. To transfer knowledge, research expertise, and innovation to the local community
- 4. To obtain financial support and establish industrial/private sector collaborations to develop research for the benefit of all concerned and to help the Department to become self-dependent
- 5. To provide a sophisticated database system using information technology management for public access and to facilitate quality assessment
- 6. To apply the knowledge and research generated to promote Thai culture

3. Achievements in 2009

- 1. The 26th Annual Conference of the Microscopy Society of Thailand was held from 28-30 January 2009 at The Empress Hotel Convention Centre, Chiang Mai
- 2. Professor Dr. Seiji Isoda, Head of Advanced Research Center for Beam Science, Institute for Chemical Research (ICR), Kyoto University, Japan, visited and held talks with the Dean of the Faculty of Science. During this visit (19-24 December 2009), Professor Dr. Seiji Isoda gave a lecture, monitored the progress of an exchange PhD student, and held meetings with Heads of Department and Coordinators of the relevant laboratories regarding the organization of a symposium in 2010 and common research interests.

3. Other Activities

- Graduate curriculum (Chemistry) improvement
- Development of information system for management and quality assurance
- Materials Chemistry research groups are participating in the National Research University project



Secondary school students from Udom Darunee School, Sukhothai, visited the Department of Chemistry



Graduate Student Seminar, Department of Chemistry



Enhancing relationships through joint sports activities between academic staff and students, Department of Chemistry



Department of Chemistry merit-making activities



Seminar on B.Sc. (Chemistry) curriculum improvement



Chemistry Teacher Training Program in cooperation with IPST

Department of Industrial Chemistry

1. Department History

The Department of Industrial Chemistry was originally a part of the Department of Chemistry. At that time, the Faculty of Science had 5 departments: Department of Chemistry, Biology, Physics, Geology and Mathematics. Assoc. Prof. Dr. Kanchana Kaewkamnerd initiated two courses: Chemical Process Operations and Industrial Processes in 1972 in the Department of Chemistry. As the number of students interested in these courses increased, other industrial chemistry-related courses were added in 1977.

In 1993, the Department of Industrial Chemistry was established as a separate department and moved to a new 4-storey building in September 1992 using a budget of 32 million baht as part of the Materials Science Project development.

In the academic year 2000, M.S. graduate courses in Industrial Chemistry were approved and a PhD doctoral program will open in 2010. In this way, the Department of Industrial Chemistry aims to develop high quality research in line with Chiang Mai University's aim to be a leading research university, not only in Thailand but in the Asia-Pacific region as a whole.

2. Vision

To make the Department of Industrial Chemistry a top-ranking department for both undergraduate and graduate students where international-level research can be carried out.

Strategy and Goals

Strategy 1: Increase opportunities of education in the Industrial Chemistry field

Admission can cover 90% of students interested in Industrial Chemistry

Strategy 2: Increase opportunities in program selection and research opportunities in the Industrial

Chemistry field

Target All Industrial Chemistry students can study in the program corresponding to their own

interests

Strategy 3: Increase the opportunities for work or study after graduation

Target Students in work/graduate study in Industrial Chemistry to increase to 90%

Strategy 4: Increase funding for education and research from both public and private sectors

Target Students and faculty staff can get educational support and research funding from external

sources

Strategy 5: Enhance the quality of research to international level

Target Students and staff should be active in research for social development to internationally

competitive standards

Strategy 6: Develop staff capability

Target Staff have knowledge and skills for both local and national development

Strategy 7: Increase number of academic services

Target Staff and students can transfer skills and knowledge to communities to move towards a

knowledge-based society

Strategy 8: Knowledge management

Target Generate new knowledge in the Department

Strategy 9: Quality assurance

Target Department should be evaluated and approved to be in accordance with the Commission

on Higher Education educational standards

3. Outstanding Achievements in 2009

Industrial Chemistry staff have increased the number of national and international publications and the amount of research funding. The Department hosted several national and international conferences such as the 17th Chemical Engineering and Applied Chemistry of Thailand Conference (TICHE 17) (29-30 October 2007) and also the 26th Thailand Microscopy Conference (28-30 January 2009). In addition, the Department has cooperation agreements with overseas universities to exchange staff and students and to develop research and education, such as with Gunma University and Tohoku University, Japan, Freiberg University of Mining and Technology, Federal Republic of Germany, and some Danish universities.



Special Lecture by Prof. Dr. Heiko Hessenkemper, Freiberg University of Mining and Technology



Job orientation for 2nd year students

Department of Biology

1. Department History

The Department of Biology was founded in 1964, starting with Bachelor's degree (B.S.) courses in Biology. Since then, the Department has produced 1,405 Bachelor's level students, 615 Master's level students and 62 Doctorate level students; a total number of 2,089. The Department has 91 staff divided into 27 government academic staff, 30 university academic staff, and one special lecturer. In addition, there are 9 support staff, 8 scientists, 2 retainers, and 15 permanent /temporary employees.

2. Vision and Mission

Vision

To create new knowledge and intelligence for the benefit of society whilst adhering to the principles of self-sufficiency.

Mission

- 1. Graduates have local, national and international competitiveness
- 2. Staff and students can produce innovative research work which can be applied to solve the country's problems
- 3. Department provides academic services to build up strong sustainable communities on the basis of self-sufficiency
- 4. Foster arts and culture

3. Outstanding Achievements in 2009

Research

- Asst. Prof. Dr. Sakunee Bovonsombut (Microbiology, Department of Biology); Outstanding Business and Industry Award (Category 4) for "Degradable Pots for Planting Paper Trees" project from Her Royal Highness Princess Maha Chakri Sirindhorn at the Royal Chitralada Palace, 28th September 2009.
- Asst. Prof. Dr. Panuwan Jantawannakul (Microbiology, Department of Biology); Outstanding Mid-Career TRF-CHE-SCOPUS Researcher Award 2009 from Mr. Abhisit Vejjachiwa, Thailand Prime Minister, on the topic of "Bees: Bee Diseases and Local Microorganisms" at the Holiday Inn Resort Regent Beach, Cha-Am, Phetchaburi, 15th October 200.

Education

➤ Mr. Nati Ngangphat (student code 4665007, Department of Biology); Outstanding Doctoral Thesis Award 2009 in Science and Technology for thesis entitled "Biodiversity of Desmids in Some Areas of Freshwater in Thailand and the Correlation with Water Quality".

Department of Physics and Materials Science

1. History

The Department of Physics, Faculty of Science, Chiang Mai University, was established in 1964, the same year of establishment of Chiang Mai University, and became the Department of Physics and Materials Science in 2008. The Department offers 2 undergraduate degree courses in Physics and Materials Science and 5 postgraduate degree courses in Physics, Applied Physics, Teaching Physics, Materials Science and Geophysics. The Department's main aim is to provide its students with a solid foundation in basic Physics and related subjects appropriate to the needs of the country.

2. Mission for 2007-2011

To gain recognition at both national and international levels for the outstanding quality of its teaching and research in producing graduates who are able to take a leading role in their respective professions for the benefit of society.

3. Outstanding Achievements in 2009

- ➤ Outstanding Staff of Faculty of Science 2009
 - 1. Asst. Prof. Kanda Singkarat
 - 2. Asst. Prof. Dr. Yongyut Laosiritaworn
 - 3. Mr. Kumjun Intawong
- ➤ Joint activities with other universities or organizations (national and international) in 2009 (October 2008-September 2009)
 - 1. Permanent Member of Asian-African Association Plasma Training (AAAPT) coordinated by Assoc. Prof. Dr. Theerawan Boonyawan
 - 2. 12th International Symposium on Ecomaterials Processing Design 2011 (ISPED 2011) coordinated by Prof. Dr. Somchai Thongtem



Preparation of course 207188 (PHYSICS II) projects for 1st year undergraduate students in the Department of Physics and Materials Science

Department of Geological Sciences

1. History

The Department of Geological Sciences opened its undergraduate geology programme in 1964 in the same year that Chiang Mai University was founded. At that time, there were 12 students in the first year program of whom 5 graduated. Since then, the number of students has steadily increased with graduates finding work in government agencies and private companies nationwide. The Department has provided Master's degree courses in Geology since 1975 and Doctoral degree courses since 1989. In addition, together with the Departments of Biology and Chemistry, the Department of Geological Sciences has provided a Master's degree course in Environmental Science since 1992 followed later by a Doctoral degree course. In 1993, the Department of Geology joined with Physics to set up a Master's degree program in Applied Geophysics which has since been revised in 2004. In 1995, the Department also opened a new undergraduate program in Gemology while the Doctoral program in Geology was revised as an international programme. In 2004, a Master's degree international program in Petroleum Geology was opened.

2. Vision and Mission

Vision

The Department of Geological Sciences aims to be a leading institute in Thailand for generating new knowledge and producing high quality graduates in Geology and Gemology for the country. By 2014, when Chiang Mai University will celebrate its 50th anniversary, the Department of aims to be one of the leading research institutions in Asia.

Mission

The Department of Geological Sciences has the same mission as Chiang Mai University which focuses on teaching, research, community service, cultural activities and environmental awareness. The Department currently has 31 members of staff comprising 19 lecturers, 1 volunteer lecturer, 5 experimental officers, 3 administrators and 3 permanent employees, all of whom are dedicated towards helping the Department achieve its goals.

3. Outstanding Achievements in 2009

1. The Department attracted financial support from both inside and outside Chiang Mai University amounting to a total of 30,570,327.57 Baht (Table 1).

Table 1. Income from Various Activities in 2008-2009

Activity	Number of Grants or Services Provided	Source of Income/Funding	Budget (Baht)
Scientific Research	4	Annual government statement of expenditure and revenue budget	1,355,800
Departmental Research	3	Revenue budget	219,100
Contract Research	10	Thai state agencies PTTEP	16,1617,000 2,097,100
Academic Services	2	Annual government statement of expenditure	8,230,000
Analysis of Geological and Gemstone Specimens	1,338	Thai state agencies and private institutions	766,394
Workshops	2	Phu-Bia Mining Co. Ltd.	698,533.57
Scholarships	34	Private institutions	586,400
	TOTAL		30,570,327.57

- 2. As part of the 45th Anniversary Chiang Mai University Celebrations, the Department of Geological Sciences celebrated the opening of the Geology Museum on 17th August 2009 to provide a source of geological information for students and other interested persons. The Museum includes exhibitions of rocks, minerals and fossils and other geological specimens from ancient times to the present.
- 3. Among the various departments in the Faculty of Science, the Department of Geological Sciences obtained the highest internal quality assessment marks in March 2009.





Inauguration Ceremony for the Opening of the Geology Museum on 17th August 2009

Department of Computer Science

1. History

Computer Science used to be one of the subjects in the Mathematics study program until the Department of Mathematics opened a separate B.S. program in Computer Science in 1983. Four years later, the Ministry of University Affairs approved the establishment of a new Department of Computer Science.

Current study programs are offered at the Bachelor of Science (B.S.), Master of Science (M.S.) and doctorate (PhD) levels. Other special study programs at graduate levels are also offered. All study programs (both types A and B) have so far produced approximately 1,000 and 200 graduates at the B.S. and M.S. levels respectively. These graduates have gone on to be owners of businesses, company employees, university lecturers, civil servants and other professional types.



2. Vision and Mission

Vision

To strive towards producing high quality graduates, achieving international standards in teaching and research, and providing the resources for self-sufficiency development.

Mission

- 1. To provide higher-level education with the emphasis on achieving academic excellence to international standards
- 2. To produce high quality research in both basic and applied computer science to develop the country
- 3. To provide academic services for the communities in the country
- 4. To promote Thai culture and ethical behavior
- 5. To produce outstanding achievements during the year

Research: Excellent work in research has been carried out, for example in areas such as theory of computation, bioinformatics, NLP, biomedical engineering, software engineering, networking and evolutionary algorithms.

Academic Services: Workshops, seminars and conferences were organised in order to disseminate and exchange know-how to communities, researchers and students. In 2010, NCSEC and the 6th International Science Olympiad will be hosted by the Department of Computer Science.



Career advice and job introduction for current students



Study tours to both government and private sector organisations

Academic Collaborations: the Department has signed academic collaboration agreements with world class universities, such as the University of Wollongong (Australia), Armstrong Atlantic State University (USA) and the National Chung Cheng University (Taiwan).

All of the Department's staff are committed to the development of academic excellence in accordance with the vision of the Computer Science Department.

Department of Statistics

1. History

Statistics was first offered as a Bachelor's Degree (B.S.) study program in the Mathematics Department in 1975. The Department of Statistics was later set up as a separate department with Asst. Prof. Dr. Wanlop Supriyasilp as the first Department Head in 1979. In 1989, the Department of Statistics opened its Master's Degree (M.S.) study program in Applied Statistics.

Curriculum

- 1. To support graduate students in having their work published
- 2. A new PhD study program in Statistics is currently being drafted

Research

- 1. To provide a Doctoral degree program in Applied Statistics
- 2. To encourage lecturers, graduate and undergraduate students to disseminate their work to the wider scientific community

Staff

- 1. To encourage and support lecturers and their students to publish their work in order for the lecturers to apply for academic promotion
- 2. To encourage lecturers to further their study at the doctoral level by helping them to find scholarships

2. Outstanding Achievements

Each academic year, the Statistics Department aims to service up to 100 undergraduate students and 30 graduate students, although the actual number of students in the Department at any one time is usually less. The Master's Degree students are assigned to a lecturer who then supports them in their research, including giving presentations in national and international conferences and having their work published in national and international journals. In the academic year 2009, there were 53 B.S. degree level students and 9 M.S. degree level students. In its latest development, the Department of Statistics is currently planning the curriculum for a doctoral (PhD) program which is expected to open in 2011.



Site visit for 4th year students





Science and Technology Service Center

History and Policies



The Science and Technology Service Center (STSC) was first established as the Science and Technology Service Institute which was an autonomous organization under the administration of Chiang Mai University and the management of the Institution Director on May 1st, 2000. According to the announcement on the administrative structure of Chiang Mai University on December 30th, 2008, the status of the STSC changed to be a Center under the management of the Faculty of Science from which the present name has been adopted. The policies of the STSC are as follows:

- 1) Provide academic and technological services to organizations both inside and outside Chiang Mai University, including both government and private sectors
- 2) Strengthen scientific and technological research and development and to encourage Faculty personnel to develop their knowledge and experience to meet the demands of both the government and private sectors and organizations from both inside and outside the University
- 3) Transfer knowledge, technology and experience to the private sector and community as part of the national development
- 4) Be a training center for personnel and students in science and technology
- 5) Conduct research relevant to the needs of the Northern Region in line with national research policies
- 6) Generate income for the benefit of both the Faculty and the University



Vision

The STSC provides scientific and technological services of high quality and standards to organizations within Chiang Mai University as well as outside institutions for both academic and commercial purposes.



Mission

The STSC is dedicated to providing high quality academic services and technology transfer while, at the same time, increasing the assets of the Faculty and the University.

Materials Science Research Center & Multidisciplinary Science Research Center

The Materials Science Research Center and the Multidisciplinary Science Research Center have recently been established with the support of the Faculty. Their main missions are the development of innovative research and, where appropriate, knowledge and technology transfer. At present, these Centers are under the supervision of Assoc. Prof. Dr. Pisith Singjai and Prof. Kate Grudpan, the newly appointed Directors of the Materials Science Research Center and the Multidisciplinary Science Research Center respectively.

Faculty of Science Office

History

Established as the same time as the foundation of the Faculty of Science in 1964, the Faculty of Science Office was first known as the Faculty Secretarial Office. From 1964-1984, the Office was divided into 4 sections; clerical, finance, commodities and academic. In order to improve the quality of its administrative work, the Office was re-organized in 1985 and again in 1989 when the Office was legally divided into the 4 sections of: administrative, planning and policy, finance and commodities, and academic services. The Administrative Section comprises 3 units: clerical, personnel, and building and vehicles; the Finance and Commodities Section is divided into 2 units: finance and accounting, and commodities. The largest section is the Academic Services Section which comprises 6 units: registration and evaluation, academic support and development, audio visual aids, student affairs, printing and the library. The library personnel may either be affiliated to the University Main Library or the Faculty Library, although the budget is under the control of the Faculty. In 1991, the Research and Development Section was established and was later re-named as the Research and International Relations Section in 2004. The Planning and Policy Section was also divided into the Planning and Budgeting Unit and the Information Technology Unit in the same year. Since becoming an autonomous institution, the University has instigated a policy to reduce the number of units in each section of the Faculty Office. The Faculty Office is therefore in a period of reorganisation pending the formal announcement from the University.

Vision and Mission

The Faculty Office has the primary mission of being supportive of the Faculty's administration according to the Faculty's philosophy, vision and mission. This includes graduate production, academic services to the local community, and the conservation of natural resources, arts and culture, and the environment under the guidance of the Faculty Board.

Outstanding Achievements

The Faculty Office, through its the administrative organization, has contributed to the important role of initiating, collaborating and providing the foundation for various missions of the Faculty including organizing activities in the Faculty, University, and the local community at both national and international levels. The year 2009 was the 45th Anniversary of both the Faculty's and the University's foundation and

a number of activities were arranged; for example, national and international conferences, the Nobel Laureate Lectures, workshops for school teachers, Olympiad Camp, Alumni Reunion and the National Science Fair.

The Faculty of Science Fund

The Faculty of Science Fund was founded in 1985 with the purpose of finding funding for science student scholarships, supporting budget for Faculty staff to present their work, and research and innovation aids. At present, the Faculty of Science Fund has assets of over 21 million Baht.

The Faculty of Science Fund has two investment schemes. First, 6 million Baht was jointly invested with the University in the Dormitory 4 Project. In the year 2009, the total return was 515,814.81 Baht. Second, 9.5 million Baht was invested in Government bonds and the total interest generated was 274,500 Baht. Additional income of 63,619 Baht was from donations and the selling of souvenirs. The returns from these investments have been allocated to recipients in accordance with the fundamental principles of the Fund; 420,000 Baht for students' education, 30,000 Baht for staff development, and 100,000 Baht for research support.

The Fund also participated in other non-academic activities such as the charity concert "Jazz Cool Band" held on February 24, 2009, services to the local community, gifts and souvenirs for the New Year Party, and also charity work with other organizations both inside and outside the University.



Achievements

Graduates and Education Quality Development Graduate Production

Academic Programs

In the academic year 2009, the Faculty of Science offered the following academic and interdisciplinary programs:

Bachelor of Science (B.S.) level
 Diploma level
 Master of Science (M.S.) level
 Doctorate (PhD) level
 programs
 programs

B.S. Level	Diploma Level	M.S. Level	PhD Level
Mathematics	Integrated Science	Mathematics Teaching Mathematics Applied Mathematics	Mathematics
Computer Science		Computer Science***	Computer Science (English Program)
Statistics		Applied Statistics	
Physics Materials Science		Physics Teaching Physics Applied Physics Materials Science	Physics** Materials Science** Applied Physics
Industrial Chemistry		Industrial Chemistry	
Chemistry Biochemistry and Biochemical Technology		Chemistry Teaching Chemistry Biochemical Technology [@]	Chemistry**
Biology Zoology Microbiology		Biology Teaching Biology Applied Microbiology	Biology Biodiversity and Ethnobiology Applied Microbiology
Geology Gemology		Geology Applied Geophysics** Petroleum Geoscience*	Geology**
		Environmental Science** Bioinformatics Integrated Science and Mathematics	Environmental Science Biotechnology [®]
		Forensic Science@	Nanoscience and Nanotechnology [@]

^{*} International Program ** International Program also offered *** Special Program also offered @ Joint Program with the Graduate School

In addition, various academic programs and course syllabuses at both undergraduate and graduate levels were revised in 2009.

New and Revised Courses

Level	Program	New Courses	Revised Courses	Others
Undergraduate	Mathematics	4	3	
	Statistics	2	1	
	Biology	5	3	
	Zoology	-	1	
	Physics	7	4	12 courses closed
	Chemistry	5	3	
	Biochemistry and Biochemical Technology	1	-	
	Geology	1	1	
	Gemology	-	1	
	Computer Science	-	1	
	Industrial Chemistry	-	3	
	General Education	5	1	
Graduate	Physics	-	1	

Revised Academic Programs

In the academic year 2009, the Faculty of Science revised all of its academic programs at graduate level according to the standards set by the Commission of Higher Education. Five academic programs: General Chemistry (PhD), Chemistry (International) (PhD), Mathematics (PhD), Applied Physics (PhD) and Chemistry (M.S.) were approved.

Student Admission

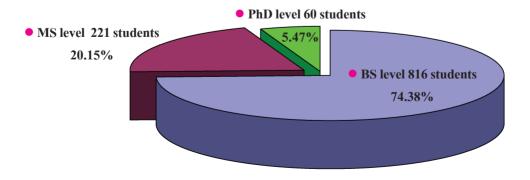
The Faculty of Science has various admission systems for its undergraduate programs including:

- National Entrance Examination through the Central University Admissions System (CUAS) organized by the Commission of Higher Education
- Quota Examination organized by Chiang Mai University
- Special Admission Examination arranged by the Faculty of Science to fulfill the requirements of various academic projects such as:
 - Development and Promotion of Science and Technology Talents (DPST) Project
 - Promotion of Science and Mathematics Talents Project
 - Development of Human Resources in Science Project
 - Outstanding Student Admission Project, Chiang Mai University
 - Development and Promotion of Sport Talents Project
 - Computer Science Talents Student Admission Project
 - Development of Science for Talented Children and Youth Students Project
 - Academic Olympic Camp Student Admission Project
 - Science in Schools Project
 - Science and Mathematics in Community Foundation Project
 - Special Student Admission Project
 - Petch Thong Kwow Project
 - Mathematics Talents Student Admission Project
 - Groundwater Guardian Network Students Admission Project, Department of Groundwater Resources
 - Geology and Mining Students from the Greater Mekong Sub-region Admission Project

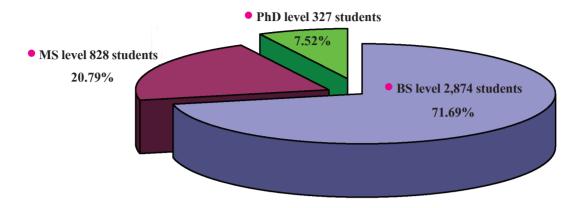
For its graduate programs, applications are made directly to the Graduate School, Chiang Mai University. Admission examinations for the individual degree programs are taken at the Faculty of Science. Applications are invited twice per year during the first and second semesters of each academic year.

Current Students

In the academic year 2009, the total number of new students admitted to the Faculty of Science was 1,097. This total number comprised 816 at B.S. level, 221 at M.S. level, and 60 at PhD level. At present, the total number of current students is 4029 comprising 2874 at B.S. level, 828 at M.S. level and 327 at PhD level.



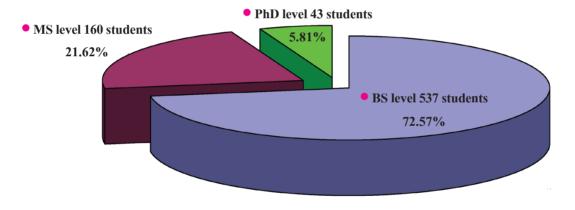
Academic year 2009 (new students)



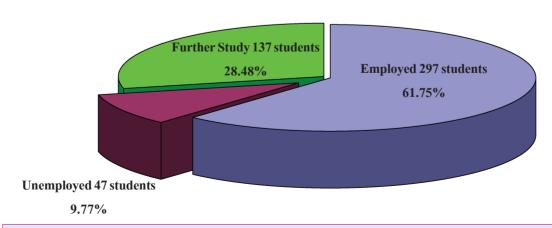
Academic year 2009 (total current students)

Graduate Employment or Further Study

The total number of students who graduated in the year 2009 was 740. Of these, 537 were at B.S. level, 160 at M.S. level and 43 at PhD level. Among the 2009 graduates surveyed, 297 are in employment, 137 are furthering their studies in graduate programs, and 47 are unemployed.



Students Graduated in 2009



Employment/Further Study Status of 2009 Graduates

$Employment\ and\ Further\ Study\ Status\ of\ 2009\ Graduates$

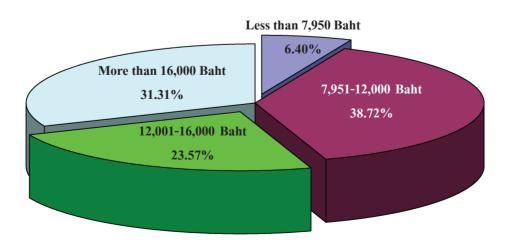
	Status					Total		
Program	Emj	ployed	Unem	ployed	Graduate Study			
	Number	%	Number	%	Number	%	Number	%
Chemistry	33	73.33	1	2.22	11	24.45	45	9.36
Biochemistry and Biochemical Technology	4	30.77	4	30.77	5	38.46	13	2.70
Industrial Chemistry	34	62.96	3	5.56	17	31.48	54	11.23
Biology	15	40.54	3	8.11	19	51.35	37	7.69
Microbiology	22	55.0	5	12.50	13	32.50	40	8.32
Zoology	4	30.77	1	7.69	8	61.54	13	2.70
Geology	43	93.48	2	4.35	1	2.17	46	9.56
Gemology	27	81.82	4	12.12	2	6.06	33	6.86
Mathematics	7	22.58	1	3.23	23	74.19	31	6.44
Computer Science	44	81.48	7	12.96	3	5.56	54	11.23
Statistics	29	76.32	2	5.26	7	18.42	38	7.90
Physics	9	26.47	7	20.59	18	52.59	34	7.07
Materials Science	26	60.46	7	16.28	10	23.26	43	8.94
Total	297	61.75	47	9.77	137	28.48	481	100.00

Employment Salaries of 2009 Graduates (Baht/Month)

Program	Less than 7,950	7,951-12,000	12,001-16,000	More than 16,000	Total
Chemistry	2	10	12	9	33
Biochemistry and Biochemical Technology	-	2	2	-	4
Industrial Chemistry	-	5	9	20	34
Biology	3	7	3	2	15
Microbiology	2	13	5	2	22
Zoology	1	2	1	-	4
Geology	-	17	2	24	43
Gemology	2	10	10	5	27
Mathematics	2	5	-	-	7
Computer Science	2	12	8	22	44
Statistics	3	17	5	4	29
Physics	1	5	-	3	9
Materials Science	1	10	13	2	26
Total	19	115	70	93	267
%	6.40	38.72	23.57	31.31	100.0

Employment and Graduate Study

Of the students who graduated from the Faculty of Science in 2009, 61.75% are employed, 28.48% are graduate students and 9.77% are unemployed (Data obtained on 22 January 2009).



Monthly salaries of students who graduated in 2009

32: 2009 Annual Report

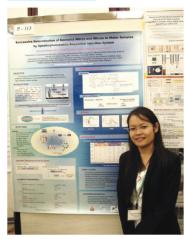
Graduate Employment According to Salary

Monthly Salary Program	Less than 7,950 Baht	7,951-12,000 Baht	12,001-16,000 Baht	More than 16,000 Baht	Total
Chemistry	2	10	12	9	33
Biochemistry and Biochemical Technology	-	2	2	-	4
Industrial Chemistry	-	5	9	20	34
Biology	3	7	3	2	15
Microbiology	2	13	5	2	22
Zoology	1	2	1	-	4
Geology	-	17	2	24	43
Gemology	2	10	10	5	27
Mathematics	2	5	-	-	7
Computer Science	2	12	8	22	44
Statistics	3	17	5	4	29
Physics	1	5	-	3	9
Materials Science	1	10	13	2	26
Total	19	115	70	93	267
%	6.40	38.72	23.57	31.31	100.0

(Data obtained on 22 January 2009 by Student Affairs Unit from graduates who responded to questionnaire)

Honours and Awards

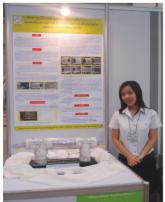
Students



Miss Saifon Junpaka (PhD student in the Department of Chemistry) won the Best Doctoral Award for poster presentation at the Commission on Higher Education Congress II: University Staff Development Consortium held on 27-29 August 2009 at the Dusit Thani Pattaya Hotel.



Mr. Kem Sangkham, Mr. Prathompong Prapye and Miss Marisa Mahawanchai (undergraduate students in the Department of Computer Science) were awarded 2nd Prize in the C Programming Section of the Northern Thailand Programmer Competition 2009 held on 30 January 2009 at Pantip Plaza, Chiang Mai.







Miss Donraporn Daranarong (undergraduate student in the Department of Chemistry) was awarded 1st Prize in the Professional Award, Chemical Science and Environment Section, and the Grand Champion at the IRPUS Exhibition from The Thailand Research Fund (TRF). Miss Donraporn's project advisor was Asst. Prof. Dr. Winita Punyodom. The Exhibition was held on 26-29 March 2009 at the Siam Paragon Conference Centre, Bangkok.

Alumni News



Outstanding Alumni Awards at the $45^{\rm th}$ Anniversary Faculty of Science Alumni Reunion were presented to:

- 1. Prof. Amnuay Kananchai
- 2. Assoc. Prof. Dr. Yuwadee Peerapornpisan
- 3. Miss Muntana Peuksawan
- 4. Miss Wilawan Athichard (Phetwana)
- 5. Assoc. Prof. Dr. Surasak Watanesk
- 6. Assoc. Prof. Rangsan Niamsanit
- 7. Mr. Thanakorn Palachai
- 8. Assoc. Prof. Dr. Weerapong Paesuwan
- 9. Dr. Somchai Auepipattanakoon
- 10. Dr. Suthiwech Thosangjan
- 11. Mr. Wiboon Kaikongjit
- 12. Asst. Prof. Dr. Kamolchanok Panitchakarn
- 13. Assoc. Prof. Dr. Chalobon Wongsawad

Mr. Preecha Kovitaya was awarded an Honorary Doctorate of Philosophy (PhD) in Chemistry at the 44th Graduation Ceremony, Chiang Mai University.



Academic Development (TQF)

The Faculty of Science provides funding for various academic activities in support of both undergraduate and graduate programs as follows:

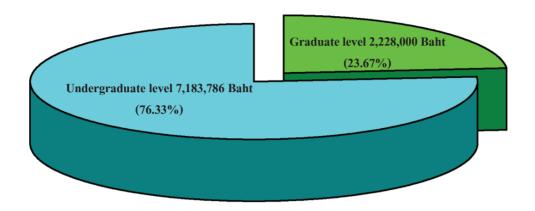
Undergraduate Level

☐ Teaching and Learning Development Project

Support for teaching and learning development activities are divided into 4 categories.

- ➤ Activities for enhancement of student quality: These activities are carried out through workshops and seminars to enhance the knowledge of students in the areas of:
 - 1) subjects that are directly related to their major programs of study
 - 2) career-related practical knowledge for their future work
 - 3) special skills for higher education and work, especially skills in English and information technology
- ➤ Activities for development of teaching materials: These activities are for providing/ developing teaching and learning materials such as textbooks, teaching aids, and information technology systems
- ➤ Activities for promoting cultural and human relation values: These activities are for the promotion of ethics, morality, and enhancement of relationships among students, such as Buddhist ceremonies, orphanage visits, Sports Day, ethics camp, and departmental cleaning days.
- ➤ Activities related to teaching and learning development: During the past year, the Faculty of Science allotted a total of 848,977 Baht for the following activities:
 - Multidisciplinary Science Camp for 1st year students
 - Research training for 2nd year students in special programs (e.g., Talented Students in Science and Technology Project)
 - Job training and site visits
 - Academic majors open house
 - Undergraduate Students Research Presentation Day
 - Social/Academic Charity Camp
 - Support for Special Problem and Independent Studies courses
 - Parents Day (administrators meet with parents of 1st year students)
 - Orientation/Pre-graduation meeting
 - Annual visits to students' homes
 - Graduation preparation for 3rd year students
 - Annual Meeting of 1st year students' academic advisors
 - Student Committees Seminar
 - Workshops/seminars to prepare 1st and 2nd year students to conduct their own academic development activities

Scholarships



Graduate Level

• Financial Support for Research Presentations and Exchange Programs

In 2009, the Faculty of Science provided travel grants totalling 837,196 Baht for 125 graduate students to present their research work in both national conferences (90 students, 321,696 Baht) and international conferences (35 students, 515,500 Baht). In addition, the Faculty of Science provided 75,000 Baht to support 3 graduate students to conduct research abroad through collaborative exchange programs at Aston University (UK), Kagawa University (Japan) and Gunma University (Japan).

• Academic Development Project

The Faculty of Science provided 492,936 Baht to support 42 academic development projects arranged by various departments.

• Teaching Assistant (TA) Project

The Faculty of Science supported the Teaching Assistant (TA) Program for graduate students to help in lecture and laboratory courses in 2 ways, either as TAs hired by the hour or as TAs supported by scholarships. In 2009, the total funding provided was 2,486,820 Baht of which 1,253,820 Baht was for hourly-hired TAs and 1,233,000 Baht was for TA scholarships.

Scholarships and Financial Support for Undergraduate Students

Students in the Faculty of Science received 564 scholarships (totalling 9,411,786 Baht) which comprised 541 scholarships for undergraduate students (7,183,786 Baht) and 23 scholarships for graduate students (2,228,200 Baht). These scholarships were obtained from the following sources: general income budget, income from the Alumni Fund, Dr. Buarej Kamtong Foundation, Mr. Manoch-Duangjan Kaneeyao Foundation, Aurmporn Ngarmariyakul Foundation, Ajinomoto, 21st JCC, Thai Parkerizing Co. Ltd., SMBC, Rico Foundation, CMU Development Foundation, Siam Cement Foundation, Sri Wisarn Waja Foundation, Chareon Pokapan, Krung Thai Electric Co. Ltd., CMU Support Fund, Esso 200 years Bangkok Anniversary Fund, Tisco Foundation, Queen's Foundation for Students, Ruamjit Nomklao Foundation, AIS, PTT Co. Ltd., Klongyang Co., Slumberjay Co., Wicha-Sujiga Sethabutra Fund, Prof. Dr. Parinya Nutalai, Kanoksin Export Import Co. Ltd., Mr. Sommart Suntornrungsri, Chemistry Department Alumni Fund, Life Insurance Group, Faculty of Science Fund, and the National Science and Technology Development Agency. (Details can be found at the website www.science.cmu.ac.th)

Graduate Scholarships Received in 2009

Scholarships	Amount (Baht)	Number of Scholarships	Total Amount (Baht)
Thailand Graduate Institute of Science and Technology (TGIST) Scholarships from the National Science and Technology Development Agency (NSTDA)	86,500	18	1,557,000
Research and development scholarships from National Metal and Materials Technology Center (MTEC)	144,000	1	144,000
Grants from Thailand Research Fund (TRF)	100,000	2	200,000
Grants from TRF for young researchers	96,000	1	96,000
National Science and Technology Development Agency (NSTDA)	231,000	1	231,000
Total	23	2,228,000	

(Data as shown on January 7, 2010)

Science Classroom Project in Schools under the Supervision of the University

This project was initiated according to the policy announced by the Ministry of Science and Technology. The objective is to build a strong foundation and increase the potential of researchers in science and technology through academic curriculum support for talented high school level students. Chiang Mai University, led by the Faculty of Science, together with the CMU Demonstration School, set up a Science Classroom in the academic year 2009 to accommodate 2nd and 3rd year high school students, 30 from each level. The Ministry of Science and Technology has provided 9,000,000 Baht in support of this project.

Student Activities

The Faculty of Science realizes the importance of promoting knowledge and developing skills for living in the modern society. Hence, students are encouraged to organize and participate in extracurricular activities including academic activities, sports and recreation, cultural arts and traditions, and community services.

In 2009, student activities were organised throughout the year totalling 26 events at a budget cost of 738,828 Baht. The activities included:

- Freshy Sports Day
- Faculty of Science and Faculty of Agriculture Sports Day
- 20th Science of Thailand Sports Day (Atom Games): "Doi Suthep Games"
- Music Teaching, Lanna Shows and Lanna-style crafts
- Astronomy youth leader camp
- Community astronomy
- Doi Suthep bird watching
- Sports Day 2009
- Teacher's Day
- "Bai Sri "and "Khan Toke Dinner"
- Social charity and community service camp in October
- Rural plantation and environmental development project

(See details at http://mis.science.cmu.ac.th/public/thai/news/view photo activity year inc.php)











The Faculty of Science Alumni Association, Chiang Mai University

Mr. Charlie Tuggerawong, President of the Faculty of Science Alumni Association, Chiang Mai University, organized an alumni homecoming event for the 45th Anniversary of the Faculty of Science at the Chiang Mai University Convention Center to promote closer relationships among alumni and to elect a new President. Approximately 500 alumni participated in the event. The Alumni Association continued to organize fund-raising events to provide scholarships for needy students in the Faculty of Science. For the 45th year anniversary celebrations of the Faculty of Science, the Association received excellent support from its alumni resulting in donations, as reported on 11 December, 2009, totalling 1,800,000 Baht for presentation to the Faculty of Science. In addition, the Alumni Association also donated academic scholarships for students of Chiang Mai University through the Office of the President totalling 100,000 Baht from this homecoming event.



Educational Quality Control

In 2009, the Faculty of Science was evaluated in terms of its overall performance during the academic year 2008 (June 1, 2008–May 31, 2009). The Evaluation Committee examined and evaluated the educational quality control system in the Faculty of Science over 2 days during June 25-26, 2009 and gave their evaluation scores for a total of 9 designated categories. The final average score of 2.44 (out of a maximum of 3) was in the "Good" ranking level. The details are as follows:

	Average Score according to each indicator				
Category	Imported Factors	Process	Product	Evaluation Outcome (Average)	
Philosophy, ambitions, objectives and performance plan	-	3.00	2.00	2.50	
Learning and teaching	1.71	2.40	2.33	2.17	
Student development activities	-	0.50	3.00	1.33	
Research	2.50	3.00	3.00	2.79	
Academic community services	3.00	2.50	3.00	2.83	
Preservation of culture and arts	2.00	2.00	3.00	2.25	
Administration and management	3.00	2.60	2.60	2.67	
Finance and budgeting	-	3.00	-	3.00	
System and mechanism of educational quality control	-	3.00	3.00	3.00	
Evaluation outcome	2.22	2.45	2.56	2.44	

As part of this evaluation, the Evaluation Committee also provided several useful suggestions concerning the administrative management of the educational quality control which the Faculty of Science could use for further improvement and development.

The Evaluation Committee consisted of the following persons:

1.	Assoc. Prof. Penrat Hongwittayakorn (Maejo University)	Chairperson
2.	Assoc. Prof. Dr. Areewan Klunklin	Member
3.	Assoc. Prof. Dr. Chonnath Kritworakan	Member
4.	Asst. Prof. Dr. Kaewalin Kunasakdakun	Member

Research Articles in 2009

Chiang Mai University staff research publication rankings for the year 2009

Asst. Prof. Dr. Rattikorn Yimnirun	49 articles Faculty of Science
2. Assoc. Prof. Dr. Supon Ananta	40 articles Faculty of Science
3. Prof. Dr. Somchai Thongtem	29 articles Faculty of Science
4. Assoc. Prof. Dr. Thitipun Thongtem	24 articles Faculty of Science
5. Asst. Prof. Dr. Yongyuth Laosirithavorn	21 articles Faculty of Science
6. Dr. Athipong Ngamjarurojana	19 articles Faculty of Science
7. Dr. Anukorn Phuruangrat	17 articles Faculty of Science
8. Muangjai Unruan (Student)	14 articles Faculty of Science
9. Assoc Prof. Dr. Yuwadee Peerapornpisal	13 articles Faculty of Science
10. Prof. Dr. Saisamorn Lumyong	12 articles Faculty of Science

Chiang Mai University has MOU academic collaborations with 11 institutions in Thailand and 30 institutions around the world. The University also currently hosts research fellows from 21 different countries worldwide.

Research Publications

In 2009, the Faculty of Science encouraged researchers to publish their research articles in refereed journals or present research articles in international and national conferences.

1.	Research articles published in journals listed in the ISI database or Web of Science	258	articles
2.	Research articles cited in refereed journals listed in the ISI database or Web of Science	41	articles
3.	Research articles presented in international conferences	43	articles
4.	Research articles presented in the 33 rd Annual Congress on Science and Technology of Thailand (STT33)	71	articles
5.	Research articles presented in the 4th Chiang Mai University Academic Days Conference	37	articles

Academic Collaborations

Academic MOUs in 2009

Total of 41 institutions: 30 institutions worldwide and 11 institutions in Thailand
The 5 most recently signed MOUs are listed below

No.	National Flag	Country	Institution	Level/Duration/Department
1		Japan	Institute for Chemical Research (ICR) Kyoto University	Faculty Jan 27, 2009–Jan 26, 2014 Industrial Chemistry
2		Japan	Graduate School of Science and Technology and Faculty of Engineering, Niigata University	Faculty Aug 14, 2009–Aug 13, 2014 Chemistry
3		Japan	Toyota Technological Institute	University May 25, 2009–May 24, 2012 Chemistry
4		USA	University of Arkansas Fort Smith	University Jun 25, 2009–Jun 24, 2014 Mathematics
5	* *	Australia	University of Tasmania	University Dec 3, 2009–Dec 2, 2014 Geology

Visiting research staff during 2009 (Oct 2008-Sept 2009)

No.	Nation Flag	Country	Institution	Visitors
1	*.}	China	University of Hong Kong	1
2		Czech Republic	University of South Bohemia	1
3		Japan	 Shiga University Kagawa University (3 times) Niigata University Mr. Abe 	6
4	*	Taiwan	National Chung Hsing University	1
5		Thailand	Islam University, Yala	1
6		Netherlands	ITC	1
7		Germany	 Technical University Ilmenua German Embassy, Bangkok 	2
8		Laos	National University of Laos	1
9		USA	 University of Georgia University of Texas at San Antonio University of California Center for Disease Control and Prevention, Atlanta US Embassy, Bangkok 	5
10	*	Australia	Queensland University of Technology	1
11	坎	Israel	Islamic Azad University	1
			TOTAL	21

Public Relations

Outstanding Academic Services in the Academic Year 2009

The Faculty of Science, Chiang Mai University, classifies public relations into 2 different categories.

1. Academic Services for Schools

1.1 Academic Olympia

The Faculty of Science organized Science and Mathematics Olympia Camps, under the Patronage of her Royal Highness Princess Galyani Vadhana Krom Luang Naradhawas Rajanagarindra (POSN), for the 10th year. There were 6 subject areas: mathematics, computer science, chemistry, biology, physics and astronomy. In 2009, the 1st Round exam was held on September, 2009 for 5,014 students. The 1st Camp of 2009 was held during October 5-19. An Astronomy Olympia Camp for middle school students was held from October 7-17, 2009, and one for high school students from October 4-13, 2009, for which there were 256 students, 6 guest speakers, 26 high school teachers and 47 guest speakers from the Faculty of Science, Chiang Mai University, in attendance.





1.2 Training Program for High School Teachers in Science, Mathematics and World Technology

The Faculty of Science, Chiang Mai University, organized a training program during April 20-May 1, 2009. The number of trainees is listed below.

Department	Total
Biology	29
Mathematics	59
World Technology	29
Chemistry	32
Physics	28
Total	177

2. Basic Knowledge and Technology for Society

2.1 The Faculty of Science provides basic knowledge and technology for society in various ways such as:

- Organizing conferences
- Organizing seminars
- Organizing practical training in different areas of science
- Providing guest speakers for private and public institutions
- Giving useful academic suggestions

2.2 Multi-disciplinary Projects for Society

In 2009, the Faculty of Science received funding for 4 multidisciplinary projects for society.

1) Nanotechnology Research Project

With support funding of 3,000,000 Baht, this project is a collaboration between various units both inside and outside the Faculty of Science such as the Faculty of Agriculture, Research Unit to Develop Medicine, Cosmetics and Natural Products, and the Institute for Research and Development in Science and Technology. The main purpose of this project is to develop knowledge in nanotechnology. So far, the output from the project is as follows:

- Support for 34 graduate students in nanoscience and nanotechnology
- Public relations
- Analysis and/or preparation of 218 materials
- Setting up of 7 organizational meetings
- Starting a database for nanoscience and nanotechnology
- Organizing a German-Thai Symposium on Nanoscience and Nanotechnology 2009 from September 21-23, 2009, at the Chiang Mai Orchid Hotel with 104 participants from both government-related institutes and privately owned companies as well as from academic institutions.
- Participation in national nanotechnology units

2) Conservation and Utilization of Biodiversity

With funding of 3,000,000 Baht, this project involves the collaboration of various faculties within the University and the Research Unit in Agricultural Product Development. During 2009, the output from this project has included:

- Setting up 30 training programs for the upper northern part of Thailand
- Providing basic knowledge for 540 villages with about 2,620,500 inhabitants
- Producing a total of 28 graduate students at Master's and PhD degree levels

3) Research Projects and Services Genome Crops

With funding of 2,000,000 Baht, this project is a collaboration between the Biology Department and the Faculty of Science. The output of the project has so far comprised:

- Analyzing plant DNA
- Analyzing GMOs
- Research publications
- Protein testing
- Plant tissue culture
- Laboratory training
- Academic consultancy for plant GENOME
- Student training
- Analyzing chemical reactions of parasites and cells
- Separation and transfer of genetic material to targets

4) Forensic Science Center Project, Chiang Mai University

With funding of 2,000,000 Baht, the project is led by the Faculty of Science in collaboration with the Faculty of Medicine, Faculty of Social Sciences, Faculty of Dentistry, Faculty of Pharmacy, Faculty of Medicine, Faculty of Fine Arts, Faculty of Engineering and the Faculty of Agriculture. Thus far, this project has produced the following output:

- Support for 7 forensic science research projects
- 3 Projects relating to the development of trained forensic science personnel
- 6 Community services to inform and improve the understanding of forensic science
- Organization of 10 special lectures
- 2 Study visits

Research and Service Center on Electron Microscopy

The Research and Service Center on Electron Microscopy has been in operation under the supervision of the Science and Technology Service Center, Chiang Mai University, since 2002. The Center supports the development of knowledge which can increase academic support for teaching and research programs at both undergraduate and graduate levels together with research projects in the Faculty of Science. The Center also provides technical services to government agencies both inside and outside the university as well as the private sector. The Center's advanced instrumentation can both support education and at the same time generate income from agencies that use its services. In addition, the Center also organizes workshops on microscopy and welcomes those who are interested in studying the use of the microscopes in an organization on a regular basis. In 2009, the Center provided services on LV-SEM, FE-SEM, TEM (Jed) and TEM (Zeiss) for students, staff and industrial users on 750 separate occasions.



















Cultural, Natural Resources and Environmental Support



Activities in support of cultural events, natural resources and the environment in 2009 were as follows.



Activities	Date			
Organized by Faculty				
Dam Hua Ceremony for the Dean and senior staff	24 April 2009			
New garage opening ceremony	21 May 2009			
Cast candle ceremony	18 June 2009			
Cast candle presentation	2 July 2009			
Annual Science Week offerings	18 August 2009			
Annual employee retirement ceremony	30 September 2009			
Arch entrance contest	30 October 2009			
Annual religious ceremony	23 December 2009			
Organized by Students				
Wai Kru Ceremony	11 June 2009			
Doi Suthep ascent for new students	4 July 2009			
Alumni Reunion and Khan Toke Dinner	10 July 2009			
Organized by Departments				
Buddhist Lent Candle offering to Wat Tham Muang I (Department of Mathematics)27 June 2009				
Candle decoration (Dean's Office)	30 June 2009			
Candle presentation blessing ceremony (Department of Statistics)	1 July 2009			
Candle presentation at Wat Sri Soda	2 July 2009			
(Department of Computer Science)				
Human resource development and related activities (Dean's Office)	11 July 2009			
Development work (Department of Statistics)	15 July 2009			
Department of Chemistry Merit-making (Department of Chemistry)	18 July 2009			
Development work (Department of Mathematics)	22 July 2009			

Activities	Date
Yee Peng (Department of Statistics)	29 October 2009
Improvements to landscape and environment (Department of Chemistry)	15 November 2009- 30 April 2010
Annual Pa-ba Ceremony 2552 (Department of Geological Sciences)	28 November 2009
Merit-making and development work (Department of Statistics)	9 December 2009
Jointly with the University	
CMU Foundation Day celebrations (jointly with the University) (All Departments)	24 January 2009
Foundation of Faculty of Agriculture celebrations	25 January 2009
Songkran Festival parade	13 April 2009
Dam Hua Ceremony for the President and senior officials	17 April 2009
Lo Candle Ceremony, Chiang Mai University	1 July 2009
Merit-making and alms-giving	5 October 2009
CMU Kathin Annual Ceremony	31 October 2009
Other Activities	
Clearing Day (5 Sor)	Throughout the year
Traditional northern-style dressing on Friday	Throughout the year
Traditional northern-style dressing and dialect speaking	1-30 April 2009
Opening Ceremony for Plasma Technology Building	27 February 2009
Merit-making ceremony at Wat Sop Pae	11 March 2009
Merit-making ceremony for Chiang Mai city	4 June 2009
Merit-making ceremony with the CMU Alumni Association at Wat Chet Yot	12 July 2009
Mahidol Day Wreath Laying Ceremony at Faculty of Medicine	24 September 2009
Merit-making ceremony with Faculty of Medicine at Wat Pan Sao	28 October 2009
Annual Tord Kathin Ceremony for CMU at Wat Fai Hin	31 October 2009

Development of Administrative System in the Faculty of Science

Strategic Administration: Balanced Scorecard (BSC)/Operation of the Strategic Plan, Faculty of Science, Chiang Mai University

Ever since Chiang Mai University initiated a policy to bring Balanced Scorecard (BSC) into its business administration in the year 2002, a number of seminars have been held for various levels of administrators from the University and the various faculties. A phrase often used in these seminars was the "Balanced Index Package". In addition, recognizing the importance of the "Balanced Scorecard" and being interested in using BSC, the Faculty of Science has organized workshops nearly every year; for example:

2002: A workshop held on April 21 at the Ridges Hotel

2004: On July 29 at the Seminar Room, Science Building 2

2005: On August 6 at the Siam Commercial Bank Training Center

2007 : On July 28 at Doi Kham Prueksa for a seminar entitled "Moving Forward the 10th Plan into an Objective Plan"

Afterwards, each working group carried on where the seminar left off until the objective plan could be concluded, leading to the BSC document for the 2009 fiscal year. This document contains various projects corresponding to the strategic plan of the Faculty of Science, Chiang Mai University.

The strategic operational plan of the Faculty of Science for the 2009 fiscal year was the main output from these BSC workshops and working group meetings held on May 20, 2008 at the Seminar Room, Science Building 2. The following table contains a summary of the projects and budget according to agreed strategies and various indices for the 2009 fiscal year (October 1, 2008-September 30, 2009).

	Number of Strategic Projects	
Strategy 1	Desired graduates	14
Strategy 2	Research-oriented groups	9
Strategy 3	Support and help to develop the local community	5
Strategy 4	Preserve art and culture as well as maintain biodiversity	6
Strategy 5a.	Administration with good governance and efficiency towards international standards	16
Strategy 5b.	Self-sufficiency	4
Strategy 5b.	Personnel of high quality and good mental health	5
	Total	59

All of these strategic projects can subsequently be used as a guide to prepare the BSC for the Faculty of Science and its various departments in the year 2010.



Strategic Administration

To carry out activities/projects according to the strategic plan conforming to the University with the emphasis on good governance and to implement the Thailand Quality Award (TQA) criteria, Chiang Mai University Educational Quality Assurance (CMU-QA), Five Sor Project, Knowledge Management (KM), Risk Management, and Value as tools for the Faculty administration to achieve its goal and fulfill its pledges given to the University.

Quality Management Based on the Criteria of the Thailand Quality Award (TQA)

Quality management based on the criteria of the Thailand Quality Award (TQA) emphasizes 6 essential elements: leadership quality of the Head Administrator; quality of strategic planning; emphasis on service recipients; quality in assessment; analysis; and knowledge management; emphasis on employees; and quality in working process management. In 2009, the Faculty of Science organized an Executive Workshop in which its administrators and related personnel participated for training on TQA in line with

พัฒนทู้บริหารคณะวิทยาศาสตร์ บระคำปี 255 เรคุณภพคามแนวทางเกณฑ์รางวัสคุณภาพแห่ง

> 9-10 คุลาคม 2*552* ณ คุ้มภูคำเรสซีเด็นซ์

the University's policy.



Outstanding Personnel

The Outstanding Personnel in the Faculty of Science for the year 2009 in the various categories were as follows:

Government Official Ranks 6-8



Asst. Prof. Kanda Singkarat

Permanent Employee



Mr. Khamchan Intawong

Full-time University Personnel (Academic)



Asst. Prof. Dr. Yongyut Laosiritaworn

Full-time University Personnel (Support)



Mrs. Mayuree Promphutha

Proud Achievements of Personnel and Students of the Faculty of Science Personnel with Honors and Outstanding Personnel

Personnel with Honors



Lecturer Arthit Laphiratanakal, the representative team leader of the Chiang Mai University POSN Center from the Department of Physics and Materials Science, accompanied and looked after high school students who participated in the 3rd International Olympiad on Astronomy and Astrophysics (IOAA 2009) in Tehran, Iran.



Assistant Professor Dr. Panuwan Chantawannakul, Faculty of Science, Chiang Mai University, received an Outstanding Mid-Career Researcher Award for her work entitled: "Bees, Diseases in Bees and Local Microorganisms" from the Thailand Research Fund (TRF) and the Commission on Higher Education (CHE) in the 9th TRF-CHE Annual Meeting.



Lecturers from the Faculty of Science received 2009 Chiang Mai University "Golden Elephant" Awards

Three lecturers from the Faculty of Science received awards in the 2009 Chiang Mai University "Golden Elephant" Award Ceremony on Chiang Mai University Foundation Day (January 24, 2010) at Sala Tham, Chiang Mai University. These 3 lecturers and their outstanding achievements were:



Excellent Lecturer and Researcher Award
Professor Dr. Kate Krudpan
Department of Chemistry



Outstanding Researcher in Science and Technology Award **Professor Dr. Suthep Suantai** Department of Mathematics



Outstanding Young Researcher in Science and Technology Award Assoc. Prof. Dr. Supaporn Kradtap Hartwell Department of Chemistry

Recipients of the Golden Elephant Award from Chiang Mai University

Three lecturers from the Faculty of Science were awarded the Golden Elephant Award from Chiang Mai University for the academic year 2009.

- 1. Professor Dr. Kate Grudpan (Department of Chemistry); Excellence in Research
- 2. Professor Dr. Suthep Suantai (Department of Mathematics); Outstanding Lecturer in Science and Technology
- 3. Assoc. Prof. Dr. Supaporn Kradtap Hartwell (Department of Chemistry); Outstanding New Researcher in Science and Technology





Asst. Prof. Dr. Sakunnee Bovonsombut, Microbiology Program, Department of Biology, received the Royal Trophy from Her Royal Highness Princess Maha Chakri Sirindhorn for the "Best Award in the Business and Industrial Sector" for her work on "Decomposable Pots for Paper Flowers" on September 28, 2009, at the Chitralada Palace.

Knowledge Management

In 2009, the Faculty of Science introduced a system of knowledge management to its organisation and encouraged the establishment of communities for which 7 groups were initially set up. These were:

- 1. Management of Industrial Chemistry Department
- 2. Management in order to achieve successful aims according to strategies
- 3. Faculty orders and notices
- 4. Parcel work practices
- 5. The Board
- 6. Living Library
- 7. TQA

News and Public Relations

- Activities and news from within the Faculty were placed on the website, broadcasted on radio (FM100) and reported in local newspapers such as Thai News and Chiang Mai News
- Year activities were placed on the website and also on display boards
- Activities and news from outside the Faculty involved visits, posters on display boards at the Faculty and at each department, and leaflets at the Faculty reception desk

Internal Control and Risk Management

The Faculty's Risk Management Committee, originally set up with the previous Dean, Associate Professor Dr. Mongkon Rayanakorn, as the Chairperson, laid down the policy for all faculty personnel to be aware of the risks involved during their work and to take necessary precautions. With regard to this, a seminar was held at the Faculty given by a Faculty speaker and two invited speakers. These speakers were:

- 1. **Dr. Kriangsak Siripongsaroj**, Thailand Institute of Scientific and Technological Research (TISTR)
- 2. Mrs. Intira Thongchai, Director of the Office of the Internal Audit, Chiang Mai University
- 3. **Assoc. Prof. Dr. Nitat Jira-Arun**, Associate Dean for Planning and Development, Faculty of Science, Chiang Mai University

Internal Control

The Internal Control Sub-Committee implemented improvements according to the 2544 BE (2001) Internal Control Standards and reports were submitted to Chiang Mai University for the academic year 2008 (1 October 2008 to 30 September 2009). In November 2009, the Faculty of Science submitted forms to the Office of the Auditor General of Thailand as follows:

- Internal Control Evaluation Report for small work units
- Summary of Internal Control Evaluation Report for small work units
- Follow-up report on the Internal Control improvements
- Internal Control Evaluation Form
- Internal Control Improvement Plan for small work units
- Internal Control Approved Document from management at the level of small work units

Development of Information Technology System

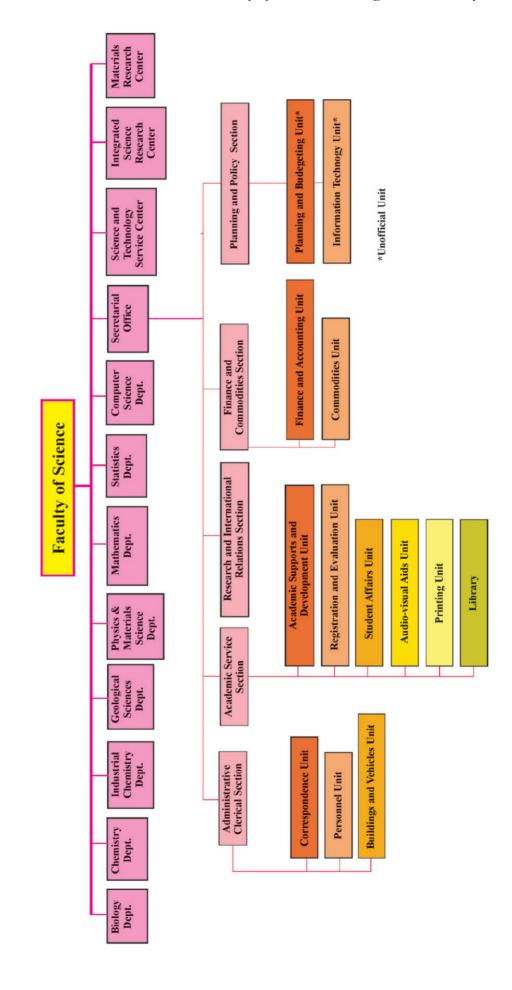
- Install computer traffic data storage system according to 2550 BE (2007) Computer Crime Act
- Refurbishment and reallocation of rooms which included raising the Server Room's floor and laying all electric cables under the floor
- Software developments for on-line expenses and on-line library
- Purchasing 4 laptop/notebook computers
- Purchasing 4 personnel computers
- Purchasing 10 uninterruptible power supply (UPS) units

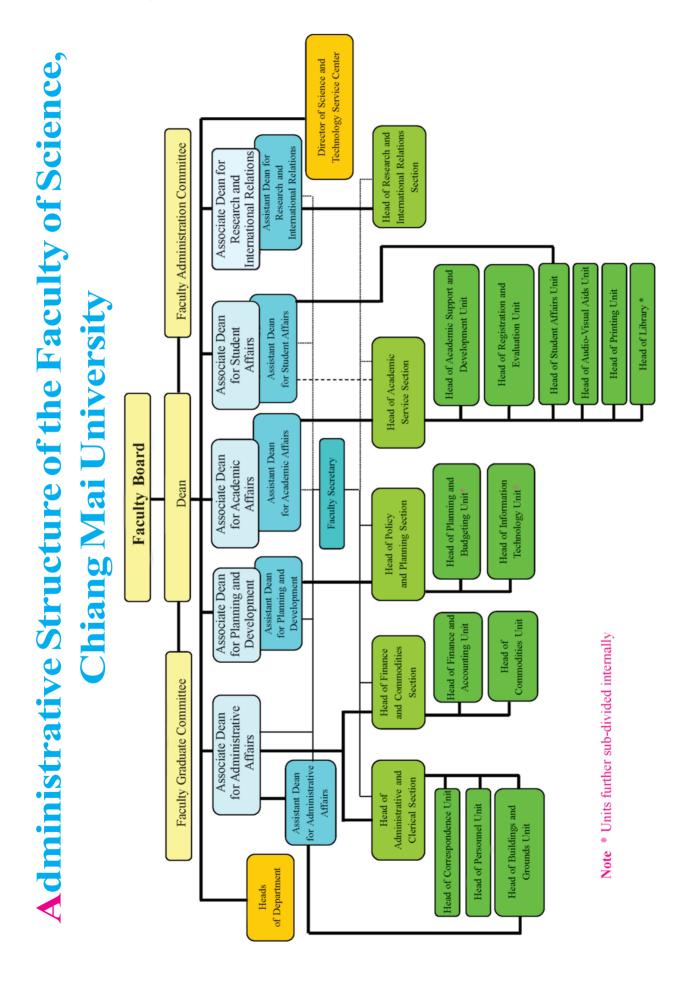
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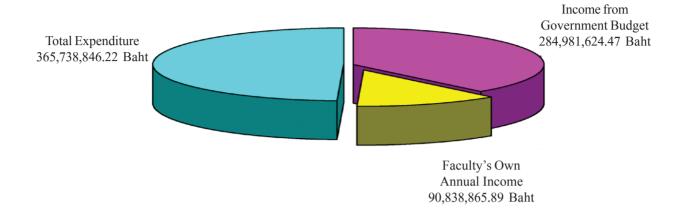
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Organization of the Faculty of Science, Chiang Mai University

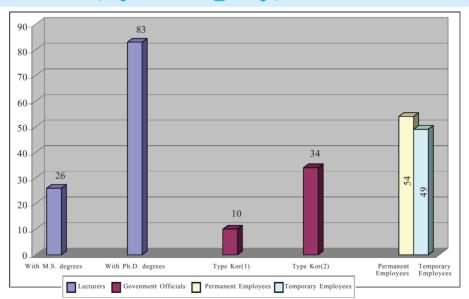


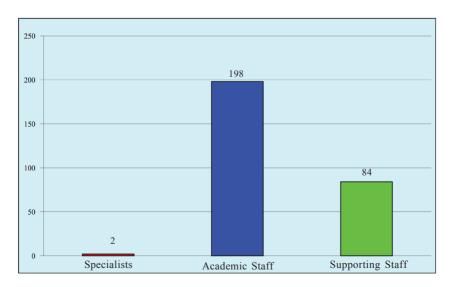


Budgets (Income-Expenditure 2008-2009)



Personnel (by Category)





Buildings and Vehicles

List of Buildings in the Faculty of Science

No.	Building	Area (sqm)	Department
1	Mathematics Building	3,051.35	Mathematics
2	Biochemistry Building	119.30	Chemistry
3	Chemistry Building 1	5,471.34	Chemistry
4	Chemistry Building 2	6,456.00	Chemistry
5	Glassblowing Building	191.50	Chemistry
6	Chemicals Storage Building	24.00	Chemistry
7	Biology Building 1	4,118.50	Biology
8	Biology Building 2	2,078.58	Biology
9	Fresh Plant Samples Building	432.00	Biology
10	Biological Substances Collection Building	531.76	Biology
11	Rat Culture Building	60.00	Biology
12	Glass Building	175.50	Biology
13	Animal Experiments Building	648.00	Biology
14	Plant Building	813.45	Biology
15	Biological Research Building	551.8	Biology
16	Geology Building	3,387.32	Geology
17	Physics Building 1	5,902.00	Physics and Materials Science
18	Engineering Building	287.50	Physics and Materials Science
19	Fast Neutron Building	1,168.34	Physics and Materials Science
20	Physics Building 2	5,578.01	Physics and Materials Science
21	Astronomy Observatory	179.25	Physics and Materials Science
22	Ion Beam Technology Building	805.05	Physics and Materials Science
23	Statistics Building	2,017.56	Physics and Materials Science
24	Computer Science Building	3,516.00	Computer Science
25	Silicate Building	360.00	Industrial Chemistry
26	Ceramics Building	1,089.00	Industrial Chemistry
27	Industrial Chemistry Building	5,558.90	Industrial Chemistry
28	Siam Cement Building 1	630.00	Industrial Chemistry
29	Siam Cement Building 2	468.00	Industrial Chemistry

No.	Building	Area (sqm)	Department
30	30 years Anniversary Building (SCB1)	12,367.87	
	- Floors 1-2 and 7	3,776.81	Central
	- Floors 3-4	2,369.02	Physics and Materials Science
	- Floors 5-6	3,800.02	Biology
	- Floors 8-9	2,366.02	Chemistry
31	40 years Anniversary Building (SCB2)	22,930.88	
	- Floors B, 1, 2	9,632.58	Central
	- Floors 3-4	3,635.91	Chemistry
	- Research, Floor 4	717.19	Central
	- Floors 5-6	4,281.67	Physics and Materials Science
	- Floors 7-8-9	4,484.38	Biology
32	- Gemology Building (SCB3)	5,002.23	Geology
	- SCB3100	312.80	Central
33	Genome Building	1,476.00	Biology
34	Science and Technology Center Building	825.00	Central
35	Statistics-Mathematics Building	2,438.00	Statistics-Mathematics

Vehicles: One 38-seat bus, 4 minibuses and one 6-wheel truck

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Associate Professor

Dr. Jintana Siripitayananon

Head of Chemistry Dept.



Associate Professor

Dr.Torranin Chairuangsri

Head of Industrial Chemistry Dept.



Associate Professor **Dr. Araya Jatisatienr** Head of Biology Dept.



Associate Professor

Dr. Pisanu Wongpornchai

Head of Geological Sciences Dept.



Assistant Professor

Dr. Banchob Yotsombat

Head of Physics & Materials Science Dept.



Associate Professor

Dr. Ekkarat Boonchieng

Head of Computer Science Dept.



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- 2. Faculty Secretary
- 3. Head of Management and Administration Team
- 4. Head of Education Service Team
- 5. Head of Finance and Procurement Working Group
- 6. Head of Research and International Relations Working Group
- 7. Head of Policy and Planning (Secretary)
- 8. Mr. Somjit Pangrang (Assistant Secretary)

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2. Design and Artwork

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- 4. Mr. Prayuth Khunluang
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- 6. Mr. Phichet Puttirungsee
- 7. Mr. Somjit Pangrang
- 8. Ms. Autcharaporn Jandang (Secretary)

Responsible for design and illustrations including photograph editing

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- 7. Asst. Prof. Dr. Lalida Shank
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- 9. Asst. Prof. Dr. Piyarat Nimmanpipug
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Responsible for translation of Annual Report into English