



SRINAKHARINWIROT UNIVERSITY
GRADUATE SCHOOL
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PART I

GENERAL INFORMATION

HISTORICAL DEVELOPMENT OF THE GRADUATE SCHOOL, SRINAKHARINWIROT UNIVERSITY

Srinakharinwirot University which started as The College of Education was granted the title of a University in 1974. His Majesty the King graciously named the institution "Srinakharinwirot" which means the glory of the country. The University comprises 8 different campuses, four of which are located in Bangkok: Prasarnmit, Patumwan, Bangkhen and Palasuksa, while the other four, Bangsaen Phitsanulok; Mahasarakham and Songkhla, are in the provinces.

The University has offered a bachelor's degree in education since 1953 --- the time when it was the College of Education. The Graduate School began in the academic year 1956 at Prasarnmit Campus by offering a master's degree program in Developmental Psychology in collaboration with the International Institute of Child Study (Behavioral Science Research Institute at Present)

In 1961 The College of Education offered 8 additional programs in other subject areas, namely Elementary Education, Secondary Education, Higher and Teacher Education, Educational Administration, Educational Guidance. Educational Measurement, Educational Technology and Library Science.

In the academic year 1963, the College of Education offered a Graduate Diploma program in 12 different fields : Thai, English, Geography, History, Biology, Physics, Chemistry, Mathematics, Educational Measurement, Audio Visual Education, Library Science and Educational Guidance.

In the early phase of the Graduate program, the Graduate School, under the Ministry of Education, was operated through the cooperation

of specialists from Indiana University in the preparation and the development of the curriculum, and the program was entrusted to the Graduate Committee chaired by the President of the College. The Committee had continuously performed its functions until the College was raised to the University level in 1974 in which the University was decreed to have the Graduate School as part of its organization. The Committee carried out the mission during the transitional period until the appointment of the Graduate School Committee in March, 1976.

In 1972, the Ministry of Education added another plan in the third national plan for educational and economic development -- a doctoral program to be developed when the college was prepared to initiate the program. The College planned personnel and curriculum preparation as its initial step. Two doctoral programs were inaugurated in the academic year 1974 — **Development Education and Curriculum Research and Development**. In the same year another subject area in the Graduate Diploma program was initiated -- **The Education for the Hard of Hearing** which later in 1974 was augmented to become a master's degree program.

At present the Graduate School is vested in the Graduate School Committee and the Advisory Committee exercising the policy concerning graduate studies. The University Council appoints the Dean of the Graduate School to administer the graduate program from the main campus -- Prasarnmit with the assistance of four different Associate Deans at Bangsaen, Phitsanulok, Mahasarakham and Songkhla. The Graduate School is responsible for four Doctoral programs, 28 Masters of Education, one Master of Science and two Masters of Arts.

The University has the responsibility to expand the program by increasing student enrollment and by implementing new subject areas at both the master's degree and the doctoral levels in accordance with the sixth national plan for educational and economic development which

stresses the necessity for a more highly qualified populace. The Graduate School, therefore, aims at offering more educational programs to serve the needs of society and maintain the excellence of the academic and the research program in accordance with the high academic standard of Graduate School studies.

The Graduate School Office is located at the Administration Building (Building 9), fourth floor, Srinakharinwirot University, Prasaimit, Sukumwit 23, Bangkok 10110, telephone 2580310 - 13. ext. 122, or 2584119.

GRADUATE SCHOOL RESPONSIBILITIES

1. Administration

The University Council appoints Graduate School Committee comprising the Dean of The Graduate School, Associate Deans, who serve a term of four years, and four additional committee members to carry out the University Council policy relating to the Graduate studies programs as well as to maintain the program standard and to approve new curricula, admission criteria and completion of graduate studies requirements. The Graduate School operates with the assistance from other faculties and departments and is authorized to appoint ad hoc committee to consider special issues when and where necessary and appropriate. Assistant Deans are appointed by the University President to assist the Dean in his work.

2. Coordination

Coordinators are appointed from different faculties and units concerned to assist in implementation of the Graduate program, i.e., preparing the course-work and examination schedule, recommending lists of advisors, and rendering some other academic services when needs arise.

3. Academic Responsibility.

The Graduate School staff with the assistance of a group of faculty members loaned from other faculties and the Graduate School Academic staff assume the academic responsibility at the graduate level, e.g., operating the doctoral programs; preparing the master's degree course-work and examination of foundation of education courses and also co-ordinating the instruction of the foundation courses which are of interdisciplinary nature; arranging special examinations; maintaining the thesis and dissertation standard; designing seminars and workshops to promote the academic excellence and the Graduate School personnel and collecting data pertinent to the instruction at the higher level.

4. Secretarial Responsibility

The Secretarial Office under the control of the secretarial staff is divided into three areas of responsibilities: secretarial work, finance and equipment, and students services.

FIELDS OF STUDY AND DEGREES GRANTED

Prasarnmit Campus

Master of Education Program (M.Ed.)

1. Adult Education
2. Art Education
3. Biology
4. Chemistry
5. Developmental Psychology
6. Early Childhood Education
7. Educational Administration

8. Educational Linguistics
9. Educational Measurement
10. Educational Psychology
11. Educational Technology
12. Elementary Education
13. English
14. Geography
15. Guidance and Counseling Psychology
16. Health Education
17. Higher Education
18. History
19. Library Science
20. Mathematics
21. Physics
22. Physical Education
23. Science Education
24. Secondary Education
25. Special Education
26. Thai

Master of Arts Program (M.A.)

1. Library and Information Science

Master of Science Program (M.Sc.)

1. Applied Behavioral Science Research

Doctor of Education Program (Ed.D.)

1. Curriculum Research and Development
2. Development Education
3. Educational Administration
4. Educational Technology

Bangsaen Campus

Master of Education (M.Ed.)

1. Biology
2. Educational Administration
3. Elementary Education
4. Guidance and Counseling Psychology
5. Physical Education
6. Science Education

Phitsanulok Campus

Master of Education (M.Ed.)

1. Educational Administration
2. English
3. Guidance and Counseling Psychology
4. Mathematics
5. Science Education
6. Thai

Mahasarakham Campus

Master of Education (M.Ed.)

1. Biology
2. Educational Administration
3. Library Science
4. Science Education
5. Secondary Education
6. Thai

Master of Arts (M.A.)

1. Library and Information Science
2. Thai Studies

Songkhla Campus

Master of Education (M.Ed.)

1. Educational Administration
2. Higher Education
3. Thai

Master of Arts (M.A.)

1. Thai Studies

REGULATIONS

Admissions

Admission Requirements

Applicants for all master's degree programs must be holders of bachelor's degree from Srinakharinwirot University or other institutions approved by this university. Applicants for doctoral degrees must hold master's degree from an accredited university or institutions recognized by the Office of University Affairs. All applicants must have good conduct and have sound health.

Admission Procedure

Applicants for all master's degree programs and doctoral programs have to pass a competitive entrance examination of Srinakharinwirot University or in some special cases the University may by some good reasons select appropriate applicants and admit them to be students.

Registration to be Students

Applicants become legible students after registration. Applicants must submit all required documents and must report to the University registrar by themselves on the dates, at the time and place specified by the University, and pay the various fees as required.

The applicants who cannot come to register to be students on the dates and at the time specified by the University will lose the right to register to be students unless they notify the University in writing by the dates of registration and come to register within seven days after the last day of registration.

Academic Regulations

Srinakharinwirot University operates on a semester hours credit system. An academic year is divided into two semesters. There are 18 weeks in each semester.

A credit is a measure of the quantity of education the student has received. Each course has specified credits.

Srinakharinwirot University operates a credit system on the following basis :

1 credit = 1 hour of lecture a week a semester

or

2 hours of laboratory work a week a semester

or

3 hours of practicum a week a semester

The number of hours required in practicum may be increased for certain appropriateness.

Academic Status

Students who register for the first time and students who have a cumulative grade point average of 3.00 and over are given **in good standing** status. Students who have a cumulative grade point average of between 2.75 and 2.99 are given **probationary** status. Doctoral students will become full candidates after they have already passed the Comprehensive Examination.

Registration of Courses

The dates and registration procedures for each semester are announced by the University.

Students who do not register for courses in any semester by the dates of registration will lose the right to attend classes unless they have special permission from the Dean of the Graduate School.

The program of courses for which students register must receive the prior approval of their advisors. If a course has prerequisite courses students must complete the prerequisite courses or obtain the approval from Head of Department before registration for the course.

Registration is finalized on the receipt of course fees. Students who pay the fees after the specified dates will be fined.

Credit Hours Load

Students who have in good standing status are required to take a minimum of 9 and not more than 15 credit hours for each semester.

Students who have probationary status are required to take a minimum of 6 and not more than 12 credit hours for each semester.

Students who want to register more or less than the credit load must obtain the approval of the Dean.

Students in their last semester may register less than the minimum credit load without obtaining permission from the Dean.

Auditing of Courses

Regular Students

Audit courses carry no credits; do not count towards degree requirements, and are not included in the credit load. Registration procedure and fee charges are the same as credit courses. Students are not required to take the final examination in audit courses. If class attendance is 80% or over, courses are entered in the student's record with the word "audit" Students have to state in the registration form which courses are audit courses.

Others

Any person may attend a course as an auditor providing that the University considers he has sufficient educational background. An auditor must conform to the same regulations as the regular students. Fees and tuition charges have to be paid as stated in the University regulations.

Cancelling and Adding Courses and Withdrawal from Courses.

Cancelling, adding courses or withdrawal from courses must be done with the approval of the student's advisor and with the permission of the Dean of Graduate School. The Dean will then inform the University registrar.

Permission for cancelling courses and adding courses must be obtained within the first two weeks of the semester with the approval of advisor and permission of the Dean of Graduate School in accordance with load of credit hours requirement.

Permission to withdraw from courses must be obtained within the first nine weeks of the semester. In special circumstances the Dean may give the student permission to withdraw from a course after the ninth week; permission will also be granted on the condition that he withdraws from all the courses in which he has registered.

Refunding of Course Fees

Students who withdraw or cancel a course because the University, by some necessity, announces not to offer that course for the whole semester can refund all the course fees.

Students who cancel a course within the first two weeks of the semester can refund all the fees.

Students who cancel a course after the first two weeks of a semester cannot refund the course fees.

Attendance

In order to be eligible to take his final examination a student must have attended at least 80% of the total class hours.

Grading

Letter gradings are used and have the following values and meanings :

Grade	Meaning	Grade Point
A	Excellent	4
B	Good	3
C	Average	2
D	Poor	1
E	Failure	0
I	Incomplete	—
W	Withdrawal	—

A grade “E” is assigned for failure of the final examination, and also in the following circumstances :

- 1) The student fails to take the final examination for reasons not approved by the Dean of Graduate School.
- 2) The student’s class attendance is less than 80%
- 3) The student fails to observe the examination regulations.

A temporary grade “I” is given in the following circumstances:

1) The student has a class attendance of over 80% but fails to take the final examination because of sickness or other circumstances beyond his control. In this case the permission is given by the Dean.

2) The student fails to complete all the required work and assignments in a course through no fault of his own. In this case a decision will be jointly made by the instructor and Head of Department.

Students receiving grade “I” should arrange with their instructors both to make up their unfinished work and receive a new final grade not later than the end of the next semester, provided they are eligible to enroll. Otherwise the grade “I” will automatically be changed to grade “E”.

A grade “W” is given in the following circumstances :

1) The Dean of Graduate School gives the student permission to withdraw from the course, when the withdrawal is within the ninth week of the semester.

2) The student receives permission to withdraw from the University for logical specified reasons.

3) As a punishment, the student is ordered to withdraw temporarily from the University.

4) The student who received an “I” grade because of sickness and who, at the end of the “I” grade time limit, has still not recovered, may receive permission to obtain a “W” grade from the Dean of Graduate School.

A “P” grade or an “F” grade is given for the following examinations : preliminary examination, foreign language examination, comprehensive examinations, and oral examination on doctoral dissertation. P means pass. F means fail. A “P.D.” grade may be given of dissertation meaning pass with distinction.

Credit Count

Only credit courses are used in computing grade point average. If the student repeats a course or has a substitute, the grade and point of that course must be used in computing the grade point average.

In computing the grade point average to meet the requirements of the program, only the credits of the pass courses are used.

The grade point average for each semester is the result of adding the multiples of the number of credit hours and the grade points divided by the sum of credits taken in that semester.

The cumulative grade point average is the result of adding the multiples of the number of credit hours and the grade points of all the courses, the student has taken from the first to the last semester divided by the sum of all the credits earned.

Only courses with grades other than "I" are used in computing the grade point average for each semester.

Repeating Courses

With the approval of the Dean of Graduate School, students may, if they wish, repeat a course in which they received "C" grade.

Students who received "D" or "E" grade are required either to repeat the course with the permission of the Dean of Graduate School, or take a similar course in the same subject area.

A doctoral candidate who receives a "C" grade or lower in required courses must repeat the course or take a similar course in the same subject area with the permission of the Dean of Graduate School.

Classification of Student Academic Status

Classification of student academic status is to consider whether a student is “in good standing” or “probationary” status.

Classification of student academic status will be done at the end of each semester except for first year students whose academic status will be classified at the end of their second semester. The Registrar will inform the probationary students and their academic advisors as early as possible.

Failure to Observe the Examination Regulation

Failure to observe the examination regulations might result in the following :

- 1) Failing that course.
- 2) Failing that course and withdraw from courses next semester.
- 3) Dismissal from the University.

Withdrawal from the University

A student may ask the Dean of Graduate School for permission to withdraw from the University in the following circumstances:

- 1) Receiving an international exchange, or other scholarship approved by the University.
- 2) Having a severe illness that prevents attendance at classes for a period which will total at least 20% of the semester hours. An official letter of a doctor, who is employed either in a government hospital or a clinic approved by the Ministry of Health, is required.
- 3) Having personal reasons, and has studied at the University for at least one semester.

Request to the Dean of Graduate School for withdrawal from the University must be made at the earliest possible opportunity. Confirmation of the Dean's decision is given to the registrar.

Withdrawal is granted for a period of one semester only at a time. A new application must be made for any further period of withdrawal.

For the regular student all periods of withdrawal will be counted as part of the time allowed for completion of the course of studies.

The educational fee must be paid for the semester during which withdrawal is granted. Otherwise the student will be dismissed from the University.

At the end of the period of withdrawal the student wishing to continue his studies must apply to the Dean of Graduate School for re-admission. The Dean's decision is given to the Registrar.

Transfer of Campuses

Students passing the entrance examination or having been selected to study at any campus must study at that campus. The University will not allow students to transfer to other campuses except in a very necessary case.

The time allowed for completion of the course of studies for transferred students is counted from the time they first began their course work at their former campuses.

Changing of Major

Students passing the entrance examination to study in any major must study that major. If changing of major is desired, students must sit for a new entrance examination and the earned credits are null.

Students who have studies in any major for four years and have not completed the course of studies cannot sit for the new entrance examination of the same major.

Srinakharinwirot University may accept the transfer of students from other institutions of higher learning which have the equivalent status.

Dismissal

A student is dismissed in the following circumstances.

- 1) Does not register in the first semester to be a regular student.
- 2) After the first semester, fails to pay the educational fee to keep the student status.
- 3) Is found to lack the appropriate admission qualifications.
- 4) Has a cumulative grade point average of less than 2.75 or has "C" grade (or lower than "C") more than 8 credit hours.
- 5) Has probationary status and holds the cumulative grade point average less than 2.80 for two consecutive semesters.
- 6) Is given probationary status for a fourth consecutive semester and not able to diminish the probation.
- 7) Is unable to complete the program within four years or has the cumulative grade point average less than 3.00.
- 8) Is found guilty of a serious violation of the examination regulations.
- 9) Has a very bad conduct while being a regular student.
- 10) Is found guilty of a serious offence against the University regulation.

Preliminary Examination

The University will appoint a committee consisting of appropriate individuals to execute the preparing and grading of the preliminary ex-

amination for doctoral students.

Students who have completed the course work requirements and have been in residence for no less than one semester are eligible to take preliminary examination.

Students wishing to take the preliminary examination must inform the Graduate School, through their advisors, in writing within the fourth week of the semester in which they want to take the examination.

The University will organize the preliminary examination within the fifteenth week of each semester when there is a request by eligible students.

Foreign Language Examination

Every doctoral candidate is required to sit for and pass a foreign language test usually an English test. The University will appoint a committee comprising appropriate individuals for this purpose. A student who wishes to take the test may inform the Graduate School in writing through his advisor within the fourth week of the semester in which he wants to take the test. The test will be held in the eighth week of that semester. A foreign student is required to take a test of a language which is not his mother tongue.

Comprehensive Examination

The University will appoint a committee consisting of appropriate individuals to execute the preparing and grading of the comprehensive examinations both at the master and doctoral levels.

The University will arrange a comprehensive examination every semester when there is a request by eligible students.

Students who have completed the course work requirements and have sufficient credit hours are eligible to take the comprehensive examination in that semester.

Students wishing to take the comprehensive examination in any semester must apply through their advisors to the Graduate School within the fourth week of that semester.

Master's degree students who fail in some areas of the comprehensive examination have to retake the examination in those areas only, whereas the doctoral candidates must retake the whole examination.

Students can take the comprehensive examination three times. For doctoral students, apart from the above regulations, they must have two semesters in residence before they are eligible for comprehensive examination which will be held in the fifteenth week of each semester when there is a request by eligible students. Those who have already passed the comprehensive examination will fully become doctoral candidates.

Thesis

After completing not less than 20 credits of course work, a master's degree student can submit the thesis title, names of advisory committee, and detailed outline to the Graduate School for approval through the Faculty Committee.

In submitting the thesis title, committee, and detailed outline the student has to do the following :

Complete the Application for Approval of Thesis Title, Committee, and Detailed Outline Form and submit them to the Faculty committee on Thesis Proposal for consideration to get the Graduate School approval.

The thesis advisory committee consists of a chairman and a member. In a special case one more member may be appointed. This committee must receive the approval from the Graduate School.

When a change in the thesis title or committee is desired, the student must submit a request to the Graduate School.

In order to complete the course of studies the student has to submit the detailed outline of his thesis at least three full months prior to sitting for a thesis oral examination.

Dissertation

After completing not less than 25 credits of course work, a doctoral student may submit the dissertation title, names of advisory committee and detailed outlines to the Graduate School for approval.

The dissertation committee must consist of three person : the chairman and 2 members.

The detailed outline of the dissertation must be presented for discussion and approval by the Committee on Dissertation Proposal.

When the proposal has been discussed and improvements have been made as suggested, the proposal should be submitted to the Graduate School for formal approval.

When a change in the dissertation title or committee is desired, the student must submit a request to the Graduate School for approval.

In order to complete the course of studies, the student has to submit the detailed outlines of the dissertation at least three full months prior to sitting for an oral examination.

Thesis Oral Examination

After a student has completed the thesis and the committee has corrected it, the committee chairman makes an appointment with the student to have the thesis oral examination.

The Graduate School will appoint a committee for thesis oral examination consisting of the thesis committee and one more member from the student's major or related department.

For dissertation oral examination, a committee must consist of the dissertation committee and one more expert in that field or related area from other institution as an external examiner.

The student must receive special approval if he wants to sit for the thesis oral examination when the committee members cannot all be presented.

The chairman of the thesis or dissertation oral examination committee reports the thesis grade directly to the Dean of Graduate School.

Application for Graduation

Students must apply for graduation in the semester in which they expect to complete the requirements for their degrees. Application should be sent to the registrar within one month starting from the first day of the semester.

Students must meet all graduation requirements as follows:

- 1) Have not less than two semesters of residence at this university.
- 2) Have sufficient credit hours required for the course of studies.
- 3) Have the cumulative grade point average of not less than 3.00.
- 4) Have passed the comprehensive examination.

- 5) Have passed the preliminary examination in the case of a doctoral student.
- 6) Have passed a foreign language examinaion in the case of a doctoral student.

Degree Conferment

The University will consider students who have applied for graduation and have good conduct for University Council approval to confer the Master Degree by using the following criteria:

- 1) Have fulfilled course work requirement with grade point average of not less than 3.00 and passed comprehensive examination.
- 2) Have completed the thesis with not less than grade "B" and passed the thesis oral examination.
- 3) Have submitted the complete copies of thesis as required by the University.

For the conferment of Doctor of Education degree, the University will consider the candidate who has successfully completed the dissertation, passed the oral examination and passed both comprehensive and foreign language examinations.

Fees for Master and Doctoral Programs

1. Application fee (paid once)	200 Baht
2. Registration fee (paid once)	150
3. Insurance for damage (paid once)	200
4. Education fee (per semester)	400
5. Student activities fee (per semester)	40
6. Athletic fee (per semester)	40

7. Tuition fee (per credit)	150 Baht
8. Laboratory fee (per hour)	100
9. Late fee payment (per day)	10
10. Library fee (per semester)	150
11. Fine for late return of library's book (per day, per book)	5
12. Student identification card	10
13. Transcript (per copy)	20
14. Certified letter (per copy)	10
15. Preliminary examination fee	100
16. Comprehensive examination fee	100
17. Registration for thesis (per credit)	150
18. Registration fee for graduation (per credit)	250

PART II
PROGRAMS OF STUDY

MASTER'S DEGREE PROGRAM IN EDUCATION (M.Ed.)

The structure of Master of Education curriculum consists of the following areas :

- | | | |
|-----------------------------|---------------|------------|
| 1. Foundations of education | not less than | 12 credits |
| 2. Major | not less than | 21 credits |
| 3. Free electives | not less than | 6 credits |
| 4. Thesis | | 6 credits |

The total number of credits earned in the program must not be less than 48.

1. Foundations of Education

Foundations of Education are courses that are principal components of education. They are bases of this program and are not prerequisites of the major courses.

2. Major

Major courses are courses to train students to achieve the purpose of each major. There are 28 majors in this curriculum.

3. Free electives

Free elective courses are aimed at widening students' knowledge. The student can select courses offered for the master's degree program as electives with the approval of advisor and head of department offering that course.

4. Thesis

The student is required to write a thesis relating to his major field. (education or the academic or both)

FOUNDATIONS OF EDUCATION COURSES

The Department of Educational Foundations

At least 12 credit hours are required from these courses :

Required Foundations Courses 9 credit hours

ED 501	Philosophical Foundations of Education	2(2-0-4)
ED 502	Socio-Economic Foundations of Education	2(2-0-4)
ED 503	Psychological Foundations of Education	2(2-0-4)
RS 521	Research Methods in Behavioral and Social Sciences	3(3-0-6)

Elective Foundations Courses

Select at least 3 credit hours from the following courses :

ED 504	Historical Foundations of Education	2(2-0-4)
ED 505	Comparative Education	2(2-0-4)
ED 506	Technological Foundations in Education	2(2-0-4)
ED 507	Professional Ethics	2(2-0-4)
ST 511	Statistical Methods for Research	3(3-0-6)
ST 513	Inferential Statistics	3(3-0-6)

COURSE DESCRIPTION

Foundations of Education

ED 501 Philosophical Foundations of Education 2(2-0-4)

A study of Philosophical system and educational thoughts of philosophers, educators, and important thinkers, both in Thailand and in foreign countries; eminent figures of various philosophies of education, and the application of philosophy to Thai education.

ED 502 Socio - Economic Foundations of Education 2(2-0-4)

A systematic introduction to sociology for better understanding of social behavior. Included are such topics as social interaction, role and status, social control processes, and social institutions. Socio - economic factors as related to education are explored.

ED 503 Psychological Foundations of Education 2(2-0-4)

A study of areas in psychology with direct relation to educational process: human development, theories of learning, motivation, social psychology, individual differences, and personality; emphasis on the application of the theories to teaching and learning process.

ED 504 Historical Foundations of Education 2(2-0-4)

A Study of the history of Western and Eastern educational experiences; major influential determinants as related to educational systems in such societies including an evolution of educational ideas derived from those Western and Eastern cultures.

ED 505 Comparative Education 2(2-0-4)

A study of methodology and assumptions in comparative education as well as a comparative study of the contemporary educational system in selected countries; an analytical study of significant forces affecting the development of existing educational systems.

ED 506 Technological Foundations in Education 2(2-0-4)

An exploration and analysis of contributions technology has to the success and effectiveness of various human enterprise systems and the challenge of automation and new media in society to educational decision and reform.

ED 507 Professional Ethics 2(2-0-4)

A study of the is-ought dichotomy; the meaning to “virtues”; the meaning of “values” for teaching profession; moral values and ethical values; the consideration and selection of appropriate values for the teaching profession; a consideration of contemporary moral and ethical values for Thai teachers including those formulated by the Teachers Council or other professional institutions that might be improved and adapted for the teaching profession.

RS 521 Research Methods in Behavioral and Social Sciences 3(3-0-6)

Nature of research; initial stages in a research project; defining research problem, research hypothesis; nature of data; tools and techniques of collecting data : construction of research tools, sampling techniques, collection and collation of data; types of research : historical, descriptive, and analytical designs of the experiment ; analysis of data; interpretation, conclusion and generalization; research report.

ST 511 Statistical Methods for Research 3(3-0-6)

A review of basic concepts of descriptive statistic, probability, random variables, sampling theory, testing statistical hypothesis, analysis of variance and analysis of covariance, regression analysis and correlation.

ST 513 Inferential Statistics 3(3-0-6)

Nature of statistical data, frequency distribution, central tendencies, measures of variability; statistics parameter of a distribution ; distribution functions; normal, t, F, χ^2 ; introduction to sampling theory; mar-

ginal p.d.f., stochastic independence, random sampling; statistical inference; statistical hypotheses; test, level of significance, power function, difference between means; small sample : t distribution and its implication; correlation : concept, method, interpretation, regression, multivariate analysis; other correlational measures : rank biserial, p-biserial, tetrachoric phi; selected nonparametric statistics : binomial test, sign test, Fisher exact probability test, Mann-Whitney U-test etc.

EN 500 Reading (non - credit)

-(2-0-4)

Practice in reading passages of complex structure from articles, texts and professional journals; training in main idea reading and in increasing reading speed; increase of students' knowledge of core vocabulary used in text - books in various subjects; word building through the use of prefixes and suffixes.

ADULT EDUCATION

The Department of Adult Education and Special Education

Objectives

To produce specialists and administrators in the field of adult and nonformal education. The program is planned in order to have a student accomplish the following specific objectives : -

- 1) To gain knowledge and concepts related to adult and non-formal education in Thailand and other countries.
- 2) To gain direct experiences through learning and practicing within the community and related agencies.
- 3) To possess knowledge and ability in planning and conducting programs and projects related to adult and nonformal education.

- 4) To have capacity in administrating and supervising adult and nonformal education work.
- 5) To have capacity in analyzing, conducting research and experiment and evaluating adult and nonformal education work.
- 6) To have positive attitudes towards adult and nonformal education work, possessing inquiring mind for acquiring knowledge, self-improvement, societal development, and creativity in providing educational services for population at large.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 18 credit hours

AE 511	Philosophy of Adult and Nonformal Education	3(3-0-6)
AE 512	Curriculum Planning for Adult and Nonformal Education	3(3-0-6)
AE 513	Administration and Supervision in Adult Education	3(3-0-6)
AE 521	Adult Development and Process in Facilitation Adult Learning	3(3-0-6)
AE 522	Resources and Media for Adult and Nonformal Education	3(3-0-6)
AE 541	Practicum in Adult Education	3(3-0-6)

Elective Courses

Select at least 3 credit hours from the following courses.

AE 514 Comparative Adult Education	2(2-0-4)
AE 531 Adult Education and Problems of Thai Society	2(2-0-4)
AE 532 Economics of Adult Education	2(2-0-4)
AE 533 Community Ethics and Values for Development	2(2-0-4)
AE 542 Seminar on Problems and Research in Adult Education	2(2-0-4)
AE 543 Seminar on Leadership Development in Adult Education	2(2-0-4)
AE 544 Independent Study in Adult Education	2(2-0-4)

Course Description

AE 511 Philosophy of Adult and Nonformal Education 3(3-0-6)

A study of concepts and ideology of adult and nonformal education; organization of adult and nonformal education programs in line with philosophy of lifelong education; significance and principles of adult and nonformal education for developing countries; situations, problems, and trends of Adult and Nonformal Education in Thailand.

AE 512 Curriculum Planning for Adult and Nonformal Education 3(3-0-6)

A survey of curriculums, situations, problems, objectives, program organization and program evaluation in relation to adult and non-formal education; emphases on collection of data, information and concepts applicable for planning curriculums and programs relevant to local contexts and national policies.

AE 513 Administration and Supervision in Adult Education 3(3-0-6)

A study of roles and tasks of adult educators and administrators; principles of administration and supervision; finance and legal aspects of adult education; personnel development and systems analysis in adult education.

AE 514 Comparative Adult Education 2(2-0-4)

A study of adult education systems in Thailand and selected developing countries, compare and contrast adult and nonformal education programs in order to formulate guidelines and strategies for developing adult and nonformal education programs in Thailand.

AE 521 Adult Development and Process in Facilitation Adult Learning 3(3-0-6)

A study of psychology, physical and mental development of adults; problems in physical and mental changes during adult years; adult needs and learning, theories of adult learning; methods and techniques of adult instruction; individualized and group process for skill training and facilitating adult learning.

AE 522 Resources and Media for Adult and Nonformal Education 3(3-0-6)

A study of survey of local resources and types of educational media for adult and nonformal education; appropriate technology; experiences in producing instructional materials and utilization of educational media and resources.

AE 531 Adult Education and Problems of Thai Society 2(2-0-4)

A survey of current adult and nonformal education activities organized by the government and private agencies; economic, social, and political situations and problems of urban and rural Thai society; systems

approach in analyzing components of social and community development in order to plan appropriate adult education programs.

AE 532 Economics of Adult Education 2(2-0-4)

A study of general principles of economics of education and their implications for planning adult and nonformal education; an analysis of adult and nonformal education systems in socio-economic perspectives.

AE 533 Community Ethics and Values for Development 2(2-0-4)

A study of concepts of ethics and values; an analysis of situations and problems related to ethics and values in certain areas and localities; roles of ethical and value systems for community and national development.

AE 541 Practicum in Adult Education 3(3-0-6)

Field work in adult and nonformal education under the supervision of instructors.

AE 542 Seminar on Problems and Research in Adult Education 2(2-0-4)

Problems and research studies in adult and nonformal education; experience in research projects for discussion purposes; an experience in conducting seminars on adult and nonformal education through comparative efforts with agencies and organizations involved.

AE 543 Seminar on Leadership Development in Adult Education 2(2-0-4)

A discussion on leadership roles and functions; types of leadership traits; leadership training; an analysis of roles, functions and characteristics of adult educators; leadership theories and their applications.

AE 544 Independent Study in Adult Education 2(2-0-4)

Intensive study by individual students on topics in areas of their own interest under the supervision of an instructor or expert.

ART EDUCATION

The Department of Fine Arts and Culture

Objectives

1. To produce art educators with knowledge and ability in teaching and curriculum development.
2. To produce art educators with capacity in constructing efficient and adequate research.
3. To produce art educators with moral principles and social responsibility as leaders in art education.
4. To produce creative art educators with awareness of the significance in art and culture reservation.

Courses for the major

A minimum of 21 credit hours are required from the following courses.

Required Courses 15 credit hours

AR 511 Theory of Knowledge and Art Education	3(3-0-6)
AR 514 Professional Development in Art Education	3(1-4-4)
AR 521 Theory of Aesthetics	3(3-0-6)
AR 531 Perceptual Analysis	3(2-2-5)
AR 541 Advances Studio Research I	3(1-4-4)

Elective Courses

Select at least 9 credit hours from the following courses.

AR 512 Art Education Curriculum	3(3-0-6)
AR 513 Art Education Administration	3(2-2-5)
AR 515 Historic Conservation Education	3(2-2-5)

AR 516 Museum and Art Gallery Education	3(2-2-5)
AR 517 Folk Arts	3(3-0-6)
AR 522 Eastern and Western Aesthetic Theory	3(3-0-6)
AR 523 Aesthetic Appreciation	3(2-2-5)
AR 524 Theory of Creativity	3(2-2-5)
AR 532 Advanced Theory of Art Criticism	3(2-2-5)
AR 533 Seminar in Art Criticism	3(1-4-4)
AR 534 History of Art	3(3-0-6)
AR 542 Advanced Studio Research II	3(1-4-4)
AR 543 Advanced Studio Research III	3(1-4-4)
AR 551 Seminar and Research in Art and Art Education	3(3-0-6)

Course Description

AR 511 Theory of Knowledge and Art Education 3(3-0-6)

Study and research of nature and structure of knowledge, including intellectual expression in art and art education.

AR 512 Art Education Curriculum 3(3-0-6)

A study of curriculum development, theory and practice; considering curriculum implementations appropriate to social and economic circumstances.

AR 513 Art Education Administration 3(2-2-5)

Study concepts and theories of school administration in general; basic, principles of professional leadership in art education; roles of art education administrators in various educational levels. Included is management in art education exhibition outside the school setting.

AR 514 Professional Development in Art Education 3(1-4-4)

A study and practice in analyzing and improving instructional theories in art education for elementary, secondary and higher educational levels.

- AR 515 Historic Conservation Education** 3(2-2-5)
 Study processes in restoration of artistic heritage, including a study of history conservation of both Thai and Western architectures. Fieldtrips art included
- AR 516 Museum and Art Gallery Education** 3(2-2-5)
 Study basic principles and organization of school art exhibition. Included is study of processes in displaying, organizing and storing art works and other historical documents.
- AR 517 Folk Arts** 3(3-0-6)
 A study to promote understanding and appreciation of folk arts in relation to folklore, and evolution of styles in folk arts from the past to the presents.
- AR 521 Theory of Aesthetics** 3(3-0-6)
 Theory and practice of principles and conception in aesthetics.
- AR 522 Eastern and Western Aesthetic Theory** 3(3-0-6)
 Comparative study of principles and conceptions between Eastern and Western aesthetic philosophies.
- AR 523 Aesthetic Appreciation** 3(2-2-5)
 A study and development of principles, conceptions, and value judgment in relation to aesthetic appreciation and aesthetic analysis.
- AR 524 Theory of Creativity** 3(2-2-5)
 Study and research in visual art theories. Included are theory of creativity, theory of perception and theory of representation; emphasis on perceptual patterns related to cognitive processes, expression and imagination.
- AR 531 Perceptual Analysis** 3(2-2-5)
 A study of Eastern and Western concepts in perceptual theory as fundamental knowledge for art criticism.

- AR 532 Advanced Theory of Art Criticism** 3(2-2-5)
Theoretical study of different conceptions in art criticism applied to other areas of art learning.
- AR 533 Seminar in Art Criticism** 3(1-4-4)
Theory and practice in art criticism. Students are encouraged to practice different methods in criticism.
- AR 534 History of Art** 3(3-0-6)
A survey of Eastern and Western artistic heritage. Emphasis on significant periods and styles. History of Thai arts are included. (A requirement for students without background knowledge in art history)
- AR 541 Advanced Studies Research I** 3(1-4-4)
Individual study and research in studies practice. Students are encouraged to develop their own style and philosophy.
- AR 542 Advanced Studies Research II** 3(1-4-4)
Individual study and research in the new concept and a further state of artistic expression through creative performance in visual art.
- AR 543 Advanced Studies Research III** 3(1-4-4)
Individual study and research in creative performance for visual art.
- AR 551 Seminar and Research in Art and Art Education** 3(3-0-6)
A critical analysis of learner's individual creative maturation in artistic knowledge. Included is study of educational research in art education for the purpose of improvement in teaching processes.

Meanings of the Middle Digits of the Code Numbers

- 1 refers to courses in art education cluster
- 2 refers to courses in aesthetics cluster
- 3 refers to courses in art criticism cluster
- 4 refers to courses in studio practice cluster

BIOLOGY

The Department of Biology

Objectives

Graduates from this program should be able:

1. To teach biology up to the Bachelor's degree level.
2. To do research in problems relating to biology teaching or biology.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 12 credit hours

BI 302 Biostatistics	3(3-0-6)
BI 591 Special Problems in Biology	2(0-4-2)
BI 691 Seminar in Biology I	1(2-0-1)
BI 692 Seminar in Biology II	1(2-0-1)
CH 351 Analytical Chemistry I	4(2-6-4)
CH 392 Biochemistry Laboratory	1(0-3-0)

Elective Courses At least 9 credit hours

Selected from any courses with code number 400 and over. Courses with code number 300 may be selected but not more than 6 credits.

Botany

BI 412 Morphology of Plants	4(3-3-6)
BI 413 Plant Anatomy	3(2-3-4)
BI 414 Plant Taxonomy	4(3-3-6)

BI 415	Medicinal Plants	3(2-3-4)
BI 416	Aquatic Plants	3(2-3-4)
BI 417	Phycology	3(2-3-4)
BI 451	Plant Physiology	4(3-3-6)
BI 454	Plant Growth and Development	3(2-3-4)
BI 455	Embryology of Flowering Plants	3(2-3-4)
BI 456	Plant Hormones	3(2-3-4)
BI 457	Plant Tissue Culture	3(2-3-4)
BI 461	Plant Ecology	3(2-3-4)
BI 511	Advanced Phycology	3(2-3-4)

Zoology

BI 321	Histology	4(3-3-6)
BI 421	Invertebrate Zoology	4(3-3-6)
BI 422	Vertebrate Zoology	4(3-3-6)
BI 423	Comparative Anatomy of the Vertebrates	4(3-3-6)
BI 424	Animal Taxonomy	4(3-3-6)
BI 452	Animal Physiology	4(3-3-6)
BI 453	Animal Behavior	3(3-0-6)
BI 476	Entomology	3(2-3-4)
BI 478	Acarology	3(2-3-4)
BI 479	Parasitology	3(2-3-4)
BI 521	Protozoology	3(2-3-4)
BI 522	Malacology	3(2-3-4)
BI 523	Ichthyology	3(2-3-4)
BI 524	Ornithology	3(2-3-4)
BI 551	Endocrinology	4(3-3-6)

Microbiology

BI 431	Soil Microbiology	3(2-3-4)
BI 432	Food Microbiology	3(2-3-4)

BI 433	Structure and Function of Bacteria	3(2-3-4)
BI 434	Determinative Bacteriology	3(2-3-4)
BI 435	Pathogenic Bacteriology	3(2-3-4)
BI 436	Immunology and Serology	3(2-3-4)
BI 437	Virology	3(2-3-4)
BI 438	General Mycology	3(2-3-4)
BI 439	Industrial Microbiology	3(2-3-4)
BI 531	Advanced Mycology	3(2-3-4)
BI 532	Microbial Physiology	3(3-0-6)
BI 533	Aquatic Microbiology	3(2-3-4)
BI 534	Sanitary Microbiology	3(2-3-4)

Genetics

BI 301	Cell Biology	3(3-0-6)
BI 343	Human Genetics	3(3-0-6)
BI 441	Advanced Genetics	3(3-0-6)
BI 442	Population Genetics and Evolution	3(3-0-6)
BI 443	Cytogenetics	3(2-3-4)
BI 541	Microbial Genetics	3(3-0-6)

Agricultural Biology

BI 371	Horticulture	3(2-3-4)
BI 372	Principles of Animal Husbandry	3(2-3-4)
BI 373	Flowering and Ornamental Plants	3(2-3-4)
BI 471	Principles of Plant Breeding	3(3-0-6)
BI 472	Weeds and Weed Controls	3(2-3-4)
BI 473	Tropical Pests	3(2-3-4)
BI 474	Diseases of Economic Crops	3(2-3-4)
BI 475	Economic Crops	3(2-3-4)
BI 477	Medical and Veterinary Entomology	3(2-3-4)
AG 411	Economic Entomology	3(2-3-4)

AG 452 Plant Propagation	3(2-3-4)
AG 466 Principles of Mushroom Cultivation	3(2-3-4)
Other Biology courses	
BI 352 Cell Physiology	3(3-0-6)
BI 381 Biotechniques	2(0-4-2)
BI 501 Limnology	3(2-3-4)
BI 503 Radiobiology	3(3-0-6)
BI 581 Microtechniques	3(0-6-3)
Biochemistry	
CH 444 Applied Biochemistry to Health Sciences	2(2-0-4)
CH 475 Pharmaceutical Chemistry	2(2-0-4)
CH 476 Food Chemistry	2(2-0-4)
CH 479 Environmental Chemistry	2(2-0-4)
CH 542 Nutritional Biochemistry	2(2-0-4)
CH 543 Biochemical Techniques	2(2-0-4)
Aquatic Science	
AQ 471 Aquacultures	3(3-0-6)
AQ 472 Introduction to Fisheries Technology	3(2-3-4)

Course Description

BI 301 Cell Biology 3(3-0-6)
 Pre-requisite : BI 111 or BI 121 and Organic Chemistry or Biochemistry
 Molecular approach to the study of structure and function of animal and plant cells.

BI 302 Biostatistics 3(3-0-6)

Study of biological data and basic statistics of rate, proportion and probability. Analysis of data by using statistical methods such as chi-square test, correlation, regression and analysis of variance, etc.

BI 321 Histology 4(3-3-6)

Pre-requisite : BI 121

Study of structure and properties of cell, epithelium, connective tissue, cartilage, bone, blood and blood cell formation, muscle, nervous tissue. Structure and functions of various tissues in higher vertebrates.

BI 343 Human Genetics 3(3-0-6)

Pre-requisite : BI 111 and BI 121

Mendelian inheritance in man; pedigree analysis; chromosomes and their abnormalities; immunogenetics; heredity and environment; genetics in medicine; genetics and society; human evolution and future of mankind.

BI 352 Cell Physiology 3(3-0-6)

Pre-requisite : BI 111 or BI 121 and Organic Chemistry or Biochemistry

Study of functional aspects of cells, cell environment, transportation across thermodynamic membrane, macromolecules and their metabolism, regulation of metabolism, photosynthesis. Cellular respiration, secretion, irritability, and contractibility.

BI 371 Horticulture 3(2-3-4)

Pre-requisite : BI 111

Principles and practices in cultivation of garden plants and garden keeping.

BI 372 Principles of Animal Husbandry 3(2-3-4)

Pre-requisite : BI 121

Study of basic principles in production of livestock in Thailand.

BI 373 Flowering and Ornamental Plants 3(2-3-4)

Pre-requisite : BI 111

Study of botanical characteristics, methods of planting, propagation and keeping. Flowering and ornamental plants used in decoration. Planting and management on a large scale.

BI 381 Biotechniques 2(0-4-2)

Methods and techniques of studying plants and animals; collection, preservation, pressing of herbarium specimens, preparation of permanent microslides, and related photographic techniques.

BI 412 Morphology of Plants 4(3-3-6)

Pre-requisite : BI 111

Study of morphology, taxonomy, evolution, ecology, phylogeny, development, behavior, life history and economic importances of each plant group; emphasis on plants widely distributed in Thailand, including algae, bryophytes and lower vascular plants.

BI 413 Plant Anatomy 3(2-3-4)

Pre-requisite : BI 111

Study of structure, organization and development of the plant body including phylogeny and ontogeny of cells, tissues, tissue systems and organs of vascular plants with emphasis on flowering plants.

BI 414 Plant Taxonomy 4(3-3-6)

Pre-requisite : BI 111

Study of classification of plants; principles of plant classification, history of plant classification, literature on plant taxonomy, systems of plant classification, concept of units of plant classification, problems in plant classification, variation and evolution in plants, plant geography, and current ideas of plant classification.

BI 415 Medicinal Plants 3(2-3-4)

Pre-requisite : BI 111

Study of medicinal plants in Thailand; their scientific names, classification, morphology, effective medicinal ingredients and usages.

BI 416 Aquatic Plants 3(2-3-4)

Pre-requisite : BI 111

Study of taxonomy, ecology, reproduction, distribution and economic importance of water angiosperms with emphasis on vascular angiosperms in Thailand.

BI 417 Phycology 3(2-3-4)

Pre-requisite : BI 111

Basic study of freshwater and marine algae; their form and structure, life history, some aspects of taxonomy, ecological role and economic importance.

BI 421 Invertebrate Zoology 4(3-3-6)

Pre-requisite : BI 121

A survey of the morphology, physiology, ecology and taxonomy of the invertebrates from Protozoa to lower Chordates with emphasis on their phylogenetic relationship. Laboratorial work on dissection of the selected types, demonstration and field study are included.

BI 422 Vertebrate Zoology 4(3-3-6)

Pre-requisite : BI 121

Study of forms, structures, functions, and classification of lower chordates and vertebrates. Emphasis on *natural history of some local species.*

BI 423 Comparative Anatomy of the Vertebrates 4(3-3-6)

Pre-requisite : BI 121

Comparative study of vertebrate body plan, tissues, organs and organ systems along the evolutionary line of phylogeny.

BI 424 Animal Taxonomy 4(3-3-6)

Pre-requisite : BI 121

Methods and principles of classification and nomenclature, historical and evolutionary studies of each systematic group. Emphasis on identification of local species.

BI 431 Soil Microbiology 3(2-3-4)

Pre-requisite : BI 231

Study of types and activities of microbes involved in organic and inorganic changes in the soil. Carbon cycle, nitrogen cycle and other mineral cycles caused by microbial activities.

BI 432 Food Microbiology 3(2-3-4)

Pre-requisite : BI 231

Study of types of microbes in food, food decay and food preservation, food toxicity and poisoning. Food sanitation.

BI 433 Structure and Function of Bacteria 3(2-3-4)

Pre-requisite : BI 231

Study of structures, functions, growth and activities of bacteria.

BI 434 Determinative Bacteriology 3(2-3-4)

Pre-requisite : BI 231

Study of methods of isolation, identification, classification and problems involved in the classification of bacteria.

BI 435 Pathogenic Bacteriology 3(2-3-4)

Pre-requisite : BI 231

The relationship between host and pathogenic bacteria : methods of transmission, pathogenicity and type of infection produced.

BI 436 Immunology and Serology 3(2-3-4)

Pre-requisite : BI 231, Biochemistry and Organic Chemistry

Study of immune responses in humans and animals and the relationship to the diagnosis, prevention and treatment of diseases.

- BI 437 Virology** 3(2-3-4)
 Pre-requisite : BI 231
 Study of the biology of human, animal, plant; insect and bacterial viruses.
- BI 438 General Mycology** 3(2-3-4)
 Pre-requisite : BI 111
 Study of the major groups of fungi : their life history, developmental morphology, physiology, and taxonomy ; with consideration on the evolutionary trends, economic importance, and relationship between fungi and other organisms.
- BI 439 Industrial Microbiology** 3(2-3-4)
 Pre-requisite : BI 231
 Study of groups and function of microorganisms used in industries; microbial fermentation in food industries, antibiotics, etc.
- BI 441 Advanced Genetics** 3(3-0-6)
 Pre-requisite : BI 341
 Study of genetic principles beyond the level of BI 341.
- BI 442 Population Genetics and Evolution** 3(3-0-6)
 Pre-requisite : BI 341
 Equilibrium and changes of gene and genotype frequencies in a population. Effects of gene frequencies on phenotype variation. Processes in evolution of organisms.
- BI 443 Cytogenetics** 3(2-3-4)
 Pre-requisite : BI 341
 Study of structure and changes of cells and chromosomes during mitosis and meiosis. Genetic variation due to chromosomal abnormality and causes of chromosomal abnormality both numerically and structurally.

BI 451 Plant Physiology 4(3-3-6)

Pre-requisite : BI 351

Study of living processes in higher plants with emphasis on chemical constituents, water and minerals. Photosynthesis, respiration and metabolism of organic compounds. Growth and development related to external environment.

BI 452 Animal Physiology 4(3-3-6)

Pre-requisite : BI 351

Study of relationship between animal structures and their function with emphasis on the vertebrates; their nutrition, digestion, metabolism, excretion, endocrine system, blood circulation, respiration, muscle and nerve, sensory organs, perception, and reproductive physiology.

BI 453 Animal Behavior 3(3-0-6)

Pre-requisite : BI 121

Study of behavior of invertebrates and vertebrates. The importance of adaptation, factors affecting behavior, types of behavior, ecology and evolution of behavior.

BI 454 Plant Growth and Development 3(2-3-4)

Pre-requisite : BI 111

Study of growth process in plants. Factors affecting growth and development; stimulating substances and effects of environment such as day-length, light, temperature, etc. Responsiveness of plants and method of study.

BI 455 Embryology of Flowering Plants 3(2-3-4)

Pre-requisite : BI 111

Study of developmental processes in plant reproduction, micro and megasporogenesis, pollination, fertilization, embryogenesis, including economic application.

- BI 456 Plant Hormones** 3(2-3-4)
 Pre-requisite : BI 111
 Study of chemical characteristics and properties of plant hormones such as auxins, gibberellins, cytokinins, inhibitors and retardants. Their application in agriculture such as germination of seed, rooting, growth and growth control, plant size, flowering, fruitset and fruit growth, fruit ripening, flower and fruit thinning, dormancy, abscission, storage, pre-harvest and postharvest treatment and herbicides.
- BI 457 Plant Tissue Culture** 3(2-3-4)
 Pre-requisite : BI 111
 Techniques and methods of plant tissue culture and their application.
- BI 461 Plant Ecology** 3(2-3-4)
 Pre-requisite : BI 261
 Study of the relationship between plants and their environment.
- BI 471 Principles of Plant Breeding** 3(3-0-6)
 Pre-requisite BI 341
 Study of principles and methods of breeding for the improvement of various kinds of economic plants in Thailand.
- BI 472 Weeds and Weed Controls** 3(2-3-4)
 Pre-requisite : BI 111
 Study of the economic importance, botanical study, dissemination, and control of weeds.
- BI 473 Tropical Pests** 3(2-3-4)
 Study of the important pests of economic crops and livestock, and methods of control.
- BI 474 Diseases of Economic Crops** 3(2-3-4)
 Pre-requisite : BI 231
 Study of the causes of plant diseases, symptoms, dispersal of inocula, diagnosis and control of plant diseases.

- BI 475 Economic Crops** 3(2-3-4)
Pre-requisite : BI 111
Study of the importance of economic crops of Thailand, with emphasis on the botanical study, crop planting and cultural practices.
- BI 476 Entomology** 3(2-3-4)
Pre-requisite : BI 121
Basic concepts of biology of insects and insect classification with special emphasis on the economic species including methods of control.
- BI 477 Medical and Veterinary Entomology** 3(2-3-4)
Pre-requisite : BI 121
Classification and biology of important arthropod vectors which transmit diseases to man and animals. Epidemiological study and control of arthropod - borne diseases.
- BI 478 Acarology** 3(2-3-4)
Pre-requisite : BI 121
Study of the biology of acarines : mites and ticks. The effect on economics, also methods of control.
- BI 479 Parasitology** 3(2-3-4)
Pre-requisite : BI 121
Basic concepts of commensalism, mutualism, and parasitism. Study of animal parasitic metabolism, evolution, reproduction , life history, host-parasite relationship and methods of control. Techniques for collecting, identifying, examining and preserving parasites.
- BI 501 Limnology** 3(2-3-4)
Pre-requisite : BI 261
Study of physical, chemical, and biological nature of the in-land fresh water ponds and canals. Relationship between aquatic plants, animals and their physico-chemical aspects of the environment.

- BI 503 Radiobiology** 3(3-0-6)
Pre-requisite : BI 351
Various rays and their effects on living organisms, including their effects on heredity and mutation.
- BI 511 Advanced Phycology** 3(2-3-4)
Pre-requisite : BI 417
Distribution, collection, identification, morphology, physiology, genetics, life-history and phylogeny of algae in Thailand and neighboring countries. Emphasis on algae cultures and research for commercial scale.
- BI 521 Protozoology** 3(2-3-4)
Pre-requisite : BI 421
Morphology, taxonomy, physiology, and life history of representative free-living and parasitic protozoa.
- BI 522 Malacology** 3(2-3-4)
Pre-requisite : BI 421
Terrestrial, fresh-water and marine mollusks; their taxonomy, anatomy, physiology, locomotion, reproduction, development, and economic importance.
- BI 523 Ichthyology** 3(2-3-4)
Pre-requisite : BI 422 or BI 423
Study of life history, ecology, taxonomy, and economic importance of fishes emphasizing the Southeast Asian fishes.
- BI 524 Ornithology** 3(2-3-4)
Pre-requisite : BI 422 or BI 425
Study of birds : their structure, physiology, locomotion, reproduction, evolution, adaptation for securing food and avoiding enemies, and the relation to mankind. Laboratory on bird classification, identity of common species by sight and song; field trips also included.

BI 531 Advanced Mycology 3(2-3-4)

Pre-requisite : BI 231 and BI 438

Study of important characters of the recognized orders of Myxomycetes, Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes.

BI 532 Microbial Physiology 3(3-0-6)

Pre-requisite : BI 433

Study of morphology, physiology, metabolic patterns and growth of microorganisms.

BI 533 Aquatic Microbiology 3(2-3-4)

Pre-requisite : BI 231

Study of identification and activities of aquatic microorganisms; pathogenic and non pathogenic. Effects on organic and inorganic substances; also aquatic organisms.

BI 534 Sanitary Microbiology 3(2-3-4)

Pre-requisite : BI 231

Sanitation and controlling of microorganisms in food and water. Environmental pollution and methods for recovery.

BI 541 Microbial Genetics 3(3-0-6)

Pre-requisite : BI 231 and BI 341

Principles of microbial genetics, mutation and mutagenesis in microorganisms; genetic analysis. Microorganisms used in theoretical genetic research. Genetic engineering and its application.

BI 551 Endocrinology 4(3-3-6)

Pre-requisite : BI 351

Comparative anatomy, chemistry and physiology of the endocrine system in lower and higher vertebrates. Comparison of the functioning system between vertebrates and invertebrates.

- BI 581 Microtechniques** 3(0-6-3)
 Pre-requisite : BI 111 and BI 121
 Study of methods and techniques employed in the preparation of materials for biological studies.
- BI 591 Special Problems in Biology** 2(0-4-2)
 An individual research project in biology for graduate level.
- BI 691 Seminar in Biology I** 1(2-0-1)
 Reports and discussions of scientific discoveries and research in biology published in scientific journals; for graduate level.
- BI 692 Seminar in Biology II** 1(2-0-1)
 Reports and discussions of advanced discoveries and research in biology for graduate level.
- CH 351 Analytical Chemistry I** 4(2-6-4)
 Pre-requisite : CH 103
 Analytical processes, sampling, evaluation of data, precision, accuracy, gravimetric analysis, volumetric analysis by neutralization, precipitation, complexation and redox reaction, quantitative instrumental analysis.
- CH 392 Biochemistry Laboratory** 1(0-3-0)
 Pre-requisite : CH 222
 Chemical laboratory techniques are designed for qualitative and quantitative analysis of some nutrients and other biological materials.
- CH 444 Applied Biochemistry to Health Sciences** 2(2-0-4)
 Pre-requisite : CH 342
 Applications of modern principles of biochemistry in public health. Prevention and treatment of public health problems.

CH 475 Pharmaceutical Chemistry 2(2-0-4)

Pre-requisite : CH 323

Study of structures, chemical properties and methods of synthesis of some organic medicinal compounds. Relationship between structures and reaction properties are studied.

CH 476 Food Chemistry 2(2-0-4)

Pre-requisite : CH 104

Study of the constituents and chemical changes in food products before and after processing. Comparative study of biochemical changes which affect the nutritive value of foods. Food additives.

CH 479 Environmental Chemistry 2(2-0-4)

Pre-requisite : CH 103 and CH 104

Effects of environment such as air, water, noise, etc. on human beings. Causes of pollution, prevention and treatment. This course emphasizes the application of the principle to preserve the environment for the society's well-being.

CH 542 Nutritional Biochemistry 2(2-0-4)

Pre-requisite : CH 342

Metabolism of nutrients in the body; nutritional inadequacy and malnutrition with emphasis on the problems of the country. The principles and methods to prevent and solve both short and long term problems.

CH 543 Biochemical Techniques 2(2-0-4)

Pre-requisite : CH 342, CH 351 and CH 352

Study of modern techniques and methods of separation, extraction and analysis of biological materials, applications of biochemical tracer techniques and biological functions in living organisms.

AG 411 Economic Entomology 3(2-3-4)

Pre-requisite : **BI 476**

Study of harmful and useful insects, especially with regard to economics; pest control ; and beneficial insect rearing.

AG 452 Plant Propagation 3(2-3-4)

Pre-requisite : **BI 111**

A study of the method of plant propagation by seeds and other parts of plants. Preparation of places for propagation and seed production for commercial use.

AG 466 Principles of Mushroom Cultivation 3(2-3-4)

Pre-requisite : **BI 231**

Study of the principles and techniques of culture cultivation of mushrooms; mushroom production and management for commercial uses.

AQ 471 Aquacultures 3(3-0-6)

General techniques for breeding, rearing and selecting economically important aquatic organisms in the marine, brackish and fresh water to fit the local environment.

AQ 472 Introduction to Fisheries Technology 3(2-3-4)

Fundamental techniques in fisheries and aquaculture in both marine and fresh water.

Meanings of the Middle Digits of the Code Numbers

(For those starting with “BI”)

0 refers to cell / general biology

1 refers to botany

2 refers to zoology

3 refers to microbiology

4 refers to genetics and development

- 5 refers to physiology
- 6 refers to ecology
- 7 refers to applied biology
- 8 refers to biological techniques
- 9 refers to research

CHEMISTRY

The Department of Chemistry

Objectives

Graduates from this program should be able:

1. To teach chemistry up to the Bachelor's degree level.
2. To do research in problems relating to chemistry teaching or chemistry.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

CH 325 Spectroscopy of Organic Compounds	2(2-0-4)
CH 351 Analytical Chemistry I	4(2-6-4)
CH 353 Analytical Chemistry III	3(2-3-4)
CH 381 Chemistry of Soils and Fertilizers	2(2-0-4)
CH 382 Chemistry of Fats and Oils	2(2-0-4)
CH 414 Advanced Inorganic Chemistry	3(3-0-6)
CH 423 Advanced Organic Chemistry	3(3-0-6)
CH 444 Applied Biochemistry to Health Sciences	2(2-0-4)

CH 461 Seminar	1(2-0-1)
CH 512 Selected Topics in Inorganic Chemistry	2(2-0-4)
CH 523 Selected Topics in Organic Chemistry	2(2-0-4)
CH 531 Advanced Physical Chemistry	3(3-0-6)
CH 541 Selected Topics in Biochemistry	2(2-0-4)
CH 542 Nutritional Biochemistry	2(2-0-4)
CH 641 Advanced Biochemistry	3(3-0-6)

Course Description

CH 325 Spectroscopy of Organic Compounds 2(2-0-4)

Pre-requisite : CH 323

Basic atomic and molecular spectroscopy are introduced. Principles and applications of nuclear magnetic resonance, infrared, ultra-violet and mass spectroscopy for elucidation of organic compound structures.

CH 351 Analytical Chemistry I 4(2-6-4)

Pre-requisite : CH 103

Analytical processes, sampling, evaluation of data, precision, accuracy, gravimetric analysis, volumetric analysis by neutralization, precipitation, complexation and redox reaction, quantitative instrumental analysis.

CH 353 Analytical Chemistry III 3(2-3-4)

Pre-requisite : CH 351 and CH 352

Analysis by instrumentation : UV-Visible spectrophotometry, infrared spectrophotometry, atomic absorption and emission spectrophotometry, X-ray fluorescence spectrophotometry, fluorimetry, gas chromatography, conductometry, coulometry, polarography, turbidimetry, refractometry, Raman and mass spectrophotometry, nuclear magnetic resonance spectrophotometry.

CH 381 Chemistry of Soils and Fertilizers 2(2-0-4)

Pre-requisite : CH 103 and CH 104

Qualitative and quantitative analysis of soils and fertilizers are emphasized as well as the enrichment processes of land by chemical and agricultural means, fertilizer production processes at both industrial and local levels are discussed.

CH 382 Chemistry of Fats and Oils 2(2-0-4)

Pre-requisite : CH 104

Study of the quantity of fats and oils in various resources, emphasis on the extraction, analysis, quality improvement, and application in both daily life and industrial fields.

CH 414 Advanced Inorganic Chemistry 3(3-0-6)

Pre-requisite : CH 213

Reactions, kinetics and mechanisms of coordination compounds, coordination chemistry of lanthanides, actinides and transactinide elements. Basic organometallic chemistry; synthesis of coordination compounds.

CH 423 Advanced Organic Chemistry 3(3-0-6)

Pre-requisite : CH 323

Advanced treatment of organic chemistry from a mechanistic point of view according to the following topics; substitution, addition, elimination, and pericyclic reactions and molecular rearrangements.

CH 444 Applied Biochemistry to Health Sciences 2(2-0-4)

Pre-requisite : CH 342

Applications of modern principles of biochemistry in public health. Prevention and treatment of public health problems.

CH 461 Seminar 1(2-0-1)

Pre-requisite : For final year undergraduate students or consent of instructor.

Extensive reading of scientific journals and periodicals, reports and discussions of scientific discoveries for research.

CH 512 Selected Topics in Inorganic Chemistry 2(2-0-4)

Pre-requisite : CH 213

Selected topics of the recent advances, principles and applications of inorganic chemistry.

CH 523 Selected Topics in Organic Chemistry 2(2-0-4)

Pre-requisite : CH 222

Selected topics of the recent advances, principles, and applications of organic chemistry.

CH 531 Advanced Physical Chemistry 3(3-0-6)

Thermodynamics and equilibrium, chemistry of energy transformation, chemical reaction mechanism, quantum mechanical properties of particles and waves, phase properties and equilibria of a three-component solution system, chemistry of surfaces.

CH 541 Selected Topics in Biochemistry 2(2-0-4)

Pre-requisite : CH 342

Selected topics of the recent advances, principles and applications of biochemistry

CH 542 Nutritional Biochemistry 2(2-0-4)

Pre-requisite : CH 342

Metabolism of nutrients in the body; nutritional inadequacy and malnutrition with emphasis on the problems of the country. The principles and methods to prevent and solve both short and long term problems.

CH 641 Advanced Biochemistry

3(3-0-6)

Descriptive study in molecular biology of the living organism with emphasis on structure and function of the gene, including specific *metabolism* such as *protein synthesis*, *nucleic acid metabolism* and *metabolism of some minerals*. The mechanism of metabolic regulation of hormones and the biological function of application of biotechnology are emphasized.

Meanings of the Middle Digits of the Code Numbers

- 1 refers to inorganic chemistry
- 2 refers to organic chemistry
- 3 refers to physical chemistry
- 4 refers to biochemistry
- 5 refers to analysis or synthesis
- 6 refers to seminar or project
- 8 refers to applied chemistry

DEVELOPMENTAL PSYCHOLOGY**The Department of Psychology****Objectives**

To prepare scholars in development psychology who are able to teach and research either for professional growth or for a decisive resolution of education and social problems relating to the field.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 18 credit hours

PG 501 General Psychology	3(3-0-6)
PG 523 Child Psychology	3(3-0-6)
PG 524 Adolescent Psychology	3(3-0-6)
PG 525 Theories of Child Development Psychology	3(3-0-6)
PG 623 Adult Psychology	2(2-0-4)
PG 629 Seminar in Developmental Psychology	2(2-0-4)
EM 521 Statistical Designs of Experiments	2(2-0-4)

Elective Courses

Select at least 3 credit hours from the following courses.

PG 505 Differential Psychology	3(3-0-6)
PG 516 Conflict and Conflict Resolution	3(3-0-6)
PG 519 Psycho-Social Development	3(3-0-6)
PG 521 Developmental Psychology	3(3-0-6)
PG 522 Infant Psychology	3(3-0-6)
PG 526 Language Development	3(3-0-6)
PG 527 Research Methods in Developmental Psychology	3(3-0-6)
PG 553 Psychology of Learning	3(3-0-6)
PG 554 Motivation	3(3-0-6)
PG 555 Sensory Psychology	3(3-0-6)
PG 556 Psychology of Perception	3(3-0-6)
PG 557 The Emotions	3(3-0-6)
PG 601 Seminar in General Psychology	3(3-0-6)
PG 602 Comparative Psychology	3(3-0-6)

PG 625	Piaget's Theory	3(3-0-6)
PG 627	Clinical Child Psychology	3(3-0-6)
PG 628	Seminar in Behavior Problems of Childhood and Adolescence	3(3-0-6)
PG 633	Theories of Personality	3(3-0-6)
PG 634	Mental Hygiene	3(3-0-6)
PG 635	Psychology of Deviant Behavior	3(3-0-6)
PG 642	Measurements in Child Development	3(3-0-6)
PG 673	Seminar on Contribution of Buddhism to Value System	3(3-0-6)
PG 675	Behavioral Approach to School Curriculum	3(3-0-6)
PG 677	Psychology of Exceptional Children	3(3-0-6)
PG 680	Sensitivity Training	3(3-0-6)
PG 691	Independent Study	3(3-0-6)
EM 522	Factor Analysis	3(3-0-6)

Course Description

PG 501 General Psychology 3(3-0-6)

Scientific method; definition of psychology ; nature, function, and language of science ; understanding, explanation and theory ; the science of behavior ; methods of measuring behavior; dependent-independent variables, stimulus - response variables, empirical relationships, theoretical constructs and psychological theory, the origin and status of modern psychology, pre-scientific speculation, beginning of science of psychology, influence of pragmatism, psychological testing, social psychology, statistical description and interpretation of scientific data ; biological found-

dition of behavior : receiving, communicating, reacting mechanisms, nervous systems ; heredity, maturation, learning theory and experiments, Freud theory, perceptions.

PG 505 Differential Psychology 3(3-0-6)

Individual differences : individual differences in intelligence, school achievement ; special aptitudes and cognitive styles ; group differences ; sex differences, age differences, race differences and social class differences ; factor producing differences ; hereditary and environmental factors.

PG 516 Conflict and Conflict Resolution 3(3-0-6)

Exploring of group and inter-group dimensions of conflict and conflict resolution

PG 519 Psycho-Social Development 3(3-0-6)

Theories and research pertaining to the area of psychological development and social development of children and youth emphasizing the discussions of both theories and related problems when applying the theories to the children in Thai society and culture

PG 521 Developmental Psychology 3(3-0-6)

Principal theories concerning child development, various aspects of human development from conception to senescence with special emphasis on psychological and social factors

PG 522 Infant Psychology 3(3-0-6)

Sensory, motor, cognitive, language, social and emotional development during the first two years of life.

PG 523 Child Psychology 3(3-0-6)

Orientation to developmental approach, the beginning of life, biological inheritance, prenatal development; the newborn infant, behavior of the

newborn, motor behavior; physical development, stages of development; language development and the function of speech in early childhood; emotional development, emotional pattern of anger and fear, the basis of emotional well-being in early childhood, social development, early forms of social behavior, social behavior toward age peers; intellectual development, perceptual and adaptive behavior, child's interaction with his environment.

PG 524 Adolescent Psychology 3(3-0-6)

Biological, psychological and sociological perspectives of late childhood to early adulthood emphasizing such issues as the role of ideology in identity formation inter and intra society variants, opportunity for observation and interviewing.

PG 525 Theories of Child Development Psychology 3(3-0-6)

A survey of basic systematic positions in current theories of child development such as social learning theory (S-R), field theory (Kurt Lewin), psychoanalytic theory of development (Sigmund Freud), the organismic developmental theory (Heinz Werner), selected empirical research areas.

PG 526 Language Development 3(3-0-6)

An intensive study of language development from infancy to late childhood with major emphasis on psycho - linguistics.

PG 527 Research Methods in Developmental Psychology 3(3-0-6)

A critical review of theory and research in several areas of developmental psychology emphasizing current issues, evaluation of present knowledge, and methodological problems in research.

PG 553 Psychology of Learning 3(3-0-6)

Examination and discussion of current research and of theoretical and experimental problems in the area of learning and behavior modification;

reinforcement, extinction, motivation, generalization, discrimination, retention and forgetting.

PG 554 Motivation 3(3-0-6)

A survey of the theoretical and research literature pertaining to the topic of motivation ; consideration of the concepts of instinct, drive and motive with coverage of both animal and human studies.

PG 555 Sensory Psychology 3(3-0-6)

A structural and functional examination of the basic sensory process ; investigation of the problems of sensory quality and sensory quantity with major emphasis on visual acuity, color vision, pitch discrimination and haptic sensitivity.

PG 556 Psychology of Perception 3(3-0-6)

An examination of the historical development, research, and major theoretical positions in the area of perceptual psychology ; theoretical and experimental treatment of the basic perceptual phenomena.

PG 557 The Emotions 3(3-0-6)

A study of the evolutionary, ethological, and psychological significance of the emotion in personality functioning and in interpersonal and inter-group relations ; components of emotion, the individual's emotional experience, and the way in which the emotions interact with other aspects of personality.

PG 601 Seminar in General Psychology 3(3-0-6)

Systematic study of current topics in psychology of general theoretical nature.

PG 602 Comparative Psychology 3(3-0-6)

A comprehensive examination and synthesis of the principles, concept and findings of ethology and comparative psychology; similarities and differences in theories, methods and research findings related to such basic psychological problems.

PG 623 Adult Psychology 2(2-0-4)

Characteristics of the early adulthood; personality development during the period, the meaning of maturity, finding one's place in the world of work, efficiency and productivity, psychological factors in marital happiness, characteristics of middle and old ages; period of transition, adult mental abilities, mental health in old age.

PG 625 Piaget's Theory 3(3-0-6)

Biography of Piaget, intellectual organization and adaptation, cognitive development and other factors, cognitive development of Piaget : the sensory-motor period, the period of preoperational thought, the period of concrete operations and the period of logical operations, development of thinking in adolescence ; summary and applications.

PG 627 Clinical Child Psychology 3(3-0-6)

Essential conditions in child psycho-therapy especially the therapeutic process with the normal child, the handicapped child, the disturbed child and the creative child; a therapeutic approach and the counseling with parents of problem children; a therapist's role in the school settings and in the child guidance clinic.

PG 628 Seminar in Behavior Problems of Childhood and Adolescence 3(3-0-6)

Discussion of selected current behavior problems of childhood and adolescence; application of current research finding and theories to provide guidelines for solutions of problems.

PG 629 Seminar in Developmental Psychology 2(2-0-4)

Systematic study of current topics in the field of developmental psychology; critical review of recent research and theory concerning selected behavioral problems.

PG 633 Theories of Personality 3(3-0-6)

A review of theories of personality (emphasizing structure and dynamic) such as Freud's Psychoanalytic theory, social psychological theory, Murrey's Personology, Lewin's field theory, organismic theory, factor theories, Rogers' self theory, Skinner's Stimulus Response theory ; application is validated by observational accounts, case studies and cross-cultural research.

PG 634 Mental Hygiene 3(3-0-6)

A general course designed to give an understanding of the healthy personality throughout different stages of life, exploration on fundamental factors in human adjustment with emphasis upon the prevention of inadequate adjustment and upon the process by which maladjusted individuals may be restored to normal living

PG 635 Psychology of Deviant Behavior 3(3-0-6)

The meaning of normality ; cultural and historical aspects of the problem ; the role of anxiety ; the etiology of mental disturbances ; classification of disorders ; experimental approaches to the study of disorders ; preventive approaches relating to mental health, mental subnormality regarding cognitive deficit ; origins of mental deficiency.

PG 642 Measurements in Child Development 3(3-0-6)

The history, purposes and uses of various types of tests, a survey of available tests; the criteria of test selection with an emphasis on techniques of measurements in child development ; test construction, validation, reliability ; administering, scoring, interpreting and their uses.

PG 673 Seminar on Contribution of Buddhism to Value

System 3(3-0-6)

A review of principles and concepts in Buddhism; discussion of current issues or problems in Thai society emphasizing an analysis of societal values.

PG 675 Behavioral Approach to School Curriculum 3(3-0-6)

Behavioral foundation pertinent to existing social problems for curriculum research and development ; practicum in curriculum research and development in different levels of education ; the behavioral foundation emphasizing economics, political science, sociology, psychology, etc.

PG 677 Psychology of Exceptional Children 3(3-0-6)

Criteria for determining exceptionality, and a survey of the major areas of exceptionality; the individuality of each child who is exceptional which requires special attention from parents as well as teachers; some techniques for diagnosing specific difficulties; recent trends in the education of exceptional children with specific reference to special education in Thailand

PG 680 Sensitivity Training 3(3-0-6)

Self awareness and clinical sensitivity through involvement as a participant observer in the development and continuing functioning of a small group emphasizing emergent styles of interaction in roles, both explicit and implicit.

PG 691 Independent Study 3(3-0-6)

An intensive study of literature of special topics conducted under supervision of a faculty member. (Consent of instructor)

EM 521 Statistical Designs of Experiments 2(2-0-4)

(See Educational Measurement)

EM 522 Factor Analysis 3(3-0-6)

(See Educational Measurement)

Meanings of the Middle Digits of the Code Numbers

- 0 refers to behavioral science
- 1 refers to social psychology
- 2 refers to developmental psychology
- 3 refers to personality psychology
- 4 refers to quantitative psychology
- 5 refers to experimental psychology
- 6 refers to physiological psychology
- 7 refers to educational psychology
- 8 refers to applied psychology
- 9 refers to independent study

EARLY CHILDHOOD EDUCATION

The Department of Curriculum and Instruction

Objectives

1. To train graduate students in Early Childhood Education with the following qualifications:

1.1 Have knowledge and understanding in developmental psychology and the learning process of young children including research studies about children.

1.2 Be able to develop curriculum, teach, conduct research and manage early childhood education programs appropriate to specific situations of communities.

1.3 Have professional leadership in education, research work, administration, supervision and services in early childhood education.

2. To serve the university's roles in providing academic services to the community, disseminating knowledge and extending training programs for early childhood personnel.

3. To promote and encourage research studies in education and care of young Thai children.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 16 credit hours

CE 511 Theory and Practice in Early Childhood Curriculum Development	3(3-0-6)
CE 512 Theory and Practice in Early Childhood Curriculum Development-Advanced	3(3-0-6)
CE 521 Research and Practice in the Study of Young Children	3(3-0-6)
CE 522 Research and Practice in the Study of Young Children-Advanced	3(3-0-6)
CE 551 Administration and Supervision in Early Childhood Education	2(2-0-4)
CE 581 Seminar in Problems and Research in Early Childhood Education	2(2-0-4)

Elective Courses

Select at least 5 credit hours from the following courses.

CE 531 Creative Activities for Young Children	2(2-0-4)
CE 532 Development of Books for Young Children	2(2-0-4)
CE 541 Education for Parents of Young Children	2(2-0-4)
CE 631 Education for Children with Special Needs	2(2-0-4)
CE 551 Early Childhood Education and Community	2(2-0-4)

CE 671 Personnel Training in Early Childhood Education	2(2-0-4)
CE 691 Independent Study	2(2-0-4)
SE 502 Language Development and Hearing Impaired	2(2-0-4)

Course Description

**CE 511 Theory and Practice in Early Childhood Curriculum
Development** 3(3-0-6)

An analytical study of psychological theories, philosophy and fundamental concepts in organizing early childhood education programs emphasizing practices in providing experiences to promote development of young children in urban and rural areas

**CE 512 Theory and Practice in Early Childhood Curriculum
Development-Advanced** 3(3-0-6)

Pre-requisite : CE 511

An application of principles and theories to the development of programs enhancing learning activities, materials and curriculum evaluation with an emphasis on practices in child centers.

**CE 521 Research and Practice in the Study of
Young Children** 3(3-0-6)

An analytical study of major theories relevant to psychology, social science, and research in early childhood education of urban, rural areas, and other countries. Practice in observing children's behavior and evaluation of their development in various countries.

**CE 522 Research and Practice in the Study of Young
Children-Advanced** 3(3-0-6)

Pre-requisite : CE 521

An application of theories and research work in psychology relating to child development for practice in child centers.

CE 531 Creative Activities for Young Children 2(2-0-4)

Pre-requisite : CE 521

An analytical study of theory about thinking, development and factors influencing creative thinking. Principles and strategies for promoting creative thinking. Practice and selection of creative activities in various dimensions to promote learning of preschool children.

CE 532 Development of Books for Young Children 2(2-0-4)

An analytical study of books enhancing aspects of child development including practice in book writing for children.

CE 541 Education for Parents of Young Children 2(2-0-4)

A study, observation, and analysis of children's problems as a result of home training. Teachers' roles and techniques in providing media for guiding parents of young children. An analytical study in using mass media for educating parents of young children.

CE 551 Administration and Supervision in Early Childhood Education 2(2-0-4)

An analytical study of principles, policies and objectives of early childhood education. Roles and responsibilities of personnel at various levels with an emphasis on principles of administration and supervision in early childhood education including problems and new trends in its administration.

CE 581 Seminar in Problems and Research in Early Childhood Education 2(2-0-4)

An analytical study of problems and research findings relating to early childhood education. An application of research findings to the management of early childhood education. Its movement in Thailand and other countries. Development, trends, innovation, conceptual framework and solutions of problems in teaching young children.

- CE 631 Education for Children with Special Needs** 2(2-0-4)
 Observation and diagnosis of problems of children with special needs from the early stage. Provision of help for exceptional children mixing with other children in child centers including cooperation from relating organizations.
- CE 651 Early Childhood Education and Community** 2(2-0-4)
 A study of characteristics, problems, needs, and roles of community in organizing child centers. Techniques in creating relationships and communication with parents and community for cooperation and participation in early childhood education including models of community involvement.
- CE 671 Personnel Training in Early Childhood Education** 2(2-0-4)
 Practice in organizing programs and instructional media relevant to the levels of professional experience of personnel in child centers.
- CE 691 Independent Study** 2(2-0-4)
 A detailed study in a topic on early childhood education under the supervision of and with the approval of the instructor.
- SE 502 Language Development and Hearing Impaired** 2(2-0-4)
 (See Special Education Hearing Impaired)

Meanings of the Middle Digits of Code Numbers

- 1 refers to principles and theory
- 2 refers to law
- 3 refers to budget and resources
- 4 refers to personnel
- 5 refers to level of educational organization
- 6 refers to related areas

- 7 refers to seminar
- 8 refers to research
- 9 refers to independent study and practicum

EDUCATIONAL ADMINISTRATION

The Department of Educational Administration

Objectives

1. To prepare educational administrators for educational organizations.
2. To strengthen the calibre of educational administration personnel
3. To enable the student to do research and to apply research results as the means to solve problems and improve educational administration.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses	13 credit hours	
EA 512	Principles of Educational Administration	3(3-0-6)
EA 521	Legal Aspects of Education	2(2-0-4)
EA 541	Personnel Administration in Education	3(3-0-6)
EA 531	School Finance and Budgeting	2(2-0-4)
EA 611	Leadership Functions in Educational Administration	3(3-0-6)

Elective Courses

Select 6 credit hours from one of the following groups and 2 credit hours from any of the other two groups :

Group 1 School Administration

EA 511	Administration Theory and Organization	3(3-0-6)
EA 532	School Plant Planning	2(2-0-4)
EA 561	School and Community Relations	3(3-0-6)
EA 651	Local Educational Administration	2(2-0-4)
EA 551	Elementary School Administration	2(2-0-4)
EA 552	Secondary School Administration	2(2-0-4)
EA 553	Vocational School Administration	2(2-0-4)
EA 671	Seminar on Educational Administration	3(3-0-6)
EA 672	Seminar on Academic Affairs	2(2-0-4)
EA 673	Seminar on Student Affairs	2(2-0-4)
EA 674	Seminar on Elementary School Administration	2(2-0-4)
EA 675	Seminar on Secondary School Administration	2(2-0-4)
EA 681	Research in Educational Administration	2(2-0-4)
EA 682	Advanced Report	3(3-0-6)
EA 691	Independent Study	3(3-0-6)
EA 692	Practicum in Administration	3(1-9-5)

Group 2 Educational Supervision

EA 513	Supervision in Education	3(3-0-6)
EA 514	Organizing Supervisory Programs and Supervisory Techniques	3(3-0-6)
EA 515	Administration of Changes in Schools	3(3-0-6)
EA 612	Management of Curriculum Development	3(3-0-6)
EA 676	Seminar on Educational Supervision	3(3-0-6)
EA 691	Independent Study	3(3-0-6)

Group 3 Educational Resources Management

EA 516	Educational Resources Management	3(3-0-6)
EA 517	Educational Planning	3(3-0-6)
EA 518	Innovation in Education	3(3-0-6)
EA 562	Politics and Education	3(3-0-6)
EA 563	Economics of Education	3(3-0-6)
EA 564	Social and Cultural Development	3(3-0-6)
EA 613	Systems Analysis	3(3-0-6)
EA 614	Quality Control in Educational Management	3(3-0-6)
EA 615	Management of Educational Data	3(3-0-6)
EA 616	Organizational Development	3(3-0-6)
EA 677	Seminar on Educational Resources Management	3(3-0-6)
EA 691	Independent Study	3(3-0-6)

Course Description

EA 511 Administration Theory and Organization 3(3-0-6)

The evolution of concepts and theories in both administration and organization are the core of the course. The concentration is on the nature, components and characteristics of organization as well as several models of administration theory and other factors concerning administration.

EA 512 Principles of Educational Administration 3(3-0-6)

The study of the advanced theories and principles on educational administration. Special emphasis is on the concepts, evaluation, processes and the educational administration tasks which can be applied to the current educational administration.

EA 513 Supervision in Education 3(3-0-6)

Roles and functions, skills, behavior and techniques of the educational supervisors, the analysis of the past and present supervisory practices including the research and study of problems in order to improve the educational supervision in Thailand.

EA 514 Organizing Supervisory Programs and Supervisory Techniques 3(3-0-6)

Analysis study of the supervisory procedures and techniques for education. This study will emphasize on patterns and types of methods or techniques suitably applied to educational supervision.

EA 515 Administration of Changes in Schools 3(3-0-6)

Basic concepts on educational changes and also the causes and effects of changes in school are the core of the course. Several change agents in school are concerned. The different strategies and different processes of changes in administration and supervision are special emphasis.

EA 516 Educational Resources Management 3(3-0-6)

The course is focused on the management of educational resources, the types of resources. The concentration is on the organizing and managing the resources efficiently and effectively.

EA 517 Educational Planning 3(3-0-6)

A study of educational purposes, objectives and goals are the basic concepts of the course. The roles of administrators on planning policies, the relationship between the objectives, policies and plans are included. The nature of the plan, the components, the characteristics and the process of the plans are special emphasis.

- EA 518 Innovation in Education** 3(3-0-6)
 Educational system, innovative and change process within educational institutions, research findings in the innovation of education and administration area including change and development techniques for the benefit of teachers and administrators.
- EA 521 Legal Aspects of Education** 2(2-0-4)
 Educational law, as set forth in the constitutions statutes, rules and regulations of the Ministry of Education and other related educational agencies; principles growing out of fundamental legal procedures.
- EA 531 School Finance and Budgeting** 2(2-0-4)
 Principles, practices and trends in financing public education in Thailand including sources of revenues, budgetary process, school finance as related to public finance and fiscal policies as related to the total educational programs.
- EA 532 School Plant Planning** 2(2-0-4)
 Planning educational facilities for school system with special emphasis on writing educational specification, evaluating existing facilities, site selection, architectural and constructural planning, building standard and selection of equipment.
- EA 541 Personnel Administration in Education** 3(3-0-6)
 A study of the administrator's roles on personnel administration. The relationship with the other school societies as teachers, school's committee and the other related societies.
- EA 551 Elementary School Administration** 2(2-0-4)
 Philosophy policies and purposes of elementary educational management, roles and functions of the educational officers; school administrative tasks, and principles of the administration and supervision of the elementary schools.

EA 552 Secondary School Administration 2(2-0-4)

An overview of basic principles in secondary school administration; roles of secondary school administrators; trends in the administration of the changing secondary school including standard criteria for effective secondary school in Thailand.

EA 553 Vocational School Administration 2(2-0-4)

Philosophy, policies, and purposes of vocational education management, administrative functions of the vocational school officers with special emphasis on the vocational schools, including current problems and trends in vocational school administration in Thailand.

EA 561 School and Community Relations 3(3-0-6)

A study of the school and community with an emphasis upon the professional responsibilities and ethics of teachers as related to the lay public, the community, community resources, administrative and social agencies, and the educational profession, school community relations and problems in education are stressed.

EA 562 Politics and Education 3(3-0-6)

A study of the relationship between public administration and education; political influences over educational management and the analytical study of political doctrines or governments toward educational system with special emphasis on democracy; discussion on the role of the pressure group, decentralization of authority, allocation of budgets, decision - making at the governmental and local levels; the analysis of problems and trends directly and indirectly effecting educational administration.

EA 563 Economics of Education 3(3-0-6)

An analysis of the principles in accordance with how the national income may be allocated to support education. Consideration is given to human capital, education and economic development, economic and social

aspects of educational planning; theory of economic planning; methodology and the relationship of manpower, economic and social planning in Thailand.

EA 564 Social and Cultural Development 3(3-0-6)

An analysis of the great impact of social and cultural change on Thai society; theories of social and cultural development. Emphasis is on planning to face the social change and also improvement of education to fit to the social and cultural condition.

EA 611 Leadership Functions in Educational Administration 3(3-0-6)

This course is aimed to take an overview of human relations and ways of improving human relation in educational organization. Emphasis is placed on group process, anatomy of leadership, educational administration as leadership, communication and administrative success and decision-making.

EA 612 Management of Curriculum Development 3(3-0-6)

Studies of school curriculum as it related to the psychological, philosophical, cultural, and social basis of education. Methods and techniques in curriculum revision, curriculum management, curriculum implementation and preparation of curriculum materials.

EA 613 Systems Analysis 3(3-0-6)

A study of the administrative ideas utilized for work effectiveness. An emphasis is placed on presenting the systems concept, systems analysis technique and the systems analysis in government operation including various theories and models. The relations of systems approach to program budgeting; PERT, CPM; PPBS. quantitative parameters and the cost-benefit analysis.

EA 614 Quality Control in Educational Management 3(3-0-6)

Study concerned with educational outcomes will be measured by statistical methods, motivation techniques, and management modifiers with the accommodation of the quality control process.

EA 615 Management of Educational Data 3(3-0-6)

The study will emphasize on educational administration and decision-making with the accommodation of data processings comprised of types, characteristics collection, and data bank systems, and the application of computer will be included.

EA 616 Organizational Development 3(3-0-6)

A history of organization development and its definition; basic components of an OD program as the processes of change; basic understanding of theories and practices as applicable to educational institutions.

EA 651 Local Educational Administration 2(2-0-4)

Structure of local educational administration, roles and functions of local educational officers; Chang-wat and Amphoe Administrative officers in education; principles of community development with special emphasis on educational leadership of the local educational administrators to the community.

EA 671 Seminar on Educational Administration 3(3-0-6)

The discussion and survey of problems related to organizational patterns, decision-making, educational planning, school administrative tasks, and other educational problems concerned.

EA 672 Seminar on Academic Affairs 2(2-0-4)

Academic problems in the administration of educational institutions; selection of interesting academic problems for classroom activities; writing good seminar projects.

EA 673 Seminar on Student Affairs 2(2-0-4)

Seminar on the administration of student affairs in various levels of educational institutions; the seminar topics vary according to the nature of problems and issues in student affairs administration and the student's field of interest.

EA 674 Seminar on Elementary School Administration 2(2-0-4)

Intensive and analytical study of current problems; issues and trends in elementary school administration in Thailand; study of the application of principles, theories and research findings in the area of elementary administration.

EA 675 Seminar on Secondary School Administration 2(2-0-4)

An overview of all principles of secondary school administration; a study of problems, issues in the administration of secondary schools in Thailand; student's seminar topics will be experimented as group projects.

EA 676 Seminar on Educational Supervision 3(3-0-6)

Analysis study of educational supervision objectives and principles. Past and current issues in supervision will be discussed in order to seek causes of the problems and their resolutions.

EA 677 Seminar on Educational Resources Management 3(3-0-6)

Study the policy and educational planning of the Government. Discussion will deal with the educational resources utilized by provincial and district education offices and the school consolidations. The coordination of resource utilization among various organizations and the economic resource assessments are also studied.

EA 681 Research in Educational Administration 2(2-0-4)

Study of current issues of educational administration, analysis of existing research in this area, application and utilization of research findings to practices and to be used for further investigation.

- EA 682 Advanced Report** 3(3-0-6)
The study will emphasize on analytical, critical and suggestive aspects of writing a special report under the supervision of the staff members.
- EA 691 Independent Study** 3(3-0-6)
Students work individually on topics of their interest under the supervision of staff members.
- EA 692 Practicum in Administration** 3(1-9-5)
The students will be assigned to acquire a managerial practices in a number of organizations in order to gain working experiences, to understand the problems and their resolutions. The application of management process will be counted as a tool of the practices.

EDUCATIONAL LINGUISTICS

The Department of Linguistics

Objectives

1. To impart knowledge in linguistics and the ability to teach linguistics.
2. To impart the ability to apply linguistic knowledge to language learning and teaching.
3. To impart the ability to conduct original research in linguistics.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 16 credit hours

LI 511 Principles of Phonetics and Phonological Analysis	3(3-0-6)
LI 521 Syntactic Theory	2(2-0-4)
LI 531 Semantic Theory and Analysis	3(3-0-6)
LI 541 Language in Education and Society	3(3-0-6)
LI 651 Discourse Analysis	3(3-0-6)
LI 661 Seminar in Language Teaching	2(2-0-4)

Elective Courses

Select at least 5 credit hours from the following courses.

LI 512 Phonology and Dialects	2(2-0-4)
LI 522 Syntax and Language in Use	2(2-0-4)
LI 542 Developmental Psycholinguistics	2(2-0-4)
LI 652 Error Analysis	2(2-0-4)
LI 662 Seminar and Workshop in Language Evaluation	2(2-0-4)
LI 663 Seminar in Language Teaching in Non-formal Education	2(2-0-4)
LI 671 Research Principles and Methodology in the Humanities	3(3-0-6)
LI 672 Advance in Educational Linguistic Research	3(3-0-6)
LI 673 Fieldwork in Educational Linguistics	3(3-0-6)

Course Description

LI 511 Principles of Phonetics and Phonological Analysis 3(3-0-6)
A study of the principles of articulatory phonetics and phonological analysis with intensive training in sound discrimination and phonetic notation with a view towards applying these principles to phonetic data.

LI 512 Phonology and Dialects 2(2-0-4)

A study of the sound system of Thai or English, at the discretion of the Department; an analysis of the phonology of the major dialect(s) of the language; an introduction to the principles and methods of dialectology and examination of phonological dialect variation of the language concerned.

LI 521 Syntactic Theory 2(2-0-4)

A study of various theories of grammar including traditional, structural, and generative-transformational approaches, with practice in analysis following each theory. Emphasis is upon developing facility in analysis with framework of generative-transformational, systemic and communicative grammar.

LI 522 Syntax and Language in Use 2(2-0-4)

A study of the grammatical system of Thai or English at the discretion of the Department; an analysis of the syntactic structures of the language and the use of these structures within different linguistic registers.

LI 531 Semantic Theory and Analysis 3(3-0-6)

A study of semantic theories and principles of analysis in semantic structure and communication with a view towards applying these principles to the analysis of a particular language of the student's choice.

LI 541 Language in Education and Society 3(3-0-6)

A study of educational language planning; language as a means of communication within the context of the society; language as a medium of instruction; and sociolects and their pedagogical implications.

LI 542 Developmental Psycholinguistics 2(2-0-4)

A study of language development; processes of thinking in and comprehending language; similarities and differences in learning a primary and secondary language as well as the variables impinging upon language learning.

LI 651 Discourse Analysis 2(2-0-4)

A study of the textual structure of language used for specific purposes through an analysis of the structures and vocabulary utilized in connected discourse; and investigation of language behavior in communicative acts; an inquiry into the relationships between use of language in conveying social meaning.

LI 652 Error Analysis 2(2-0-4)

A study of inaccuracies of various types:- phonological, morphological, syntactic and semantic, which occur in language performance; a consideration of culture-induced errors, a comparison of similarities and differences arising in the learning of primary and secondary languages.

LI 661 Seminar in Language Teaching 2(2-0-4)

A course designed to give the student an opportunity to apply his knowledge of linguistics, psychology and language pedagogy in language teaching as well as in developing and planning effective language materials. Discussion and evaluation of approaches. Adaptation of existing materials to match the language teaching approach. Specific project will be undertaken.

LI 662 Seminar and Workshop in Language Evaluation 2(2-0-4)

A working seminar in the analysis and construction of language tests for various purposes and levels, and in the various skill and subject areas. Special attention will be given to evaluation the validity of different types of test items with respect to the objective set and the teaching method employed.

LI 663 Seminar in Language Teaching of Non-formal Education 2(2-0-4)

A study of functional literacy and the production of literacy materials based on linguistic and sociolinguistic analysis. A case study on the eradication of illiteracy and the prevention of relapse.

LI 671 Research Principles and Methodology in the Humanities 3(3-0-6)

A study of principles and methodology in qualitative and quantitative research in the humanities.

LI 672 Advance in Educational Linguistic Research 3(3-0-6)

A study of new developments in educational linguistic research. An attempt to find the means to apply research findings to language, educational and social problems in Thailand.

LI 673 Fieldwork in Educational Linguistics 3(3-0-6)

A study in principles and methodology used in fieldwork which include design, equipment preparation, data collection, data verification, interpretation, analysis and conclusion.

Meanings of the Middle Digits of the Code Numbers

- 1 refers to sounds
- 2 refers to grammar
- 3 refers to meaning
- 4 refers to psychology and sociology
- 5 refers to analysis
- 6 refers to seminar
- 7 refers to research

EDUCATIONAL MEASUREMENT

The Department of Educational Foundations

Objectives

1. To enable the student to develop, evaluate, and research into various tools for behavioral measurement.
2. To provide professional preparation that will enable the student to plan, operate, and teach measurement, statistics, and educational research courses.
3. To promote the student to further the study in educational measurement at the more advanced level.
4. To promote the student to be conscious of and responsible to measurement specialist's ethics.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 12 credit hours

EM 501 Advanced Theory of Test and Measurement	2(2-0-4)
EM 502 Construction of Achievement Test	2(2-0-4)
EM 503 Measurement of Intelligence and Aptitude	2(2-0-4)
EM 504 Principle of Educational Evaluation	2(2-0-4)
EM 511 Research in Measurement	2(2-0-4)
EM 521 Statistical Designs of Experiment	2(2-0-4)

Elective Courses

Select at least 9 credit hours from the following courses.

EM 505 Measurement of Attitude	2(2-0-4)
EM 506 Construction of Personality Test	3(3-0-6)

EM 507	Advanced Performance Measurement	2(2-0-4)
EM 508	Measurement of Cognitive Development	2(2-0-4)
EM 509	Seminar in Problem of Educational Measurement	3(3-0-6)
EM 512	Seminar in Research of Educational Measurement	3(3-0-6)
EM 522	Factor Analysis	3(3-0-6)
EM 523	Sampling Technique	3(3-0-6)
EM 524	Nonparametric	2(2-0-4)
EM 525	Regression Analysis	2(2-0-4)
EM 526	Multivariate	3(3-0-6)
EM 531	Introduction to Computing	2(2-0-4)
EM 532	Digital Computer Programming	3(3-0-6)

Course Description

EM 501 Advanced Theory of Test and Measurement 2(2-0-4)

A study of theories of scale and measurement ; error of measurement ; reliability ; validity ; theories of test score ; test score interpretation and theories of test construction.

EM 502 Construction of Achievement Test 2(2-0-4)

Development of testing techniques for the appraisal of cognitive objectives of instruction ; such as knowledge ; problem solving ability ; communication skills ; and study and research skills.

EM 503 Measurement of Intelligence and Aptitude 2(2-0-4)

The meaning of intelligence; the structure of intelligence; method of constructing of intelligence tests and aptitude tests; evaluation of tests; interpreting test scores; and study and research skills.

EM 504 Principle of Educational Evaluation 2(2-0-4)

A study of the principle of program evaluation; types and models of evaluation; planning and evaluation methodology; criteria and the decision - making theories; emphasizing applications for program evaluation.

EM 505 Measurement of Attitude 2(2-0-4)

A study of definitions and theories of attitude; method of constructing instruments of attitude measurement; evaluating of the instrument; interpreting test scores; emphasizing study and research skills.

EM 506 Construction of Personality Test 3(3-0-6)

A study of theories; definitions and methodology of test construction of personality; evaluation of the instrument; interpreting test scores; emphasizing study and research skills.

EM 507 Advanced Performance Measurement 2(2-0-4)

A study of objectives and job analysis; construction of instrument for procedure and products of performance measurement; evaluation of the instrument and interpreting test score; emphasizing study and research skills.

EM 508 Measurement of Cognitive Development 2(2-0-4)

A study of theories concerned with cognitive according to level of age for application to development of mental ability test; emphasizing tests constructions and determined by relative theory.

EM 509 Seminar in Problem of Educational Measurement 3(3-0-6)

A study of past and current problems in educational measurement for searching to conclusion of educational applications in suitable measurement and evaluation.

- EM 511 Research in Measurement** 2(2-0-4)
 A study of research methodology; experimental design and applications; emphasizing problems of educational measurement.
- EM 512 Seminar in Research of Educational Measurement** 3(3-0-6)
 A study of problems in research of measurement and evaluation; emphasizing skills; practicum and research methodology.
- EM 521 Statistical Designs of Experiment** 2(2-0-4)
 A study of the methodology of experimental designs for analysis of variance to each design; such as; factorial design; randomized design; completed block design; nest design; cross - nest design; repeated design; etc; an analysis of covariance model.
- EM 522 Factor Analysis** 3(3-0-6)
 A study of definitions and theories concerned with factor analysis; method of factor extraction; orthogonal and oblique rotations; interpretation of factors and application.
- EM 523 Sampling Technique** 3(3-0-6)
 A study of sampling techniques; such as; simple random sampling; stratified random sampling; systematic random sampling; cluster random sampling; ratios random sampling; etc; computation of estimation; sampling error and the estimate of sample size; skills and ability to research and evaluation.
- EM 524 Nonparametric** 2(2-0-4)
 A comparison of parametric and nonparametric statistics; free distribution; hypothesis testing of one or two independent samples by using chi-square test; median test; sign test; Mann - Whitney U test; Friedman test; etc.

EM 525 Regession Analysis 2(2-0-4)

A study of method of linear prediction equation with one independent variable and mulitple independent variables; the linear and curvilinear correlation; testing validity and reliability of prediction equation; regres- sion analysis used to solve educational problems.

EM 526 Multivariate 3(3-0-6)

A study of multivariate analysis theories; multiple analysis; variable dis- tribution and analysis of multiple correlations; such as; multiple corre- lation; canonical correlation; etc.

EM 531 Introduction to Computing 2(2-0-4)

Development of computing; computer structure; data processing; flow chart; construction of computer program; use of a specific programming language to solve problems of educational measurement.

EM 532 Digital Computer programming 3(3-0-6)

A study of computer program construction; use of many languages, such as; FORTRAN language; COBOL language; BASIC language, etc; programming including the use of statistical packages in educational measurement.

EDUCATIONAL PSYCHOLOGY

The Department of Guidance and Educational Psychology

Objectives

To prepare scholars in educational psychology who are able to teach and carry out research for professional growth and for a decisive resolution of educational and social problems.

Courses for the Major

A minimum of 21 credit hours are required from the following courses

Required courses 16 credit hours

EP 511	Human Learning and Motivation	2(2-0-4)
EP 514	Personality and Education	3(3-0-6)
EP 551	Tools and Techniques of Psychoeducational Assessment	3(3-0-6)
EP 641	Seminar on Learning and Teaching Problems	3(3-0-6)
EP 652	Seminar in Research Methods in Educational Psychology	3(3-0-6)
PG 634	Mental Hygiene	3(3-0-6)

Elective courses

Select at least 5 credit hours from the following courses

PG 505	Differential Psychology	3(3-0-6)
PG 519	Psycho-Social Development	3(3-0-6)
PG 523	Child Psychology	3(3-0-6)
PG 524	Adolescent Psychology	3(3-0-6)
PG 525	Theories of Child Development	3(3-0-6)
PG 625	Piaget's Theory	3(3-0-6)
PG 627	Clinical Child Psychology	3(3-0-6)
PG 635	Psychology of Deviant Behavior	3(3-0-6)
PG 677	Psychology of Exceptional Children	3(3-0-6)
EP 512	Behavior Modification	2(2-0-4)
EP 611	Group Behavior	2(2-0-4)
EP 642	Seminar on Current Issues in Educational Psychology	3(3-0-6)

Course Description

EP 511 Human Learning and Motivation 2(2-0-4)

The meaning and nature of learning; learning process; theories of learning : stimulus-response association and the field theory; transfer of learning; factors of learning; motivation and learning; rewards and punishment; human nature; human needs; emotion and adjustment; learning and behavior change; evaluation of learning.

EP 512 Behavior Modification 2(2-0-4)

A survey of approaches to behavior change in an attempt to interpret and reconcile within a reinforcement-learning model; a humanistic behavior modification system including factors of attention, emotion, communication and cognition; the application of these approaches within the educational system.

EP 514 Personality and Education 3(3-0-6)

Personality theories and research related to instruction, classroom management, and counseling; principles of personality development, behavior change according to various personality theories with emphasis on application in educational setting.

EP 551 Tools and Techniques of Psychoeducational Assessment 3(3-0-6)

Survey of methods, techniques and instruments for measuring individual differences in behavior, intelligence, etc; some methods of test construction; analysis of standardized test; criteria for evaluating and selecting psychological tests; values and limitations of tests; laboratory experience with psychoeducational tests.

EP 611 Group Behavior 2(2-0-4)

Group research and theory focusing on investigation of interpersonal relationship; communication structures; status and power relation; role differentiation; group uniformity; group influence on individual's behavior and problem solving, behavior including discussion of mob behavior.

EP 641 Seminar on Learning and Teaching Problems 3(3-0-6)

Skills in the psychological analysis of educational problems; some specific psychological approaches; learning and teaching problems from various psychological perspectives; experiment with alternate teaching approaches to foster learning in children experiencing learning difficulties.

EP 642 Seminar on Current Issues in Educational Psychology 3(3-0-6)

Ideas involved in current issues in educational psychology; evaluation of present knowledge and methodological problems in psychoeducational research; discussion pertaining to pertinent educational issues.

EP 652 Seminar in Research Methods in Educational Psychology 2(2-0-4)

Research strategies reflecting some recent developments in psychological theories and research; discussion of alternative strategies of research with emphasis on analyses of autobiographical and biographical materials, case studies, observation and other type of indeographic studies with their potential contribution to educational research and methodology.

PG 505 Differential Psychology 3(3-0-6)
(See Developmental Psychology)

PG 519 Psycho-Social Development 3(3-0-6)
(See Developmental Psychology)

PG 523 Child Psychology	3(3-0-6)
(See Developmental Psychology)	
PG 524 Adolescent Psychology	3(3-0-6)
(See Developmental Psychology)	
PG 525 Theories of Child Development	3(3-0-6)
(See Developmental Psychology)	
PG 625 Piaget's Theory	3(3-0-6)
(See Developmental Psychology)	
PG 627 Clinical Child Psychology	3(3-0-6)
(See Developmental Psychology)	
PG 634 Mental Hygiene	3(3-0-6)
(See Developmental Psychology)	
PG 635 Psychology of Deviant Behavior	3(3-0-6)
(See Developmental Psychology)	
PG 677 Psychology of Exceptional Children	3(3-0-6)
(See Developmental Psychology)	

EDUCATIONAL TECHNOLOGY

The Department of Educational Technology

Objectives

1. To provide professional preparation that will make the student knowledgeable and capable of teaching educational technology courses.

2. To enable the student to be capable of management and to gain leadership for production and services relating to instructional technology.

3. To enable the student to do research work on problems relating to the application of technology in teaching and education.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 13 credit hours

ET 510 Research and Theory in Educational Technology	2(2-0-4)
ET 511 Design and Development of Educational System	2(2-0-4)
ET 512 Principles and Theories of Message Design	2(2-0-4)
ET 514 Administration of Educational Technology Program	2(2-0-4)
ET 620 Seminar in Educational Technology	2(2-0-4)
ET 630 Practicum	3(3-0-6)

Elective Courses

Select at least 8 credit hours from the following courses.

ET 500 Experiences in Educational Technology Research	2(2-0-4)
ET 513 Mass Communication in Education	2(2-0-4)
ET 515 Curricular Integration of Instructional Media	2(2-0-4)
ET 520 Multi - media Approach to Programmed Instruction	2(2-0-4)
ET 530 Advanced Preparation of Graphic Materials	2(2-0-4)
ET 531 Advanced Photography	3(3-0-6)
ET 532 Educational Motion Picture Production	3(3-0-6)

ET 533 Educational Radio Program Production	3(3-0-6)
ET 534 Educational Television Program Production	3(3-0-6)
ET 535 Design and Production for Communication	2(2-0-4)
ET 621 The Computer in Education	2(2-0-4)

Course Description

ET 500 Experiences in Educational Technology Research 2(2-0-4)

Survey of ideas and trends in educational technology research. Experiences in analysis and evaluation of educational technology research techniques, and also in synthesis and proposal of research project on media and educational innovations or teaching.

ET 510 Research and Theory in Educational Technology 2(2-0-4)

Review research in the field of educational technology and theories derived from the research; emphasis on the ways in which the methods and media for instruction were systematically designed to achieve certain educational outcomes.

ET 511 Design and Development of Educational Systems 2(2-0-4)

Survey, synthesis and analysis of meanings, values and elements of educational and instructional systems. Application of systems approach to problem solving and development of education. Experiences in designing educational and instructional systems, according to the defined problem and development trend.

ET 512 Principles and Theories of Message Design 2(2-0-4)

Principles for clear writing to communicate ideas and feelings; theories by which the written messages are based such as learning psychology, perception and audience characteristics; experiences in applying those principles and theories to the actual design.

ET 513 Mass Communication in Education 2(2-0-4)

A historical development of mass communication in education, formal and informal, as well as in society, politics and economics. The effects of mass communication on the programs for life-long education are mainly considered.

ET 514 Administration of Educational Technology
Program 2(2-0-4)

An analysis of systematic designs of service programs for instruction existing in various educational institutions, considerations of such elements as aims and purposes, organization, facilities, personnel and program evaluation system.

ET 515 Curricular Integration of Instructional Media 2(2-0-4)

A process of curriculum development that leads to teachable instructional systems; planning for integrative system in instructional process which includes instructional objectives, strategies, media and evaluation with an emphasis on experiences in integrating certain media into the instructional system.

ET 520 Multi-media Approach to Programmed
Instruction 2(2-0-4)

A development of programmed instruction and teaching machines; experiences regarding procedures in writing programmed textbooks and programmed lessons, in which various media are conclusively designed.

ET 530 Advanced Preparation of Graphic Materials 2(2-0-4)

Advanced techniques for developing various visual materials such as layouts and designs; experiences in silkscreening and offset printing.

ET 531 Advanced Photography 3(3-0-6)

A study of the advanced theories and techniques of photography and applying them to the production of educational slides and filmstrips.

ET 532 Educational Motion Picture Production 3(3-0-6)

Theories and principles for the production of educational films, practices in the complete production process.

ET 533 Educational Radio Program Production 3(3-0-6)

Practical training in producing educational radio programs including program planning, budgeting, scripting, studio management, interviewing and commentating techniques, sound-mixing, tape editing, music and sound effects, cueing, the use of support materials, audience participation, feed-back; the programs made are tried out in teaching situations at all levels or in adult, community and other out-of-school learning environments.

ET 534 Educational Television Program Production 3(3-0-6)

Practical training in making short television teaching aid programs, including program planning, budgeting, scripting, preparation of graphics, set design, direction, vision-mixing, sound-mixing, lighting, and camera operation; the programs made are tried out in teaching situations at all levels or in adult, community or other out-of-school learning environments.

ET 535 Design and Production for Communication 2(2-0-4)

Theories of communication as related to effective writing of messages; principles for clear writing; practices in writing of articles, radio programs, news, reports.

ET 620 Seminar in Educational Technology 2(2-0-4)

A survey and an analysis of certain problems in current educational situations which call for technology to solve them. Experiences in conducting a seminar so that resolutions to the problems are derived.

ET 621 The Computer in Education 2(2-0-4)

Application of computer in education, such as administration research, test and evaluation services, educational guidance, information services and registration, and statistics in education, in order to promote effectiveness and efficiency.

ET 630 Practicum 3(3-0-6)

Fieldwork experiences and/or certain assigned projects to be carried out by students in the field of applied educational technology.

ELEMENTARY EDUCATION

The Department of Curriculum and Instruction

Objectives

1. To train the learner to be able to develop and improve the curriculum and instruction in the elementary school.
2. To encourage the learner to become specialized in some specific areas in elementary education.
3. To train the learner to be competent in research and be able to apply the research results wisely.
4. To help the learner become virtuous.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 17 credit hours

**EL 511 Curriculum and Instructional Development in
Elementary Education** 3(3-0-6)

EL 521	Problems and Techniques in Teaching Thai Language Arts in the Elementary School	2(2-0-4)
EL 522	Problems and Techniques in Elementary Mathematics Instruction	2(2-0-4)
EL 523	Problems and Techniques in Teaching Life Education	2(2-0-4)
EL 524	Problems and Techniques in Teaching Character Education	2(2-0-4)
EL 525	Problems and Techniques in Teaching Work Education	2(2-0-4)
EL 582	Seminar on Educational Administration and Supervision in Elementary Schools	2(2-0-4)
EL 681	Seminar on Problems and Research in Elementary Education	2(2-0-4)

Elective Courses

Select at least 4 credit hours from the following courses.

EL 526	Reading	2(2-0-4)
EL 531	Measurement and Evaluation in the Elementary School	2(2-0-4)
EL 541	The Role of the Elementary School in the Community	2(2-0-4)
EL 551	Development and Analysis of Textbooks and Learning Materials	2(2-0-4)
EL 581	Seminar on Behavior and Development of Elementary Children	2(2-0-4)
EL 583	Seminar and Practicum in Values and Ethics Teaching	2(2-0-4)
EL 584	Seminar and Practicum for In-Service School Teachers	2(2-0-4)

EL 585	Seminar and Practicum in Teaching Language Arts for In-Service School Teachers	2(2-0-4)
EL 586	Seminar and Practicum of Teaching Mathematics for In-Service School Teachers	2(2-0-4)
EL 587	Seminar and Practicum in Teaching Life Experience for In-Service School Teachers	2(2-0-4)
EL 588	Seminar and Practicum in Teaching Character Development for In-Service School Teachers	2(2-0-4)
EL 589	Seminar and Practicum in Teaching Work Experience for In-Service School Teachers	2(2-0-4)
EL 591	Independent Study	2(2-0-4)
EL 601	Development of Teaching Competence in Elementary School Teachers	2(2-0-4)
EL 625	Critique of Critique of Children's Literature	2(2-0-4)
EL 741	Elementary Education in Southeast Asian Countries	2(2-0-4)
EP 611	Group Behavior	2(2-0-4)
GU 532	Guidance in Elementary Schools	3(3-0-6)
TT 521	Thai Language Arts in Elementary Schools	3(3-0-6)
TM 521	Mathematics in Elementary Schools	3(3-0-6)
TC 521	Science in Elementary Schools	3(3-0-6)
TO 523	Innovation, Technology, and Change in Social Studies Instruction	3(3-0-6)
CE 511	Theory and Practice in Early Childhood Curriculum Development	3(3-0-6)
CE 531	Creative Activities for Pre-School Children	2(2-0-4)
CE 541	Parent Education in Early Childhood	2(2-0-4)
AE 531	Adult Education and Problems of Thai Society	3(3-0-6)
AE 522	Resources and Media for Adult and Nonformal Education	3(3-0-6)

SE 504 Education of Exceptional Children	2(2-0-4)
SE 511 Bases of Oral Communication and Communication Disorders	3(3-0-6)
SE 621 Speech Therapy in School	3(3-0-6)

Course Description

**EL 511 Curriculum and Instructional Development in
Elementary Education** 3(3-0-6)

A study of the philosophical, psychological, and social bases for curriculum development; an analysis and evaluation of the current elementary education curriculum; processes of changes and improvement of the elementary school curriculum and instruction.

**EL 521 Problems and Techniques in Teaching Thai
Language Arts in the Elementary School** 2(2-0-4)

A review of the principles of teaching language arts at the elementary level; a study of the curriculum and problems in teaching language arts; principles of elementary language text selection; recent research studies and techniques of teaching Thai language in four skills (listening, speaking, reading, and writing); application of language arts instruction to learners' development.

**EL 522 Problems and Techniques in Elementary
Mathematics Instruction** 2(2-0-4)

A review of the principles of mathematics instruction at the elementary level; a study of problems in teaching modern mathematics with reference to local areas; recent research studies and techniques conducive to teaching efficiency; a study of elementary school mathematics and trends in curriculum development.

EL 523 Problems and Techniques in Teaching Life

Education

2(2-0-4)

A study of the curriculum and curriculum components in life education; problems and needs of mankind in general and of Thai people; emphasis on the quality of life including methods and techniques in achieving educational objectives.

EL 524 Problems and Techniques in Teaching Character

Education

2(2-0-4)

A study of the curriculum and curriculum components in character education; principles and sequences in character formation; integration of art, music and physical education as a means of developing character and aesthetics.

EL 525 Problems and Techniques in Teaching Work

Education

2(2-0-4)

A study of the curriculum and curriculum components in the work and vocational bases of education; principles and theories in the development of work habits, attitudes, and thinking processes, recent research studies in work education; methods and techniques for the achievement of educational objectives.

EL 526 Reading

2(2-0-4)

A study of the problems, developmental methods and factors influencing children's reading at the elementary level; cause diagnosis and problem solutions of retarded reading children; model construction for reading development of various types; case studies of children's reading problems, suggestions and solutions.

EL 531 Measurement and Evaluation in the Elementary

School

2(2-0-4)

The role of evaluation in the elementary school; measurement as a part of evaluation; elementary school students' characteristic requirements

for measurement including instruments, quality, and instrument construction; scores and transformation of scores for evaluation objectives and virtues in elementary schools.

**EL 541 The Role of the Elementary School in the
Community** 2(2-0-4)

A study of the duties and responsibilities of elementary schools in the community in the area of education, community resources, traditions and culture; a study of administrative and social agencies in the community; building relationships between schools and communities; problems and obstacles to building relationship; proposed solutions through case studies.

**EL 551 Development and Analysis of Textbooks and
Learning Materials** 2(2-0-4)

A study of conditions and values of textbooks and learning materials; determination of appropriateness of the present elementary curriculum and compatibility with teaching and learning goals; analysis and appraisal of content and concept; data collection to develop textbooks and learning materials; workshop and seminar for finding conclusion from analysis and evaluation; innovative presentation on textbook development as an effective tool for the elementary teaching and learning process.

**EL 581 Seminar On Behavior and Development of
Elementary Children** 2(2-0-4)

A study and an analysis of behavioral data and development of elementary children; data implementation in the elementary school teaching and learning process.

**EL 582 Seminar on Educational Administration and
Supervision in Elementary Schools.** 2(2-0-4)

A review of principles of elementary education; a study of administrator's characteristics and duties; criteria in elementary school management

and administration: administration and compatibility with the national governmental system; educational supervision principles; problems and supervisory conditions in the city and in the country; investigation of trends in supervisory development for accomplishment; study of supervisory unit work in various departments.

EL 583 Seminar and Practicum in Values and Ethics

Teaching

2(2-0-4)

A study and an analysis of Thai values and ethical essentials necessary for conservation, transmission, instilling, promotion and creative development; basic values and ethics for national and social stability; emphasis on habit formation in value and ethics appreciation affecting the unity, dignity and independence of Thailand; seminars for exploring problem solution directed at their causes emphasizing personal problems, value and ethics promotion systems incompatible with democratic principles to solve life and social problems at the grass root level.

EL 584 Seminar and Practicum for In-Service School

Teachers

2(2-0-4)

A survey of various need condition data of in-service school teachers; arrangements of workshops with evaluation.

**EL 585 Seminar and Practicum in Teaching Language Arts
for In-Service School Teachers.**

2(2-0-4)

A teaching need survey of in-service school teachers of Language Arts for seminar and workshop arrangement in order to develop school teachers' teaching effectiveness.

**EL 586 Seminar and Practicum of Teaching Mathematics
for In-Service School Teachers**

2(2-0-4)

A teaching need survey of mathematics teachers for seminar and workshop arrangement in order to develop in-service school teachers' teaching effectiveness.

**EL 587 Seminar and Practicum in Teaching Life Experience
for In-Service School Teachers** 2(2-0-4)

A teaching need survey of in-service school teachers of Life Experience for seminar and workshop arrangement in order to develop in-service school teachers' teaching effectiveness.

**EL 588 Seminar and Practicum in Teaching Character
Development for In-Service School Teachers.** 2(2-0-4)

A teaching need survey of in-service school teachers of Character Development for seminar and workshop arrangement in order to develop in-service school teachers' teaching effectiveness.

**EL 589 Seminar and Practicum in Teaching Work
Experience for In-Service School Teachers.** 2(2-0-4)

A teaching need survey of in-service school teachers of Work Experience for seminar and workshop arrangement in order to develop in-service school teachers' teaching effectiveness.

EL 591 Independent Study 2(2-0-4)

A study and an analysis of particular elementary education problems for the solution planning based on theories and principles as the supporting data; working participation with elementary educational personnel in various departments in order to develop skills and appropriate decision making to solve the problems.

**EL 601 Development of Teaching Competence in Elementary
School Teachers.** 3(3-0-6)

A study and observation of teachers and students' behavior in local elementary schools; an analysis of the curriculum, texts, research studies and recent techniques for the use of promoting teachers' teaching competence, text development, application, experimentation and improvement including techniques conducive to the achievement of education objectives.

EL 625 Critique of Children's Literature 2(2-0-4)

A study of children's literature concerning values, types and forms, and criteria; characteristics of translated literature and that adapted from foreign countries; existing children's literature and desirable children's literature; responsibilities of society in literature; promotion and dissemination of children's literature.

EL 681 Seminar on Problems and Research in Elementary Education 2(2-0-4)

An analytical study of elementary school children's behavioral data and development; data implementation in teaching-learning processes in the elementary school.

EL 741 Elementary Education in Southeast Asian Countries 2(2-0-4)

Historical, geographical, ethnic, cultural heritage and socio-economic background as a basis for elementary education in Southeast Asian Countries; trends of research studies and advanced ideas in elementary education among SEA countries.

ENGLISH

The Department of Western Languages

Objectives

1. To master knowledge and skills in English usage.
2. To perfect academic study in philology and literature.
3. To master efficiency in English teaching.
4. To attain refinement which the educated should have.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

EN 511 Reading I	1(2-0-1)
EN 521 Writing I	2(2-0-4)
EN 522 Writing II	2(2-0-4)
EN 531 Oral Comprehension and Expression I	2(0-4-0)
EN 532 Oral Comprehension and Expression II	2(0-4-0)
EN 541 English and American Prose and Poetry I	2(2-0-4)
EN 542 European and American Drama I	2(2-0-4)
EN 551 Translation I	2(2-0-4)
EN 611 Reading II	2(2-0-4)
EN 641 English and American Prose and Poetry II	2(2-0-4)
EN 642 European and American Drama II	2(2-0-4)
EN 651 Translation II	2(2-0-4)
LI 512 Phonology and Dialects	2(2-0-4)
LI 522 Syntax and Language in Use	2(2-0-4)
LI 661 Seminar in Language Teaching	2(2-0-4)

Course Description

EN 511 Reading I 1(2-0-1)
Practice in reading for accurate information to enable students to read and understand texts in various fields of study and in making sensible assessments of materials read.

EN 521 Writing I 2(2-0-4)
Practice in writing expository and argumentative essays, critical reviews, precise, and social and business letters.

EN 522 Writing II 2(2-0-4)

Continuation of Writing I. Practice in procedures and techniques in writing research papers.

EN 531 Oral Comprehension and Expression I 2(0-4-0)

Oral practice will be given to students to enable them to understand conversations, talks and lectures made by native speakers of English, and to make intelligent responses with adequate confidence. Oral activities will include narrating and explaining what are read and heard in an interesting way, interviewing for information, and giving reports.

EN 532 Oral Comprehension and Expression II 2(0-4-0)

Continuation of Oral Comprehension and Expression I. More listening practice will be given to enable students to understand lectures, speeches and debates in English. Students will practice elementary techniques for discussions and speech making from prepared outlines.

EN 541 English and American Prose and Poetry I 2(2-0-4)

A study of selected works by major English and American writers for a deeper understanding of life and thought, a critical insight into questions of historical and social significance and an exposure to various literary styles.

EN 542 European and American Drama I 2(2-0-4)

An introduction to drama. The nature of a play. The technique of play-writing, plot, characterization, setting, language, theme. Drama as literature. Drama in performance. A brief historical overview of the development of drama -- from classical plays to romanticism and its decline into melodrama. A study of at least one selected major playwright.

EN 551 Translation I 2(2-0-4)

Intensive translation practice with emphasis on translation of English materials of various types into appropriate Thai.

EN 611 Reading II	2(2-0-4)
Continuation of Reading I. Practice will be given to improve reading speed.	
EN 641 English and American Prose and Poetry II	2(2-0-4)
A continuation of EN 541 English and American Prose and Poetry I.	
EN 642 European and American Drama II	2(2-0-4)
A study of literary background of modern drama and its development. A study of at least one major twentieth century play.	
EN 651 Translation II	2(2-0-4)
Continuation of Translation I	
LI 512 Phonology and Dialects	2(2-0-4)
(See Educational Linguistics)	
LI 522 Syntax and Language in Use	2(2-0-4)
(See Educational Linguistics)	
LI 661 Seminar in Language Teaching	2(2-0-4)
(See Educational Linguistics)	

Meanings of the Middle Digits of the Code Numbers

- 1 refers to reading
- 2 refers to writing
- 3 refers to speaking
- 4 refers to literature
- 5 refers to translation

EXPERIMENTAL PSYCHOLOGY

The Department of Psychology

Objectives

To prepare scholars in experimental psychology who are able to teach and research either for professional growth or for a decisive resolution of educational and social problems relating to the field.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 18 credit hours

PG 501 General Psychology	3(3-0-6)
PG 551 Introduction to Experimental Psychology	3(3-0-6)
PG 553 Psychology of Learning	3(3-0-6)
PG 561 Physiological Psychology	2(2-0-4)
PG 655 Advanced Experimental Psychology	3(3-0-6)
PG 658 Seminar in Experimental Psychology	2(2-0-4)
EM 521 Statistical Designs of Experiments	2(2-0-4)

Elective Courses

Select at least 3 credit hours from the following courses.

PG 505 Differential Psychology	3(3-0-6)
PG 554 Motivation	3(3-0-6)
PG 556 Psychology of Perception	3(3-0-6)
PG 557 The Emotions	3(3-0-6)
PG 602 Comparative Psychology	3(3-0-6)
PG 647 Mathematical Psychology	3(3-0-6)
PG 651 Behavior Theories	3(3-0-6)

PG 652 Sensory Processes	3(3-0-6)
PG 653 Advanced Sensation and Perception	3(3-0-6)
PG 654 Advanced Motivation and Emotion	3(3-0-6)
PG 656 Measurement Theory and Psychometric	3(3-0-6)
PG 657 Laboratory Techniques in Experimental Psychology	3(3-0-6)
PG 659 Animal Behavior	3(3-0-6)
PG 662 Advanced Physiological Psychology	3(3-0-6)
PG 680 Sensitivity Training	3(3-0-6)
PG 691 Independent Study	3(3-0-6)
EM 522 Factor Analysis	3(3-0-6)

Course Description

PG 501 General Psychology 3(3-0-6)

(See Developmental Psychology)

PG 505 Differential Psychology 3(3-0-6)

Individual differences : individual differences in intelligence, school achievement, special aptitudes and cognitive styles; group differences : sex differences, age differences, race differences and social class differences; factors producing differences : hereditary and environmental factors.

PG 551 Introduction to Experimental Psychology 3(3-0-6)

A general survey in experimental methodologies and logics, scientific concepts, measurements, psychophysical methods and psychological scaling; experiments in laboratory environment in motivation, learning and perception.

PG 553 Psychology of Learning	3(3-0-6)
(See Developmental Psychology)	
PG 554 Motivation	3(3-0-6)
(See Developmental Psychology)	
PG 556 Psychology of Perception	3(3-0-6)
(See Developmental Psychology)	
PG 557 The Emotions	3(3-0-6)
(See Developmental Psychology)	
PG 561 Physiological Psychology	2(2-0-4)
Brain and behavior focusing on neural and endocrinic mechanisms operative in the control and modification of behavior; sensory mechanisms from the receptors to cerebral cortex; anatomy of the nervous system; neurological phenomena associated with several sets of behavior.	
PG 602 Comparative Psychology	3(3-0-6)
A comprehensive examination and synthesis of the principles, concept and findings of ethology and comparative psychology; similarities and differences in theories, methods and research findings related to such basic psychological problems.	
PG 647 Mathematical Psychology	3(3-0-6)
A survey of mathematical theories of choice behavior, decision making, psychophysical judgements, utility and motivation, learning and concept formation.	
PG 651 Behavior Theories	3(3-0-6)
An advanced courses in exploration of contemporary theories in learning, motivation, perception, memory, choice behavior and decision making, simulation of mathematical models of behavior on a computer in conjunction with empirical experimentation.	

PG 652 Sensory Processes 3(3-0-6)

A basic understanding of human senses relation between energy and receptors; electrophysiology and sensory theories; vision, audition, taste, smell, kinesthesia; measurements of energy and sensation.

PG 653 Advanced Sensation and Perception 3(3-0-6)

Consideration of experimental methodology and recent findings in the areas of sensation and perception, laboratory work and or individual research projects.

PG 654 Advanced Motivation and Emotion 3(3-0-6)

Consideration of experimental methodology and recent findings in areas of motivation and emotion, laboratory work and/or individual research projects.

PG 655 Advanced Experimental Psychology 3(3-0-6)

Emphasis on the formulation of research problems, identifications of the problems, formulation of testable hypotheses, identification and control of relevant variables, presentation and interpretation of data; individual research projects.

PG 656 Measurement Theory and Psychometric 3(3-0-6)

Measurement theory involved in the construction and evaluation of psychological measuring instruments emphasizing on scaling methods and their use in psychological research and evaluation.

PG 657 Laboratory Techniques in Experimental Psychology 3(3-0-6)

Psychological experiments in laboratory environments; designs and constructions or apparatus and instruments used in experiments; memory drum, pursuit roter, Skinner box; electronic concepts and devices; relay circuit, times : evitching circuits.

- PG 658 Seminar in Experimental Psychology** 2(2-0-4)
 Systematic study of current topics in the field of experimental psychology; critical review of recent research and theories concerning selected experimental problems.
- PG 659 Animal Behavior** 3(3-0-6)
 A comparative and phylogenetic approach to the study of behavior with special emphasis on sensory processes, instinctive behavior, the genetics of behavior.
- PG 662 Advanced Physiological Psychology** 3(3-0-6)
 Neural mechanism of behavior emphasizing information-processing systems of the brain; discussions in the areas of sensory, learning, and memory functions.
- PG 680 Sensitivity Training** 3(3-0-6)
 Self awareness and clinical sensitivity through involvement as a participant observer in the development and continuing function of a small group emphasizing emergent styles of interaction in roles, both explicit and implicit.
- PG 691 Independent Study** 3(3-0-6)
 An intensive study of literature of special topics conducted under supervision of a faculty member. (Consent of instructor)
- EM 521 Statistical Designs of Experiments** 2(2-0-4)
 (See Educational Measurement)
- EM 522 Factor Analysis** 3(3-0-6)
 (See Educational Measurement)

Meanings of the Middle Digits of the Code Numbers

- 0 refers to behavioral science
 1 refers to social psychology

GE 523 Seminar in Physical Geography	3(3-0-6)
GE 535 Seminar in Economic Geography	3(3-0-6)

Elective Courses

Select at least 12 credit hours from the following courses.

GE 512 Field Work and Research in Geography	3(3-0-6)
GE 514 Quantitative Method in Economic Geography	3(3-0-6)
GE 521 Advanced Meteorology and Climatology	3(3-0-6)
GE 612 Remote Sensing	3(3-0-6)
GE 622 Geomorphology	3(3-0-6)
GE 624 Seminar in Conservation of Natural Resources	3(3-0-6)
GE 631 Seminar in Political Geography	3(3-0-6)
GE 632 Advanced Geography of Settlement	3(3-0-6)
GE 633 Seminar in Geography of Population	3(3-0-6)
GE 641 Research in Local Geography	3(3-0-6)
GE 642 Seminar in Regional Geography	3(3-0-6)

Course Description

GE 511 Advanced Map and Cartography 3(3-0-6)

A study of techniques and methods in compiling maps: gathering statistical data for map making: preparing maps for reproduction : emphasis on practical work and using map making tools : techniques and methods of making maps from aerial photographs.

GE 523 Seminar in Physical Geography 3(3-0-6)

A deep analytical study of the processes and phenomena in physical geography concerning landforms, climates, soils, rocks and minerals utilizing data from research, statistics and maps.

GE 535 Seminar in Economic Geography 3(3-0-6)

A consideration of theoretical aspects of spatial economic distributions and locational analysis : emphasis on the current problems in economic geography of Thailand.

GE 512 Field Work and Research in Geography 3(3-0-6)

A study of principles and methods of practical geography, namely : surveying, map making techniques and methods in laboratory and on surrounding areal surface ; geographical research to be included.

GE 514 Quantitative Method in Economic Geography 3(3-0-6)

An introduction to statistical techniques applicable to solve geographical problems; statistical methods and mathematics to be applied.

GE 521 Advanced Meteorology and Climatology 3(3-0-6)

An advanced study of the principles of meteorology and climatology with an emphasis on tropical meteorology and climatology in various fields of human activities ; spatial analysis of climatic conditions in Thailand ; selected topics in meteorology and climatology chosen to fit the individual needs of advanced students.

GE 612 Remote Sensing 3(3-0-6)

A study of techniques in reading and interpreting imageries from satellites and methods of collecting geographical data from remote sensing imageries.

GE 622 Geomorphology 3(3-0-6)

A study of processes involved in change of the earth's surface ; types of land - formation produced by the geomorphic processes : emphasis on the utilization of quantitative method in the study of the geomorphic processes.

- GE 624 Seminar in Conservation of Natural Resources** 3(3-0-6)
 An analysis of problems of utilizing various resources of Thailand; conservation techniques and the problems of public policy in their effective management for our economic and social development.
- GE 631 Seminar in Political Geography** 3(3-0-6)
 An investigation of theories and applications of political problems ; selected topics on conditions determining power and policies of individual state conflicting national policies or international institutions are analyzed.
- GE 632 Advanced Geography of Settlement** 3(3-0-6)
 An advanced study of the nature of the settlements in both rural and urban areas ; an emphasis on problems of land use ; distribution settlements : data concerning settlements to be analyzed.
- GE 633 Seminar in Geography of Population** 3(3-0-6)
 An analysis of world population patterns as revealed by demographic data ; an emphasis on a comparison of population density, growth, composition and migration with natural resources and state of technological advancement.
- GE 641 Research in Local Geography** 3(3-0-6)
 A graduate course in the theory and application of geographical field techniques to the analysis of areas culminating in individual reports on assigned problems in the field course area.
- GE 642 Seminar in Regional Geography** 3(3-0-6)
 A regional study of selected areas : concepts and theories of regionalism are analyzed and synthesized with an emphasis on data and sources applicable to the problems of the region.

Meanings of the Middle Digits of the Code Numbers

1 refers to techniques and methods

- 2 refers to physical geography
- 3 refers to population and economics
- 4 refers to regional geography

GUIDANCE AND COUNSELING PSYCHOLOGY

The Department of Guidance and Educational Psychology

Objectives

1. To effectively produce guidance and counseling instructors.
2. To train future counselors who will work in educational institutions, both governmental and private sectors.
3. To enable the student to do research on problems relating to guidance and counseling and its application for professional and academic improvement.

Courses for the Major

A minimum of 21 credit hours are required from the following courses :

Required Courses 16 credit hours

GU 512 Theories and Techniques of Counseling I	2(2-0-4)
GU 513 Theories and Techniques of Counseling II	2(2-0-4)
GU 531 Occupational, Educational and Social Information	2(2-0-4)
GU 622 Counseling Practicum I	2(1-2-3)
GU 623 Counseling Practicum II	3(0-6-3)
EP 552 Psychological Testing	2(2-0-4)
PG 634 Mental Hygiene	3(3-0-6)

Elective Courses

Select at least 5 credit hours from the following courses.

GU 501 Foundations of Guidance and Student Personnel Work	2(2-0-4)
GU 514 Career Education	3(3-0-6)
GU 515 Theories of Career Development	2(2-0-4)
GU 532 Guidance in Elementary School	3(3-0-6)
GU 533 Guidance in Secondary School	3(3-0-6)
GU 534 Student Personnel Work in Higher Education	3(3-0-6)
GU 545 Seminar in Guidance Management and Organization in School	2(2-0-4)
GU 621 Group Counseling	2(1-2-3)
GU 641 Problems in Guidance and Counseling	2(2-0-4)
GU 642 Seminar in Teaching Guidance Activities in School	2(2-0-4)
EP 513 Group Dynamics	2(2-0-4)
EP 522 Case Study	2(2-0-4)
PG 513 Advanced Social Psychology	3(3-0-6)
PG 521 Developmental Psychology	3(3-0-6)
PG 627 Clinical Child Psychology	3(3-0-6)
PG 633 Theories of Personality	3(3-0-6)

Course Description

GU 501 Foundations of Guidance and Student Personnel

Work 2(2-0-4)

Philosophy and scope of guidance services in schools and student personnel services in colleges; history and development of guidance of Thailand and abroad; a survey of some current guidance programs in schools, emphasizing the organization and administration of guidance services; the ethics of counselor and his role in school.

GU 512 Theories and Techniques of Counseling I 2(2-0-4)

Comparison of theories of counseling and psychotherapy in terms of philosophy, main characteristics, concept of man, goals of counseling theories and counseling techniques; emphasis on self-concept, psychoanalytic viewpoint, Rogerian theory, Gestalt therapy, existential viewpoint, transactional analysis.

GU 513 Theories and Techniques of Counseling II 2(2-0-4)

Comparison of theories of counseling and psychotherapy in terms of philosophy, main characteristics, concept of man, goals of counseling theories and counseling techniques; emphasis on social learning, trait and factor theory, rational-emotive theory, behavioral counseling, reality therapy, eclectic viewpoint.

GU 514 Career Education 2(2-0-4)

Concepts of career education emphasizing on current issues and developments in occupational trends, teachers' and counselors' roles in career development of school children. Students are exposed to various career development models, sources and materials for career information.

GU 515 Theories of Career Development 2(2-0-4)

A study occupational theories in terms of various schools of psychology such as psychoanalyst, behavioral psychology and developmental psychology, including a study of techniques for the application to the decision making in career and career planning.

GU 531 Occupational Educational and Social Information 2(2-0-4)

Methods for providing occupational, educational and social information in the guidance program, sources of information in Thailand, techniques of teaching units in occupation, techniques of placement, community, educational and occupational trends.

GU 532 Guidance in Elementary School 3(3-0-6)

The functions of guidance in elementary school, organization and administration of the guidance program at this level emphasizing on student's social and emotional adjustment, introduction to the use of techniques for understanding the individual and working with group. Practical guidance problems in elementary schools are discussed.

GU 533 Guidance in Secondary School 3(3-0-6)

The functions of guidance in secondary school; organization and administration of the pupil personnel services emphasizing on student's life adjustment and career development, methods of identifying guidance needs of secondary school student; an examination of current guidance programs and problems in schools.

GU 534 Student Personnel Work in Higher Education 3(3-0-6)

An overview of student personnel services in colleges and universities ; philosophy, organization and administration of the personnel program at college level, roles of student personnel workers, and personnel services-are discussed as well as a survey of college personnel programs in colleges and universities.

**GU 545 Seminar in Guidance Management and Organization
in School** 2(2-0-4)

Principles and development of guidance management and organization. Patterns of management and organization, including factors effecting the administration. Function and responsibilities of guidance workers involved. Analysis of problems in guidance administration in other educational institutions of different levels.

GU 621 Group Counseling 2(1-2-3)

A study of various aspects of group counseling, counselor's role and group climate; students assigned into small groups working as teammates; sensitivity training, role flexibility, self acceptance, etc. learned by ways

of small group interaction.

GU 622 Counseling Practicum I 2(1-2-3)

Development of skills in counseling techniques through role playing, simulation, observation and behavior analysis with the use of videotape, review, and evaluation of counseling practice.

GU 623 Counseling Practicum II 3(0-6-3)

Practicum in guidance and counseling in school setting under close supervision of school counselor and college instructor in counseling; arrangement of guidance and counseling programs to provide each trainee with experience in individual and group counseling; provisions of information services, participation in student activities, individual analysis, and case studies.

GU 641 Problems in Guidance and Counseling 2(2-0-4)

An analysis of guidance and counseling problems in schools. Students will be exposed to problems relevant to counseling practices such as drug-addiction, juvenile delinquency, student activism, gambling, sex deviants, etc.

GU 642 Seminar in Teaching Guidance Activities in School 2(2-0-4)

Analysis of guidance activities and structures in teaching guidance activities in schools. Discussion on problems in teaching and learning and organization of activities, teaching materials, techniques in guidance, preparations for future life. Evaluation in teaching guidance activities.

EP 513 Group Dynamics 2(2-0-4)

Principles of group dynamics and leadership training. This course provides an opportunity for experiencing, observing, and practicing basic human relations skills necessary in the achievement of a productive group process.

EP 522 Case Study	2(2-0-4)
Diagnosis and interpretation of case study materials, discussion on problems and process of counseling based on actual cases. Students are trained to work with case problems under the supervision of the instructor.	
EP 552 Psychological Testing	2(2-0-4)
Basic principles in testing and test selection for guidance, aptitude test, achievement tests and psychometric tests, test administration and interpretation, the use of test scores in guidance.	
PG 513 Advanced Social Psychology	3(3-0-6)
(See Developmental Psychology)	
PG 521 Developmental Psychology	3(3-0-6)
(See Developmental Psychology)	
PG 627 Clinical Child Psychology	3(3-0-6)
(See Developmental Psychology)	
PG 633 Theories of Personality	3(3-0-6)
(See Developmental Psychology)	
PG 634 Mental Hygiene	3(3-0-6)
(See Developmental Psychology)	

HEALTH EDUCATION

The Department of Health Education

Objectives

1. To provide individuals with body of knowledge, attitude formation and performance skills based upon principles of health science leading to the application in teaching and supervision in the area of health

education in educational institutions.

2. To facilitate and cultivate individuals of their leaderships in various domains of health education development, namely : health learning and teaching ; and health - related practices.

3. To educate individuals toward conducting studies and research on problems concerning health ; health learning and teaching ; health education administration and health education operational skills.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 19 credits hours

HE 511	Foundations of Health Science	2(2-0-4)
HE 513	Curriculum Development in Health Education	2(2-0-4)
HE 514	Evaluation in Health Education	2(2-0-4)
HE 531	Organization and Administration of School Health Program	2(2-0-4)
HE 532	Organization and Administration of Safety Education	2(2-0-4)
HE 534	Supervision and Guidance in Health Education	2(2-0-4)
HE 641	Seminar in School Health Education	2(2-0-4)
HE 644	Seminar in Health Education Research	2(2-0-4)
PG 634	Mental Hygiene	3(3-0-6)

Elective Courses

Select at least 2 credit hours from the following courses.

HE 512	Epidemiology	2(2-0-4)
HE 521	Behavioral Sciences in Health Education	2(2-0-4)
HE 522	Change Process in Health	2(2-0-4)

HE 533	Public Health Administration	2(2-0-4)
HE 615	International Health	2(2-0-4)
HE 616	Advanced Population Studies as Related to Health	2(2-0-4)
HE 617	Sex Education in School	2(2-0-4)
HE 642	Seminar in Health Education in Clinical Setting	2(2-0-4)
HE 643	Seminar in Community Health Education	2(2-0-4)
HE 645	Independent Study	2(2-0-4)
HE 646	Environmental Science	2(2-0-4)
PG 635	Psychology of Deviant Behavior	3(3-0-6)

Course Description

HE 511 Foundations of Health Science 2(2-0-4)

A broad study of facts and principles of health science based on scientific findings obtained from research in health-related disciplines, capable for being applied with the concepts and approaches of personal health ; community health ; family health ; and consumer health including the measures for controlling and preventing health problems and promoting health.

HE 512. Epidemiology 2(2-0-4)

The study of concepts ; principles and the scope of epidemiology ; the occurrences of infectious disease ; chronic diseases ; non-infectious and degenerative diseases, for the assessment and consideration of major health problems in any specified area aiming at the distribution of diseases; case investigation ; disease surveillance ; and prevention and control of diseases frequently occurring in schools and communities.

HE 513 Curriculum Development in Health Education 2(2-0-4)

The study of principles and processes of curriculum development. The relationships between philosophy of education and a development of health education curriculum. Components of curriculum development and its implication for developing curriculum in health education.

HE 514 Evaluation in Health Education 2(2-0-4)

The study of tests and measurements in the area of health education. The emphasis is given to the principle of evaluation, preparing for different types of evaluation, health education-related tests, an evaluation of tests, evaluation management and techniques, constructing tests for various types of evaluation, and interpretation of evaluation. The measurement of human physique, nutritional status and various aspects of physical fitness are also included. Health education program evaluation is substantially discussed.

HE 521 Behavioral Sciences in Health Education 2(2-0-4)

The course is designed to provide basic theoretical concepts and substantive findings of behavioral sciences in the context of health education ; these include the relationships between behavioral sciences, health, health education and the utilization of various health services, the influence of economics, social and cultural changes affecting health and health education, relationships between health personnel and a community, community needs assessment, behavior and problem solving process in relation to determined needs.

HE 522 Change process in Health 2(2-0-4)

The broad overview of theories and models of personal and community health changing process through the effort of social psychology concepts is the focus of the course. These include influencing factors affecting changes of individual health and community health, means of investigation, communication ; information and interpretation process, innovation

process, and roles of a health education teacher or a health educator in health behavior changing process.

HE 531 Organization and Administration of School Health

Program

2(2-0-4)

The course deals with a study of principles for organization and management of a school health program. These include analysis of problems and approaches for an improvement according to a given circumstance and local environment with the emphasis on utilizing existing domestic resources and potentials possibly through the organized observational study and training in school environment in areas of school health environment ; school health services ; learning and teaching of health education.

HE 532 Organization and Administration of Safety

Education

2(2-0-4)

The course is designed to provide details of organizing and administering safety education programs ; and the problems, programs, operation and processes of accident prevention. These include home safety, school safety, and public safety. Different types and causes of accident problems will be analyzed.

HE 533 Public Health Administration

2(2-0-4)

The study of philosophy and principles of organization and management in public health work. Emphasis is given to principles of program planning ; personnel administration, directing, and supervision ; and the public health administration system of Thailand. Also included will be the determination of the roles of public and private organizations of agencies related to public health administration and the coordination between both types of organization. The philosophy and strategy of primary health care approaches leading to health for all will be intensively discussed.

HE 534 Supervision and Guidance in Health Education 2(2-0-4)

The study of theoretical and operational context of learning-teaching supervision and guidance in health education. These include roles of a health education teacher in supervision and guidance in health for teachers and students, supervision of health education curriculum, teaching, production and utilization of learning media. A search and development of local health and health education resources including supervision and evaluation of different areas of the school health program will also be discussed.

HE 615 International Health 2(2-0-4)

An examination of health problems in various countries, particularly those of developing countries, including contributing factors and disease and health patterns. Roles and activities of national and international agencies dealing with such problems are to be investigated.

HE 616 Advanced Population Studies as Related to Health 2(2-0-4)

The course focuses attention on the interrelationships of population and health of the people. The population policies and programs of the nation, including plans, operations, and analysis of the effectiveness of these are to be discussed.

HE 617 Sex Education in School 2(2-0-4)

The development of a curriculum pertaining to sex education at different educational levels in schools. Emphasis is given to the needs and interests of individuals and of societies; the provision of learning opportunities, including the analysis of problems, content and evaluation of sex education learning-teaching approaches are also presented and discussed.

HE 642 Seminar in Health Education in Clinical Setting 2(2-0-4)

The course is designed for a discussion of organizational structure and administration of health education approaches in clinical settings. These

include strategies and methods of health education, educational aids for patients in clinics, planning operation, evaluation, and research of health service facilities.

HE 643 Seminar in Community Health Education 2(2-0-4)

The presentation of problems, concepts, and principles of health education in the community is the main content of the course. These include factors influencing health of a community, problems concerning community health education operation, motivational factors, evaluation methods, organizational management for health education in community relating to community development and informal education systems.

HE 644 Seminar in Health Education Research 2(2-0-4)

The course is designed to provide a substantive opportunity for individuals to participate in a series of seminar sessions on the practical approach of health education research methodology. The emphasis is given to various steps of research work, operational difficulties, and the implication of research results on both schools and community.

HE 645 Independent Study 2(2-0-4)

The course is designed for each individual to study a selected health-related issue in detail based on his/her own interest with the advice and supervision of selected and appropriate faculty.

HE 646 Environmental Science 2(2-0-4)

The study of various aspects of environment with the emphasis on the analysis of pollution and its man-made contributing causes. Preventive measures for changing the quality of environment, to the extent that they produce no harmful effect on human health, is to be presented.

PG 634 Mental Hygiene

3(3-0-6)

A general course designed to give an understanding of the healthy personality throughout different stages of life, exploration on fundamental factors in human adjustment with emphasis upon the prevention of inadequate adjustment and upon the process by which maladjusted individuals may be restored to normal living

PG 635 Psychology of Deviant Behavior

3(3-0-6)

The meaning of normality ; cultural and historical aspects of the problem ; the role of anxiety ; the etiology of mental disturbances ; classification of disorders ; experimental approaches to the study of disorders ; preventive approaches relating to mental health, mental subnormality regarding cognitive deficit ; origins of mental deficiency.

Meanings of the Middle Digits of the Code Numbers

- 1 refers to content and curriculum section
- 2 refers to behavioral process section
- 3 refers to administration and supervision section
- 4 refers to problem and research section

HIGHER EDUCATION

The Department of Curriculum and Instruction

Objectives

1. To produce graduate students who are knowledgeable and able to teach, supervise, and conduct practicums at higher educational levels.
2. To produce qualified persons in the fields of administration, curriculum and instruction for institutions of higher education.
3. To produce graduate students who are able to search and conduct research studies into problems on educational operation or administration development at institutions of higher education.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 14 credit hours

HG 511 Curriculum and Instructional Development in Higher Education	3(3-0-6)
HG 540 Management and Organization of Higher Education	3(3-0-6)
HG 560 The College Student and Environment	3(3-0-6)
HG 620 College Teaching	3(3-0-6)
HG 680 Seminar on Problems and Research in Higher Education	2(2-0-4)

Elective Courses

Select at least 7 credit hours from the following courses. Select one group from **Related major courses**, **Professional courses** or **Content courses**.

A. Related Major Courses Select at least 7 credit hours

Group I Curriculum and Instruction

HG 541	Academic Problems in Higher Education	3(3-0-6)
HG 600	Practicum in Curriculum Development in Higher Education	3(3-0-6)
HG 601	Innovation and Curriculum Change in Higher Education	3(3-0-6)
HG 531	Teacher Education in Thailand	3(3-0-6)
HG 532	Practicum in Teacher Education	3(3-0-6)
HG 533	Research in Instructional Behavior	3(3-0-6)
HG 690	Institution Research	3(3-0-6)
HG 691	Independent Study	3(3-0-6)
HG 621	Supervision of Teaching and Field Work	3(3-0-6)
HG 562	Practicum in College Student Affairs	3(3-0-6)
EG 515	Organization Behavior	3(3-0-6)
EA 613	Systems Analysis	3(3-0-6)
EP 513	Group Dynamics	2(2-0-4)

Group II Administration Personnel and College Student Personnel

HG 542	Nonacademic Personnel Management in Higher Education	3(3-0-6)
HG 543	Business and Financial Management in Higher Education	3(3-0-6)
HG 561	College Student Personnel Administration	3(3-0-6)
HG 541	Academic Problems in Higher Education	3(3-0-6)
HG 531	Teacher Education in Thailand	3(3-0-6)
HG 533	Research in Instructional Behavior	3(3-0-6)
HG 690	Institution Research	3(3-0-6)
HG 691	Independent Study	3(3-0-6)
HG 621	Supervision of Teaching and Field Work	3(3-0-6)

HG 562	Practicum in College Student Affairs	3(3-0-6)
HG 600	Practicum in Curriculum Development in Higher Education	3(3-0-6)
HG 640	Practicum in Nonacademic Personnel Administration Affairs	3(3-0-6)
PG 515	Organization Behavior	3(3-0-6)
EA 511	Administrative Theory and Organization	3(3-0-6)
EA 613	Systems Analysis	3(3-0-6)
EP 513	Group Dynamics	3(3-0-6)

Group III Teacher Education

HG 531	Teacher Education in Thailand	3(3-0-6)
HG 532	Practicum in Teacher Education	3(3-0-6)
HG 533	Research in Instructional Behavior	3(3-0-6)
HG 690	Institution Research	3(3-0-6)
HG 541	Academic Problems in Higher Education	3(3-0-6)
HG 600	Practicum in Curriculum Development in Higher Education	3(3-0-6)
HG 601	Innovation and Curriculum Change in Higher Education	3(3-0-6)
HG 542	Nonacademic Personnel Management in Higher Education	3(3-0-6)
HG 543	Business and Financial Management in Higher Education	3(3-0-6)
HG 561	College Student Personnel Administration	3(3-0-6)
HG 691	Independent Study	3(3-0-6)
HG 621	Supervision of Teaching and Field Work	3(3-0-6)
HG 562	Practicum in College Student Affairs	3(3-0-6)
HG 640	Practicum in Nonacademic Personnel Administration Affairs	3(3-0-6)
PG 515	Organization Behavior	3(3-0-6)

EA 613 Systems Analysis 3(3-0-6)

EP 513 Group Dynamics 3(3-0-6)

B. Professional or Content Courses

Select at least 7 credit hours with permission of advisor or the head of department

Course Description

HG 511 Curriculum and Instructional Development in Higher Education 3(3-0-6)

Studies of philosophical, psychological, economic, social, political, governmental, scientific, and technological changes for curriculum development; an analysis of theories, principles, criteria, and ways of thought in curriculum and instruction development at the higher educational level; curriculum and instruction development and innovation of curriculum development in higher educational institutions in Thailand.

HG 531 Teacher Education in Thailand 3(3-0-6)

Management and organization of teacher educational plans in Thailand; a study of theories, principles, and practice relating to pre-service teacher preparation; educational service for in-service teachers; a survey of problems and facts in teacher education management; types of student-teachers; curriculum and instruction arrangement; roles and duties of the teachers in teacher training institutions upon communities and upon working units including specific topic study.

HG 532 Practicum in Teacher Education 3(3-0-6)

A study of problems in pre-service teachers' preparation; an involvement of processing courses and syllabuses to plan for student teachers' teaching and learning.

HG 533 Research in Instructional Behavior 3(3-0-6)

A study of research and current strategies of teaching and learning behaviors stressing learners' competency in application; experimental practice of teaching and learning including trends in teaching-learning behavior improvement for better efficiency.

HG 540 Management and Organization of Higher Education 3(3-0-6)

A study of philosophical objectives, roles, and functions of higher education, academic affairs, student's activity affairs, public relations, and coordination; patterns of management and planning of academic standard control; innovation in higher education management by comparing problems to higher education management in Thailand.

HG 541 Academic Problems in Higher Education 3(3-0-6)

An analytical study of academic affairs and faculty instructors; principles of staff selection, assignment, and academic positions including orientation, evaluation, working and promotion policies; organization of faculty council, academic development, curriculum and resources development.

HG 542 Nonacademic Personnel Management in Higher Education 3(3-0-6)

A study of policies, principles, and management of nonacademic personnel in higher educational institutions; personnel recruitment, orientation, incentive encouragement, promotion, consideration, filing, rules and regulations; innovation of personnel administration in higher educational institutions through an analysis of the comparison on personnel administration in Thai higher educational institutions.

HG 543 Business and Financial Management in Higher Education 3(3-0-6)

A study of policies, principles, and trends of business management and expenditures for higher education; income and expenses, budget alloca-

tion including processes of business and financial management; unions and clubs; an analysis of business, and financial management in Thai higher Education.

HG 560 The College Student and Environment 3(3-0-6)

A study and an analysis of higher educational institution environments affecting the individual's intellectual, social, emotional, character and competency development through the research study findings in psychological, sociological economic, political science, and humanistic aspects for the ways of students' characteristic study in Thai higher educational institutions in the changing society.

HG 561 College Student Personnel Administration 3(3-0-6)

A study of students' activity administration in the higher educational institutions; philosophy, objectives, policies, and principles of problems and organization based on the institutional functions and operation and on the co-operational problems; improvement and evaluation of administration through the comparative study of students' activity administration operating in Thai higher educational institutions.

HG 562 Practicum in College Student Affairs 3(3-0-6)

Practicum in service unit and students' activity service by integrating experiences in various subjects into practical operation; problem analysis and the presentation of patterns in developing and improving students' affairs.

HG 600 Practicum in Curriculum Development in Higher Education 3(3-0-6)

Supervised practices in curriculum development in higher educational institution.

HG 601 Innovation and Curriculum Change in Higher Education 3(3-0-6)

A study of current educational innovation; changing process and resistance of individuals and organization; processes of curriculum change in higher education and at other relevant levels of education; utilization of innovation for changes and for development.

HG 620 College Teaching 3(3-0-6)

A study and an analysis of instructional techniques, activities, evaluation, and materials; teaching-learning problems in higher education including students' practicum in curriculum planning; proposal of empirical studies on draft materials produced for the teaching learning improvement at higher educational level.

HG 621 Supervision of Teaching and Field Work 3(3-0-6)

An analytical study of philosophy, objectives, principles, technical plans and strategies; problems and evaluation of teaching and field work practice stressing teaching and field work training in Thailand.

HG 640 Practicum in Nonacademic Personnel Administration Affairs 3(3-0-6)

Students' practicum in nonacademic personnel administration affairs in their field of interest which are personnel administration affairs, financial affairs and office service affairs through the integration of experiences in various subjects; an analytical study on duty work in developing the effective and achieved operation.

HG 680 Seminar on Problems and Research in Higher Education 2(2-0-4)

An analytical study of research problems issues on Thai higher education; suggestions of trends in improving and solving the problems; students' proposal on innovative projects and application of higher education

based on research study findings and learners' research proposals in their fields of interest.

HG 690 Institution Research 3(3-0-6)

An analytical study on ways of thoughts in planning to develop higher education; an overview of principles, processes, roles, function, duties, responsibility, institutional organization administration and institutional research conduction; field work in data collection, interpretation and suggestion in higher education improvement of higher education institutions in which the learners are interested.

HG 691 Independent Study 3(3-0-6)

Students' topic selection, problems or innovations relevant to higher education; an application of deliberate study and analysis.

PG 515 Organization Behavior 3(3-0-6)

(See Social Psychology)

EP 513 Group Dynamics 2(2-0-4)

(See Educational Psychology)

EA 511 Administrative Theory and Organization 3(3-0-6)

(See Educational Administration)

EA 613 Systems Analysis 3(3-0-6)

(See Educational Administration)

HISTORY

The Department of History

Objectives

1. To effectively train students to study and do research using appropriate historical approach and techniques.

2. To enable the students to apply the acquired knowledge in the improvement of learning and teaching of history at various educational levels.

3. To develop the desire to learn and encourage justifiable, critical judgement.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 12 credit hours

HI 501 Historical Research	3(3-0-6)
HI 511 Analytical Study in Early Thai History	4(4-0-8)
HI 512 Seminar in Thonburi and Early Ratanakosin Periods	2(2-0-4)
HI 611 Seminar in Modern Thai History	3(3-0-6)

Elective Courses

Select at least 9 credit hours from the following courses

The student must select courses from the Asian History or the Western History programs according to the selection made at the entrance examination ; not less than 9 credit hours.

Asian History Program

HI 531 Seminar in East Asian Civilizations	3(3-0-6)
HI 533 Seminar in Contemporary China	3(3-0-6)
HI 534 Seminar in Modern Japan	3(3-0-6)
HI 541 History of Indian Diplomacy	3(3-0-6)
HI 542 Seminar in the Middle East History	3(3-0-6)
HI 543 Caste and the Structure of Hindu Society	3(3-0-6)
HI 621 Seminar in Early Southeast Asian History	3(3-0-6)

HI 622 Seminar in Modern Southeast Asia	3(3-0-6)
HI 641 Seminar in Asian History	3(3-0-6)
HI 642 Western Impact in Asia	3(3-0-6)
HI 643 Seminar in Southern Asia	3(3-0-6)

Western History Program

HI 551 Renaissance and Reformation	3(3-0-6)
HI 552 Liberalism and Nationalism in the West	3(3-0-6)
HI 553 Applied European Economic History	3(3-0-6)
HI 554 Western Political Systems	3(3-0-6)
HI 555 History of Russian Diplomacy	3(3-0-6)
HI 556 History of British Diplomacy	3(3-0-6)
HI 557 Revolutions in the Big Fives	3(3-0-6)
HI 563 History of American Diplomacy	3(3-0-6)
HI 651 History of Political Theories	3(3-0-6)
HI 652 Seminar in Modern European History	3(3-0-6)

General History

HI 601 Seminar in History	3(3-0-6)
HI 602 Directed Readings in History	3(3-0-6)

Course Description

HI 501 Historical Research 3(3-0-6)

An analytical study of historical writings and trends of thoughts or historical philosophy of important foreign and Thai historians on foreign and Thai history; a study and practice of historical research methods.

HI 511 Analytical Study in Early Thai History 4(4-0-8)

A study of problems, ideas, hypotheses, and historical documents concerning the Thai people from early times until the end of Ayudhaya periods emphasizing the use of documents and historical sources with the aim of creating a sound understanding of Thai culture.

HI 512 Seminar in Thonburi and Early Ratanakosin

Periods

2(2-0-4)

A study of problems and new thoughts dealing with early Thai history through the reign of King Rama III. An analytical study will be made using both local and foreign documents (from microfilms) in order to develop a better understanding required for higher research in Thai history.

HI 531 Seminar in East Asian Civilizations

3(3-0-6)

An analytical study of selected problems and ideas dealing with Chinese, Japanese and Korean civilizations from prehistory until the Seventeenth Century with an emphasis on politics, government, law, society, art, literature, religion, philosophy, science and inventions and their effect on the world.

HI 533 Seminar in Contemporary China

3(3-0-6)

Selected analytical study of the roles, the importance and changes in politics, economics and foreign policy of China from 1949 until the present.

HI 534 Seminar in Modern Japan

3(3-0-6)

Analytical studies of selected topics on the roles, the importance and changes in politics, economics and foreign policy of Japan from 1853 until the end of the Second World War.

HI 541 History of Indian Diplomacy

3(3-0-6)

An analytical study of Indian diplomacy since Independence with the emphasis on the study of the relations between India and the United States, the Western World, the Soviet Union and the countries in Asia and Africa; the role of India in the United Nations and the importance of India in the present World.

HI 543 Caste and the Structure of Hindu Society 3(3-0-6)

An analytical study of Arayan Society in early days, the cultural confrontations, the social importance of the Brahmanas and Kshatriyas classes in the caste system, the status of Vaishyas and Shudras, a comparative study of the caste system in Iran and India, the degrading in status of the Shudras in later time, the caste theory in the Hindu Society, Hindu philosophy in the caste system, the division of the duty in the Hindu Society, the taboos in food and drink, marriage traditions and the andurability of the caste system in the Hindu Society.

HI 551 Renaissance and Reformation 3(3-0-6)

An analytical study of the trend of thoughts and the importance of the periods of the Renaissance and the Reformation down to the Thirty Years' War. Stress is made on new thoughts in art, literature, politics, economics and science as the foundation of modern civilization; new ideas in religions leading to the Reformation; its impacts on economics, society and politics of Western Europe; certain well-known works and primary source documents will be used.

HI 552 Liberalism and Nationalism in the West 3(3-0-6)

A study of the origin and development of liberal and national movements in the Western world, emphasizing the changes and results of both movements in European history in the Nineteenth Century. Certain primary documents will be studied.

HI 553 Applied European Economic History 3(3-0-6)

A study of European Economic History from pre-history until now, emphasizing the study of the progress in trade, agriculture, the Industrial Revolution in Western and Eastern Europe, economic competition among the powers at the end of the Nineteenth century, the growth of technology, the economic thought leading to economic development in Europe and their impact on the European social system and politics.

HI 554 Western Political Systems 3(3-0-6)

A comparative study of politics, education and government of England, France, Germany and the United States with stress upon certain important aspects such as parliamentary system, presidential system, party system and the way politics are related to culture.

HI 555 History of Russian Diplomacy 3(3-0-6)

Diplomacy since the time of Peter the Great ; the attempt to get in touch with the outside world, diplomacy based on the principles of Autocracy, Holy Russia and Nationalites, the Holy Alliance; diplomacy during the Communist period resting on the principles of Socialist Motherland, Dictatorship of the Proletariats and Nationalites, Communism and the World Revolution.

HI 556 History of British Diplomacy 3(3-0-6)

Diplomacy after the Middle Ages ; the balance of power policy; diplomacy in the Nineteenth century; conflicts with the Eastern Power and the policy of “calling the New World to Balance the Old” and the growth as an Imperialist nation; dipolmacy before the First World War ; success and failure of Splendid Isolation policy; diplomacy before the Second World War; failure to maintain world peace and diplomacy after the Second World War.

HI 557 Revolutions in the Big Fives 3(3-0-6)

A comparative study of the revolutions in England, the United States, France, Russia and China, stressing the causes, methods and procedures, results and significance as related to events, history and thoughts of each of the above countries.

HI 563 History of American Diplomacy 3(3-0-6)

Diplomacy after the War of Independence: the Monroe Doctrine and the attempt to be free in diplomacy making, the status changing at the end of the nineteenth century and the attempt to make new diplomacy

after the First World War : the victory of the Policy of Isolationism; the diplomatic failure before the Second World War and diplomacy from the Second World War until the present.

HI 601 Seminar in History 3(3-0-6)

An analytical study of current events, contemporary research findings, or trends in politics, government, society, economics and foreign policy from the past until the present. The course will be arranged according to the students' requirements and according to the availability of visiting specialists to the department.

HI 602 Directed Readings in History 3(3-0-6)

Individual study and research. Students would be given an opportunity to choose their own topics for research under the supervision of staff members.

HI 611 Seminar in Modern Thai History 3(3-0-6)

A study of problems and ideas in Thai history from the reign of King Rama IV when modernization began. Emphasis is made on the use of both local and foreign documents (from microfilms) to analyze various problems as a foundation of advanced research in Thai history.

HI 621 Seminar in Early Southeast Asian History 3(3-0-6)

An analytical study of selected problems and topics of Southeast Asian history with an emphasis on changes in politics, government, economy, society, culture, foreign affairs in the Southeast Asian region from early times to the Fifteenth century.

HI 622 Seminar in Modern Southeast Asia 3(3-0-6)

A critical study of the role, the importance and changes of political government, society, economy and foreign policies of major countries in Southeast Asia from the Nineteenth Century until the present day.

HI 641 Seminar in Asian History 3(3-0-6)

A study of selected problems and thoughts in Asian history; an analytical study of the attitudes and the impact on the present and the future of Asia.

HI 642 Western Impact in Asia 3(3-0-6)

An analytical study of Asian countries since the coming of the Europeans until World War II with emphasis on politics, society, economy, culture, religions and philosophy and their impact in various countries of this region.

HI 643 Seminar in Southern Asia 3(3-0-6)

An analytical study of selected problems and ideas dealing with Southern-Asia i.e., India, Sri Lanka, Pakistan and Bangladesh since the coming and the colonizing of the Europeans until the struggle for independence after World War II ; the rivalries among India and Pakistan and the establishment of Sri Lanka.

HI 651 History of Political Theories 3(3-0-6)

A study of European political theories of noted philosophers from the Greek period such as Plato, Aristotle down to those of modern time, for example Rousseau, Mill and Marx.

Meanings of the Middle Digits of the Code Numbers

- 0 refers to general history
- 1 refers to Thai history
- 2 refers to Southeast Asian history
- 3 refers to East Asian history
- 4 refers to West Asian, South Asian history
- 5 refers to European history
- 6 refers to American history

LIBRARY SCIENCE

The Department of Library Science

Objectives

1. To produce professional leaders in librarianship.
2. To produce qualified teaching personnels in librarianship.

Courses for the Major

A minimum of 21 credit hours are required from the following courses:

Required Courses 13 credit hours

LS 503 Communication Skills in Library and Information Science	2(2-0-4)
LS 510 Modern Librarianship	3(3-0-6)
LS 512 Bibliographic Organization and Control II	3(3-0-6)
LS 631 Seminar in Library and Information Science	2(2-0-4)
LS 650 Practicum in Library and Information Center	3(3-0-6)

Elective Courses

Select at least 8 credit hours from the following courses.

LS 502 Education for Library and Information Science	3(3-0-6)
LS 514 Research Methods in Library and Information Science	2(2-0-4)
LS 515 Education Media in Library and Information Center	3(3-0-6)
LS 516 Library of Congress Classification	2(2-0-4)
LS 517 Teaching of Library and Information Science	2(2-0-4)
LS 540 Reference and Information Services	2(2-0-4)
LS 541 Theory and Techniques of Bibliography	2(2-0-4)

LS 542 Indexing and Abstracting	2(2-0-4)
LS 601 Research Seminar	2(2-0-4)
LS 611 Introduction to Information Science	3(3-0-6)
LS 612 Information Retrieval Techniques	3(3-0-6)
LS 614 Library Effectiveness	2(2-0-4)
LS 615 Information Technology in Libraries and in Information Centers	3(3-0-6)
LS 620 Storytelling	2(2-0-4)
LS 621 Reading Guidance for Children and Young Adults	3(3-0-6)
LS 632 Systems Analysis in Library	3(3-0-6)
LS 633 The School Library	3(3-0-6)
LS 634 College and University Libraries	3(3-0-6)
LS 635 The Public Library	3(3-0-6)
LS 637 Special Problem	2-3(2-3, 0-0, 4-6)
LS 640 Information Sources and Services in the Humanities	3(3-0-6)
LS 641 Information Sources and Services in the Social Sciences	3(3-0-6)
LS 642 Information Sources and Services in the. Sciences and Technology	3(3-0-6)
LS 643 Information Sources and Services in Education	3(3-0-6)
LS 644 Information Sources in Buddhism	3(3-0-6)
LS 645 Library Materials and Services for Children	3(3-0-6)
LS 646 Library Materials and Sources for Young Adults	3(3-0-6)
LS 647 Educational and Indigenous Materials	3(3-0-6)
LS 658 Independent Study (Theory)	2(2-0-4)
LS 659 Independent Study (Practice)	2(2-0-4)

Course Description

LS 502 Education for Library and Information Science 3(3-0-6)

A study to history, development, trends and problems of education for library and information science in Thailand and abroad, including philosophy, principles, program, planning, teaching learning methods, supporting resources.

LS 503 Communication Skills in Library and Information Science 2(2-0-4)

Study and develop language skills for communication which is essential to library and information service professions. Includes learning how to get main ideas and analysis of written and verbal languages.

LS 510 Modern Librarianship 3(3-0-6)

Study of modern thoughts and foundations of library science and information system, influence of new technology upon information services. Includes study of trends and current developments in the information system.

LS 511 Bibliographic Organization and Control I non-credit (A prerequisite of LS 512 for those who have no background in library science)

Study of importance of bibliographic organization and control of library materials, cataloging and classification of books of all types, forms of catalog cards, determination of data to be included in the catalog cards, analysis of subject headings and their vocabulary control, filing and maintenance of catalog cards, Dewey Decimal Classification System, and book number identification.

LS 512 Bibliographic Organization and Control II 3(3-0-6)

Pre-requisite : LS 511 or equivalent

Study of importance and forms of information. Analysis of classification systems used in information storage and retrieval. Comprehensive

analysis of bibliographical information of special materials such as rare books, reports of the organization, etc. Application of uniformed titles. Study of shared cataloging centers, thesaurus system and other systems of the same nature. Organization and management of the cataloging department.

LS 514 Research Methods in Library and Information

Science

2(2-0-4)

Study of principles and techniques of scientific research with an emphasis on developing research attitudes, development of research topics in library and information science, research design appropriate for library and information science problems, specific research techniques for specific problems in the field.

LS 515 Education Media in the Library and Information

Center

3(3-0-6)

Study the importance of various education media both print and non-print, emphasis on audio-visual materials, their usefulness, usage, cataloging and classification, storage, special handling, organization and rendering services in libraries and information centers.

LS 516 Library of Congress Classification

2(2-0-4)

Study of the library of Congress Classification System. Emphasis is on the use of the various schedules, their subsidiary tables and other special provisions.

LS 517 Teaching of Library and Information Science

2(2-0-4)

Study of characteristics of library and information services. Analysis of contents, methods of teaching, teaching-aids production, work assignment and project evaluation.

LS 540 Reference and Information Services

2(2-0-4)

History and principles of reference and information services; survey of sources including determining reference sources and services.

LS 541 Theory and Techniques of Bibliography 2(2-0-4)

Study of meaning, types, and usefulness of the bibliographical tool. Emphasizing on principles and practices in bibliographical compilation, control, and services.

LS 542 Indexing and Abstracting 2(2-0-4)

Study of the abstracting and indexing services on their meanings, types and uses. Indexing and abstracting principles, procedures and services.

LS 601 Research Seminar 2(2-0-4)

Survey of research reports in various topics in library and information science as accomplished by researchers and authority in the field. Discussion of research projects developed by the student for presenting to the group. Study other related problems adequately significant for pursuing as research projects in library and information science.

LS 611 Introduction to Information Science 3(3-0-6)

Survey of history and development of information science, its methods, major ideas and principles pertaining to information science, areas of studies, and major research results in the field.

LS 612 Information Retrieval Techniques 3(3-0-6)

Study of principles and techniques of information retrieval which include content analysis, thesaurus construction, indexing and abstracting, system evaluation techniques, and survey of modern on-line IR.

LS 614 Library Effectiveness 2(2-0-4)

An introduction to the quantitative evaluation of library service to its users; a survey of appropriate methods for measuring the service and the use of these measures to improve service.

**LS 615 Information Technology in Libraries and in
Information Centers** 3(3-0-6)

Study of structure and principles of computers and their peripherals, programming techniques and their application and limitation in library

data processing, systems analysis and design in such systems as cataloging, circulation, and information services through the use of computers.

LS 620 Storytelling 2(2-0-4)

Fundamental principles of the art of storytelling, planning of story hours, location of suitable materials for use, and the techniques of learning and presenting the story, a study and selection of literature appropriate for oral presentation to children of all ages.

LS 621 Reading Guidance for Children and Young Adults 3(3-0-6)

Psychology of reading, reading techniques and appropriate library programs and activities to assist children and young adults.

LS 631 Seminar in Library and Information Science 2(2-0-4)

Study and discussion of problems and trends of the field.

LS 632 Systems Analysis in Library 3(3-0-6)

Study of principles of systems theory, systems approach, systems analysis techniques, application of the techniques for library services, the design and development of the system from manual to automated.

LS 633 The School Library 3(3-0-6)

Study of organization, management, service, and activities of school libraries. Integration of the library process and learning process of various courses as well as a survey of problems and present trends of the school library will be emphasize.

LS 634 College and University Libraries 3(3-0-6)

A study of administration and services in college and university libraries.

LS 635 The Public Library 3(3-0-6)

Study the activities, organization and administration, services of public libraries, museum, academic centers, community newspaper reading places. Survey and analyze problems and trends.

LS 637 Special Problem 2-3(2-3, 0-0, 4-6)

Study, carried on by individual or group, the approval selected interest topic under the supervision of the department instructor.

LS 640 Information Sources and Services in the Humanities 3(3-0-6)

A survey and an examination of information sources in each discipline of the humanities. Emphasis is given to Thai and Southeast Asian sources; a study of appropriate techniques for retrieval and dissemination of information, and generation of needed sources.

LS 641 Information Sources and Services in the Social Sciences 3(3-0-6)

Survey and study of information sources in various fields of social sciences with the emphasis on sources in Thailand and Southeast Asia. Techniques to access to such information are emphasized.

LS 642 Information Sources and Services in the Sciences and Technology 3(3-0-6)

Survey and study of information sources and services in science and technology of all fields with the emphasis on sources in Thailand and Southeast Asia. Techniques to access to such information are emphasized.

LS 643 Information Sources and Services in Education 3(3-0-6)

Survey and study of information sources of all levels with an emphasis on sources in Thailand and Southeast Asia. Also study of techniques to access to such information.

LS 644 Information Sources in Buddhism 3(3-0-6)

Study information resources for Buddhism both Southern Sect and Northern Sect from scriptures in various forms including handwriting, printing, citation, mural paintings and sculpture and the techniques of using such information.

- LS 645 Library Materials and Services for Children** 3(3-0-6)
Historical development of children's books, types of children's literature and media, reading needs and interests of children of different ages around the world. Students are encouraged to write and translate children's books from foreign languages; development of ability to select and acquire children's materials; including provision of appropriate library programs and services.
- LS 646 Library Materials and Sources for Young Adults** 3(3-0-6)
Historical development of literature for young adults, kinds of literature for young adults needs and interests of young adults around the world in reading. Ability in selection and acquisition of literature for young adults is emphasized; including development of appropriate library information services for young adults.
- LS 647 Educational and Indigenous Materials** 3(3-0-6)
Study techniques of collection non-or-rare recorded information in folk arts and folk culture, how to preserve and organize the information for education and research purposes.
- LS 650 Practicum in Library and Information Center** 3(3-0-6)
Supervised work in any type of library and information center. Special project can be taken by those students who has had library experiences.
- LS 658 Independent Study (Theory)** 2(2-0-4)
Study of problem in the library field, applying theories or new concepts to the present problems and situations.
- LS 659 Independent Study (Practice)** 2(2-0-4)
Apply suitable methods or practices to a selected problem in the field of library science.

1. Mathematics

MA 411	Introduction to Real Analysis	3(3-0-6)
MA 412	Introduction to Complex Analysis	3(3-0-6)
MA 416	Vector Analysis	3(3-0-6)
MA 417	Introduction to Numerical Analysis	3(3-0-6)
MA 418	Partial Differential Equations	3(3-0-6)
MA 419	Fourier Series and Applications	3(3-0-6)
MA 423	Abstract Algebra I	3(3-0-6)
MA 424	Linear Algebra II	3(3-0-6)
MA 432	Non-Euclidean Geometry	3(3-0-6)
MA 433	Projective Geometry	3(3-0-6)
MA 443	Introduction to Mathematical Logic	3(3-0-6)
MA 444	History of Mathematics	3(3-0-6)
MA 461	Introduction to Topology	3(3-0-6)
MA 511	Real Analysis	3(3-0-6)
MA 512	Complex Analysis	3(3-0-6)
MA 513	Functional Analysis	3(3-0-6)
MA 521	Group Theory	3(3-0-6)
MA 534	Differential Geometry	3(3-0-6)
MA 541	Foundations of Mathematics	3(3-0-6)
MA 561	Topology	3(3-0-6)
MA 691	Individual Studies in Mathematics	3(3-0-6)

2. Statistics

ST 321	Mathematical Statistics I	3(3-0-6)
ST 322	Mathematical Statistics II	3(3-0-6)
ST 341	Regression Analysis	3(3-0-6)
ST 342	Nonparametric Statistics	3(3-0-6)
ST 343	Time Series and Index Numbers	3(3-0-6)
ST 344	Demography	3(3-0-6)

ST 345	Quality Control	3(3-0-6)
ST 346	Decision Theory	3(3-0-6)
ST 361	Statistics for Business	3(3-0-6)
ST 362	Statistics for Economics	3(3-0-6)
ST 363	Mathematical Economics	3(3-0-6)
ST 364	Mathematical Finances	3(3-0-6)
ST 431	Probability Theory I	3(3-0-6)
ST 432	Probability Theory II	3(3-0-6)
ST 441	Experimental Designs	3(3-0-6)
ST 442	Sequential Analysis	3(3-0-6)
ST 451	Operation Research I	3(3-0-6)
ST 452	Operation Research II	3(3-0-6)

3. Computer

CP 351	Introduction to Computer and Data Processing	3(2-2-5)
CP 352	Introduction to Data Structures	3(3-0-6)
CP 353	Theory of Computability	3(3-0-6)
CP 371	Fortran Programming	3(2-2-5)
CP 372	Cobol Programming	3(2-2-5)
CP 373	Programming Languages	3(2-2-5)
CP 374	Introduction to Assembly Language	3(2-2-5)
CP 451	Information System Analysis and Design	3(2-2-5)
CP 452	Computer Operating Systems	3(3-0-6)
CP 453	Compiler Construction	3(2-2-5)
CP 454	Data Management	3(3-0-6)
CP 455	Computer Application in Banking	3(3-0-6)

4. Mathematics Education

ME 691	Individual Studies in Mathematics Education	3(3-0-6)
TM 511	Theory and Practice in Mathematics Curriculum Development	3(3-0-6)

TM 531 Mathematics in Secondary School	3(3-0-6)
TM 571 Workshop for Mathematics Teachers	2(2-0-4)
TM 581 Seminar on Problems and Research in Teaching Mathematics	2(2-0-4)

Course Description

MA 411 Introduction to Real Analysis 3(3-0-6)

Pre-requisite : MA 321 and MA 221 or Math 323

Topology on the Euclidean space, limit and continuity of a function of several variables, partial differentiation, implicit function theorems, extremum problems, multiple integrals.

MA 412 Introduction to Complex Analysis 3(3-0-6)

Pre-requisite : MA 213 and MA 312

The properties of the complex number system, differentiation, analytic functions, integrations, series, residue theorem, conformal mapping.

MA 416 Vector Analysis 3(3-0-6)

Pre-requisite : MA 213

Elementary operations on vectors, differentiation, integration, application of vectors to geometry and mechanics.

MA 417 Introduction to Numerical Analysis 3(3-0-6)

Pre-requisite : MA 213

Errors and significant figures, interpolation with divided differences, Lagrangian methods, finite difference interpolation, numerical solutions of equations.

MA 418 Partial Differential Equations 3(3-0-6)

Pre-requisite : MA 311

Equations of first order, classification of second order equations, elliptic equations, hyperbolic equations, parabolic equations.

MA 419 Fourier Series and Applications 3(3-0-6)

Pre-requisite : MA 213

Orthogonal function, Fourier series, Bessel function, Legendre polynomial, application of boundary value problems in mathematical physics.

MA 423 Abstract Algebra I 3(3-0-6)

Pre-requisite : MA 322

Ideals, Euclidean domain, polynomial rings, field extensions and introduction to Galois theory.

MA 424 Linear Algebra II 3(3-0-6)

Pre-requisite : MA 323

Canonical forms, linear functional and dual spaces, bilinear forms, homogeneous quadratic forms and their applications to the conic sections, inner product spaces, multilinear algebra.

MA 432 Non-Euclidean Geometry 3(3-0-6)

Pre-requisite : MA 331

The discovery of non-Euclidean geometries, hyperbolic plane geometry and trigonometry, elliptic plane geometry and trigonometry, the consistency of the non-Euclidean geometries.

MA 433 Projective Geometry 3(3-0-6)

Fundamental concepts, central projection, duality, perspectivity, projectivity, harmonic relationship, conics, Pascal's and Brianchon's theorems, poles and polars, quadric surfaces and involution.

MA 443 Introduction to Mathematical Logic 3(3-0-6)

Pre-requisite : MA 241

The propositional calculus, quantification theory, and related topics.

MA 444 History of Mathematics 3(3-0-6)

Elementary history of mathematics from the beginning to the discovery of calculus and some selected topics.

- MA 461 Introduction to Topology** 3(3-0-6)
 Pre-requisite : MA 213
 Metric spaces, topological spaces, connectedness, compactness.
- MA 511 Real Analysis** 3(3-0-6)
 Pre-requisite : MA 411
 Measures on the real line, Lebesgue measure, measurable functions, the Lebesgue integral, the real linear space.
- MA 512 Complex Analysis** 3(3-0-6)
 Pre-requisite : MA 412
 Harmonic functions, Poisson's formula, Dirichlet's problem, conformal mapping, infinite product, analytic continuation.
- MA 513 Functional Analysis** 3(3-0-6)
 Pre-requisite : MA 511
 Linear spaces, linear operators, metric spaces, nonlinear spaces, Banach space, inner product spaces, Hilbert space.
- MA 521 Group Theory** 3(3-0-6)
 Pre-requisite : MA 322
 Groups, subgroups, factor groups, groups with operator, isomorphism theorems, Jordan-Hölder theorem, direct product, Krull-Shmidt theorem, abelian groups.
- MA 534 Differential Geometry** 3(3-0-6)
 Pre-requisite : MA 213 and MA 416
 Curves in 3-space, geometry in 3-space, calculus on a surface, geometry of surfaces in 3-space, intrinsic property of surfaces.
- MA 541 Foundations of Mathematics** 3(3-0-6)
 Pre-requisite : MA 322 (or by approval)
 Axiomatic systems, analysis of axiomatic systems, set theory and its background, group and the importance of group in foundations of mathe-

mathematics, the development of several ideas in foundations of mathematics which help develop new methods of teaching in mathematics

MA 561 Topology 3(3-0-6)

Pre-requisite : MA 461

General topological space, homeomorphis, subspace, connected product space, locally connected space, arcwise connected space, homotopic paths, simple connectivity, compact space, compact metric space, Bolzano-Weierstrass' theorem.

MA 691 Individual Studies in Mathematics 3(3-0-6)

The subjects depend on the instructors and students.

ST 321 Mathematical Statistics I 3(3-0-6)

Pre-requisite : MA 213

Concepts of probability; random variables; distributions of random variables; probability function; mathematical expectation; marginal distribution; conditional distribution; stochastic independence; binomial distribution; Poisson distribution; normal distribution; gamma distribution; chi-square distribution; transformation of discrete random variables and continuous random variables; t distribution; F distribution; distribution of order statistics; moment-generating function technique; sampling distribution.

ST 322 Mathematical Statistics II 3(3-0-6)

Pre-requisite : ST 321

Interval estimation; point estimation and sufficient statistics: Rao-Blackwell theorem; completeness, uniqueness, the exponential class of probability density function, etc.; tests of statistical hypotheses: most powerful test-uniformly most powerful test, sequential probability ratio test, maximum and Bayesian tests, likelihood ratio test, etc.; nonparametric methods.

ST 341 Regression Analysis 3(3-0-6)

Pre-requisite : ST 241 and MA 111

Correlation techniques; simple and multiple regression : least squares method, curvilinear regression, matrix approach, tests and confidence interval for regression coefficient; nonlinear regression.

ST 342 Nonparametric Statistics 3(3-0-6)

Pre-requisite : ST 241

Goodness of fit tests : chi-square test, Kolmogorov-Smirnov test, Lilliefors test; one sample tests : binomial test, median test, sign test, etc.; two samples tests : sign test, Wilcoxon signed rank test, Mann-Whitney U test, etc.; several sample tests.

ST 343 Time Series and Index Numbers 3(3-0-6)

Pre-requisite : ST 242

Movements in time series; preliminary treatment of data; trend analysis; mathematical trend; curves and exponential smoothing; seasonal fluctuation; changing seasonal patterns; cyclical and irregular movements; time series analysis in forecasting; use of index number; type of price indices; shifting the base of number; deflating prices and income; quantity index numbers; index number concepts : chain index numbers, substituting new : commodities and changing weights.

ST 344 Demography 3(3-0-6)

Pre-requisite : ST 321

Introduction to the discipline; sources of demographic data; collection of census and vital statistics; errors in census and vital statistics and their adjustments; measurement of mortality; construction of life table; measurement of fertility and reproduction; measurement of population distribution and internal migration; population estimation and projections.

ST 345 Quality Control 3(3-0-6)

Pre-requisite : ST 241 and ST 321

Basic knowledge of statistics and probability in quality control; acceptance sampling by attributes; acceptance sampling by quantitative variables; various control charts; single, double and multiple sampling plans, some related topics.

ST 346 Decision Theory 3(3-0-6)

Pre-requisite : ST 241 and ST 321

Principles of decision making; decision functions; risk functions, loss functions; optimal decision rules; separating hyperplane theorem; use of decision theory in statistical inference.

ST 361 Statistics for Business 3(3-0-6)

Statistical operations for analysis and decision making in business; design of questionnaires; sampling techniques; data collection; estimation of parameters; parametric and non-parametric statistical techniques; simple and multiple regression; time series analysis. This course emphasizes applications of statistical methods for actual data of business.

ST 362 Statistics for Economics 3(3-0-6)

Probability; probability distributions and their uses in statistical inferences, such as in the problems of interval estimation and hypothesis testing; linear regression and correlation; time-series analysis and projection; uses and construction of index numbers. This course emphasizes applications of statistical methods to economic problems.

ST 363 Mathematical Economics 3(3-0-6)

Theory of consumer behavior; theory of the firm under various types of market structure : welfare economiodynamic, consumer behavior and firm, optimization overtime.

ST 364 Mathematical Finances 3(3-0-6)
Compound interest; discount and interest; annuities; analysis of an annuity; stock and bonds; amortization of debts; uses of mathematics and statistics as the decision-making tools in financial analysis.

ST 431 Probability Theory I 3(3-0-6)
Pre-requisite : MA 213
Probability; random variables; binomial distribution; Poisson distribution; uniform distribution; normal distribution; gamma distribution; chi-square distribution; beta distribution, etc.; limits theorem : stochastic convergence, law of large number, and moment generating function.

ST 432 Probability Theory II 3(3-0-6)
Pre-requisite : ST 431
Markov chain : homogeneous markov chain, transition matrix, random variables forming a homogeneous markov chain; stochastic process : introduction to random walks, Markov processes, Poisson process, recurrent events, birth and death processes, and branching process.

ST 441 Experimental Designs 3(3-0-6)
Pre-requisite : ST 241
Single factor analysis of variance : completely randomized design, randomized completed block design, hierarchical or nested design, latin square design, etc.; cross classification : two-way classification, three-way classification; factorial experiments with all factors at two levels; analysis of covariance.

ST 442 Sequential Analysis 3(3-0-6)
Pre-requisite : ST 322
Sequential test of a statistical hypothesis; Wald's inequality; average sampling numbers; sequential probability ratio test; application of the general theory to special cases : testing the mean of a binomial, normal distribution, sequential estimation.

ST 451 Operation Research I 3(3-0-6)

Pre-requisite : MA 221 and ST 321

Structure and mathematical models, linear programming : graphical solution, simplex method, artificial techniques, etc.; transportation problems; allocation problems; game theory.

ST 452 Operation Research II 3(3-0-6)

Pre-requisite : ST 431 and ST 451

Network analysis; inventory and replacement problems; simulation; queueing theory.

CP 351 Introduction to Computer and Data Processing 3(2-2-5)

Development of computers; computer application; computer structure; input output devices; programming languages; introduction to electronic data processing; flowcharting and data representation; introduction to programming languages, such as BASIC or FORTRAN programming, in problem solving.

CP 352 Introduction to Data Structures 3(3-0-6)

Pre-requisite : CP 371

Data representation and structure; sequential allocation, array, stack, queue; dope vector, recursion, list processing linked list, single linked list, double linked list, deletion-insertion-dynamic storage allocation; space matrix; tree structure : binary tree, tree transversal, threaded tree, representation of tree, sorting : bubble sort, insertion sort, quick sort, two way merge sort, heap sort; table look-up techniques.

CP 353 Theory of Computability 3(3-0-6)

Finite and non-finite state machine; recursive function; turing machine; computability.

CP 371 Fortran Programming 3(2-2-5)

Overview of programming languages; flowcharting and algorithms in problem solving; Fortran programming elements and structure; how

to write a Fortran program to solve some mathematical or scientific problems.

CP 372 Cobol Programming 3(2-2-5)

Pre-requisite : CP 351 or CP 371

Cobol programming elements and structure; flowcharting; file organization, file handling, file maintenance, file creation and processing; editing; sorting and searching; direct access versus serial, random and sequential organization, case studies.

CP 373 Programming Languages 3(2-2-5)

Pre-requisite : CP 371 and CP 372

Classification of the principal types of programming languages, with detailed comparisons of the properties and representative languages of each type; review of the mutual influences between the design of the languages and the nature of the applications for which the languages have originally been intended; the new programming languages such as RPG II, PL/1, PASCAL, SNOBOL 4, LISP, etc. may be introduced.

CP 374 Introduction to Assembly Language 3(2-2-5)

Pre-requisite : CP 351 or CP 371

Number system, Boolean algebra ; hardware components, processor structure, addressing modes; machine language and assembly language programming; instruction sets, pseudo operation, subroutine, co-routines; use of stacks, interrupts, macros, linkers and loaders.

CP 451 Information System Analysis and Design 3(2-2-5)

Pre-requisite : CP 351 or CP 371

This course covers the integrated concepts of information system analysis and design. Each student is required to perform one project of the analysis and design of a specific system. The outline of the course follows : analysis methodology, analysis tool, system flowchart, decision table, cost effective analysis, problem definition, proposal and feasibility

studies, system design methodology, file and form design, system documentation, auditing and evaluation, final report, case studies, account receivable, payroll, inventory, and personnel.

CP 452 Computer Operating Systems 3(3-0-6)

Pre-requisite : CP 374

View of an operating system; multiprogramming; interacting concurrent processes; process control primitives; processor management; memory management; name management; protection; case studies.

CP 453 Compiler Construction 3(2-2-5)

Pre-requisite : CP 353

The design of assemblers; introduction to the theory of grammars; parsing techniques; object code generation; construction of compiler or interpreters.

CP 454 Data Management 3(3-0-6)

Pre-requisite : CP 353

File structures and file organization; randomization retrieving methods, sequential, random, indexed sequential as applied to tape, disk, data cell, and drum storage, buffer pool management, queueing theory; data management techniques.

CP 455 Computer Application in Banking 3(3-0-6)

Pre-requisite : CP 372

Programming for banking applications : e.g. in fixed and current accounts; processing of loan and foreign exchange; report of financial statements.

ME 521 Mathematics Education 3(3-0-6)

Understanding of the nature of mathematics, value of mathematics in education, objectives in teaching mathematics, the place of mathematics in general education, some psychological impacts on the teaching of

mathematics, issues and research in mathematics education, evaluation of mathematics programs.

ME 691 Individual Studies in Mathematics Education 3(3-0-6)
Content depends on the mutual consideration of the student and the instructor.

TM 511 Theory and Practice in Mathematics Curriculum Development 3(3-0-6)
(See Secondary Education)

TM 531 Mathematics in Secondary Schools 3(3-0-6)
(See Secondary Education)

TM 571 Workshop for Mathematics Teachers 2(2-0-4)
(See Secondary Education)

TM 581 Seminar on Problems and Research in Teaching Mathematics 2(2-0-4)
(See Secondary Education)

Meanings of the Middle Digits of the Code Numbers

(For those starting with "MA")

- 1 refers to analysis
- 2 refers to algebra
- 3 refers to geometry
- 4 refers to foundations of mathematics
- 5 refers to topology
- 6 refers to seminar

PHYSICS

The Department of Physics

Objectives

Graduates from this program should be able:

1. To teach physics up to the Bachelor's degree level.
2. To do research in problems relating to physics teaching or physics.

Courses for the Major

A minimum of 21 credit hours are required from the following courses:

PY 501	Mathematical Methods of Theoretical Physics I	3(3-0-6)
PY 502	Mathematical Methods of Theoretical Physics II	3(3-0-6)
PY 511	Classical Mechanics I	3(3-0-6)
PY 512	Classical Mechanics II	3(3-0-6)
PY 541	Classical Theory of Electromagnetism I	3(3-0-6)
PY 542	Classical Theory of Electromagnetism II	3(3-0-6)
PY 621	Statistical Mechanics I	3(3-0-6)
PY 622	Statistical Mechanics II	3(3-0-6)
PY 651	Nuclear Physics	3(3-0-6)
PY 661	Solid State Physics	3(3-0-6)
PY 671	Quantum Mechanics I	3(3-0-6)
PY 672	Quantum Mechanics II	3(3-0-6)
PY 673	Quantum Mechanics III	3(3-0-6)
PY 681	Advanced Laboratory	3(0-6-3)
PY 691	Physics Seminar	2(2-0-4)

Course Description

PY 501 Mathematical Methods of Theoretical Physics I 3(3-0-6)

Vector analysis, matrices and determinants, linear ordinary differential equations, Bessel functions and Legendre polynomials, Sturm-Liouville problem, Green's function, partial differential equations.

PY 502 Mathematical Methods of Theoretical Physics II 3(3-0-6)

Analytic functions of complex variables, complex integrals, Taylor and Laurent series, integration by method of residues, complex analytic functions and potential theory, conformal mapping.

PY 511 Classical Mechanics I 3(3-0-6)

Variational principles and Lagrange's equation, two-body central force, rigid body motion, special theory of relativity.

PY 512 Classical Mechanics II 3(3-0-6)

Pre-requisite : PY 511

Hamilton's equations of motion, canonical transformations, Hamilton-Jacobi equation, small oscillations.

PY 541 Classical Theory of Electromagnetism I 3(3-0-6)

Pre-requisite : PY 501

Electrostatics, boundary-value problems in electrostatics, multipoles, electrostatics of macroscopic media, dielectric, magnetostatics.

PY 542 Classical Theory of Electromagnetism II 3(3-0-6)

Pre-requisite : PY 541

Time-varying fields, Maxwell's equations, conservation laws, plane electromagnetic waves, simple radiating systems, radiation by moving charges.

- PY 621 Statistical Mechanics I** 3(3-0-6)
Thermodynamics and kinetic theory, applications of thermodynamics, the equilibrium state of dilute gas, classical statistical mechanics; canonical ensemble and grand canonical ensemble.
- PY 622 Statistical Mechanics II** 3(3-0-6)
Pre-requisite : PY 621
Quantum statistical mechanics, ideal Fermi gas, Ideal Bose Gas, cluster expansions, phase transitions, the Ising model.
- PY 651 Nuclear Physics** 3(3-0-6)
Elements of nuclear structure and systematics, nuclear decay, nuclear forces, nuclear reactions, neutron.
- PY 661 Solid State Physics** 3(3-0-6)
Pre-requisite : PY 541 and PY 542
Crystallography and X-rays diffraction; crystal lattices; free-electron model; energy-band theory; metals; semiconductors; insulators; optical, thermal, electrical and magnetic properties of solids; alloys; superconductors.
- PY 671 Quantum Mechanics I** 3(3-0-6)
Pre-requisite : PY 501
Physical basis of quantum mechanics, the Schrodinger wave equation, eigenfunctions and eigenvalues, discrete eigenvalues, continuous eigenvalues.
- PY 672 Quantum Mechanics II** 3(3-0-6)
Pre-requisite : PY 671
Matrix formulation of quantum mechanics, approximate methods for bound states, approximate methods in collision theory, identical particles and spin, semi-classical treatment of radiation.

PY 673 Quantum Mechanics III 3(3-0-6)

Description of quantized system, elements of relativistic quantum mechanics, introduction to quantum field theory.

PY 681 Advanced Laboratory 3(0-6-3)

Laboratory experiments in physics with emphasis on research.

PY 691 Physics Seminar 2(2-0-4)

Reports and discussions of research in physics as studied from scientific journals.

Meanings of the Middle Digits of the Code Numbers

0 refers to mathematics

1 refers to mechanics

4 refers to electromagnetism

5 refers to nuclear physics

6 refers to solid state physics

7 refers to quantum mechanics

8 refers to laboratory

9 refers to seminar and research

PHYSICAL EDUCATION

The Department of Physical Education

Objectives

1. To be able to teach physical education effectively.
2. To be able to organize and administer physical education and sports for society.

3. To be able to investigate and research on subjects relevant physical education and sports.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 18 credit hours

PE 511	Curriculum Development in Physical Education	2(2-0-4)
PE 512	Supervision in Physical Education	2(2-0-4)
PE 513	Seminar in Physical Education	2(2-0-4)
PE 514	Advanced Tests and Measurement in Physical Education	3(3-0-6)
PE 515	Organization and Administration of Physical Education	2(2-0-4)
PE 521	Advanced Physiology of Exercise	3(3-0-6)
PE 630	Philosophy of Physical Education	2(2-0-4)
PE 640	Research Seminar in Physical Education	2(2-0-4)

Elective Courses

Select at least 3 credit hours from the the follwing courses.

PE 522	Applied Kinesiology	2(2-0-4)
PE 523	Advanced Sports Coaching	2(2-0-4)
PE 524	Physical Therapy	2(2-0-4)
PE 525	Development of Facilities and Equipment in Physical Education	2(2-0-4)
PE 526	Advanced Motor Learning	2(2-0-4)
PE 531	Recreation and Society	2(2-0-4)
PE 532	Organization and Administration of Community Recreation	2(2-0-4)

PE 534 Sports and Society	2(2-0-4)
PE 632 Comparative Physical Education	2(2-0-4)
PE 650 Independent Study	1-3(1-3, 0-0, 2-6)

Course Description

PE 511 Curriculum Development in Physical Education 2(2-0-4)

Foundations of Philosophy, psychology, sociology and relative factors of curriculum development ; principles and process to develop physical education curriculum for elementary and secondary schools.

PE 512 Supervision in Physical Education 2(2-0-4)

A study of functions and responsibilities of physical education supervision in different levels of educational institutes. Principles and methods of physical education supervision, meeting procedures, evaluation of teaching activities, curriculum designing and lesson planning are presented and discussed. In addition, the problem of physical education supervision in the educational institutes are also highlighted.

PE 513 Seminar in Physical Education 2(2-0-4)

A course of study that aims to familiarize the students with the present situation and status of the physical education profession, as well as with its future tendency. In addition, the students will become aware of the problems of the physical education instruction organization and administration of physical education programs, as well as the problems of the same in organizing and operating athletic competition. Research works and the progress in each and all aspects of physical education will be presented and discussed for the purpose of applying the results obtained in solving each problem.

PE 514 Advanced Tests and Measurement in Physical Education 2(2-0-4)

Analysis of various tests used in physical education, e.g. test of skills, knowledge, attitude and motor capacity ; test classification and test construction to provide experience for the student to apply in practice ; the usage of fundamental statistics for score interpretation.

PE 515 Organization and Administration of Physical Education 2(2-0-4)

A study of concepts, theories and evolution of the administration applying to organization and administration of physical education at various levels ; structures and scopes of government and private agencies whose duty is to direct and promote physical education and sport in the kingdom ; problems relating to the management of personnel, equipment and supply, finance, legislation and public relations.

PE 521 Advanced Physiology of Exercise 3(3-0-6)

Study and experiment on various factors affecting the human body during physical exertion. The student will discuss main experimental results as well as engaging in experiments of sports medicine. Influence of various physical exercises upon body structure and functions.

PE 522 Applied Kinesiology 2(2-0-4)

A study of the application of the principles of anatomy, physiology, and physics to human movements and sports skill.

PE 523 Advanced Sports Coaching 2(2-0-4)

A study of philosophy, characteristics, and roles of a desired athletic coach ; and application of principles and practices of Kinesiology, Physiology of Exercise, Nutrition, Psychology of Sports, the other factors relating to effective training, prevention and rehabilitation of athletic injuries.

PE 524 Physical Therapy 2(2-0-4)

A study of theories and practices of physical therapy, as well as the cooperation of and coordination with the medical professionals for the purpose of obtaining and applying techniques and methods of rehabilitation of several physical deficiencies, such as those of the joints and muscles.

PE 525 Development of Facilities and Equipment in Physical Education 2(2-0-4)

Principles and methods of the development of physical education facilities and equipment such as selection, production, utilization, adaptation, purchasing, maintenance, check out system and others.

PE 526 Advanced Motor Learning 2(2-0-4)

Study of behavior and patterns of motor learning stressing transfer of learning ; retention, forgetting, memory and changes of motor learning by gifted children ; analysis and research in motor learning.

PE 531 Recreation and Society 2(2-0-4)

A study of the philosophies and the history of recreation, the effects of the various factors on the development of recreation, and the roles and the importance of recreation in the current society.

PE 532 Organization and Administration of Community Recreation 2(2-0-4)

A study of problems of the organizing and administering of recreational services sufficient to the need of a community, standards and quality of recreation administration, present methods of evaluation and coordination of recreational service, as well as the organization and administration of a community, authority, school and municipality recreational services.

PE 534 Sports and Society 2(2-0-4)

A study of the relationships between sports and society both in the past and in the future. The relationships between sports and cultures of a society, causes of social reactions against physical competition as well as an understanding of the athletes, reactions to motivations of different societies and cultures, and the influence of sports competition on social activities and development of sports in Thailand are also presented and discussed.

PE 630 Philosophy of Physical Education 2(2-0-4)

Study of relationship between education and physical education philosophies ; influences of physical education philosophy upon modern physical education development ; trends and influences of philosophy on the system of physical education ; essentials of philosophy for physical education teachers, values and ethics of the profession.

PE 632 Comparative Physical Education 2(2-0-4)

Study and comparison of development, philosophy, administration, management of physical education curriculum, sports organizations as predicted by sociology, culture, history and education between other countries and Thailand.

PE 640 Research Seminar in Physical Education 2(2-0-4)

A seminar on the results and the various methods of historical, descriptive, and experimental research in the area of physical education.

PE 650 Independent Study 1-3(1-3, 0-0, 2-6)

Concentrated study of selected areas of physical education and sports under the supervision of the instructor.

Meanings of the Middle Digits of the Code Numbers

- 1 refers to principles of administration ; curriculum and general knowledge
- 2 refers to scientific foundation
- 3 refers to foundation of philosophy ; sociology ; and history
- 4 refers to independent study and research

SCIENCE EDUCATION

The Department of General Science

Objectives

To produce graduates with the following capabilities:

- 1. To be leaders in science teaching and supervision.
- 2. To develop science education.
- 3. To do research and plan science education projects.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Course Requirement

In accordance with the student's qualification

- 1. A student with a bachelor's degree in science education.
 - 2. A student with a bachelor's degree in science.
- 1. A student with a bachelor's degree in science education must take the following education and science courses.

1.1 Education courses minimum 11 credit hours

Required Courses 7 credit hours

TC 511 Theory and Practice in Science Curriculum Development	3(3-0-6)
TC 571 Practicum for Science Teachers	2(1-2-3)
TC 581 Seminar in Problems and in Science Instructional Research	2(2-0-4)

Elective Courses

Select at least 4 credit hours from the following courses.

TC 513 Scientific Creative Thinking Development	2(1-2-3)
TC 521 Science in the Primary schools	3(3-0-6)
TC 531 Science in the Secondary Schools	3(3-0-6)
TC 532 Instructional Development of Science Teachers	2(2-0-4)
TC 533 Individualization in Science Instruction	1(1-0-2)
TC 572 Development of Inquiry Science Process	2(1-2-3)
TC 573 Evaluation Science Instruction	2(1-2-3)
TC 574 Analysis and Invention of Scientific Materials	2(1-2-3)
TC 574 Science Club Organization in Schools	1(0-2-1)
TC 582 Seminar in Problems and Supervision of Science Instruction	2(2-0-4)

1.2 Science Courses minimum 10 credit hours

Required Courses 4 credit hours

SC 591 Problems in Science	2(2-0-4)
SC 592 Philosophy of Science	2(2-0-4)

Elective Courses

Select at least 6 credit hours from the following courses or from the master's degree courses in science with the approval of the department concerned

BI 301 Cell Biology	3(3-0-6)
BI 412 Morphology of Plants	4(3-3-6)

BI 421	Invertebrate zoology	4(3-3-6)
BI 422	Vertebrate zoology	4(3-3-6)
BI 441	Advanced Genetics	3(3-0-6)
BI 451	Plant Physiology	4(3-3-6)
BI 452	Animal Physiology	4(3-3-6)
CH 414	Advanced Inorganic Chemistry	3(3-0-6)
CH 423	Advanced Organic chemistry	3(3-0-6)
CH 531	Advanced Physical Chemistry	3(3-0-6)
PY 501	Mathematical Method of Theoretical Physics I	2(2-0-4)
PY 511	Classical Mechanics I	3(3-0-6)
PY 541	Classical Theory of Electromagnetism I	3(3-0-6)
PY 651	Nuclear Physics	3(3-0-6)
SC 511	Chemical Biology	3(2-3-4)
SC 512	Physical Sciences	3(3-0-6)
SC 531	Electronics	3(2-2-5)
SC 561	Radiation Chemistry	3(3-0-6)
SC 562	Instrumental Methods of Analysis	3(2-3-4)

2. A student with a bachelor's degree in science must take the following education and science courses.

2.1 Education Courses minimum 14 credits hours

Required Courses 7 credit hours

TC 511	Theory and Practicum in Science Curriculum Development	3(3-0-6)
TC 571	Workshop for Science Teachers	2(1-2-3)
TC 581	Seminar on Problems and Research in Teaching Science	2(2-0-4)

Optional Required Courses 2 credit hours

BE 461	Curriculum and Teaching of Biology	2(1-2-3)
CD 461	Curriculum and Teaching of Chemistry	2(1-2-3)

PI 461 Curriculum and Teaching of Physics 2(1-2-3)

ES 461 Curriculum and Teaching of Physical and Biological
Sciences 2(1-2-3)

Elective Courses minimum 5 credit hours

TC 513 Scientific Creative Thinking Development 2(1-2-3)

TC 521 Science in the Primary Schools 3(3-0-6)

TC 531 Science in the Secondary Schools 3(3-0-6)

TC 532 Instructional Development of Science Teachers 2(2-0-4)

TC 533 Individualization in Science Instruction 1(1-0-2)

TC 572 Development of Inquiry Science Process 2(1-2-3)

TC 573 Evaluation of Science Instruction 2(1-2-3)

TC 574 Analysis and Invention of Scientific Materials 2(1-2-3)

TC 575 Science Club Organization in Schools 1(0-2-1)

TC 582 Seminar in Problems and Supervision of Science
Instruction 2(2-0-4)

2.2 Science Courses minimum 7 credit hours

Required Courses 4 credit hours

SC 591 Problems in Science 2(2-0-4)

SC 592 Philosophy of Science 2(2-0-4)

Elective Courses

Select at least 3 credit hours from the master's degree courses in science with the approval of the department concerned

Course Description

BE 461 Curriculum and Teaching of Biology 2(1-2-3)

Curriculum and teaching techniques for M.4-6 biology in secondary schools.

CD 461 Curriculum and Teaching of Chemistry	2(1-2-3)
Curriculum and teaching techniques for M.4-6 chemistry in secondary schools.	
PI 461 Curriculum and Teaching of Physics	2(1-2-3)
A study and analysis of physics curricula and methods of teaching physics in the upper secondary school level.	
ES 461 Curriculum and Teaching of Physical and Biological Sciences	2(1-2-3)
Curriculum and teaching techniques for secondary level physical and biological science classes.	
BI 301 Cell Biology	3(3-0-6)
(See Biology)	
BI 412 Morphology of Plants	4(3-3-6)
(See Biology)	
BI 421 Invertebrate Zoology	4(3-3-6)
(See Biology)	
BI 422 Vertebrate Zoology	4(3-3-6)
(See Biology)	
BI 441 Advanced Genetics	3(3-0-6)
(See Biology)	
BI 451 Plant Physiology	4(3-3-6)
(See Biology)	
BI 452 Animal Physiology	4(3-3-6)
(See Biology)	
CH 414 Advanced Inorganic Chemistry	3(3-0-6)
(See Chemistry)	
CH 423 Advanced Organic Chemistry	3(3-0-6)
(See Chemistry)	

CH 531 Advanced Physical Chemistry	3(3-0-6)
(See Chemistry)	
PY 501 Mathematical Method of Theoretical Physics	3(3-0-6)
(See Physics)	
PY 511 Classical Mechanics I	3(3-0-6)
(See Physics)	
PY 541 Classical Theory of Electromagnetism I	3(3-0-6)
(See Physics)	
PY 651 Nuclear Physics	3(3-0-6)
(See Physics)	
SC 511 Chemical Biology	3(2-3-4)
Unit of life, essential chemicals for life, synthesis of organic compounds and their energy release, genes and their actions, genetic control and transfer life development variations and adaptation of life.	
SC 512 Physical Sciences	3(3-0-6)
Study of electro-chemical cells, thermodynamics and equilibrium mechanisms and principles of chemical compound reactions, nuclear reactions, electron transfer, wave theory and their applications, motion of a body, structure of the universe, solar system, earth crust structure, origin of mineral ores, surveying, dressing and roasting of mineral ores.	
SC 531 Electronics	3(2-2-5)
Theories and practice of electronic circuits as used in experiments and research.	
SC 561 Radiation Chemistry	3(3-0-6)
Fundamentals of nuclear forces and structure, radioactive disintegration and interactions of radiations with matter nuclear reactions and nuclear fission, calculations of radiation dose-rate, radiation protection, applications and danger of radioactivity.	

- SC 562 Instrumental Methods of Analysis** 3(2-3-4)
 Study of fundamentals of electronics, principles and applications of infrared and ultraviolet instruments flamephotometry, polarography, nuclear magnetic resonance, gas chromatography, potentiometric titration and pH meter.
- SC 591 Problems in Science** 2(2-0-4)
 Study of problems in science according to the student's interest by reading, experiment or research, with the consent of the teaching staff.
- SC 592 Philosophy of Science** 2(2-0-4)
 History of Science, nature of science processes of scientific research, scientific reasoning, relating among fact, rule, theory and hypothesis, scientific attitudes, science and development.
- TC 511 Theory and Practice in Science Curriculum Development** 3(3-0-6)
 (See Secondary Education)
- TC 513 Scientific Creative Thinking Development** 2(1-2-3)
 A study and an analysis of creative thinking theory; principles and method in promoting scientific creative thinking activities.
- TC 521 Science in the Primary Schools** 3(3-0-6)
 Curriculum analysis and methodology of teaching Science in the primary schools; training in media construction consisting with the curriculum.
- TC 531 Science in the Secondary Schools** 3(3-0-6)
 (See Secondary Education)
- TC 532 Instructional Development of Science Teachers**
 Science Teachers' competency, instructional problems, competency assessment; trends in science teachers' instructional development.

- TC 533 Individualization in Science Instruction** 1(1-0-2)
 Characteristics of science individualized instruction organization; activity arrangements in response to students' needs, aptitudes, interest, and capability as an individual.
- TC 571 Workshop for Science Teachers** 2(2-0-4)
 (See Secondary Education)
- TC 572 Development of Inquiry Science Process** 2(1-2-3)
 Practicum in science learning-teaching activity arrangement emphasizing inquiry science process, science process skills and scientific attitudes.
- TC 573 Evaluation of Science Instruction** 2(1-2-3)
 An investigation and an analysis of science learning-teaching objectives, classifications and types of test; test construction and application in compatible with learning-teaching objectives; application of statistical methods in test analysis.
- TC 574 Analysis and Invention of Scientific Materials** 2(1-2-3)
 A study and an analysis of substances for scientific learning-teaching materials; principles of designing and quality inspection of learning-teaching materials; fundamental technology of inventing learning-teaching materials from various substances.
- TC 575 Science Club Organization in Schools** 1(0-2-1)
 A study of students' activity arrangement; activity scheme of science club; science club organization in schools; workshops on science club activity organization.
- TC 581 Seminar on Problems and Research in Teaching
 Science** 2(2-0-4)
 (See Secondary Education)

**TC 582 Seminar in Problems and in Supervision of Science
Instruction**

2(2-0-4)

A study and an analysis of principles, processes, and problems in administration and systematic supervision of science instruction; instructional supervision techniques; practicum in planning the systematic supervision of science instruction.

SECONDARY EDUCATION

The Department of Curriculum and Instruction

Objectives

To provide professional preparation that will enable the student to be knowledgeable and capable of teaching and becoming a leader in improving secondary education learning and teaching.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

1. Required Courses 9 credit hours

SD 511 Curriculum and Instructional Development in Secondary Education	3(3-0-6)
SD 541 Advanced Studies in Secondary School Organization and Supervision	2(2-0-4)
SD 561 Adolescent Behavior and Development	2(2-0-4)

SD 581 Seminar on Problems and Research in
Secondary Education 2(2-0-4)

2. Elective Courses

Select 10 credit hours from one teaching group or content group and select at least 2 credit hours from the general group.

Teaching group:

Group 1 Teaching Thai

TT 511 Theory and Practice in Thai Language Arts 3(3-0-6)

TT 531 Thai Language Arts in Secondary Schools 3(3-0-6)

TT 571 Workshop for Teachers of Thai Language Arts 2(2-0-4)

TT 581 Seminar on Problems and Research in Teaching
Thai 2(2-0-4)

Group 2 Teaching Mathematics

TM 511 Theory and Practice in Mathematics Curriculum
Development 3(3-0-6)

TM 531 Mathematics in Secondary School 3(3-0-6)

TM 571 Workshop for Mathematics Teachers 2(2-0-4)

TM 581 Seminar on Problems and Research in Teaching
Mathematics 2(2-0-4)

Group 3 Teaching Science

TC 511 Theory and Practice in Science Curriculum
Development 3(3-0-6)

TC 531 Science in Secondary Schools 3(3-0-6)

TC 571 Workshop for Science Teachers 2(2-0-4)

TC 581 Seminar on Problems and Research in Teaching
Science 2(2-0-4)

Group 4 Teaching Social Studies

TO 511 Theory and Practice in Social Studies Curriculum
Development 3(3-0-6)

TO 521	Theory and Behavior of Social Studies Instruction	3(3-0-6)
TO 522	Techniques of Social Studies Instruction Evaluation	2(2-0-4)
TO 523	Innovation, Technology and Change in Social Studies Instruction	2(2-0-4)
Group 5 Teaching English		
TE 511	Curriculum and Teaching of English Secondary Schools	3(3-0-6)
TE 531	Problems and Techniques in Teaching English	3(3-0-6)
TE 571	Workshop for English Teachers	2(2-0-4)
TE 581	Seminar on Research in Teaching English	2(2-0-4)

Content Group:

Select one group from the content group with the approval of Advisor and Head of Department of that area.

General Group:

SD 551	Principles and Problems in Vocational Education	2(2-0-4)
SD 552	Education and Self - Employment	2(2-0-4)
SD 591	Independent Study	2(2-0-4)
EA 552	Secondary School Administration	2(2-0-4)
GU 533	Guidance in Secondary School	3(3-0-6)
AE 531	Adult Education and Problems of Thai Society	2(2-0-4)
AE 522	Techniques, Resources, and Mass Media in Adult Education	3(3-0-6)
AE 541	Practicum in Adult Education	3(3-0-6)
CE 511	Theory and Practice in Early Childhood Curriculum Development	3(3-0-6)

Course Description

SD 511 Curriculum and Instructional Development in Secondary Education 3(3-0-6)

Studies of philosophical, psychological, and social bases for curriculum development; current practice in secondary education curriculum development and evaluation processes of change in secondary school curriculum and instruction.

SD 541₁ Advanced Studies in Secondary School Organization and Supervision 2(2-0-4)

Organization, administration, and supervision in the secondary school; characteristics and competencies for administrators, and supervisors; personnel management; teaching and learning activities; school business affairs; building and grounds; and public relations.

SD 551 Principles and Problems in Vocational Education 2(2-0-4)

Vocational education in Thailand and in some developed and developing countries; vocational interests of contemporary youth; economic and social problems as factors influencing vocational choice; theories of vocational education and vocational guidance.

SD 552 Education and Self Employment 2(2-0-4)

A study of employment in Thai society; trends in future employment; attitude conducive to self - employment; reading of research on promoting Thai youth's interest in self employment.

SD 561 Adolescent Behavior and Development 2(2-0-4)

Research and theory related to adolescents in the intellectual, physical, social-personal, and emotional areas of development

SD 581 Seminar on Problems and Research in Secondary Education 2(2-0-4)

Studies of problems in secondary school education and application of research in secondary education.

SD 591 Independent Study 2(2-0-4)

Selected problem or issue related to secondary school; study under supervision of the instructor.

TM 511 Theory and Practice in Mathematics Curriculum Development 3(3-0-6)

An analytical study of structure and concepts in mathematics; development of mathematics curriculum; practice in mathematics curriculum evaluation.

TM 531 Mathematics in Secondary Schools 3(3-0-6)

A study of secondary school mathematics; problems in teaching; and trends in mathematics teaching.

TM 571 Workshop for Mathematics Teachers 2(2-0-4)

Practice in the development of competencies in teaching and supervision of mathematics; a critical study of mathematics instructional materials; preparation of instructional materials.

TM 581 Seminar on Problems and Research in Teaching Mathematics 2(2-0-4)

An analytical study of problems and research in teaching mathematics in schools; proposal of projects to solve problems based on research findings and learning theories.

TT 511 Theory and Practice in Thai Language Art Curriculum Development 3(3-0-6)

An analytical study of structures of Thai language arts and curriculum development; practice in Thai language arts curriculum evaluation.

TT 531 Thai Language Arts in Secondary Schools 3(3-0-6)

A study of Thai language arts in secondary schools; problems in teaching and trends in language arts teaching.

TT 571 Workshop for Teachers of Thai Language Arts 2(2-0-4)

Practice in the development of competencies in teaching and supervision of Thai language arts; a critical study of instructional materials; preparation of instructional materials.

TT 581 Seminar on Problems and Research in Teaching Thai 2(2-0-4)

An analytical study of problems and research in teaching Thai language arts; proposal of projects to solve problems based on research findings and learning theories.

TC 511 Theory and Practice in Science Curriculum

Development

3(3-0-6)

An analytical study of structure and concepts in science; current practices in science curriculum development; practice in science curriculum development and evaluation.

TC 531 Science in Secondary Schools

3(3-0-6)

A study of secondary school science; problems in teaching; and trends in teaching science.

TC 571 Workshop for Science Teachers

2(2-0-4)

Practice in the development of competencies in teaching and supervision of school science; a critical study of instructional materials, preparation of instructional materials.

TC 581 Seminar on Problems and Research in Teaching

Science

2(2-0-4)

An analytical study of problems and research in teaching science in schools; proposal of projects to solve problems based on research findings and learning theories.

TO 511 Theory and Practice in Social Studies Curriculum

Development

3(3-0-6)

An analytical study of structure, concepts, principles, theories, and development of social studies curriculum in general and in Thai schools; practice in social studies curriculum development, and instructional material design.

TO 521 Theory and Behavior of Social Studies Instruction 3(3-0-6)

An analytical study of trends in teaching social studies, learning behavior, methods of teaching social studies; practice teaching and evaluating social studies in schools.

TO 522 Techniques of Social Studies Instruction Evaluation 2(2-0-4)

An analytical study of concepts and principles of social studies instruction evaluation, instruments, and test designs, their reliability and validity.

TO 523 Innovation, Technology, and Change in Social Studies

Instruction

2(2-0-4)

An analytical study of trends in social studies instruction based on economic, social, political, psychological, cultural data or research findings, and national security policies; an innovative and applicable proposal with technology for changes in social studies instructional development.

TE 511 Curriculum and Teaching of English in Secondary

Schools

3(3-0-6)

Studies of curriculum, textbooks, supplementary books and methods of teaching English in secondary schools; trends in teaching English as a foreign language.

TE 531 Problems and Techniques in Teaching English 3(3-0-6)

Studies of problems of teaching English in schools; techniques in solving problems and improving English teaching.

TE 571 Workshop for English Teachers	2(2-0-4)
Practice in the development of competencies in teaching and supervising English teaching.	
TE 581 Seminar on Research in Teaching English	2(2-0-4)
Studies of research findings on teaching English as a foreign language with a view to applying these in the improvement of teaching English in schools.	
GU 533 Guidance in Secondary School	3(3-0-6)
(See Guidance and Counseling Psychology)	
EA 552 Secondary School Administration	2(2-0-4)
(See Educational Administration)	
AE 531 Adult Education and Problems of Thai Society	2(2-0-4)
(See Adult Education)	
AE 522 Resources and Mass Media in Adult Education	3(3-0-6)
(See Adult Education)	
AE 541 Practicum in Adult Education	3(3-0-6)
(See Adult Education)	
CE 511 Theory and Practice in Early Childhood Curriculum Development	3(3-0-6)
(See Early Childhood Education)	

SOCIAL PSYCHOLOGY

The Department of Psychology

Objectives

To prepare scholars in social psychology who are able to teach and research either for professional growth or for a decisive resolution of educational and social problems relating to the field.

Courses for the Major

A minimum of 21 credit hours are required from the following courses.

Required Courses 18 credit hours

PG 501 General Psychology	3(3-0-6)
PG 511 Introduction to Social Psychology	3(3-0-6)
PG 513 Advanced Social Psychology	3(3-0-6)
PG 514 Psychology of Attitudes	3(3-0-6)
PG 517 Group Psychology	2(2-0-4)
PG 617 Seminar in Social Psychology	2(2-0-4)
EM 521 Statistical Designs of Experiments	2(2-0-4)

Elective Courses

Select at least 3 credit hours from the following courses.

PG 515 Organizational Behavior	3(3-0-6)
PG 516 Conflict and Conflict Resolution	3(3-0-6)
PG 518 Research Methods in Social Psychology	3(3-0-6)
PG 519 Psycho-Social Development	3(3-0-6)
PG 521 Developmental Psychology	3(3-0-6)
PG 553 Psychology of Learning	3(3-0-6)

PG 554 Motivation	3(3-0-6)
PG 555 Sensory Psychology	3(3-0-6)
PG 556 Psychology of Perception	3(3-0-6)
PG 557 The Emotion	3(3-0-6)
PG 602 Comparative Psychology	3(3-0-6)
PG 611 Social Psychology in Industry	3(3-0-6)
PG 613 Control of Human Behavior	3(3-0-6)
PG 615 Social Psychology in Mental Health	3(3-0-6)
PG 616 Seminar in Social Problems	3(3-0-6)
PG 633 Theories of Personality	3(3-0-6)
PG 635 Psychology of Deviant Behavior	3(3-0-6)
PG 673 Seminar on Contribution of Buddhism to Value System	3(3-0-6)
PG 677 Psychology of Exceptional Children	3(3-0-6)
PG 680 Sensitivity Training	3(3-0-6)
PG 691 Independent Study	3(3-0-6)
EM 522 Factor Analysis	3(3-0-6)

Course Description

PG 501 General Psychology 3(3-0-6)
(See Developmental Psychology)

PG 511 Introduction to Social Psychology 3(3-0-6)
Brief reference to historical origin and development of social psychology ; relationship of philosophical and sociological thinking ; introduction to major divisions in social psychology : socialization, motivation, interpersonal perception and influence, attitude, language, and communication, leadership, group structure and behavior etc ; presentation of concepts, theories and classical experiments.

PG 513 Advanced Social Psychology 3(3-0-6)

Intensive considerations of selected topics not being covered in other advanced courses in social psychology ; emphasis on newly developed areas of social psychology such as social facilitation, bystander intervention, imitation, conformity, altruism, aggression, etc.

PG 514 Psychology of Attitudes 3(3-0-6)

A detailed consideration of the topic of attitude formation and change, and attitude measurements, emphasizing theories and their related experimental findings : analysis of factors related to the effectiveness of communication and persuasion in the light of experimental evidence ; various strategies and techniques of persuasion.

PG 515 Organizational Behavior 3(3-0-6)

A study of principles of organizational behavior ; their application to higher education administration in Thailand based on behavioral science and/or other related scientific approaches.

PG 516 Conflict and Conflict Resolution 3(3-0-6)

(See Developmental Psychology)

PG 517 Group Psychology 2(2-0-4)

Discussion of group's characteristics such as group composition, communication network, group size, seating arrangement, task and leadership, etc.; a review of mutual influences between group characteristics and the products of group interaction such as group atmosphere, group productivity and effectiveness of the leaders; early and current theories of group considered together with the methods of studying behavior in groups.

PG 518 Research Methods in Social Psychology 3(3-0-6)

One hour lecture and two two-hour laboratory periods per week. A lecture-and-laboratory course dealing with methods of studying behavior in the social context ; topics including social perception, interaction

in small groups, communication and attitude change ; techniques involved in laboratory experimentation, field experimentation, and attitude scale construction, training in writing experimental reports ; practical experiences acquired through individual and group projects.

PG 519 Psycho-Social Development 3(3-0-6)

(See Developmental Psychology)

PG 521 Developmental Psychology 3(3-0-6)

(See Developmental Psychology)

PG 553 Psychology of Learning 3(3-0-6)

Examination and discussion of current research, and of theoretical and experimental problems in the area of learning and behavior modification; reinforcement, extinction, motivation, generalization, discrimination, retention and forgetting.

PG 554 Motivation 3(3-0-6)

(See Developmental Psychology)

PG 555 Sensory Psychology 3(3-0-6)

(See Developmental Psychology)

PG 556 Psychology of Perception 3(3-0-6)

(See Developmental Psychology)

PG 557 The Emotion 3(3-0-6)

(See Developmental Psychology)

PG 602 Comparative Psychology 3(3-0-6)

(See Developmental Psychology)

PG 611 Social Psychology in Industry 3(3-0-6)

Application of psychological principles and research methodology to human problems in industry including personnel selection and appraisal, motivation and work leadership, and human performance.

- PG 613 Control of Human Behavior** 3(3-0-6)
 Emphasis on research on the effectiveness of methods such as psychotherapy, programmed learning, brainwashing, teaching, and propaganda procedures ; discussion in ethical and moral issues related to the control of human behavior.
- PG 615 Social Psychology in Mental Health** 3(3-0-6)
 An application of concepts, theories, and research findings in social psychology to the problems of social adjustment and the prevention of inadequate adjustment, the interplay of social pressures and individual personality producing situational stress and the need to conform.
- PG 616 Seminar in Social Problems** 3(3-0-6)
 Critical discussions of current social problems applying recent research study and theories as guidelines to solve these problems.
- PG 617 Seminar in Social Psychology** 2(2-0-4)
 Systematic study of current topics in the field of social psychology ; critical review of recent research and theory concerning selected social psychology problems.
- PG 633 Theories of Personality** 3(3-0-6)
 (See Developmental Psychology)
- PG 635 Psychology of Deviant Behavior** 3(3-0-6)
 (See Developmental Psychology)
- PG 673 Seminar on Contributions of Buddhism to Value Systems** 3(3-0-6)
 (See Developmental Psychology)
- PG 677 Psychology of Exceptional Children** 3(3-0-6)
 (See Developmental Psychology)
- PG 680 Sensitivity Training** 3(3-0-6)
 (See Developmental Psychology)

PG 691 Independent Study	3(3-0-6)
(See Developmental Psychology)	
EM 521 Statistical Designs of Experiments	2(2-0-4)
(See Educational Measurement)	
EM 522 Factor Analysis	3(3-0-6)
(See Educational Measurement)	

Meanings of the Middle Digits of the Code Numbers

- O refers to behavioral science
- 1 refers to social psychology
- 2 refers to developmental psychology
- 3 refers to personality psychology
- 4 refers to quantitative psychology
- 5 refers to experimental psychology
- 6 refers to physiological psychology
- 7 refers to educational psychology
- 8 refers to applied psychology
- 9 refers to independent study

Teaching Method

SE 531 Methods of Speech Teaching	2(2-1-3)
SE 532 Methods of Language Teaching	2(2-0-4)

Elective Courses

Select at least 5 credit hours from the following courses.

SE 503 Parent Guidance	2(2-0-4)
SE 504 Education for Exceptional Children	2(2-0-4)
SE 505 Planning and Administration of Special Education Programs	2(2-0-4)
SE 506 Seminar in Special Education	2(2-0-4)
SE 507 Independent Study	1-3(1-3,0-0,2-6)
SE 514 Speech Correction	2(2-0-4)
SE 515 Language Disorders	2(2-0-4)
SE 516 Stuttering	2(2-0-4)
SE 517 Auditory Disorders	3(3-0-6)
SE 518 Diagnosis of Speech Disorders	3(3-0-6)
SE 524 Vocational and Social Rehabilitation	2(2-0-4)
SE 533 Methods of School Subject Teaching	2(2-0-4)
SE 534 Introduction to Sign Language	2(2-0-4)
SP 621 Speech Therapy in School	3(3-0-6)

Course Description

SE 501 Psycho-Social Aspects of the Hearing Impaired 2(2-0-4)

The effects of psycho-social aspects on communication disorders; psychological and social characteristics of the hearing impaired; emotional and personal adjustment; role of the hearing impaired in family, community; marriage and family establishment.

SE 502 Language Development and Hearing Impairment 2(2-0-4)

Development of speech and language in children; etiology of speech and language development of normal and abnormal hearing; early education for the young hearing-impaired child; measurement of language ability.

SE 503 Parent Guidance 2(2-0-4)

Ways of helping parents adopt positive attitudes toward children; information on speech and hearing problems for parents; home speech training; preparation of home audio-visual aids for speech training; the use and care of hearing aids; some ear diseases and speech organs; possible expectations on the part of the parents toward the hearing impaired.

SE 504 Education of Exceptional Children 2(2-0-4)

Introduction to educational programs for handicapped children in and outside Thailand; criteria for determining exceptional children; psychological aspects of exceptional children; teachers and administrators working with exceptional children.

SE 505 Planning and Administration of Education of Exceptional Children 2(2-0-4)

Organization and administrative aspects of special education programs; legal, financial aspects of special education; program planning; administering special service; improvement of instruction.

SE 506 Seminar in Special Education 2(2-0-4)

A study of special education problems and issues in Thailand; appraisal of current problems, trends and practices in the education of the exceptional; welfares for the handicapped.

SE 507 Independent Study 1-3(1-3,0-0,2-6)

An intensive independent study in a specific area under supervision.

SE 511 Principles of Audiology 2(1-3-2)

Physics of sound; anatomy and physiology of hearing organs; disorders of hearing; classification of hearing loss; audiological and otological advice; principle of hearing measurements (both in theoretical and practical work) and hearing conservation.

SE 512 Bases of Oral Communication and Communication Disorders 2(1-3-2)

The production and perception of speech; anatomy and physiology of the body related to the process of speech and hearing; introduction to speech disorder : types, causes and effects; basic principles for diagnosis and therapy.

SE 513 Phonetics and Phonology 2(1-3-2)

Introduction to articulatory phonetics and to the International Phonetic Alphabets; articulatory descriptions of the Thai speech sounds; articulatory features of Thai and their applications in speech training : introduction to basic concepts in phonology; phonological patterns of Thai; deviant phonology; linguistics.

SE 514 Speech Correction 2(2-0-4)

A study of various types of speech disorders, causes, diagnosis, history including speech testing and observation; theoretical and research literature relating to speech correction methodologies.

SE 515 Language Disorders 2(2-0-4)

A study of causes, diagnosis, and treatment of speech and language disorders resulting from mental retardation, emotional disturbance, learning disabilities, cerebral palsy; rehabilitation for children with such problems.

SE 516 Stuttering 2(2-0-4)

A study of theoretical and research literature concerning the causes, diagnosis, and treatments of stuttering; analysis of clinical procedures

in stuttering therapy.

SE 517 Auditory Disorders 3(3-0-6)

A consideration of various types of language disorders in children, symptomatology and differential diagnosis between children who are aphasic, have hearing loss, are emotionally disturbed and are mentally retarded.

SE 518 Diagnosis of Speech Disorders 3(3-0-6)

Procedures in the diagnosis of speech disorders including speech history, observation, and testing; diagnosis strategies; application of methodologies in the treatment of speech and auditory disorders.

SE 521 Aural/Oral Rehabilitation 2(2-0-4)

Principles of auditory training programs; hearing aids; selection and care of hearing aids; the use of hearing equipment for auditory training; speech and hearing conservation.

SE 522 Practicum 1 1(0-3-0)

Group and individual work in speech clinic for not less than 45 hours.

SE 523 Practicum 2 2(0-6-0)

Group and individual practice teaching to hearing impaired children for not less than 90 hours.

SE 524 Vocational and Social Rehabilitation 2(2-0-4)

Principles and methods of vocational guidance; prevocational preparation; vocational training and selective job placement of the hearing impaired to enable them to secure and retain suitable employment; principles of social rehabilitation and social environment including the legislation concerning the disabled, especially the hearing impaired.

SE 531 Methods of Speech Teaching 2(2-1-3)

Principles of speech teaching; speech reading (lips reading) techniques; analytic and synthetic methods of speech teaching; rhythm control;

proper voice production; speech correction and speech conservation.

SE 532 Methods of Language Teaching 2(2-0-4)

Principles of language teaching; promotion of language learning; construction and utilization of teaching aids and teaching materials; issues and trends in language teaching.

SE 533 Methods of School Subject Teaching 2(2-0-4)

General principles of teaching techniques for the hearing-impaired children in primary schools; methods of teaching school subjects such as, arts, music, physical education, social sciences, etc.; classroom arrangement and utilization of teaching aids for such subjects.

SE 534 Introduction of Sign Language 2(2-0-4)

History of sign language ; principles of sign language; linguistics of sign language; sign language in classroom teaching; sign language for interpreters; practicum in Thai sign language.

SP 621 Speech Therapy in School 3(3-0-6)

Speech problems commonly found in schools; roles of the teacher to the children with speech problems; co-operation between teachers and parents, including speech therapists, psychologists, doctors, and others concerned; preparation and organization of school speech therapy program; methods and techniques for screening, evaluation and treatment in an individual with speech problems; emphasis on practicum.

Meanings of the Middle Digits of the Code Numbers

0 refers to psychology and education

1 refers to hearing and speech

2 refers to rehabilitation

3 refers to methods of teaching

THAI

The Department of Thai and Oriental Languages

Objectives

To provide professional preparation that will make the student knowledgeable and skillful in Thai, capable of teaching Thai efficiently, and able to fill leadership role in improving learning and teaching Thai.

Courses for the Major

A minimum of 21 credit hours are required from the following courses:

TH 511	Thai Structure	2(2-0-4)
TH 512	Loan Words in Thai	2(2-0-4)
TH 513	Applied Linguistics	2(2-0-4)
TH 514	Interpretative Reading	2(2-0-4)
TH 521	Literary Works in King Narai's and King Boromkod's Periods	2(2-0-4)
TH 522	Literary Works in the Early Ratanakosin Period	2(2-0-4)
TH 523	Literary Works between 2411 - 2475 B.E.	2(2-0-4)
TH 524	Contemporary Literature	2(2-0-4)
TH 611	Prose and Poetry Writing	3(3-0-6)
TH 612	Seminar in Thai Usage	3(3-0-6)
TH 621	Thai Folklore as Related to the Thai Language and Literature	2(2-0-4)
TH 622	Seminar in Trends of Research Activities in Thai Language and Literature	3(3-0-6)

Course Description

- TH 511 Thai Structure** 2(2-0-4)
Studies in Thai Phonology and Thai Syntax.
- TH 512 Loan Words in Thai** 2(2-0-4)
A study of loan words in Thai and their past and present influence upon the Thai Language.
- TH 513 Applied Linguistics** 2(2-0-4)
Pre-requisite : TH 511
A review of current linguistic theories and their implication and application on language learning and teaching.
- TH 514 Interpretative Reading** 2(2-0-4)
A practice in interpretative reading from selected texts to enable students to differentiate facts from opinions in those texts.
- TH 521 Literary Works in King Narai and King Boromkod's** 2(2-0-4)
A study,of the lives and important works of the poets of these periods, e.g. King Boromkod, Phra-Maharajkru, Sripraj, Phra-Srimahosod and Prince Dhamathibet.
- TH 611 Prose and Poetry Writing** 3(3-0-6)
The improving of writing skills in various forms of prose and certain types of poetry, according to individual aptitude and interest, the course also including criticism of the works.
- TH 612 Seminar in Thai Usage** 3(3-0-6)
A study of usage and language problems occurring in society; the solving of such problems based on linguistics and the language arts.

**TH 621 Thai Folklore as Related to the Thai Language
and Literature**

2(2-0-4)

An analysis of the value of folklore, e.g. folktales, proverbs, riddles etc. with an emphasis on the significance and relationship of folklore to language and literature.

**TH 622 Seminar in Trends of Research Activities in Thai
Language and Literature**

3(3-0-6)

A study of the methods and research works of important experts in Thai language and literature as examples for further practice in research.

Meanings of the Middle Digits of the Code Numbers

1 refers to language and linguistics

2 refers to literature

MASTER'S DEGREE PROGRAM IN THAI STUDIES

M.A. (Thai Studies)

The Department of Thai and Oriental Languages

Objectives

1. To produce graduates specializing in the conditions and problems particular to the area so that they are qualified to solve the problems concerning social values, economy, health and administration, and also to collaborate in the development of the area concerned.

2. To promote and lay a corner-stone of the teaching of Thai Studies.

3. To promote studies and gather research in Thai Studies and to foster the study of this field in depth and according to its own methodology.

4. To promote specialists in producing materials appropriate to the actual conditions of the area.

5. To conserve and to develop the desirable traits of heritage in accordance with the national resources and culture so that they can be best utilized.

Curriculum Structure

- | | | |
|-----------------------|---------------|-----------------|
| 1. Foundation courses | not less than | 12 credit hours |
| 2. Majors | not less than | 20 credit hours |
| 3. Free electives | not less than | 2 credit hours |
| 4. Thesis | | 6 credit hours |

The total number of credits earned in the program must not be less than 40.

Foundation courses for the major

Select a minimum of 12 credit hours from the following courses :

- | | |
|--|----------|
| TS 501 Nature and Method of Thai Studies | 2(2-0-4) |
| TS 502 Thai Regional Worldviews | 2(2-0-4) |
| TS 503 Process of Communication | 3(3-0-6) |
| RS 521 Research Methods in Behavioral and Social Sciences | 3(3-0-6) |
| ST 511 Statistical Methods for Research | 3(3-0-6) |
| SO 251 Cultural Anthropology | 3(3-0-6) |

Courses for the Major

Select a minimum of 20 credit hours from the following groups with an emphasis on either group I or II. The minimum requirement of the group emphasized is not less than 16 credit hours.

Group I (with an emphasis on Humanities)

TS 511	Cultural Sources of the Thai Language	2(2-0-4)
TS 512	Art of Local Composition of Prose and Poetry	3(3-0-6)
TS 513	Analysis of Thai Dialects	2(2-0-4)
TS 514	Stone and Parchment Inscriptions	2(2-0-4)
TS 515	Analysis of Local Literary Works	2(2-0-4)
TS 516	Thai Local Arts and Culture	2(2-0-4)
TS 517	Folk Music	2(2-0-4)
TS 611	Languages of Minority Groups I	2(2-0-4)
TS 612	Languages of Minority Groups II	2(2-0-4)
TS 613	Folk Drama I	2(2-0-4)
TS 614	Folk Drama II	2(2-0-4)
TS 615	Oral Traditions	3(3-0-6)
TS 616	Seminar on Thai Studies I	2(2-0-4)
TS 617	Seminar on Thai Studies II	2(2-0-4)

Group II (with an emphasis on Social Sciences)

PG 511	Introduction to Social Psychology	3(3-0-6)
TS 521	Regional Economic Geography	2(2-0-4)
TS 522	Regional History of Civilization	2(2-0-4)
TS 523	Vocations in Regional Thailand	3(3-0-6)
TS 524	Economic and Resources Development Planning in Regional Areas	3(3-0-6)

TS 525	Minority Groups in Regional Thailand	2(2-0-4)
TS 526	Religions, Beliefs and Superstitions in Regional Thailand	3(3-0-6)
TS 621	Ecology in Regional Areas	2(2-0-4)
TS 622	Conservation of Natural Resources in Regional Thailand	2(2-0-4)
TS 623	Community Development in Regional Thailand	3(3-0-6)
TS 624	Seminar on Thai Studies I	2(2-0-4)
TS 625	Seminar on Thai Studies II	2(2-0-4)

Elective Courses

Select a minimum of 2 credit hours from the following :

TS 504	Advanced Anthropology	2(2-0-4)
TS 518	Archaeology and History of Arts	3(3-0-6)
TS 527	Administration and Community Services in Thailand	3(3-0-6)
TS 618	The Management of the Library and Museum of Thai Studies	2(2-0-4)
TS 626	Seminar on the Criminal Problems in Regional Thailand	2(2-0-4)
TS 627	Seminar on The Problems of Public Health in Regional Thailand	2(2-0-4)
TS 631	Independent Studies	3(3-0-6)

Course Description

1. Foundation courses

TS 501 Nature and Method of Thai Studies 2(2-0-4)

Nature and methods in national/regional studies in other countries; aims and objectives in the study of Thai Studies; scope and trends in the study of Thai Studies; selection and procurement of resource persons in support of Thai Studies.

TS 502 Thai Regional Worldviews 2(2-0-4)

Basic values of societies in regional areas; worldviews to human conditions, sexes, vocations, and societies, worldviews to nature and super-natural phenomena; religious beliefs, including those related to traditions and culture; worldviews as a part in possible solutions of problems and social, economic, and administration development.

TS 503 Process of Communication 3(3-0-6)

The study of processes and tools of communication suitable for the conditions of the regional community, both in theory and practice.

RS 521 Research Methods in Behavioral and Social Sciences 3(3-0-6)

(See page 32)

ST 511 Statistical Methods for Research 3(3-0-6)

(See page 32)

SO 251 Cultural Anthropology 3(3-0-6)

Origins and development of human culture; ideas concerning culture; race differences and problems, and culture conflicts; culture changes.

Major Courses

Group I (Emphasis on Humanities)

TS 511 Cultural Sources of the Thai Language 2(2-0-4)

The study of different aspects of the Thai language that reflects the uniqueness of Thai society; social registers of language; the different cultures of various periods, ages, and regions as reflected in Thai language.

TS 512 Art of Local Composition of Prose and Poetry 3(3-0-6)

The study of prose and prosody in each kind and form to acquire skills; choices of compositions; compositions as a tool in education and development.

TS 513 Analysis of Thai Dialects 2(2-0-4)

The study of the development of the Thai language and dialects, analysis of dialects, in phonemes, morphemes, sound shifts and meaning shifts; analysis of problems and their solutions concerning dialects; the importance of dialects in everyday life.

TS 514 Stone and Parchment Inscriptions 2(2-0-4)

The study of types of inscriptions used on stones and parchment relating stories of Thai regional areas.

TS 515 Analysis of Local Literary Works 2(2-0-4)

Analysis of characteristics of local literary works to find uniqueness, values, and influences upon the society; analysis of methods and contents for application in promotion, development, collection, and methods in preservation of local literary works.

TS 516 Thai Local Arts and Culture 2(2-0-4)

General studies of arts and culture, with the emphasis on Thai local arts and culture in regards to significance, the unique features of these various works, their preservation, promotion, and application.

- TS 517 Folk Music** 2(2-0-4)
Introduction to music and folk music, and folk songs and their values in local areas, including their influences upon traditions, cultures, promotion and preservation of folk music and folk songs.
- TS 611 Languages of Minority Groups I** 2(2-0-4)
A study of languages of minority groups in particular local areas, especially in listening and speaking according to appointed items, so as to be able to communicate with owners of those languages.
- TS 612 Languages of Minority Groups II** 2(2-0-4)
A continuation of TS 611, a further study of languages of minority groups in particular areas, so as to be able to communicate with owners of those languages.
- TS 613 Folk Drama I** 2(2-0-4)
A study of particularly outstanding folk pertaining to that local area; to study particular form and traditions of that kind of drama, including its influence upon the community; its application for better public relations and various aspects of community development.
- TS 614 Folk Drama II** 2(2-0-4)
A further study of particularly outstanding folk drama, as a continuation of TS 613; or a study of other kinds of folk drama, following guidelines of TS 613.
- TS 615 Oral Traditions** 3(3-0-6)
Generalities on oral traditions, with stress on that particular region; comparison to those of other regions; collection, analysis of data, and application of those data.
- TS 616 Seminar on Thai Studies I** 2(2-0-4)
Studying that Studies as assigned topics in terms of Humanities from various seminars in each semester. Focus is on a covering of all concepts of Humanities.

TS 617 Seminar on Thai Studies II 2(2-0-4)

Studying Thai Studies in terms of Humanities by having students analyze intensively some elements of Humanities.

Group II (Emphasis on Social Sciences)

PG 511 Introduction to Social Psychology 3(3-0-6)

Brief reference to historical origin and development of social psychology; relationship of philosophical and sociological thinking; introduction to major divisions, in social psychology; socialization, motivation, interpersonal perception and influence, attitude, language and communication, leadership, group structure and behavior, etc.; presentation of concepts, theories and classical experiments.

TS 521 Regional Economic Geography 2(2-0-4)

The structure and the physical features of Thailand that affect aspects of economics and population, including the various problems especially of that particular region.

TS 522 Regional History of Civilization 2(2-0-4)

The study of various civilizations in regional Thailand from pre-historic age up to the present.

TS 523 Vocations in Regional Thailand 3(3-0-6)

The study of job performance and investigation of greater job efficiency.

**TS 524 Economic and Resources Development Planning in
Regional Areas** 3(3-0-6)

The study of various factors for the development and expansion of the economy; various models to be applied in regional; Thailand present obstacles and possible solutions.

TS 525 Minority Groups in Regional Thailand 2(2-0-4)

The study of the important problems of minority groups in regional Thailand problems encountered in the promotion and development of minority groups.

TS 526 Religions, Beliefs, and Superstitions in Regional Thailand 3(3-0-6)

The study of the origins and essential aspects of religions in the region, including those various beliefs and superstitions to understand important religious terms, including the customs and culture derived from the principles of these religion and other beliefs and superstitions.

TS 621 Ecology in Regional areas 2(2-0-4)

The study of the relationship between life and environment; and the application of ecological theory to regional Thailand.

TS 622 Conservation of Natural Resources in Regional Thailand 2(2-0-4)

The study of various types of natural resources in local Thailand; current exploration endeavours for additional natural resources; and methods of conserving natural resources of the region.

TS 623 Community Development in Regional Thailand 3(3-0-6)

The study of the nature, scope, and importance of community development; including the procedures and problems involved with community development in regional Thailand.

TS 624 Seminar on Thai Studies I 2(2-0-4)

Studying Thai studies as assigned topics in terms of Social Sciences from various seminar in each semester. Focus is on a covering of all concepts of social sciences.

TS 625 Seminar on Thai Studies 2 2(2-0-4)

Studying Thai studies in terms of Social Sciences by having students analyze intensively some element of Social Sciences.

Electives

TS 504 Advanced Anthropology 2(2-0-4)

Theories of physical and cultural anthropology; history of anthropology;

works of anthropologists, including field works; sociological concept of culture; races, culture change, race classification; human dimensions and characteristics; social structure; anthropology in Thailand; anthropology and national development.

TS 518 Archaeology and History of Arts 3(3-0-6)

Studying archaeology and history of local arts and compare archaeology and history of local arts in its relative parts, studying the law relate to ancient arts and ancient artifacts; practice the field works.

TS 527 Administration and Community Services in Regional Thailand 3(3-0-6)

The study of the authority and responsibilities of administrators in various government branches in the region; including the organization of community service, the study of customs, culture, and religion of the region relevant to administration and service.

TS 618 The Management of the Library and Museum of Thai Studies 2(2-0-4)

The system of selection and classification of books and materials; and operating procedures of library and museum, both in theory and in practice.

TS 626 Seminar on the Criminal Problems in Regional Thailand 2(2-0-4)

The study of the origin of various types of crime, including statistics, causes, and factors of crime in regional Thailand.

TS 627 Seminar on the Problems of Public Health in Regional Thailand 2(2-0-4)

The study of the problems involved with public health in the areas of general health, nutrition, hygiene; and methods of prevention and treatment.

TS 631 Independent Study

3(3-0-6)

Students work individually on topics of their interests in the field of Thai Studies under the direction of the University.

**MASTER'S DEGREE PROGRAM IN LIBRARY AND
INFORMATION SCIENCE**

M.A. (Library and Information Science)

The Department of Library Science

Objectives

1. To create leadership in the field of Library and Information Science.
2. To create expertise in developing techniques in the field of Library and Information Science.

Structure of the Program

Requirements

1. Required Courses	19 credit hours
2. Major Electives	10 credit hours
3. Free Electives	5 credit hours
4. Thesis	6 credit hours
Total	40 credit hours

Foundation Courses

Those who have no background in library science are required to take the following courses:

LS 311 Selection and Aquisition of Library
Materials

2(2-0-4)

LS 321 Introduction to Reference Services	2(2-0-4)
LS 431 Organization and Management of Library	2(2-0-4)
LS 511 Bibliographic Organization and Control I	3(3-0-6)

However LS 511 may be required in some cases depending on the Department decision.

Required Courses

RS 521 Research Methods in Behavioral and Social Sciences	3(3-0-6)
LS 507 Ethics in Librarianship	2(2-0-4)
LS 513 Information Analysis and Classification	3(3-0-6)
LS 538 Advanced Administration of Library and Information Center	3(3-0-6)
LS 561 Introduction to Data Processing in Information Services	3(3-0-6)
LS 611 Introduction to Information Science	3(3-0-6)
LS 631 Seminar in Library and Information Science	2(2-0-4)

Major Electives 10 credit hours from the following courses:

ST 511 Statistical Methods for Research	3(3-0-6)
LS 501 Knowledge and Knowledge Utilization	2(2-0-4)
LS 503 Communication Skills in the Library and Information Science	2(2-0-4)
LS 504 Applied Psychology for Librarians	2(2-0-4)
LS 514 Research Methods in Library and Information Science	2(2-0-4)
LS 516 Library of Congress Classification Systems	2(2-0-4)
LS 536 Rare Books Information Service	3(3-0-6)
LS 537 Resources Preservation and Consumption	2(2-0-4)
LS 543 Information Resources in Agricultural Science	3(3-0-6)

- LS 544** Information Resources in Medical Science 3(3-0-6)
LS 545 Information Resources in Business 3(3-0-6)
LS 546 Information Resources in Law 3(3-0-6)
LS 601 Research Seminar 2(2-0-4)
LS 612 Information Retrieval Techniques 3(3-0-6)
LS 632 Systems Analysis of Library Activities 3(3-0-6)
LS 636 Government Publications 3(3-0-6)
LS 637 Independent Study 3(3-0-6)
LS 638 Library and Information Center Building 3(3-0-6)
LS 648 Thailand 3(3-0-6)
LS 649 Asiaana 3(3-0-6)
LS 650 Practicum in Library and Information Center 3(0-6-6)
LS 661 Data Structure and File Organization 3(3-0-6)
LS 662 Data Base Management System 3(3-0-6)
LS 663 Computer Programming in Information Work 3(3-0-6)
LS 664 Developing Computerized Circulation Control System 3(3-0-6)
LS 665 Application of Commercial DBMS Packages in Library Services 3(3-0-6)
LS 666 Developing Computerized Cataloging System 3(3-0-6)
LS 667 Searching Techniques of On-line Commercial Data Bases 3(3-0-6)
LS 668 Computerized Integrated Systems for Library Management 3(3-0-6)
LS 669 Library Application of Microcomputers 3(3-0-6)
LS 672 Advanced Information Retrieval Techniques 3(3-0-6)
LS 673 Quantitative Methods 2(2-0-4)
LS 674 Information Techniques and Services for Community 3(3-0-6)

LS 675 "Electronics Information Transfers" 3(3-0-6)

Free Electives 5 credit hours

Course Description

RS 521 Research Methods in Behavioral and Social Sciences 3(3-0-6)

(See page 32)

LS 507 Ethics in Librarianship 2(2-0-4)

A study of ideas, meanings of ethics, and philosophies of librarianship. Selection of ethical principles appropriate for librarianship.

LS 513 Information Analysis and Classification 3(3-0-6)

(Prerequisite LS 511)

Study of importance and forms of information. Analysis of Classification systems used in information storage and retrieval. Comprehensive analysis of bibliographical information of special materials such as rare books, reports of the organization, etc. Application of uniformed titles. Study of shared cataloguing centers, thesaurus system and other systems of the same nature. Organization and management of the cataloguing department.

LS 538 Advanced Administration of Library and Information Center 3(3-0-6)

Theories of management and organization, personnel administration, public relations, budget and finance administration are discussed. Principles and organization of library and information center, survey and analysis of libraries and information centers administration and trends in library and information center administration are also included.

- LS 561 Introduction to Data Processing in Information Services** 3(3-0-6)
 Study of computer's general concepts which include computer system and its peripherals, processing system, data, data processing, processing procedures, programming languages, relation between application programs and operating systems, and study of sample programs designed for the information services.
- LS 611 Introduction to Information Science** 3(3-0-6)
 Survey of history and development of information science, its methods, major ideas and principles pertaining to information science areas of studies, and major research results in the field.
- LS 631 Seminar in Library and Information Science** 2(2-0-4)
 Problems, trends, and development in library and information science are discussed.
- ST 511 Statistical Methods for Research** 3(3-0-6)
 (See page 32)
- LS 501 Knowledge and Knowledge Utilization** 2(2-0-4)
 Theory and philosophy of knowledge, sociological aspect of knowledge and knowledge system concerning production, growth, system organization, publicizing and utilization of knowledge.
- LS 503 Communication Skills in the Library and Information Science** 2(2-0-4)
 Study and develop language skills for communication which is essential to library and information science professions. Includes learning how to get main ideas and analysis of written and verbal languages.
- LS 504 Applied Psychology for Librarians** 2(2-0-4)
 Study of human behavior in the following aspects : human needs, individual differences, personality adjustment, human relationship, com-

munication, motivation, learning attitude, formative thinking, study of users' behavior as receivers of information service, and application of psychology in the library and information services.

LS 514 Research Methods in Library and Information

Science

2(2-0-4)

Study of principles and techniques of scientific research with an emphasis on developing research attitudes, development of research topics in library and information science, research design appropriate for library and information science problems, specific research techniques for specific problems in the field.

LS 516 Library of Congress Classification Systems

2(2-0-4)

Study of the Library of Congress Classification system. Emphasis is on the use of the various schedules, their subsidiary tables and other special provisions.

LS 536 Rare Books Information Service

3(3-0-6)

Study of type and development of rare books and rare printed materials, both Thai and foreign. Includes appraisal, storage, servicing and maintenance.

LS 537 Resources Preservation and Consumption

2(2-0-4)

Survey and study of means of library resources utilization in the administration management and servicing aspects; emphasize on the economization of all resources.

LS 543 Information Resources in Agricultural Science

3(3-0-6)

Survey of information resources in the field of Agricultural Science, techniques of storage and utilization of the information in the field.

LS 544 Information Resources in Medical Science

3(3-0-6)

Survey of information resources in the field of medical services, techniques of storage and utilization of the information in the field.

- LS 545 Information Resources in Business** 3(3-0-6)
 Survey of information resources in the field of business services, techniques of storage and utilization of the information in the field.
- LS 546 Information Resources in Law** 3(3-0-6)
 Survey of information resources in the field of law services, techniques of storage and utilization of the information in the field.
- LS 601 Research Seminar** 2(2-0-4)
 Survey of research reports in various topics in library and information sciences as accomplished by research and authority in the field. Discussion of research projects developed by the student for presenting to the groups. Study other related problems adequately significant for pursuing as research projects in library and information science.
- LS 612 Information Retrieval Techniques** 3(3-0-6)
 Study of principles of information retrieval which include subject analysis, thesaurus construction, indexing and abstracting for information retrieval. Techniques of systems evaluation for information retrieval. Techniques of systems evaluation and surveys of present on-line information retrieval are emphasized.
- LS 632 Systems Analysis of Library Activities** 3(3-0-6)
 Study of principles and theories of systems, systems processes, and systems analysis procedures. Also study of library activities for library system design, especially in transferring the manual system to computerized system.
- LS 636 Government Publications** 3(3-0-6)
 A study and an examination of publications issued by the Thai Government, state enterprises, banks, governments of foreign countries and international organizations. A study of methods and problems in acquisition, handling, and dissemination.

- LS 637 Independent Study** 3(3-0-6)
An independent study for an individual or a group of individuals. The course is open to persons who are interested in studying particular topics under the supervision of an instructor.
- LS 638 Library and Information Center Building** 3(3-0-6)
Study of appropriate design, planning improving and maintaining of library and information buildings.
- LS 648 Thaiana** 3(3-0-6)
Study of resources of Thailand and about Thailand in printed and other forms.
- LS 649 Asiaana** 3(3-0-6)
Study of resources of Asia and about Asia, in printed and other forms.
- LS 650 Practicum in Library and Information Center** 3(0-6-6)
Supervised work in any type of library or information center. Special project can be taken by those students who has had library experiences.
- LS 661 Data Structure and File Organization** 3(3-0-6)
Study of theories and principles of data structure, current data management and design, advantages and disadvantages of each design. Study of principles of file organization, types, limitations and conformity with the application of each type.
- LS 662 Data Base Management System** 3(3-0-6)
Pre-requisite : LS 611
Study of principles of data base management system, types of the systems, data base design, analysis of the system designed for the information work application.
- LS 663 Computer Programming in Information Work** 3(3-0-6)
Pre-requisite : LS 661
Study of a high-level programming language by selecting from the follow-

ings: Pascal, COBOL, PL/1, or C. An emphasis is made on the structure of the language, using of commands, expressions, statements, functions and various procedures of the selected language, compilation, and execution of the developed application program pertaining to solving of information work problems.

LS 664 Developing Computerized Circulation Control

System

3(3-0-6)

Pre-requisite : LS 663

Study of the circulation control system design, computer hardware and its peripherals for circulation, comparison of commercial package programs and the in-house system, emphasis on the analysis, design and software development for circulation control system.

LS 665 Application of Commercial DBMS Packages in Library

Services

3(3-0-6)

Pre-requisite : LS 561

Study of the design and procedures of the selected commercial DBMS packages. Emphasis on the analysis of the application environment, the design, and system testing.

LS 666 Developing Computerized Cataloging System

3(3-0-6)

Pre-requisite : LS 663

Analysis and design of the computerized cataloging system, developing of software for cataloging management, system testing and evaluation.

LS 667 Searching Techniques of On-line Commercial Data Bases

Pre-requisite : LS 561

3(3-0-6)

Study and comparison of major characteristics of the commercial on-line data bases, their services and access procedures, special features and coverage. Emphasis on searching techniques and efficient use of them.

LS 668 Computerized Integrated Systems for Library Management 3(3-0-6)

Pre-requisite : LS 663

Study of library management systems using computerized integrated systems. Emphasis on system efficiency, details in design of both hardware and software, advantages and disadvantages, system management and maintenance.

LS 669 Library Application of Microcomputer 3(3-0-6)

Pre-requisite : LS 561

Study of microcomputer performance and its capacity in information work application. Emphasis on both hardware and software. Selection of the system compatible with the type of application. Analysis and design of the application in order to maximize the use of microcomputers in information work.

LS 672 Advanced Information Retrieval Techniques 3(3-0-6)

Study of the principles of analysis and design of on-line information retrieval systems in both theoretical and practical aspects. A design of an information retrieval system to meet various needs. An evaluation of the designed system is emphasized.

LS 673 Quantitative Methods 2(2-0-4)

An introduction to statistical and bibliometric techniques with emphasis placed on the application of these techniques to library and information sciences.

LS 674 Information Techniques and Services for Community 3(3-0-6)

Study and survey of community's needs and interests, information resources in the community such as religious institutes, museums, botanical gardens, resource persons of various subject fields in the community, community fairs, and exhibitions.

LS 675 Electronics Information Transfers 3(3-0-6)

Study of development of information technology for distribution and transferring of information to the institutional level as well as the people-at-large level. Study of the trends of the information technology development such as teletex, videotex, electronic mail, electronic publishing, and their effects on library management. Implementation of such technology for the effectiveness of the service is emphasized.

Foundation Courses

LS 311 Selection and Acquisition of Library Materials 2(2-0-4)

Criteria for selection of various types of library materials, use of selection tools, budgeting and maintaining of library collection. Publishers, censorship and copyright problems, acquisition policies.

LS 321 Introduction to Reference Services 2(2-0-4)

Basic reference materials, evaluation, methods for locating information, reference services and bibliography.

LS 431 Organization and Administration of Libraries 2(2-0-4)

A study of administration and organization of various types of libraries with emphasis on policy of administration and services.

LS 511 Bibliographic Organization and Control I 3(3-0-6)

Study of importance of bibliographic organization and control of library materials, cataloging and classification of books of all types, forms of catalog cards, determination of data to be included in the catalog cards, analysis of subject headings and their vocabulary control, filing and maintenance of catalog cards, Dewey Decimal Classification System, and book number identification.

Meanings of the Middle Digits of the Code Numbers

0 refers to foundations and philosophy.

- 1 refers to techniques
- 2 refers to activities and public relations.
- 3 refers to administration and services
- 4 refers to reference and bibliography
- 5 refers to practicum
- 6-7 refer to computer

Master's Degree Program in Applied Behavioral Science Research

M.Sc. (Behavioral Science)

Behavioral Science Research Institute

Statement of Purpose

- 1. To prepare students to become behavioral science researchers.
- 2. To prepare students to become teachers in behavioral science research.
- 3. To prepare students to serve the society.

Master's Degree Requirements

The program for a master's degree in "Applied Behavioral Science Research" is interdisciplinary. It consists of 4 parts, namely :

Part 1. Included in this part are courses in research methodology. The minimum required is 15 credit hours.

Part 2. Courses concerning the individuals and the environment. At least 21 credit hours are required.

Part 3. Individual and social development courses. No less than 6 credit hours.

Part 4. Thesis. 6 credit hours.

In order to graduate, the students must accumulate at least a total of 48 hours from the four parts mentioned above.

Courses in Part 1 (Research Methodology)

A minimum of 15 credit hours are required.

Required Courses 14 credit hours.

RB 501 Survey Research Methods	3(2-3-4)
RB 503 Measurement in Behavioral Science I	3(2-3-4)
RB 519 Practicum in Research	2(0-5-1)
ST 513 Inferential Statistics	3(3-0-6)
ST 515 Statistical Designs of Experiment	3(3-0-6)

Elective Courses

A minimum of one credit hour must be taken.

RB 602 Experimental Research Methods	3(2-3-4)
RB 604 Measurement in Behavioral Science	3(2-3-4)
RB 691 Individual Study	1-3 (1-3, 0,3-1)
ST 517 Nonparametric Statistics	3(3-0-6)
ST 518 Factor Analysis	3(3-0-6)
CP 531 Digital Computer Programming	3(3-0-6)
ST 516 Sampling Technique	3(3-0-6)

Courses in Part 2 (Individuals and Environment)

A minimum of 21 credit hours are required.

Required Courses 12 credit hours.

RB 521 Behavior Analysis and Behavior Modification	3(3-0-6)
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RB 581	Socialization and Individual Development	3(3-0-6)
RB 589	Seminar in Behavioral Social Science	3(3-0-6)
RB 683	Seminar : Research in Psychological Development in Youth	3(3-0-6)

Elective Courses

A minimum of 9 credit hours must be taken.

RB 523	Theories and Research in Psychological Development	3(3-0-6)
RB 531	Perception, Cognition and Communication	3(3-0-6)
RB 533	Attitudes and the Prediction of Behavior	3(3-0-6)
RB 542	Social Control	3(3-0-6)
RB 543	Social Stratification and Social Mobility	3(3-0-6)
RB 547	Social Change and Behavior	3(3-0-6)
RB 548	The Socio-cultural System	3(3-0-6)
RB 561	Political Structure and Process	3(3-0-6)
RB 571	Education and Modernity	3(3-0-6)
RB 573	Behavioral Analysis of Academic Achievement	3(3-0-6)
RB 582	Morality and Moral Education	3(3-0-6)
RB 583	Behavioral Science and the Solutions to the Poverty Problems	3(3-0-6)
RB 632	Socialization and Language Development	3(3-0-6)
RB 682	Environment and Personal Adjustment	3(3-0-6)

Courses in Part 3 (Individual and Social Development)

A minimum of 6 credit hours are required.

Required Courses 3 credit hours.

RB 685	Seminar : Research in Development Education	3(3-0-6)
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Elective Courses

A minimum of 3 credit hours must be taken.

RB 545	Theory and Research in Social Development	3(3-0-6)
RB 546	Family	3(3-0-6)
RB 551	Population and Social Development	3(3-0-6)
RB 584	Development	3(3-0-6)
RB 684	Research for Youth Development Policy	3(3-0-6)
RB 686	Research for Child - Rearing Promotion	3(3-0-6)
RB 687	Community Living and Development	3(3-0-6)

Course Description

RB 501 Survey Research Methods 3(2-3-4)

Study of the scientific approach in research studies, basic concepts and process for the conduct of studies, and the utilization of the research findings. Survey of research techniques, reported in the literature, applied to studies in developmental psychology, social psychology, sociology - anthropology, and education. Provides experience in the design and execution of an actual research study. Focus on field studies.

RB 503 Measurement in Behavioral Science I 3(2-3-4)

Study of fundamental principles and techniques of measurement, including item analysis, reliability, validity and score interpretation. Also included are procedures and problems in the development and use of such data gathering techniques as achievement measures, attitude scales, questionnaires, and interview schedule.

RB 519 Practicum in Research 2(0-5-1)

The student will participate in a continuing research project of Behavioral Science Research Institute. As a research assistant, he may be helping

in some of the following stages : formulation of hypothesis, research schedule construction, sampling, test or scale construction, data collection processing, hypothesis testing, and the research report writing.

RB 521 Behavior Analysis and Behavior Modification 3(3-0-6)

Concepts, theories and findings in psychology and sociology concerning human behavior. Various methods of behavior analysis for the understanding of causes and effects of behavior encompassing both situational and psychological traits of the individual. Exploration of various methods for behavioral instigation and modification.

RB 523 Theories and Research in Psychological Development 3(3-0-6)

Developmental theories and research studies of important psychological traits in the Thai society such as cognitive development, intellectual development, language development, moral reasoning as well as motivation and desirable personality traits, etc. Critically reviewing the existing longitudinal, experimental and evaluation studies on these topics.

RB 531 Perception, Cognition and Communication 3(3-0-6)

Various means of communication which have impact on the perception and cognition as well as learning of the individual. The influences of communication on the perception, intelligence, retention and action of the individual. Discovering the methods of instigating and preserving abilities (especially, reading and writing) of the Thai peasants.

RB 533 Attitudes and the Prediction of Behavior 3(3-0-6)

An examination of the various approaches, meaning, and theories of attitude as bases for attitudinal assessments - theoretical and empirical explorations of the various relationships between attitudes and behaviors. Special emphases on other psychological factors which can assist in understanding and predicting the relationships between attitudes and behaviors of different types of people. Constructing a measure of attitude

or behavior or writing a research proposal or conducting a study in this area.

RB 542 Social Control 3(3-0-6)

An investigation of the conditions under which people conform to the norms, values, and law of their society. Study of how various types of social control effect behavior.

RB 543 Social Stratification and Social Mobility 3(3-0-6)

Survey of social stratification in terms of race, class caste, socio-economic status and residence. The course includes theory and research on the relationship between social status and other factors such as personality. Factors affecting social mobility and its consequences on behaviors of individuals are also examined.

RB 545 Theory and Research in Social Development 3(3-0-6)

Theories and research in social development such as economical and political development are viewed. Research impact on social development and its emerging policies about the Thai society are also discussed.

RB 546 Family 3(3-0-6)

An examination of the structure and function of the family in the West and cross - culturally. Factors affecting the roles and functions of the family and their consequences are also explored.

RB 547 Social Change and Behavior 3(3-0-6)

Investigation of sources that bring out social change, process of social change and theories of social change. Investigation of the effects of social change such as behavior problems of the individuals.

RB 548 The Socio - cultural System 3(3-0-6)

Investigation of socio - cultural systems, especially social structures, in various societies. Concentration is on comparing the structures of simple and complex societies, the process and the effects of the transformation from simple to complex societies.

RB 551 Population and Social Development 3(3-0-6)

The role of social and economic factors in fertility, mortality, and migration are examined. Particular attention is given to the impact of population change on economic, social, and cultural aspects of many countries with an emphasis on Thailand.

RB 561 Political Structure and Process 3(3-0-6)

A study of political structure and process with an emphasis on political socialization. Power, leadership, social class and ideology, participation and alienation are explored. Important theories are considered.

RB 571 Education and Modernity 3(3-0-6)

Investigation of the effects of both formal and informal education on the development of thinking, intelligence, vocational ability, acceptance of innovation, attitude, personality, motivations concerning modernity. Studies about causes and factors relating to modernity characteristics. How to use behavioral sciences as the principle for determining policies and procedures for human development in order to develop characteristics and modernity behavior in different types of Thai people.

RB 573 Behavioral Analysis of Academic Achievement 3(3-0-6)

Exploring the antecedents of and factors relating to academic achievement at various levels, i.e., at individual level, group level and societal level. The emphasis is put on the individual level which concerns influences of society, family, school and characteristics of the learners themselves.

RB 581 Socialization and Individual Development 3(3-0-6)

A detailed consideration of the theoretical and research literature on the phenomenon of socialization. Emphasis on interpersonal and environmental influences such as the family, community, school, and mass media. Examination of the processes of child - rearing, educational training which are related to various areas of psychological development and behavior of the individual.

RB 582 Morality and Moral Education 3(3-0-6)

Theories and research findings in behavioral science, especially psychology and sociology which can help in understanding the concept of morality and its components. The social environmental correlates of individual's morality, the approaches for moral development as well as moral education in the school and communities.

RB 583 Behavioral Science and the Solutions to the Poverty

Problems 3(3-0-6)

Definitions of poverty and scarcity in various areas of behavioral science. Psychological, anthropological and sociological approaches to the study of poverty and scarcity. Antecedents and consequences of economical, social and psychological scarcity, the culture of poverty and personal adjustment and social values. Various solutions to the poverty and scarcity problems.

RB 584 Development 3(3-0-6)

A study of development especially process of development. Interdependence, interpenetration and alienation. Emphasis is on the study of modernization.

RB 589 Seminar in Behavioral Social Science 3(3-0-6)

A study of the ways behavioral social science can be used to aid in the analysis of behavior. Antecedents, consequences and processes of various aspects of behavior such as deviant behavior, political behavior, and socialization behavior will be explored.

RB 602 Experimental Research Methods 3(2-3-4)

Study of principles and research methods for experimental research, including both in the laboratory and on the field; limitation of the research findings in the aspect of internal and external validity. Emphasis on the importance of conducting experimental research in psychology, sociology,

anthropology, and education. Practice in conducting an experimental research in the laboratory.

RB 604 Measurement in Behavioral Science 3(2-3-4)

Development of testing techniques for the assessment of the variables, currently being studied, in psychology, sociology, anthropology and education. Such variables in psychology as attitude, social maturation, moral characteristic, personality, and modernization. Those variables in sociology, anthropology are, for example, social stratification, change, social status in different occupations, and underemployment. Educational variables such as teachers' efficiency, teachers' job satisfaction, and mental ability. Operational definitions of the mentioned variables from the literature will be examined.

RB 632 Socialization and Language Development 3(3-0-6)

An introduction to psycholinguistics, covering the area of linguistic theory, language acquisition, and language development. Aspects of child-rearing promoting language development, psychological traits relating to language ability, e.g. cognitive development and moral development are reviewed. Problems of the Thai Language and ideas to solve them.

RB 682 Environment and Personal Adjustment 3(3-0-6)

Environmental factors affecting mental health will be examined. Different adaptive behaviors manifested as environment changes will also be considered. Discussions on how to improve conditions of homes, communities, schools, offices, recreation centers and religious centers in order to prevent or solve problems and encourage good psychological traits will be included.

RB 683 Seminar : Research in Psychological Development in Youth 3(3-0-6)

Discussion of research possibilities in the area of psychological develop-

ment in youth. Intensive reviews of theories and research findings on certain topics of interest in order to come up with important conclusion , theories, or questions which will lead to new research ideas. The area of psychological development in youth encompasses the antecedents and consequences of psychological development in infancy, childhood, adolescence as well as young adulthood, the development processes of various psychological characteristics which are related to important behavior of the individual. Critical periods and the methods of development, psychological maturity and psychological arrest.

RB 684 Research for Youth Development Policy 3(3-0-6)

Collection and synthesization of behavioral science research findings and those of related fields for determining youth development policy. Included in such policy are researches for identifying main psychological characteristics of Thai people in order to develop the country both socially and economically, and designation of experimental researches for identifying the most effective techniques or procedures in developing certain psychological characteristics into different types of Thai youth.

RB 685 Seminar : Research in Development Education - 3(3-0-6)

Discussion of research possibilities in the area of behavior development. Intensive reviews of theories and research findings on certain topics of interest in order to come up with important conclusions, theories, or questions which will lead to new research ideas. The idea of development education encompasses the most effective ways in formal and nonformal education for individual and social development. Examining the suitability of the curricular, textbooks, teaching and learning methods and evaluation to the psychology of the learners and the teachers and to the situation. Exploring the impact of education, mass media and the developmental programs in Thailand and abroad, on the psychological characteristics and behavior of the individual and the group in order to suggest new research ideas.

RB 686 Research for Child - Rearing Promotion 3(3-0-6)

Review and crystallize various research findings in Thailand and abroad for use as bases for the intervention of the psychological development of the Thai youth through the channels of the family and other types of organization. Surveying the gaps in research findings concerning this topic at individual, organizational, as well as, institutional levels for suggesting new research ideas.

RB 687 Community Living and Development 3(3-0-6)

The impact of the near environment, both urban and rural, on our behavior as social beings. Ways our environment facilitates or hinders our functioning. Social problems, mental health, learning and work achievement, recreation and frameworks for individual and social development are considered.

RB 691 Individual Study 1-3(1-3,0,3-6)

Intensive study in a special area of interest under the guidance of a qualified instructor.

RB 699 Thesis 6 credits

Thesis must be high quality research in behavioral science under the advice of a qualified committee. A master's degree thesis may be a test of hypotheses derived from theories and a wide range of related literature. The variables should lead to results that can be interpreted in depth.

CP 531 Digital Computer Programming 3(3-0-6)

Mechanized data processing concepts, analog vs. digital computers, history and development of digital computers, punched cards, Hollerith's code; digital computer system concept; FORTRAN or BASIC language programming, arithmetic statements, control statements, input, output, subroutines, statistical procedures : multivariate analysis, analysis of variance, chi - square, matrix procedures.

ST 513 Inferential Statistics

3(3-0-6)

Nature of statistical data, frequency distribution, central tendencies, measures of variability ; statistics vs. parameter of a distribution; distribution functions; normal, t, F, χ^2 ; introduction to sampling theory; marginal p.d.f., stochastic independence, random sampling ; statistical inference; statistical hypotheses; test, level of significance, power function, difference between means; small sample; t-distribution and its implication; correlation : concept, method, interpretation, regression, multivariate analysis; other correlational measures : point - biserial, rank biserial, tetrachoric, phi; selected nonparametric statistics : binomial test, sign test, Fisher exact probability test, Mann - Whitney U - test, etc.

ST 515 Statistical Designs of Experiment

3(3-0-6)

Fundamental concepts and basic designs : nature and purpose of experiments, measure of precision, testing hypothesis, good design, basic designs, types of error, principle of randomization, chi square, t, and F distributions, degrees of freedom, limitation of t - test; analysis of variance : the test of overall null hypothesis, mean square ratio, assumptions underlying F - test; simple randomized design, analysis of variance in double - entry tables, analysis of total sum of squares into components, computational procedure and meaning of interaction, factorial design, latin square design, random replication design, split - plot design, randomized block design, analysis of covariance.

ST 516 Sampling Technique

3(3-0-6)

Survey of sampling principles; simple random sampling; stratified random sampling; one or two - stage cluster sampling; control of variation in size of cluster in estimating totals, averages, or ratio in multi - stage sampling with large primary sampling units; regression estimates, double sampling, time series, systematic sampling and other methods.

ST 517 Nonparametric Statistics

3(3-0-6)

Nonparametric vs. parametric statistics, central limit theorem; choosing an appropriate statistical test; power, scales, the one sample case, the case of two related samples, two independent samples, k - independent samples. Methods : binomial test, chi - square, sign test, Fisher exact probability test, Mann - Whitney U - test, chi - square test for two independent samples, median test, etc.

ST 518 Factor Analysis

3(3-0-6)

Mathematical introduction : matrices, determinants, scalar products matrix inversion, eigenvector and transformations, history of factor theory : Spearman's two - factor theory, multiple - factor theory; correlation matrix and the factor matrix, geometric interpretation of factors, extraction of factors by the centroid methods, rotation of reference axes; simple structure, rotation to psychological meaning, interpretation and estimation of factors; some special problems in factor analysis.

Meanings of the Middle Digits of the Code Numbers

0-1 refer to methodology courses

2-3 refer to psychology courses

DOCTORAL DEGREE PROGRAMS

The Graduate School provides four doctoral degree programs in education : namely development education, curriculum research and development, educational administration, and educational technology

These four programs, being designed in similar forms, are interdisciplinary and problem oriented in their nature. Each program emphasizes the integration of social and behavioral science approaches in dealing with its concentration. The coursework comprises three clusters of subject matters namely, the research methodology, the social and behavioral sciences, and the specialized areas. Within each cluster there are compulsory courses for each program, and selective courses to meet the interests of students. The degree requirements are completion of coursework, satisfactory performance on the foreign language examination, the preliminary examination and the comprehensive examination, and the completion of the doctoral dissertation to the satisfaction of the oral examination committee.

DEVELOPMENT EDUCATION

**Name of the Degree : Doctor of Education (Development Education)
: Ed.D. (Development Education)**

Objectives

To enable doctoral graduates to:

1. Know and understand the principles of social and behavioral sciences related to education and society development, with an emphasis on deep knowledge in at least two areas.
2. Skillfully integrate social and behavioral sciences knowledge in studying and conducting research related to education and society development.
3. Be able to study, conduct research, inquire and apply new knowledge useful to education for the development of individual and society.
4. Be capable to lead, initiate, operate and administer effectively the development education project.

1.3 Development Education	12 - 15 credit hours
DE 780 Principles of Development Education	2(2-0-4)
DE 781 Principles and Process of National Development I	2(2-0-4)
DE 782 Educational Strategies for National Development	2(2-0-4)
DE 880 Seminar in Development Education	2(2-0-4)
DE 881 Seminar on Research in Development Education	2(2-0-4)
DE 882 Practicum in Development Program	2(1-0-4)-5(2-0-13)
2. Elective Courses	not less than 14 credit hours
Select from the following courses or from collateral courses in other doctoral programs with the approval of the academic advisor.	
2.1 Research Methodology	
RS 714 Construction and Development of Research Instruments	3(3-0-6)
RS 801 Seminar on Research Techniques, Measurement and Statistics	3(3-0-6)
RS 811 Survey Research Techniques and Practicum	3(2-0-7)
RS 812 Operations Research Techniques and Practicum	3(2-0-7)
RS 813 System Analysis Techniques and Practicum	3(2-0-7)
RS 814 Anthropological Research Techniques and Practicum	3(2-0-7)
ST 754 Multivariate Statistical Analysis	3(3-0-6)
2.2 Behavioral and Social Sciences	
DE 714 Sociology of Education	3(3-0-6)
DE 716 Problems in Urban and Rural Living	3(3-0-6)
DE 717 Population and Development	3(3-0-6)
DE 718 Value Change	3(3-0-6)

DE 810	Seminar on Rural Sociology	3(3-0-6)
DE 721	Group and Interpersonal Processes	3(3-0-6)
DE 723	The Psychology of the Adoption of Innovation	3(3-0-6)
DE 724	Political Psychology and Sociology	3(3-0-6)
DE 725	Persuasion and Attitude Change	3(3-0-6)
DE 726	Cooperation, Competition and Conflict Resolution	3(3-0-6)
DE 727	Leadership and Group Effectiveness	3(3-0-6)
DE 728	Psychology and Social Change	3(3-0-6)
DE 820	Seminar on Behaviors for Economic, Social and Political Development	3(3-0-6)
DE 731	Advanced Development Economics	3(3-0-6)
DE 732	Human Resources Development and Utilization	3(3-0-6)
DE 733	Planning of Economy, Manpower and Education	3(3-0-6)
DE 734	Economics of Education	3(3-0-6)
DE 735	Allocation of Educational Budget and Resources	3(3-0-6)
DE 736	Educational Econometrics	3(3-0-6)
DE 737	Manpower Economics	3(3-0-6)
DE 738	Analyses and Evaluation of Economic Development Projects	3(3-0-6)
DE 741	Politics and Public Policies	3(3-0-6)
DE 742	Political Behavior and Social Development	3(3-0-6)
DE 743	Political Socialization	3(3-0-6)
DE 744	Politics of Education	3(3-0-6)
DE 745	Policies Implementation	3(3-0-6)
DE 751	Buddhist Principles and Social Problems	3(3-0-6)
DE 752	Religion, Philosophy and National Development	3(3-0-6)

DE 753	Religion and Modernization	3(3-0-6)
DE 761	Cultural Assimilation and Cultural Changes	3(3-0-6)
DE 762	Social Anthropology	3(3-0-6)
DE 763	Folk Culture and Development	3(3-0-6)

2.3 Development Education

DE 783	Principles and Process of National Development II	2(2-0-4)
DE 784	Education and Social Changes in Thailand	2(2-0-4)
DE 785	Training of Personnel for National Development	2(2-0-4)
DE 786	Curriculum and Teaching Development	2(2-0-4)
DE 787	Production of Books and Texts for Development	2(2-0-4)
DE 883	Independent Study	2(1-0-5)-3(2-0-7)
DE 884	Seminar on Comparative Development Education	2(2-0-4)
DE 885	Seminar on Special Topics	2(2-0-4)

3. Doctoral Dissertation

DE 999	Doctoral Dissertation	15 credits
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Course Description

Prerequisite Courses

RS 521	Research Methods in Behavioral and Social Sciences (or equivalent course)	3(3-0-6)
	(See page 32)	
ST 511	Statistical Methods for Research (or equivalent course)	3(3-0-6)
	(See page 32)	

Required Courses

1. Research Methodology

RS 713 Educational Planning and Policy Research 3(3-0-6)

Quantitative analysis essential to educational planning and the formation of educational policy; a study of research methodology used in micro-economics and sociology to understand and acquire skill in the following techniques : time series analysis, multiple regression, discriminant analysis, linear programming, educational production function analysis, cost - benefit analysis, cost - effectiveness analysis, Lorenz curve analysis, analysis using econometric models of education.

RS 810 Project Evaluation Techniques and Practicum 3(2-0-7)

A study of principles, models and techniques of project evaluation; practical planning and application of project evaluation starting from the analysis of development projects, formulation of the objectives and target of evaluation, preparation of the evaluation design, collection and analysis of data related to development project, analytical comparison of data to standard project, cost - effectiveness analysis, evaluation and recommendation to improve the implementation of the project in the future.

ST 750 Statistical Analysis for Research 3(3-0-6)

A review of inferential statistics related to mathematical structure of statistics and utilization of statistics for research; a study of concepts, basic assumptions and utilization of statistical analysis for research, topics included analysis of variance, analysis of covariance, multiple regression analysis using continuous and dummy variables; multi-level analysis, path analysis, discriminant analysis, with an emphasis on utilization for research in development education.

2. Behavioral and Social Sciences

DE 710 Sociology for National Development 2(2-0-4)

A study of principles, theories and concepts of sociology, with special emphasis on those issues related to national development, to enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

DE 720 Social Psychology for National Development 2(2-0-4)

A study of principles, theories and concepts of social psychology, with special emphasis on those issues related to national development, to enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

DE 730 Economics for National Development 2(2-0-4)

A study of principles, theories and concepts of economics, with special emphasis on those issues related to national development, to enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

DE 740 Political Science for National Development 2(2-0-4)

A study of principles, theories and concepts of political science, with special emphasis on those issues related to national development, to enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

DE 760 Anthropology for National Development 2(2-0-4)

A study of principles, theories and concepts of anthropology, with special emphasis on those issues related to national development, to enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

3. Development Education

DE 780 Principles of Development Education 2(2-0-4)

Theoretical and practical study to examine the specificity of the development education profession; origin, principles and methodologies of development education; integration of behavioral and social sciences knowledge and its application to the study of the relationship between education and development.

DE 781 Principles and Process of National Development I 2(2-0-4)

Nature of development process in general human society and in Thailand, especially the development of economy, society and government, with reference to theories of social change, development economics, political dynamics and other theories in behavioral and social sciences.

DE 782 Educational Strategies for National Development 2(2-0-4)

Strategies for educational improvement or innovation to solve problems and contribute to the national progress; analysis of objectives and problems associated with development to search out for educational strategies; case study of related projects implemented in Thailand and abroad; principles of behavioral and social sciences are integrated in the determination of educational problems and strategies.

DE 880 Seminar in Development Education 2(2-0-4)

A study, application and practice of the principles of development education profession to planning and implementing education leading to national development; students will have the opportunity to develop skills in seminar, debate and exchange of ideas in a more methodical way without emotion and prejudice, the process of which is necessary for development; a provision of the opportunity for students to develop the identity of development educator.

DE 881 Seminar on Research in Development Education 2(2-0-4)

Analytical and synthetical discussion of both foreign and local research in development education to determine the strength, weakness and limitations of research; to use the learned matter as a basis for individual research; and to utilize research results in the future work of the students.

DE 882 Practicum in Development Program 2(1-0-4)-5(2-0-13)

Practicum in school and community development or other development programs. The objective is to expose students to direct experiences in organizing and administering development programs so that they are able to formulate and implement their own programs in the future. The practicum should be in accord with the written project; any suggestion for improvement should be carried on under the approval of the instructor.

Elective Courses

1. Research Methodology

RS 714 Construction and Development of Research Instruments

3(3-0-6)

Study of principles and techniques of measurement in behavioral and social sciences; formulation of operational definition; design, construction and development of research instruments; different types of tests and scales; reliability and validity; techniques of data collection both quantitative and qualitative data to obtain appropriate information.

**RS 801 Seminar on Research Techniques, Measurement and
Statistics**

3(3-0-6)

Comparative review and analytical study of principles, theories and methodology related to research, measurement and statistics in order to acquire the advantages and limitations; discussion of current techniques used in research, measurement and statistics for the benefit of the students in selecting methods appropriate for their research problems as well as applying techniques to their future work.

RS 811 Survey Research Techniques and Practicum 3(2-0-7)

Theoretical and practical study of survey research methods, such as construction of questionnaires, selection of samples, interview, editing of questionnaires, computer calculation, analysis of survey data and presentation of survey results.

RS 812 Operations Research Techniques and Practicum 3(2-0-7)

Theoretical and practical study of operations research methods such as statement of problems, construction of hypotheses, formulation of models, model verification using data, conclusion and presentation of research for utilization.

RS 813 System Analysis Techniques and Practicum 3(2-0-7)

Theoretical and practical study of the functioning of systems; the interrelations among input, process and output; the control of systems for maximum efficiency; study of feasibility and limitations in the application of system analysis to other areas such as educational provision.

RS 814 Anthropological Research Techniques and Practicum
3(2-0-7)

Theoretical and practical study of anthropological research methods, such as multi - dimension observation, holistic view, in-depth interview, participant observation, recording method, data interpretation and descriptive presentation of research.

ST 754 Multivariate Statistical Analysis 3(3-0-6)

Theoretical study of multivariate analysis, matrices used in the analysis of statistical problems relating to multivariate correlation and analysis of variance; multiple correlation; canonical correlation; factor analysis; multivariate analysis of variance and analysis of covariance; multivariate analysis using multiple regression.

2. Behavioral and Social Sciences

DE 714 Sociology of Education 3(3-0-6)

Study of theories and research in sociology relating to school and educational reform; roles and functions of schools and school systems in the development of society; social influences on models and functions of schools and educational systems; analytical study of ideas, policies and alternatives of educational reforms leading to the development of society.

DE 716 Problems in Urban and Rural Living 3(3-0-6)

(Prerequisite: Thai community; geography of settlement, introduction to economics, sociology and physical geography or with consent of instructor)

Discuss and analyze problems of living both in urban and rural areas; consider appropriate methods to solve the problems using interdisciplinary approach, emphasize problems arising in Thailand.

DE 717 Population and Development 3(3-0-6)

Study of different concepts about population, such as size, composition, structure, distribution and density, urbanization, population dynamics and related factors, relationship between population change and the development of economy, society, politics, culture, education and public of population policies, problems arising from population change and the determination to solve and prevent those problems.

DE 718 Value Change 3(3-0-6)

Study of principles, theories and research results concerning the nature, structure and change of values, both at the individual and society levels; study of the past and present process of change in Thai values; search for principles to explain causes and effects of those changes.

DE 810 Seminar on Rural Sociology 3(3-0-6)

Analytical study of sociological principles as applicable to rural life, especially in Thailand, such as family characteristics, beliefs, social norm, system of thinking, human relationships and technological impacts on rural societies; all of which leading to a clear understanding of rural life and means appropriate to solve problems and to develop rural societies.

DE 721 Group and Interpersonal Processes 3(3-0-6)

An in depth study of the psychological processes occurring within groups and among individuals, such as leadership, cooperative problem solving, competition, interpersonal negotiation, corruption.

DE 723 The Psychology of the Adoption of Innovation 3(3-0-6)

Analysis of behavior and psychological characteristics related to the adoption of innovation; including the importance of environmental factors, such as sociological, anthropological and educational factors; based on theoretical and empirical evidences from Thailand and abroad; examining the problems and finding the ways to improve human and environmental condition.

DE 724 Political Psychology and Sociology 3(3-0-6)

Acquisition on political attitudes, political socialization, social and economic influences on political trends of different countries, especially Thailand; examination of various groups having effects on Thai political and legal policies; study of political training at individual, local and national level, and political climate that may enhance democratic mind of the people.

DE 725 Persuasion and Attitude Change 3(3-0-6)

Theories and research findings on persuasion and attitude change; the processes of attitude change; factors and influences on attitude modification, such as the sources of messages, nature of messages, channels of communication, as well as the characteristics of the receiver including

former attitude, intelligence and personality; theories and research findings on resistance to persuasion.

DE 726 Cooperation, Competition and Conflict Resolution 3(3-0-6)

An examination of theories and research evidences relating to the resolution of interpersonal, intergroup and international conflict; factors contributing to the development of cooperative or competitive bonds among parties to a conflict; personality and situational factors regulating cooperative, competitive and conflict behaviors.

DE 727 Leadership and Group Effectiveness 3(3-0-6)

An intensive review of theoretical and empirical evidences on group, leadership and group effectiveness in behavioral science, especially psychology and sociology; theories associated with group, leadership and production of group effectiveness, especially as offered by Fiedler's model; utilization of theories and research in different organizations; evaluation of various methods of leadership and group trainings to increase group morale and productivity.

DE 728 Psychology and Social Change 3(3-0-6)

Psychological problems as an antecedents and consequences of social change which consists of changes in an individual, a group, an organization and a society; relationship among these changes which can be incongruent and result in various psychological and behavioral problems, for example, the expansion of urbanization, expediency in rural development, the impacts of sciences and technology, semi - learnedness; study of problems and ways to solve and prevent those problems.

DE 820 Seminar on Behaviors for Economic, Social and Political Development 3(3-0-6)

Analytical study and development of behaviors that facilitate economic, social, political, religion and cultural development.

DE 731 Advanced Development Economics 3(3-0-6)

A study of economic principles directly related to national development, such as the relation between rural and urban economics, the role of labour and skills in economic development, the role of capitalists and entrepreneurs, distribution of incomes in the society, international trade; including problems as consequences of economic development, such as unemployment, income inequality and environmental pollution.

DE 732 Human Resources Development and Utilization 3(3-0-6)

Study of concepts, principles, theories and research results concerning the development and utilization of human resources, study of present situation of human resources development and utilization in Thailand in order to clarify the problems and search for solutions.

DE 733 Planning of Economy, Manpower and Education 3(3-0-6)

Study of theories in planning for economic development both in developing and developed countries; theories related to manpower development planning, educational planning and relation between plans; study of methods of planning for educational development in Thailand in accordance with the economic and social development plan.

DE 734 Economics of Education 3(3-0-6)

Principles and theories of economics; economic system; economic growth and development; educational demand and supply; educational investment and return to education in economic perspective; various problems concerning economic losses in the Thai educational system.

DE 735 Allocation of Educational Budget and Resources 3(3-0-6)

Analytical study of types and sources of educational resources; educational fund raising in both public and private organization; allocation of educational revenue and resources; roles of the government and agents in resources acquisition and allocation; problems related to management

and allocation of resources and revenue; inequality in resource allocation and resolution.

DE 736 Educational Econometrics 3(3-0-6)

Analytical examination of the relationship among educational system, economic system and other systems; a utilization of econometrics in designing and constructing the econometric model of education in order to understand that relationship, to predict and control educational and economic factors.

DE 737 Manpower Economics 3(3-0-6)

Study of theories and research results related to manpower; labour force demand and supply; labour market; the development of public policies in manpower and employment; problems and impact of employment and unemployment on national development.

DE 738 Analyses and Evaluation of Economic Development Projects 3(3-0-6)

Study of context, inputs, process, output and impacts of economic development projects both in Thailand and abroad; procedure and outcomes of project evaluation; strength and weakness of the projects and project improvement; practicum in planning and evaluating economic development project in rural areas.

DE 741 Politics and Public Policies 3(3-0-6)

Theoretical study of political power in society and role of political forces that have impact on public policy formation; empirical survey of evidence affecting the efficiency and productivity of the formation and execution of public policy.

DE 742 Political Behavior and Social Development 3(3-0-6)

Examination of theories and ideas related to political behavior and social development; survey of political behaviors that facilitate and inhibit the

development of the society; guidelines to modify and change political behavior in order to facilitate social development.

DE 743 Political Socialization 3(3-0-6)

Study of political socialization employed by different social institutions, especially educational institution; guidelines to improve and modify the methods of political socialization for a more effective and productive transfer of political behaviors that facilitate the development of society.

DE 744 Politics of Education 3(3-0-6)

Study of concepts and approaches in politics of education indicating the relationship between education and politics; the roles of political and educational systems that influence each other, with an emphasis on process and institutions of those two systems.

DE 745 Policies Implementation 3(3-0-6)

Study of public policies as formed by politician and as executed by government officials; examination of theories, ideas, significant problems, possibility as well as follow up study of the public policy implementation, with special emphasis on policies for education and social development.

DE 751 Buddhist Principles and Social Problems 3(3-0-6)

Study of Buddhist philosophies and practices in order to apply them in the analysis and diagnosis of social problems; dissemination of selected philosophy and practices to help solving problems of living in the present Thai society; study of ways and means to disseminate those matters for quick adoption.

DE 752 Religion, Philosophy and National Development 3(3-0-6)

Comparative study of religion and philosophy of the East and the West; application of religious and philosophical principles to problems and the development of society.

DE 753 Religion and Modernization 3(3-0-6)

Influences of religion upon the individual mind and behaviors; examination of various religious teachings and practices that facilitate or inhibit individual modernity; study of the causes and effects of becoming religious.

DE 761 Cultural Assimilation and Cultural Changes 3(3-0-6)

Characteristics and nature of the origin, process and result of cultural assimilation in theoretical and research perspectives; influences of Chinese, Indian, European and American culture upon Thai culture in the following aspects: interpersonal relationship, religious beliefs, educational systems, nutritional and hygienic behaviors, housing behaviors and attitude, changes of Thai identity as well as political, social and economic influences of the past, present and the future; impacts upon people, especially ruralists, in different aspects.

DE 762 Social Anthropology 3(3-0-6)

Study of theories, principles and methods in social anthropology in order to understand human as a social unit and a part of nature; examination of social factors to understand ideas, activities, culture and discrimination of human being.

DE 763 Folk Culture and Development 3(3-0-6)

Study of theories and research results related to folk culture and social environment; survey of factors inhibiting economic, social and spirit development using anthropological and sociological approaches in order to get ideas and guidelines useful for designing development projects.

3. Development Education

DE 783 Principles and Process of National Development II 2(2-0-4)

Analytical study of the process of national development in Thailand, both in the past and present; changes in economy, politics, government, society, culture and education, as results of development plan, influences

of growth in sciences and technology, and the development of both neighbour countries and developed countries; integration of theories and research to derive new conclusion, ideas or theories leading to effective planning of national development.

DE 784 Education and Social Changes in Thailand 2(2-0-4)

Study of facts, evidence and research findings about the relationship between education and Thai society; social influence upon the formulation of educational provision; study of problems, outcomes and impacts inherent from educational provision which induce change in the society; analysis of the situation to learn the advantages and disadvantages as well as ways to prevent and improve the situation.

DE 785 Training of Personnel for National Development 2(2-0-4)

Survey of theories and research findings in behavioral and social sciences related to learning and training; study methods of training, such as leadership training, practical training, study of procedure in organizing training program; practicum in designing, organizing and evaluating the training program.

DE 786 Curriculum and Teaching Development 2(2-0-4)

Study and analysis of basic social, psychological, philosophical and historical factors as a basis for curriculum and teaching development at different levels, as appropriate to local community and learner's age; analysis of curriculum structure; follow-up study of movement curriculum development both in Thailand and other countries.

DE 787 Productions of Books and Texts for Development 2(2-0-4)

Study of principles, philosophy and techniques of publication, the products of which is instrumental to stimulate the awareness of target groups in self and national development; students should have direct experiences, from neighboring countries in Asia and from various groups in Thailand,

relating to preparation of the script, publication, distribution, through a study visit or participation.

DE 883 Independent Study 2(1-0-5)-3(2-0-7)

The course provided for individual student to satisfy his need for advanced study about the topics not available in the curriculum; the student and advisor work together in selecting subject matters, inviting the mentor.

DE 884 Seminar on Comparative Development Education 2(2-0-4)

An in-depth study of development education principles and provision of education for national development in different countries; the emphasis is not only upon objectives, methods, positive and negative results of educational provision, but also upon the comparison of situations and methods across countries in order to get ideas and knowledge to promote development education in Thailand.

DE 885 Seminar on Special Topics 2(2-0-4)

Analytical study to understand special topics of contemporary knowledge related to economic, political, cultural, religious and social development in Thailand; survey of means to provide education leading to national development.

Doctoral Dissertation

DE 999 Doctoral Dissertation 15 credits

Individual research project in development education involving the new discovery of knowledge or the original contribution to development education profession. Research should be substantial and demonstrate the student's ability : to apply the integrated knowledge and professional experiences in the resolution of research problem leading to the national and educational development.

CURRICULUM RESEARCH AND DEVELOPMENT

Name of the Degree : Doctor of Education (Curriculum Research and Development)
: Ed.D. (Curriculum Research and Development)

Objectives

To enable doctoral graduates to :

1. Conduct research in the area of curriculum and instruction development.
2. Master in different fields which are the foundations of curriculum development, and be able to apply the integrated theories and principles of those subjects to curriculum and instruction development.
3. Be a leader and a pioneer in the inquiry of new ways and means used in research and development of curriculum and instruction.
4. Be able to administer the academic affairs in the area of curriculum and instruction at different levels of education.
5. Be able to disseminate knowledge, ideas and research pertaining to curriculum and instruction.
6. Possess virtues and ethics.

Structure of the Program

Areas of Concentration	Credits of		
	Required Courses	Elective Courses (not less than)	Total (not less than)
1. Research Methodology	9	3	12
2. Behavioral and Social Sciences	9	3	12
3. Curriculum Development	12	3	15
4. Electives	-	6	6
5. Doctoral Dissertation	15	-	15
Total	45	15	60

Course Requirements

1. **Research Methodology** not less than 12 credit hours
 - 1.1 **Required Courses** 9 credit hours
 - RS 710** Advanced Research Methodology 3(3-0-6)
 - EM 740** Advanced Educational and Psychological Measurement 3(3-0-6)
 - ST 751** Experimental Designs 3(3-0-6)
 - 1.2 **Elective Courses** not less than 3 credit hours
 - ST 752** Advanced Statistics for Research 3(3-0-6)
 - ST 753** Sampling Theory 3(3-0-6)
 - RS 711** Qualitative Research 3(3-0-6)
 - RS 716** Meta - analysis of Research 3(3-0-6)
 - CP 860** Computer for Research 3(2-3-4)

- 2. Behavioral and Social Sciences** not less than 12 credit hours
- 2.1 Required Courses** 9 credit hours
- HM 800** Seminar on Philosophical, Psychological, Historical and Educational Perspectives in Thailand 3(3-0-6)
- SO 801** Seminar on Social, Economic, Political and Educational Perspectives in Thailand 3(3-0-6)
- PG 720** Behaviors and Virtues of Leadership 3(3-0-6)
- 2.2 Elective Courses** not less than 3 credit hours
- SO 711** Problems in Human Ecology 3(3-0-6)
- SO 712** Social Changes and Social Planning 3(3-0-6)
- SO 713** Communication for Development 3(3-0-6)
- SO 715** Roles of Visual Arts and Literature in Thai Civilization 3(3-0-6)
- PG 722** Education and Personality Development 3(3-0-6)
- 3. Curriculum Development** not less than 15 credit hours
- 3.1 Required Courses** 12 credit hours
- CL 800** Theories and Practices on Curriculum Development and Curriculum Changes 3(2-3-4)
- CL 810** Seminar on Instruction Research and Development 3(3-0-6)
- CL 811** Internship Program in Research for Curriculum Development 3(1-4-4)
- CL 820** Research Seminar on Curriculum Administration and Evaluation 3(3-0-6)
- 3.2 Elective Courses** not less than 3 credit hours
- CL 801** Seminar on Innovation and Technology for Curriculum and Instruction Development 3(3-0-6)

CL 802	Practicum in the Development and Evaluation of Textbooks and Curriculum Materials	3(3-0-6)
CL 803	Seminar on Trends in Curriculum Development and Supervision	3(3-0-6)
CL 812	Practicum in Curriculum Research and Development for Gifted Children	3(1-4-4)
CL 813	Practicum in Curriculum Research and Development for Learning Disable Children	3(1-4-4)
CL 814	Practicum in Pre - school Education Curriculum Research and Development	3(1-4-4)
CL 815	Practicum in Primary Education Curriculum Research and Development	3(1-4-4)
CL 816	Practicum in Secondary Education Curriculum Research and Development	3(1-4-4)
CL 817	Practicum in Higher Education Curriculum Research and Development	3(1-4-4)
CL 818	Practicum in Vocational Education Curriculum Research and Development	3(1-4-4)
CL 819	Practicum in Adult Education Curriculum Research and Development	3(1-4-4)
CL 821	Practicum in Curriculum Research and Development for Training	3(1-4-4)
CL 822	Independent Study	3(3-0-6)

4. Electives not less than 6 credit hours

The student may take any appropriate courses either from the elective courses listed above or from collateral courses in other doctoral programs provided by the Graduate School or by the Graduate Schools of any other institutions, under the supervision and with the approval of the Doctoral Curriculum Administrative Committee.

5. Doctoral Dissertation:

CL 999 Doctoral Dissertation

Course Descriptions

1. Research Methodology

RS 710 Advanced Research Methodology 3(3-0-6)

A study of research design, basic concepts necessary for research; an analytical study of different research methodologies both qualitative and quantitative approaches, meta - analysis, problems in applying statistical techniques for doing res arch.

RS 711 Qualitative Research 3(3-0-6)

A study of conceptual foundations required to design a qualitative research; different qualitative research designs and methodologies; principles and methods of data collection; methods of analysis and presentation of qualitative research results; an application of qualitative research to curriculum and instruction development.

RS 716 Meta - analysis of Research 3(3-0-6)

A study of principles and various techniques of research syntheses; necessary conceptual foundations for meta - analysis of research, different designs and methodologies of meta - analysis of research, principles and methods of data collection, data analyses, and presentation of research findings.

EM 740 Advanced Educational and Psychological

Measurement 3(3-0-6)

Conceptual and theoretical study of educational and psychological measurement, including the development of educational and psychological measurement instruments in accordance with those concepts and theories.

ST 751 Experimental Designs 3(3-0-6)

A review of statistical inference; a study of experimental principles and analyses; multiple comparison; analytical statistics appropriate to various experiments; multivariate analysis of variance and multivariate analysis of covariance.

ST 752 Advanced Statistics for Research 3(3-0-6)

Matrix algebra; multiple correlation; partition of variance and commonality analysis; path analysis; canonical correlation; Hotelling T square; discriminant analysis; analysis of variance using multiple correlation; factor analysis; cluster analysis and classification analysis.

ST 753 Sampling Theory 3(3-0-6)

Study of sampling principles and theory; simple random sampling, cluster random sampling, systematic random sampling, multi - stage random sampling, double sampling, non - probability random sampling and time series sampling; estimation of sample size for various statistical tests; relation between sample size and power of the test.

CP 860 Computer for Research 3(2-3-4)

Study of computer operation, computer logic and language, basic computer programming, sources of computer packages; study and practice in the usage of computer packages for research eg. SPSS and SAS to be able to accurately use them and correctly read the computer printout.

2. Behavioral and Social Sciences

**HM 800 Seminar on Philosophical, Psychological, Historical
and Educational Perspectives in Thailand** 3(3-0-6)

Study and analysis of philosophical, psychological and historical perspectives, principles and research results related to Thai education.

**SO 801 Seminar on Social, Economic, Political and
Educational Perspectives in Thailand** 3(3-0-6)

Study and analysis of social, economic, political and educational per-

spectives, principles, and research results related to Thai education.

PG 720 Behaviors and Virtues of Leadership 3(3-0-6)

Study and practice of leaders' behaviors and virtues; analysis of beliefs, theories and research pertaining to behaviors and virtues of educational leaders and virtuous persons in the society; development of the training models for the development of the behaviors and virtues of educational leaders and others with an emphasis on self - development for leadership behaviors and virtues.

SO 711 Problems in Human Ecology 3(3-0-6)

Study the relationship between human beings and their environment, the significance of natural balances, problems arising from the destruction of natural balance, prevention and solution of mal - environment, effective methods to make use of nature, to help the students realize that some changes in ecological structure in national development may be harmful and should be especially aware.

SO 712 Social Changes and Social Planning 3(3-0-6)

Study and compare social changes in different societies especially in developed and developing countries, problem - solving and planning in social and economic aspects; study of changes that occur in Thai society as well as problems and planning to control the directions of Thai economic and social changes.

SO 713 Communication for Development 3(3-0-6)

Study communication theories related to societies and economics, various characteristics of human communication process in different societies such as rural and urban societies; practice communicating through speaking and writing, and using various communication equipments. The purpose of this course is to enable the students to apply the knowledge in designing the development project involving many people, the goal of which can be achieved by using effective communication.

SO 715 Roles of Visual Arts and Literature in Thai

Civilization

3(3-0-6)

Relationship between the conditions of Thai society and influences of other civilizations in the creation of Thai visual arts and literature in different periods that has impact on the present society; preservation and promotion of taste in Thai arts.

PG 722 Education and Personality Development

3(3-0-6)

Study educational, social, cultural factors and so on that influence the aspects of human development : physical, mental, personal, perceptual, and cognitive. The course aims to help the student to have broad minded in improving those factors to develop human resources which will lead to the development of the country in the end.

3. Curriculum Development

CL 800 Theories and Practices on Curriculum Development and Curriculum Changes

3(2-3-4)

Study of different theories, ideas and models for curriculum development, together with the study and analysis of fundamental philosophical, psychological, social and historical components for curriculum development at different levels of education to suit the community and the age of learners; study systematically the curriculum development process starting from the study of curriculum data foundations, curriculum planning, curriculum design and curriculum improvement and change; study process of curriculum change, the resistance to changes of people and organizations, and the administration of curriculum change; study research results relating to curriculum development and change; practice planning and modelling the development of curriculum system.

CL 810 Seminar on Instruction Research and Development

3(3-0-6)

Study of different factors leading to the formation of instruction theory, factors relating to and relationship between instruction models and

developmental process of instruction; an investigation concerning with the employment of educational innovations and technologies as a supplement to teaching methods; a study of teaching evaluation and the improvement of teaching effectiveness; a review of related research and a presentation of research proposal for instruction development.

CL 811 Internship Program in Research for Curriculum

Development

3(1-1-4)

Practice doing research for curriculum development under close supervision of the instructor in the Government Research Center and with the approval of the committee.

CL 820 Research Seminar on Curriculum Administration

and Evaluation

3(3-0-6)

Study, analyze and criticize different designs of educational research relating to various models of curriculum administration and evaluation by means of considering educational research findings both in the country and abroad to understand the research strength and weakness, and then giving suggestions for the improvement of those research designs.

CL 801 Seminar on Innovation and Technology for

Curriculum and Instruction Development

3(3-0-6)

Study the present educational innovation and technology including the production and implementation of curriculum materials emphasizing system analysis, the implementation for curriculum and instruction development, and the collection of sources of information used in studying curriculum instruction; study and analyze cases related to innovation and technology for curriculum and instruction development.

CL 802 Practicum in the Development and Evaluation of

Textbooks and Curriculum Materials

3(3-0-6)

Analyze the objectives and content of curriculum of different fields for the purpose of practicing textbooks and curriculum materials produc-

tion and evaluation; study research reports relating to the development of textbooks and curriculum materials in order to analyze and set the criteria for the evaluation of textbooks and curriculum materials.

**CL 803 Seminar on Trends in Curriculum Development
and Supervision**

3(3-0-6)

Study ideas, principles, structures and models of the curriculum and instruction management from a case developing in accord with the context and necessity in each period that have effects on changes in curriculum and instruction; seminar on ideas, principles and supervision process that help facilitating curriculum and instruction development trend in the future.

**CL 812 Practicum in Curriculum Research and
Development for Gifted Children**

3(1-4-4)

Study and analyze research results and guidelines relating to curriculum arrangement for gifted children at primary, secondary and tertiary levels; practice identifying talents in different areas of the gifted children; an arrangement of teaching methods and instruction materials to promote special abilities in different areas; present a research proposal on curriculum development for gifted children

**CL 813 Practicum in Curriculum Research and
Development for Learning Disable Children**

3(1-4-4)

Study and analysis of research results pertaining to different characteristics of learning disable children and remedial teaching at primary and secondary levels of education; practice determining the causes of learning disable children and organizing remedial teaching, including practice constructing diagnostic tests and remedial exercises; present a research proposal on curriculum development for learning disable children.

CL 814 Practicum in Pre - school Education Curriculum

Research and Development

3(1-4-4)

Study and analysis of research results and problems concerning pre - school education; nature and development of pre - school children; play, creative thinking, expression and organization of experiences to enrich the development in different aspects; comparative study of pre - school curriculum of other countries; prediction of the future trend of Thai pre - school curriculum; presentation of research proposal on the development of pre - school education curriculum.

CL 815 Practicum in Primary Education Curriculum Research

and Development

3(1-4-4)

Study and analysis of research results and problems pertaining to the present primary education curriculum; study of problems from case study; comparative study of primary education curriculum of other countries; prediction of the future trend of Thai primary education curriculum; presentation of research proposal on the development of primary education curriculum.

CL 816 Practicum in Secondary Education Curriculum

Research and Development

3(1-4-4)

Study and analysis of research results and problems pertaining to the present secondary education curriculum, study of problems from case study; comparative study of secondary education curriculum of other countries; prediction of the future trend of Thai secondary education curriculum; presentation of research proposal on the development of secondary education curriculum.

CL 817 Practicum in Higher Education Curriculum

Research and Development

3(1-4-4)

Study and analysis of research results and problems pertaining to the present higher education curriculum; study of problems from case study;

comparative study of higher education curriculum of other countries; prediction of the future trend of Thai higher education curriculum; presentation of research proposal on the development of higher education curriculum.

CL 818 Practicum in Vocational Education Curriculum

Research and Development

3(1-4-4)

Study and analysis of research results and problems pertaining to the present vocational education curriculum; study of problems from case study; comparative study of vocational education curriculum of other countries; prediction of the future trend of Thai vocational education curriculum; presentation of research proposal on the development of vocational education curriculum.

CL 819 Practicum in Adult Education Curriculum Research

and Development

3(1-4-4)

Study and analysis of research results and problems pertaining to the present adult education curriculum; study of problems from case study; comparative study of adult education curriculum of other countries; prediction of the future trend of Thai adult education curriculum; presentation of research proposal on the development of adult education curriculum.

CL 821 Practicum in Curriculum Research and Development

for Training

3(1-4-4)

Study and analysis of research results and problems concerning the need for training of the target groups; training curriculum construction, training process and evaluation of training project, including the proposition of training curriculum.

CL 822 Independent Study

3(3-0-6)

The student individually selects topics of studies or research under the supervision of the instructor. The research is for the students' skills and

knowledge supplement in one specific topic which is of special interest to the individual student and not available in the present program.

4. Doctoral Dissertation

CL 999 Doctoral Dissertation

15 credits

Individual research project in curriculum research and development involving the new discovery of knowledge or the original contribution to this field. Research should be substantial and demonstrate the student's ability of apply the integrated knowledge and professional experiences in the resolution of research problem leading to research and/or curriculum development.

EDUCATIONAL ADMINISTRATION

Name of the Degree : Doctor of Education (Educational Administration)

: Ed.D. (Educational Administration)

Objectives

To develop the potentiality and ethics of the educational administrators to work in the areas of :

1. Educational administration in order to effectively perform their duties in development, policy formation, planning and administration at different levels of education.

2. Research in educational administration in order to conduct research and apply research results to the development of national education.

3. Academic knowledge in order to develop further educational administration profession and to be a leader in applying academic knowledge for social development.

Structure of the Program

Areas of Concentration	Credits of		
	Required Courses	Elective Courses (not less than)	Total (not less than)
1. Research Methodology	9	3	12
2. Behavioral and Social Sciences	6	6	12
3. Educational Administration	10	11	21
4. Doctoral Dissertation	15	-	15
Total	40	20	60

Course Requirements

1. Research Methodology not less than 12 credit hours

1.1 Required Courses 9 credit hours

RS 731 Methods of Quantitative and Qualitative

Inquiry in Education 3(3-0-6)

RS 732 Quantitative Analysis in Education Research 3(3-0-6)

RS 734 Educational Policy Analysis 3(3-0-6)

1.2 Elective Courses not less than 3 credit hours

CP 723 Computer for Research in Social Sciences 2(1-3-2)

RS 733 Applied Multivariate Analysis 3(3-0-6)

RS 735 Non-parametric Statistical Inference 3(3-0-6)

RS 736 Educational Project Designs and Evaluation 2(2-0-4)

RS 737 Operation Research for Educational
Administration 2(2-0-4)

RS 781 Research Practicum in Educational
Administration 2(1-3-2)

- RS 791** Seminar on Research in Educational Administration 2(1-3-2)
- 2. Behavioral and Social Sciences** not less than 12 credit hours
- 2.1 Required Courses** 6 credit hours
- PG 742** Seminar on Social, Philosophical, Psychological and Historical Foundations of Education in Thailand 3(3-0-6)
- RB 572** Morality and Moral Education 3(3-0-6)
- 2.2 Elective Courses** not less than 6 credit hours
- PG 754** Social Psychology for National Development 3(3-0-6)
- PG 763** Educational and Personality Development 2(2-0-4)
- SO 744** Problems in Urban and Rural Living 3(3-0-6)
- SO 746** Seminar on Social, Economic, Political and Educational Problems in Thailand 3(3-0-6)
- SO 749** Social Change and Social Planning 3(3-0-6)
- SO 753** Sociology for National Development 3(3-0-6)
- RB 561** Population and Social Development 3(3-0-6)
- RB 571** Education and Modernization 3(3-0-6)
- ED 776** Crucial Issues in Current Thai Education 3(3-0-6)
- PH 762** Religions, Philosophy and National Development 2(2-0-4)
- PO 756** Political Science for National Development 3(3-0-6)
- CO 751** Human Communication 3(2-3-4)
- EC 755** Economics for National Development 3(3-0-6)
- 3. Educational Administration** not less than 21 credit hours
- 3.1 Required Courses** 10 credit hours
- EA 711** Organizational Change and Development 2(1-3-2)
- EA 712** Planning Strategies in Education 2(1-3-2)
- EA 713** Education and Development 2(2-0-4)

EA 871	Seminar on Comparative Educational Administration	2(2-0-4)
EA 892	Internship in Educational Administration	2(0-10-0)
3.2	Elective Courses not less than 11 credit hours	
EA 721	Advanced Studies in Educational Laws	2(2-0-4)
EA 732	National Resources Management for Education	2(2-0-4)
EA 741	Managerial Leadership : Theory, Research and Practices	2(2-0-4)
EA 751	Advanced Studies in Elementary Educational Administration	2(2-0-4)
EA 752	Advanced Studies in Secondary Educational Administration	2(2-0-4)
EA 753	Advanced Studies in Higher Educational Administration	2(2-0-4)
EA 771	Seminar on Advanced Administrative Theory and Organization	2(2-0-4)
EA 811	Strategies in Resolutions of Educational Conflicts	2(2-0-4)
EA 861	Education for National Security	2(2-0-4)
EA 881	Analysis of Educational Research for Administration	2(2-0-4)
EA 891	Independent Study	1-2(1-2, 0-0, 2-4)
DE 779	Principles and Processes of National Development	2(2-0-4)
DE 780	Educational Strategies for Development	2(2-0-4)
DE 785	Human Resources Development and Utilization	2(2-0-4)
CL 771	Curriculum Theories and Practices	3(3-0-6)
CL 777	Production and Implementation of Curriculum Materials	3(3-0-6)

EC 782 Economics of Education	2(2-0-4)
EC 786 Planning of Economy, Manpower and Education	3(3-0-6)
RB 641 Community Living and Development	3(3-0-6)

4. Dissertation

EA 999 Doctoral Dissertation	15 credits
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5. Pre-requisite Those who have no background in educational administration are required to take the following courses:-

ED 500 Education and Society	2(2-0-4)
EA 512 Principles of Educational Administration	3(3-0-6)
EA 513 Educational Supervision	3(3-0-6)
EA 541 Personnel Administration in Education	3(3-0-6)

Course Description

1. Research Methodology

CP 723 Computer for Research in Social Sciences 2(1-3-2)

Principles of computer operation, computer logic and language, and basic computer programming : practice in computer programming for social sciences research.

RS 731 Methods of Quantitative and Qualitative Inquiry in Education 3(3-0-6)

This course aims to give students a clear and concise knowledge and understanding about quantitative and qualitative methods of inquiry that are currently used in education. The course content includes scientific methods and principles; meaning, purpose and principles of research designs; types of quantitative and qualitative research, limitation and internal and external validity of research; statistical concepts and methods for the data collection and data processing; research methodology;

writing research report; evaluative and critical analysis of research report.

RS 732 Quantitative Analysis in Education Research 3(3-0-6)

Principles and techniques of statistical inference and decision based on a concept of probability distribution and the likelihood principle. Topics include elements of probability; concepts of population, sample, sampling distributions, Bernoulli and Poisson Processes; normal distribution; central limit theorem; linear combination of random variables; estimation; hypotheses testing; analysis of variance; multiple comparisons; linear regression and correlation analysis; path analysis; analysis of covariance and factor analysis.

RS 733 Applied Multivariate Analysis 3(3-0-6)

Application of multiple regression analysis and least square techniques in social science research. Topics include matrix algebra used in statistics; multivariate normal distribution; multiple correlation, multiple and multivariate regression; Hotelling T^2 and multivariate analysis of variance; principal component analysis, factor analysis; canonical correlation and discriminant function.

RS 734 Educational Policy and Analysis 3(3-0-6)

The course provides quantitative analysis techniques essential to the formation of educational policy. Content covers a wide range of multivariate statistics, econometrics and microeconomic theory necessary for policy analyst who seek a better understanding of more sophisticated research methodology. Topics include time series analyses, multiple linear regression, discriminant analysis, linear programming, program evaluation, Lorenz curve analysis, production and cost in education, cost-benefit analysis, evaluation of resource allocation in the public enterprise.

RS 735 Non-parametric Statistical Inference 3(3-0-6)

The course deals with problems of estimating and testing hypotheses when the functional form of the distribution is unknown. The sign test,

rank test and related test, confidence procedure based on these tests, multi-sample problems, regression and correlation, estimation of distribution function.

RS 736 Educational Project Designs and Evaluation 2(2-0-4)

Systematic analysis of factors affecting the conception, design and implementation of educational projects. Intensive studies of project designs and evaluation techniques such as formulation of project objectives, project administration, various models used in project evaluation and writing project evaluation report.

RS 737 Operation Research for Educational Administration 2(2-0-4)

Study of analytic tools necessary for educational management system. Among the empirical and conceptual approaches will be cost - benefit analysis, cost - effectiveness analysis, network analysis (critical path scheduling), techniques of analysis sequencing and allocation problems, Monte Carlo techniques, stochastic process based on Markov chain analysis, introduction to queueing theory and games theory.

RS 781 Research Practicum in Educational Administration 2(1-3-2)

A practicum designed to provide practical and direct experience in research on educational administration. Emphasis is on research methodology; problem definition, design, data collection and analysis, interpretation and policy implication, relevant to current problems in educational administration.

RS 791 Seminar on Research in Educational Administration 2(1-3-2)

The purpose of this seminar is to enable students to make a critical and intensive analyses of modern research in educational administration using knowledge and skills in educational research and statistics in addition to theories in educational administration. Students will be able to evaluate research reports and organize research findings for further

research and usage in educational administration.

2. Behavioral and Social Sciences

PG 732 Seminar on Social, Philosophical, Psychological and Historical Foundations of Education in Thailand

3(3-0-6)

Study the backgrounds of educational ideas of Thai people, analysis of the influences of social, philosophical and psychological characteristics on Thai education of various periods in order to help the students know the unique characteristics and understand the present conditions of Thai society and visualize the future educational trends which are congruent with the social and cultural backgrounds of Thai society.

PG 754 Social Psychology for National Development

3(3-0-6)

Study of advanced principles, theories and concepts of social psychology with the special emphasis on the issues related to national development.

PG 763 Educational and Personality Development

2(2-0-4)

Study of the educational, social, cultural and other factors that have an influence on personal development, i.e. physical, mental, personality, perceiving and thinking. The purpose is to develop and to equip the students to possess the personality and efficiency to cope with the national development

SO 744 Problems in Urban and Rural Living

3(3-0-6)

Study of Thai community, geography of settlement, economics, sociology and physical geography. Discuss and analyze problems of rural and urban living, consider the appropriate methods and interdisciplinary approach to solve the problems arising in Thailand.

SO 746 Seminar on Social, Economic, Political and Educational Problems in Thailand

3(3-0-6)

Study economic, political, cultural and educational changes and problems of the Thai society to collect reliable data; study academic progresses

and innovations; analyze Thai educational system and consider appropriate ways to organize the educational system related to national development.

SO 749 Social Change and Social Planning 3(3-0-6)

Study and compare social changes in different societies especially in developed and developing countries; problem - solving and economic and social planning; change that occurs in Thai society as well as problems and planning to control the directions of Thai economic and social changes.

SO 753 Sociology for National Development 3(3-0-6)

Advanced principles, theories and concepts of sociology, with special emphasis on those issues related to national development.

(Prerequisite : basic knowledge in this field)

RB 561 Population and Social Development 3(3-0-6)

The roles of social and economic factors in fertility, morality and migration are examined. Particular attention is given to the impact of population change on economic, social and cultural aspects of many countries with an emphasis on Thailand.

RB 571 Education and Modernization 3(3-0-6)

Investigation of the effects of both formal and informal education on the development of thinking, intelligence, vocational ability, acceptance of innovation, attitude, personality, motivations concerning modernity. Studies about causes and factors relating to modernity characteristics. Modernity defined as recognition of time value, participations, scientific attitude and democratic mind. Learn how to use behavioral sciences as the principle for determining policy and procedures for human development, by means of education as the avenue for developing characteristics and modernity behavior in different types of Thai people.

RB 572 Morality and Moral Education 3(3-0-6)

Theories and research findings in behavioral science, especially psychology and sociology which can help in understanding the concept of morality and its components, the relationship between psychological characteristics and good-bad actions, the social environmental correlates of individual's morality, the approaches for moral development as well as moral education in the schools and temples. The socialization processes and training programs for moral evaluation of different types of people. The convergence of ideas in morality from philosophy, religion, psychology and education.

PH 762 Religions, Philosophy and National Development 2(2-0-4)

Comparative study of important world religions and social philosophies and their influence on economic, social and political development of people : lecture type instruction with some seminars.

PO 756 Political Science for National Development 3(3-0-6)

Advanced principles and concepts of political science, with special emphasis on those issues related to national development.

(Prerequisite : basic knowledge in this field)

CO 751 Human Communication 3(2-3-4)

Communication as related to society and economics; characteristics of human communication process in different societies; such as rural and urban; oral and written communication; different varieties of communication tools.

EC 755 Economics for National Development 3(3-0-6)

Advanced principles and concepts of economics, with specific emphasis on those issues related to national development.

(Prerequisite : basic knowledge in this field)

ED 776 Crucial Issues in Current Thai Education 3(3-0-6)

Analyze documents and articles from various sources such as journals, newspapers, professional society documents, speeches, discussions, lectures, and seminar reports; study data from learned men and specialists; and analyze personal experiences in order to know the characteristics of the issues and suggest ideas and ways of action.

3. Educational Administration

EA 711 Organizational Change and Development 2(1-3-2)

Analysis of the fundamental factors which have the influence on organizational development; study of the theories, strategies and plan for change; models and techniques of personnel development as related to the social change.

EA 712 Planning Strategies in Education 2(1-3-2)

The study of basic concepts and considerations, theory and methods of educational planning, covering the process of educational planning, setting of goals and objectives, systems models and analysis techniques; demographic methods for population and enrollment forecasting; and long-range fiscal, budgetary and cost analysis. Emphasis is placed on the development of planning models both algorithmic and heuristic, and to cost models : including process of plan implementation.

EA 713 Education and Development 2(2-0-4)

The study and review of the theories of economics and social change with special emphasis on social investment and social policy in the development to modernization, with an analysis of the poverty, underdevelopment, the persistence of tradition, and the impact of rapid change. Study the fundamental problems of national development, and to situate the question of educational in the broader issues of development. Analysis of educational problems, especially the relationship between the goals and purposes of education and the goals of social and economic development.

Statement of the goals, rules and regulations of the actual development plan will be reviewed.

EA 721 Advanced Studies in Educational Laws 2(2-0-4)

This course seeks to analyze the legal systems, methods and procedures concerning education. Stimulate students to apply the law and legal reasoning to factual situations that arise in the operation of all public and private educational institutions. Focus is on the legal authority in all educational aspects, including the bases and limitations of legal authority

EA 732 National Resources Management for Education 2(2-0-4)

Study and analysis of concepts, principles and theories of national resource allocation for education. Roles of educational leaders in resource identification, gathering and management; sharing of educational resources both in public and private organization. Evaluation of resource utilization in school systems.

EA 741 Managerial Leadership : Theory, Research and Practices 2(2-0-4)

Intensive review of theoretical and empirical evidences on group, leadership and effectiveness of the educational leaders from various organizations. Analysis and discussion of educational leader roles, functions, administrative behavior, personality and decision making. The study of administrative cooperation for productivity and development.

EA 751 Advanced Studies in Elementary Educational Administration 2(2-0-4)

Goals, policies, practices and contemporary problems of elementary education. Principles of elementary education administration related to organizational structures, legal and financial bases. Administration of academic affairs, business affairs, student affairs and school - community relations. The emphasis is placed on the development of faculty

members and instruction.

EA 752 Advanced Studies in Secondary School Administration 2(2-0-4)

This course will examine a variety of current educational, political, economical and sociological issues faced by the administrators and analyze the development plan of the secondary education. The emphasis is placed on the nature of educational equality, market-oriented society; changes in organization and concepts of management and teaching in secondary education ; the creation of social promotion; the evaluation of the discipline problems; the development of the high school curriculum; the relation between the development of elementary, secondary and higher education. The study will be organized as a research seminar. Discussion leaders will include guest speakers from secondary school faculties, students, lay citizens and also the educational administrators at higher levels.

**EA 753 Advanced Studies in Higher Educational
Administration**

2(2-0-4)

Goals, policies, practices and contemporary problems of higher education. Principles of higher education administration that relate to organizational structures, legal and financial bases. Administration of academic affairs, business affairs and student affairs. Development of higher educational administration with emphasis on faculty development and institutional research.

**EA 771 Seminar on Advanced Administrative Theory and
Organization**

2(2-0-4)

The administrative theory and process of organizing system analysis and comparative techniques are concerned in order to seek the concept and concise knowledge and also the implication capabilities on administration of relevant to current problems.

EA 811 Strategies in Resolutions of Education Conflicts 2(2-0-4)

Identification of educational conflicts from various sources i.e, research, articles, court cases, and educators. Emphasis is placed on types and causes of educational conflicts; conflicts derived from philosophical, sociological, political and historical factors. Study of theory and empirical evidence related to causes, prevention and resolutions of educational conflicts.

EA 861 Education for National Security 2(2-0-4)

Analysis of aspects related to national security ; study the problems concerning education, economics, society, culture and ethics, national defense and political stability which will effect national security. Strategies of educational management for national security and development.

EA 871 Seminar on Comparative Educational Administration 2(2-0-4)

Intensive study of educational administration systems of selected countries with concentration on educational philosophy, system, structure and management : influences of political, economical and sociological factors towards the educational policy and the development of existing educational systems.

EA 881 Analysis of Educational Research for Administration 2(2-0-4)

In depth analysis of educational research undertaken indigineously and internationally. Study of the educational research findings for the establishment of objectives, procedures, planning and exhancing the local and national educational administration.

EA 891 Independent Study 1-2(1-2, 0-0, 2-4)

Individual study on topic of his interest under the direction of graduate faculty member : the research to supplement skills and knowledge not available in other courses of instruction.

EA 892 Internship in Educational Administration 2(0-10-2)

Provision of direct administrative experience in selected educational organizations. Conferences with the assigned supervisors and the instructors discussing the actual procedures and practical problems in administration.

DE 779 Principles and Processes of National Development 2(2-0-4)

Nature of human social processes in general and in Thailand especially economic development, society and government, theories of social change, development, economics and political dynamics; teaching and learning both inductively and deductively.

DE 780 Educational Strategies for Development 2(2-0-4)

Strategies for educational improvement or innovation to solve problems and effect national progress; problems to be raised and objectives of national development declared.

DE 785 Human Resources Development and Utilization 2(2-0-4)

Study of concepts, principles, theories and research results concerning the use and development of human resources especially in Thailand.

CL 771 Curriculum Theories and Practices 3(3-0-6)

Study and analyze fundamental social, psychological, philosophical and historical components for curriculum construction for different levels of education to suit the community and the age of the learner; analyze the structure of the curriculum; practice setting objectives to select the content, learning - teaching process and evaluation; study curriculum research findings both in the country and abroad.

**CL 777 Production and Implementation of Curriculum
Materials** 3(3-0-6)

Production and implementation of curriculum materials according to types and methods emphasizing systems analysis to make the curriculum

materials the real integral parts of the curriculum both in the production and implementation techniques.

EC 782 Economics of Education 2(2-0-4)

Principles and theories of economics; economic development progress, and capital investment in education and its results; various problems concerning economic lessons in the Thai education system; lecture and group discussion.

EC 786 Planning of Economy, Manpower and Education 3(3-0-6)

Study of various theories in planning for economic development both in developing and developed countries; manpower planning; educational planning, relation between plans and study of methods of planning educational development in Thailand in accordance with economic and social development plan.

RB 641 Community Living and Development 3(3-0-6)

The impact of the near environment, both urban and rural, on our behavior as social beings. Ways our environment facilitates or hinders our functioning. Social problems, mental health, learning and work achievement, recreation and frameworks for individual and social development are considered.

4. Doctoral Dissertation

EA 999 Doctoral Dissertation 15 credits

Individual research project on essential problems of the educational system, the research requiring the application of theories, principles, creative professional experience for the development of the administrative principles aiming towards the resolution of educational problems and educational development.

Pre-requisite Course for those having no background in educational administration

ED 500 Education and Society	2(2-0-4)
Study and analysis of definitions, process and fundamental factors of education, relationship and function to the socio-economic reality of Thai society, emphasis on the policy-making, objectives, trends of educational systems, solutions to educational problems.	
EA 512 Principles of Educational Administration	3(3-0-6)
(See page 79)	
EA 513 Educational Supervision	3(3-0-6)
(See page 80)	
EA 541 Personnel Administration in Education	3(3-0-6)
(See page 81)	

Educational Technology

Name of the Degree : Doctor of Education (Educational Technology)
: Ed.D. (Educational Technology)

Objectives

To provide professional preparation that will enable the doctoral graduate to be:

1. An academic and a leader in educational technology capable of applying, designing, producing, developing and diffusing current educational methodologies and instruments.
2. Able to conduct and apply research in the area of educational technology to the development of national education.
3. Able to formulate, plan and administer the national educational technology at different levels of education.

4. Able to develop educational technology into an advanced profession.

Structure of the program

Areas of Concentration	Credits of		
	Required Courses	Elective Courses (not less than)	Total (not less than)
1. Research Methodology	6	3	9
2. Behavioral and Social Sciences	6	3	9
3. Educational Technology	18	9	27
4. Doctoral Dissertation	15	-	15
total	45	15	60

Course Requirements

1. Research Methodology not less than 9 credit hours

1.1 Required Courses 6 credit hours

RS 710 Advanced Research Methodology 3(3-0-6)

CP 723 Computer for Research in Social Sciences 3(3-0-6)

1.2 Elective Courses not less than 3 credit hours

ST 711 Advanced Statistical Inference 3(3-0-6)

RS 720 Survey Research Techniques 3(2-3-4)

RS 721 Operation Research Techniques 3(2-3-4)

RS 733 Applied Multivariate Analysis 3(3-0-6)

RS 735 Non - Parametric Statistical Inference 3(3-0-6)

2. Behavioral and Social Sciences not less than 9 credit hours

2.1 Required Courses 6 credit hours

RB 571 Education and Modernization 3(3-0-6)

SO 746 Seminar on Social, Economic and Educational Problems in Thailand 3(3-0-6)

- 2.2 Elective Courses** not less than 3 credit hours
- EC 755** Economics for National Development 3(3-0-6)
 - PH 762** Religions, Philosophy and National Development 2(2-0-4)
 - PO 756** Political Science for National Development 3(3-0-6)
 - SO 753** Sociology for National Development 3(3-0-6)
 - SO 754** Seminar on Social Sciences 3(3-0-6)
- 3. Educational Technology** not less than 27 credit hours
- 3.1 Required Courses** 18 credit hours
- ET 711** Trends and Issues in Educational Technology 3(3-0-6)
 - ET 712** Learning Environments Design 3(3-0-6)
 - ET 713** Instructional Design and Development 3(3-0-6)
 - ET 811** Administration of Learning Resources 3(3-0-6)
 - ET 831** Advanced Media Production 3(1-6-2)
 - ET 841** Seminar on Research in Educational Technology 3(1-6-2)
- 3.2 Elective Courses** not less than 9 credit hours
- ET 721** Diffusion and Adoption of Educational Innovation 3(3-0-6)
 - ET 722** Computer Assisted Instruction 3(3-0-6)
 - ET 731** Instructional Task Analysis 3(2-3-4)
 - ET 832** Computer Programming for Instruction 3(2-3-4)
 - ET 833** Project on Advanced Media Design and Production 3(0-9-0)
 - ET 851** Research Method and Practicum in Educational Technology 3(3-0-6)
- 4. Doctoral Dissertation**
- ET 999** Dissertation in Educational Technology 15 credits

Course Description

1. Research Methodology

ST 711 Advanced Statistical Inference 3(3-0-6)

Study of the structure of mathematical statistics and the use of statistical inference in research; random experiment; random variables; sample spaces; population and sample; random sampling; sampling distribution; hypothesis testing; error and power of the tests; some distributions used in hypothesis testing : bivariate, hypergeometric, normal and t-distributions; parametric test; emphasizing on applying statistical methods to problem solving in research project and seminar.

RS 710 Advanced Research Methodology 3(3-0-6)

A study of research design, basic concepts necessary for research; an analytical study of different research methodologies both qualitative and quantitative approaches; different methods of data collection and measurement; manipulation and statistical analysis of data; qualitative analysis; writing research proposal. The aim is to enable the students understand various research designs.

CP 723 Computer for Research in Social Sciences 3(2-3-4)

Study computer operation, computer logic and language, basic computer programming; study and practice in the usage of computer programs and computer packages.

RS 720 Survey Research Techniques 3(2-3-4)

Theoretical and practical study of survey research methods, such as construction of questionnaires, selection of samples, interview, editing of questionnaires, computer calculation, analysis of survey data and presentation of survey results.

RS 721 Operation Research Techniques 3(2-3-4)

Theoretical and practical study of operations research methods, such as statement of problems, construction of hypotheses, formulation of models, model verification using data, conclusion and presentation of research for utilization.

RS 733 Applied Multivariate Analysis 3(3-0-6)

Application of multiple regression analysis and method of least square to research in behavioral and social sciences; matrix algebra used in statistics; multivariate normal distribution; multiple correlation; multivariate regression analysis; Hotelling T square; multivariate analysis of variance; factor analysis; canonical correlation; discriminant analysis.

RS 735 Non - Parametric Statistical Inference 3(3-0-6)

Study of estimation and hypothesis testing concerning with parameters whose distributions are unknown; sign test, rank test and other related tests; methods of setting the confidential levels of various tests; data analysis for the case of more than two groups.

2. Behavioral and Social Sciences

RB 571 Education and Modernization 3(3-0-6)

Investigation of the effects of both formal and informal education on the development of thinking, intelligence, vocational ability, acceptance of innovation, attitude, personality, motivation concerning modernity; study about causes and factors relating to modernity characteristics; study how to use behavioral science as the principle for determining policy and procedures for human development, by means of education as the avenue for developing characteristics and modernity behavior in different types of Thai people.

EC 755 Economics for National Development 3(3-0-6)

Study of principles, theories and concepts to economics with special emphasis on those issues related to development in different areas, to

enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

PO 756 Political Science for National Development 3(3-0-6)

Study of principles, theories and concepts of political science, with special emphasis on those issues related to development in different areas, to enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

PH 762 Religions, Philosophy and National Development 2(2-0-4)

Comparative study of significant religions and social philosophies that have effects on the qualitative development of individuals, societies and countries; analyze social problems arising from the lack of individual development of ethics and religious support in accordance with the national goal of the social and economic development.

SO 746 Seminar on Social, Economic, Political and Educational Problems in Thailand 3(3-0-6)

Study economic, political, cultural and educational changes and problems of the Thai society to collect reliable data; study academic progresses and innovations; analyze Thai educational system and consider appropriate ways to organize the educational system in relation to national development.

SO 753 Sociology for National Development 3(3-0-6)

Study of principles, theories and concepts of sociology, with special emphasis on those issues related to national development, to enable students to clearly understand and be ready to apply them to the analysis of problems and projects for national development.

SO 754 Seminar on Social Sciences 3(3-0-6)

Study of principles, theories and concepts in social sciences : sociology, anthropology, economics and political science, related to the society,

in order to understand and apply those issues for the benefit of Thai society.

3. Educational Technology

ET 711 Trends and Issues in Educational Technology 3(3-0-6)

Critics of present development in educational technology both inside and outside the country and future trends, including storage and diffusion of information, media usage, production and administration of educational technology in schools and organizations related to communication and education.

ET 712 Learning Environments Design 3(3-0-6)

Principles of designing learning environments; relationship among different factors in learning environments; various decision models in designing process; design presentation, construction and evaluation of learning environments involving different factors.

ET 713 Instructional Design and Development 3(3-0-6)

Necessity and guidelines of instructional design and development, emphasizing the process of instructional design on the basis of modern theories, psychological foundation, technological progress, physical factors; learning and presenting models in different disciplines.

ET 721 Diffusion and Adoption of Educational Innovation 3(3-0-6)

Survey and analysis of methods and models of diffusion and adoption of educational innovation to understand the planning operation of diffusion leading to the adoption of educational innovation; demonstration of the utilization of different models in various educational environments for the best outcomes.

ET 722 Computer Assisted Instruction 3(3-0-6)

Evolution of computer assisted instruction; research results and models concerning computer assisted instruction: language and working system;

problems in computer assisted instruction; project evaluation criteria and practice; the utilization of computer packages in instruction.

ET 731 Instructional Task Analysis 3(2-3-4)

Theoretical and practical study in the instructional task analysis, instructional plan, detailed job analysis based on priorities and continuity; instructional behavior analysis and the execution of instructional task analysis.

ET 811 Administration of Learning Resources 3(3-0-6)

Analysis of learning resources consisting of educational technology center or institution of information service, library and media services; designing, planning and organizing in accordance with budget, manpower and users' demand; evaluation of the effectiveness of learning resource usage.

ET 831 Advanced Media Production 3(1-6-2)

(Prerequisite : ET 512 or under the consent of the instructor)

Principles and practice of media design and production, including audio and graphic media, pictures, video tape, films, film-strips, slides, computers, printed materials, with an emphasis on designing to meet the set objectives.

ET 832 Computer Programming for Instruction 3(2-3-4)

Microcomputer; selection of computer language applicable to computer programming for instruction; principles of computer programming; practice writing computer programs; design and construction of computer - assisted programmed instruction.

ET 833 Project on Advanced Media Design and Production 3(0-9-0)

Practicum in different educational organizations under the supervision of advisors and the joint-planning between advisors and students; proposition of project to design and produce educational media based

upon production principles and theories; project implementation and seminar concerning the products of the project.

ET 841 Seminar on Research in Educational Technology 3(1-6-2)

Comments and critics of research in educational technology both inside and outside the country utilizing research knowledge, skills as well as theories in educational technology; examination of those research reports in order to understand the strength, weakness and limitations for the benefit of the students in conducting their own research and applying those research results to their future work.

ET 851 Research Method and Practicum in Educational Technology

3(3-0-6)

(Prerequisite : RS 717, R: 741)

Study of research methodology and its application to research design in educational technology, leading to dissertation research; research practicum with an emphasis on research design and construction of experimental instrument; presentation of research results for class comments.

4. Dissertation

ET 999 Doctoral Dissertation in Educational Technology 15 credits

Research concerning significant problems in educational technology, emphasizing the ability of initiative and creative thinking; application of principles and experiences in educational technology to problem - solving, development and critics of educational technology which will lead to the development of educational technology as well as the national development.

PART III
FACULTY AND STAFF OF INSTRUCTION

PRASARNMIT CAMPUS

Graduate School

- Mr. Somporn BUATONG (Prof.) Dean of Graduate School
B.A. (Sec. Ed.), M.S., Ed.D. (Psy. and Guid.)
- Mr. Annop PHOTHISUK (Instructor) B.A. (Pol. Sc.), M.A. in Ed.
- Mr. Charoon KOMOLBOON (Asst. Prof.) B.Ed. (Sec. Ed.)
M.S. (Ed. Psy.)
- Mr. Chalio BURIPAKDI (Prof.) B.Ed. (Hons.) (Sec. Ed.),
Cert. in Research, M.Ed. (Hons.) (Test and Meas.), A.M., (Adm.)
Ph.D. (International Dev. Ed.)
- Mrs. Chutima CHIAMSIRI (Instructor) B.A. (Hons.) (Ling.),
M.A. (Ed. Adm.), Ph.D. (Cur. & Inst.)
- Miss Nonglak WIRATCHAI (Instructor) B.Sc. (Hons.) (Math),
B.Ed. (Hons.) (Sec.Ed.), M.Ed. (Ed. Research),
Ph.D. (Comparative Ed.)
- Miss Orawan TANTCHARERNRAT (Instructor) B.Ed. (Sec.Ed.),
M.Ed.
- Mr. Pisit SARAWICHITR (Asst. Prof.)
B.Ed. (Thai-Eng.), M.A. in Ed. Psy., Ph.D. (Cur., Inst. and Eval.),
Dip. in the Science of Personal Achievement.
- Mrs. Sor. Wasna PRAVALPRUK (Assoc. Prof.)
B.Ed. (Physics and Math.),
M.A. (Meas., Evaluation and Research Design),
Ph.D. (Meas., Evaluation and Research Design)
- Mr. Sermak WISALAPORN (Prof.) B.Ed. (Sec.Ed.), M.S. (Math),
Cert in Acad. Adm., Ph.D. (Ed. Adm.)
- Miss Siriyupa POONSUWAN (Instructor) B.Ed. (Chem.),
M.Ed. (Hi.Ed.), Ed.D. (Cur. Research and Dev.)

Behavioral Science Research Institute

- Miss Penkhae PRACHONPACHANUK (Instructor) Director
B.Ed. (El.Ed.), M.S. (Psy.),
Ed.D. (Adult and Extension and Rural Sociology)
- Mrs. Ashara SUCAROMANA (Asst Prof.) B.A. (Psy.),
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