

# Bachelor of Education Program in Mathematics

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## General Information

**Degree Designation** : Bachelor of Education Program in Mathematics

**Total Credits** : 160 credits

**Graduate** : 5 years

## Academic Year

The academic calendar mostly consists of two semesters (Two-semester system). Each semester is not less than 15 weeks. The summer session is scheduled to meet the requirements of each

1 st semester : June - September

2 nd semester : November – February

Summer semester : March – May

## Course Structure

A : General Education Course

B : Major Course

C : Free Elective Course

## A : General Education (30 credits)

### 1. Language and Communication (9 credits)

- Fundamental Course (6 credits) :

Course ID	Course name	Credits
1551001	Fundamental English	3(3-0-6)
1551002	English for Communication	3(3-0-6)

- Free Elective (3 credits) :

1541001	Thai Language Usage Skills	3(3-0-6)
1541002	Language and Communication for Specific Purposes	3(3-0-6)
1561001	Japanese for Communication	3(3-0-6)
1571001	Chinese for Communication	3(3-0-6)
1571002	Fundamental Chinese for Tourism	3(3-0-6)
1661001	Korean for Communication	3(3-0-6)
1691001	Fundamental Burmese	3(3-0-6)
1691002	Burmese for Communication	3(3-0-6)

## 2. Humanities (6 credits)

Course ID	Course name	Credits
1001003	Human Behavior and Self-Development	3(3-0-6)
1001005	Thinking and Decision Making Skill	3(3-0-6)
1511001	Ethics and Human Beings	3(3-0-6)
1511002	Facts of Life	3(3-0-6)
1521001	Buddhism	3(3-0-6)
1631001	Information for Study and Research	3(3-0-6)
2011001	Aesthetics of Visual Arts	3(3-0-6)
2051001	Aesthetics of Performing Arts	3(3-0-6)
2061001	Music Appreciation	3(3-0-6)
3501001	Leadership Development	3(3-0-6)
3501003	Personality Development and the Arts of Socializing	3(3-0-6)

## 3. Social Sciences (6 credits)

Course ID	Course name	Credits
2501001	History of Thai Society and Culture	3(3-0-6)
2501003	Public Mind and Civic Social Engagement	3(3-0-6)
2501004	Interdisciplinary Social Science for Development	3(3-0-6)
2501005	Kamphaeng Phet Studies	3(2-2-5)
2521001	Globalization and Localization	3(3-0-6)
2521002	ASEAN Studies	3(3-0-6)
2541001	Human Beings, Community, and Environment	3(3-0-6)
2541002	Local Resource Management	3(3-0-6)
2551002	Fundamental Knowledge on Thai Politics and Government	3(3-0-6)
2561001	Introduction to Laws	3(3-0-6)
3501004	Business Initiation	3(3-0-6)
3531001	Finance in Daily Life	3(3-0-6)
3541001	Entrepreneurship	3(3-0-6)
3591002	Sufficiency Economy	3(3-0-6)

#### 4. Mathematics, Science, and Technology (6 credits)

##### Select courses in subjects 1. - 4. (3 credits)

Course ID	Course name	Credits
1161001	Sports and Recreation for Quality of Life	3(2-2-5)
1161002	Exercise for Health	3(2-2-5)
4001002	Science and Technology for Daily Life	3(3-0-6)
4001003	Environments and Natural Resources Conservation	3(3-0-6)
4071001	Health and Health Care	3(3-0-6)
4091001	Mathematics in Daily Life	3(3-0-6)
4091003	Mathematics and Decision Making	3(3-0-6)
4121001	Computer and Information Technology	3(2-2-5)
4121005	Website Design and Development	3(2-2-5)
4121006	Package Software for Application	3(2-2-5)
5001001	Agriculture in Daily Life	3(3-0-6)
5071001	Food for Health	3(3-0-6)
5501001	Technology in Daily Life	3(3-0-6)

#### B : Major Course (124 credits)

##### Teachers Group (32 credits)

Course ID	Course name	Credits
1003101	Practicum 1	1(90)
1004102	Practicum 2	1(90)
1012101	Philosophy and Self-actualization for Teacher	3(3-0-6)
1012103	Language and Culture for Teacher	3(2-2-5)
1012104	English for Teachers	3(2-2-5)
1022001	Curriculum Development	3(2-2-5)
1022002	Principle of Learning Management and Classroom Management	3(2-2-5)
1032201	Innovation and Education Information Technology	3(2-2-5)
1043001	Learning Measurement and Evaluation	3(2-2-5)
1043002	Research for Learning Development	3(2-2-5)
1052001	Psychology for Teacher	3(3-0-6)
1063005	Educational Quality Assurance	3(3-0-6)

**Selective teachers (2 credits)**

<b>Course ID</b>	<b>Course name</b>	<b>Credits</b>
1001002	Thai Language for Communication of Teachers	2(2-0-4)
1005101	English for Communication of Teachers	2(2-0-4)
1012002	Academic Camp Management	2(1-2-3)
1022003	Skills and Techniques of Learning Management	2(1-2-3)
1024001	Chinese for Communication of Teachers	2(2-0-4)
1031101	Computers for Education	2(1-2-3)
1033202	Media Texts Construction	2(1-2-3)
1043003	Statistics for Data Analysis in Education	2(1-2-3)
1053002	Guidance and Activities for Student Development	2(2-0-4)
1063004	Principal of Educational Administration	2(1-2-3)
1063005	Educational Administration Leadership	2(1-2-3)
1083001	Inclusive Education	2(2-0-4)

**Teachers Practice (12 credits)**

<b>Course ID</b>	<b>Course name</b>	<b>Credits</b>
1004103	Internship 1	6(540)
1005104	Internship 2	6(540)

**Major Requirement (42 credits)**

<b>Course ID</b>	<b>Course name</b>	<b>Credits</b>
1191401	English for Teaching Mathematics in School 1	1(1-0-2)
1191402	English for Teaching Mathematics in School 2	1(1-0-2)
1191403	English for Teaching Mathematics in School 3	1(1-0-2)
1192301	Teaching and Learning Numbers and Operations in School	3(2-2-5)
1192302	Teaching and Learning Measurement in School	3(2-2-5)
1192303	Teaching and Learning Geometry in School	3(2-2-5)
1192304	Teaching and Learning Algebra in School	3(2-2-5)
1192305	Teaching and Learning Data Analysis and Probability in School	3(2-2-5)
1194701	Mathematics Projects in School	3(2-2-5)
4091201	Principles of Mathematics	3(3-0-6)
4091401	Calculus and Analytic Geometry 1	3(3-0-6)
4092401	Calculus and Analytic Geometry 2	3(3-0-6)

<b>Course ID</b>	<b>Course name</b>	<b>Credits</b>
4092501	Introduction to Geometry	3(3-0-6)
4092601	Linear Algebra for Applied Statistics 1	3(3-0-6)
4093301	Abstract Algebra 1	3(3-0-6)
4094404	Mathematical Analysis	3(3-0-6)

### **Major Elective Course (26 credits)**

<b>Course ID</b>	<b>Course name</b>	<b>Credits</b>
1191911	History and Development of Mathematics	3(3-0-6)
1193611	Computer Assisted Instruction in Mathematics	3(2-2-5)
1193712	Mathematical Games	3(2-2-5)
1194011	Statistics for Research Education	3(3-0-6)
1194012	Programming Application for Statistics and Research Education	3(2-2-5)
1194311	Inquiring in Mathematics Education	3(2-2-5)
4091102	Mathematics 2	2(2-0-4)
4091202	College Algebra	3(3-0-6)
4091606	Mathematics for Computer	3(3-0-6)
4092201	Number System	3(3-0-6)
4092202	Introduction to Mathematical Modelling	3(3-0-6)
4092602	Linear Algebra for Applied Statistics 2	3(3-0-6)
4093101	History of Mathematics	3(3-0-6)
4093201	Set Theory	3(3-0-6)
4093302	Modeling and Simulation	3(3-0-6)
4093303	Discrete Mathematics	3(3-0-6)
4093401	Calculus and Analytic Geometry 3	3(3-0-6)
4093402	Ordinary Differential Equations	3(3-0-6)
4093501	Foundation of Geometry	3(3-0-6)
4093604	Linear Programming	3(3-0-6)
4093607	Mathematics of Physical Science	3(3-0-6)
4093608	Theory of Interests	3(3-0-6)
4093708	Programming Package for Mathematics	3(2-2-5)
4093803	Mathematics and Problem-Solving	3(2-2-5)
4093804	Mathematics for Excellence	3(2-2-5)
4093805	Inquiring in Mathematics	3(2-2-5)

Course ID	Course name	Credits
4093806	Mathematics Developing Quality of Life	3(2-2-5)
4094201	Theory of Numbers	3(3-0-6)
4094202	Mathematical Logic	3(3-0-6)
4094301	Abstract Algebra 2	3(3-0-6)
4094302	Introduction to Lattices	3(3-0-6)
4094303	Theory of Equations	3(3-0-6)
4094401	Partial Differential Equations	3(3-0-6)
4094402	Advanced Calculus	3(3-0-6)
4094403	Vector Analysis	3(3-0-6)
4094405	Introduction to Real Analysis	3(3-0-6)
4094406	Complex Variables	3(3-0-6)
4094407	Numerical Method	3(3-0-6)
4094408	Real Analysis 1	3(3-0-6)
4094409	Real Analysis 2	3(3-0-6)
4094410	Complex Analysis 1	3(3-0-6)
4094411	Complex Analysis 2	3(3-0-6)
4094501	Non-Euclidean Geometry	3(3-0-6)
4094502	Projective Geometry	3(3-0-6)
4094503	Differential Geometry	3(3-0-6)
4094504	Introduction to Graph Theory	3(3-0-6)
4094505	Introduction to Topology	3(3-0-6)
4094603	Coding Theory	3(3-0-6)
4094604	Optimization Theory and Applications	3(3-0-6)
4094605	Control Theory	3(3-0-6)
4094606	Inventory Theory	3(3-0-6)
4094901	Seminar in Mathematics	3(3-0-6)
4111101	Principles of Statistics	3(3-0-6)
4112101	Statistical Analysis 1	3(3-0-6)
4112102	Statistical Analysis 2	3(3-0-6)
4112201	Introduction to Probability and Statistics	3(3-0-6)
4112202	Statistical Analysis 2	3(3-0-6)
4112203	Mathematical Statistics 1	3(3-0-6)
4113105	Statistics for Research	3(3-0-6)
4113302	Nonparametric Statistics	3(3-0-6)

Course ID	Course name	Credits
4113501	Operation Research 1	3(3-0-6)
4113502	Operation Research 2	3(3-0-6)
4113504	Introduction to Operational Research	3(3-0-6)
4114201	Theory of Probability 1	3(3-0-6)
4114202	Theory of Probability 2	3(3-0-6)
4114203	Decision Theory	3(3-0-6)
4114301	Statistical Quality Control	3(3-0-6)
4114308	Principles of Research	3(3-0-6)
4123601	Programming Application for Statistics and Research	3(2-2-5)

#### Teaching Major (6 credits)

Course ID	Course name	Credits
1194301	Mathematics Teaching in Elementary School	3(2-2-5)
1194302	Mathematics Teaching in High School	3(2-2-5)

#### Selective Teaching Major (4 credits)

Course ID	Course name	Credits
1193711	Mathematics Camp	3(2-2-5)
1194312	Seminar in Mathematics Education	3(2-2-5)
4093605	Actuarial Mathematic	3(3-0-6)
4093606	Game Theory	3(3-0-6)

### C: Free Elective Course (6 credits)

Freely choose any courses provided by the university. The courses chosen must not have been taken before by the student and must not be the compulsory non-credit courses.