



TQF3

Degree ☒ Bachelor's ☐ Master's ☐ Doctoral

Course Specification

MAI 2301 English for Mathematics Instruction

Math Major Program, Faculty of Education, Suan Sunandha Rajabhat University

Semester 1, Academic Year 2025

Section One: General Information

1. Code: MAI 2301
2. Course Title: English for Mathematics Instruction
3. Credits: 3(2-2-5)
4. Curriculum and Course Category:
 - 4.1 Curriculum: Bachelor of Education, Math Major
 - 4.2 Course Category: Major Elective
4. Lecturer: Yu Mon Kyaw
5. Contact Location: Faculty of Education / E-Mail yumon.ky@ssru.ac.th
6. Year / Semester:
Semester: 1/2026
Section 2: 34 Students
7. Pre-requisite: None
8. Co-requisites: None
9. Learning Location: Faculty of Education Building (Building 11), Room 1126
10. Last Date for Preparing and Revising this Course: 25th June 2026

Section 2 Objectives and Purposes

1. Course Objectives

Upon successful completion of this course, the students should be able to:

- 1.1. Search and identify mathematics-related English resources.
- 1.2. Read and interpret mathematics-related English texts.
- 1.3. Understand spoken English related to mathematics instruction and use appropriate English vocabulary and classroom language for mathematics instruction.
- 1.4. Explain, question, and give instructions clearly in English.
- 1.5. Communicate in English effectively within a classroom context, both in speaking and writing.
- 1.6. Present mathematics-related information in English using effective presentation skills.

2. Purposes for Developing / Revising Course (content / learning process / assessment / etc.)

-The lecturer of this course considered a course description and the test blueprint of the teachers' council and students' qualities stated in TQF 1 and 2 for a bachelor of education degree curriculum for determining content, teaching methods, and outcomes.

Section 3 Course Structure

1. Course Description

This course is designed to equip Math teachers with the essential listening and speaking skills necessary for effective communication in diverse professional and social contexts. The course emphasizes searching, reading, interpreting, listening and presenting concepts and journals related to mathematics in English.

2. Time Length per Semester (Lecture – hours / Practice – hours / Self-Study – hours)

<i>Lecture</i>	<i>Supplementary Classes</i>	<i>Practice/ Field Work</i>	<i>Self-Study hours</i>
30 hours	-	30 hours	75 hours

3. Time Length per Week for Individual Academic Consulting and Guidance

(The lecturer provides one hour for individual consultation per week.)

3.1. Individual Academic Consulting and Guidance: Room 1145, Faculty of Education

3.2. Mobile phone: 0631926890 Line: Yu Mon

3.3. E-Mail: yumon.ky@ssru.ac.th

Section 4 Developing Students' Learning Outcomes**1. Ethics and Morals****1.1. Ethics and Morals students need to develop**

○ (1) Expressing love, faith, and pride in teaching profession; possessing teacher spirituality; following professional codes of conduct

● (2) Developing a public spirited mindset and personal qualities such as patience, altruism, responsibility, and honesty while completing tasks.

○ (3) Possessing democratic values and characteristics (respecting others' rights and dignity; gaining skills to work together in harmony with others; developing decision making abilities based on objective facts and humanitarian values)

○ (4) Having moral courage; employing reason based on established social values, norms and public interests to appropriately analyze, handle, and solve unethical issues that might come up in unexpected circumstances; withholding transparency and anti-corruption policies; avoiding making use of fake, falsified, and plagiarized information

1.2. Method of Teaching

- (1) The lecturer explains virtue, ethics, morals, and teachers' code of conduct.

- (2) The lecturer and the students set up the rules, regulations, and evaluation criteria together.
- (3) Discussion to ensure that learners are aware of the value of rules, that rules are not restrictions, but can help groups of people to be safe or things to be fair.
- (4) Discussion to create a sense of appreciation, a sense of connectedness, a sense of competence and a sense of commitment

1.3. Method of Evaluation

- (1) Observation of students' learning behavior.
- (2) Evaluation of discipline, honesty, personal responsibility, punctuality, cooperation, and respect for others during class activities.
- (3) Summative evaluation on students' learning behavior at the end of academic year.

2. Knowledge

2.1. Knowledge students need to master

- (1) Understanding theoretical content of teaching profession which includes teacher values, teacher morals, code of conduct, teaching philosophies, and psychology for learning support and development; understanding knowledge of curriculum, instruction, innovation, technology, communication principles in education; understanding knowledge of assessment, learning, research, innovation development, language use for teachers, supervision, coaching, skills for ICT, cooperation, creativity, and the 21st century skills; understanding relationship between theories and practices, and integration across disciplines together with being able to apply them to teaching

- (2) Understanding theoretical content of courses; being able to analyze content of courses in detail; keeping updated about progress of knowledge and applying it to develop students' skills to meet learning standards

- (3) Understanding life, community, and coexistence through key concepts like cultural diversity; understanding and adapting to social change; being able to apply the sufficiency economy philosophy to life, self-development, work improvement and teaching

- (4) Understanding language use and being able to use Thai and English to communicate appropriately

- (5) Realizing values and importance of the king's philosophies for sustainable development; being able to apply the king's philosophies to develop students, work, and community

2.2. Method of Teaching

- (1) Introduce mathematics-related English vocabulary and academic language.
- (2) Explain terminology, definitions, and language structures used in mathematics texts.
- (3) Students practice skimming, scanning, identifying key information, and understanding main ideas from mathematics-related texts and articles.
- (4) Students listen to mathematics-related lectures, presentations, podcasts, or videos and extract key information.
- (5) Small-group discussions on mathematics-related readings, research articles, and educational issues.
- (6) Students search for mathematics-related information using academic databases, Google Scholar, ERIC, and online educational resources.
- (7) Students practice explaining mathematical terminology, concepts, and educational materials using English.

2.3. Method of Evaluation

- (1) Evaluation of participation in classroom discussions, collaborative learning activities, and reflective learning tasks.
- (2) Evaluation of individual and group assignments, case study analyses, communication tasks, and technology integration activities.
- (3) Evaluation of students' understanding of mathematics-related academic vocabulary.
- (4) Evaluation through comprehension of mathematics-related spoken English.
- (5) Evaluation through midterm and final examination.

3. Cognitive Skills

3.1. Cognitive skills students need to develop

○ (1) Being able to investigate and analyze facts accurately; being able to evaluate information, media, and sources in multi-dimensional aspects; possessing active citizenship quality by keeping up with changes in the digital era, technological platforms, and futuristic dynamism; applying areas of knowledge and hands-on experiences to work and tackle problems creatively and strategically as well as meeting policies, national strategies, social norms, and potential impact

○ (2) Being able to launch an initiative and creative ideas for development; possessing academic and profession leadership; being able to teach and share knowledge to students and community creatively

● (3) Constructing knowledge and applying knowledge from research; creating innovation for learning development; teaching students to be innovators and enabling them to share knowledge to a community and society

3.2. Method of Teaching

- (1) Interactive lecture
- (2) Speaking presentation (small talks, role play and debate)
- (3) Team research in classroom

3.3. Method of Evaluation

- (1) Evaluation of the assigned tasks
- (2) Discussion, Small Talk, Role Play, Debate.
- (3) Test

4. Interpersonal Skills and Responsibilities

4.1. Interpersonal Skills and Responsibilities students need to develop

○ (1) Understanding other people's feelings; having positive thinking; being mature and able to manage emotions

● (2) Working in team as a good leader and a supportive associate; maintaining good human relationship to students, colleagues, parents, and people in a community; being responsible for public in economic, society, and environment aspects

○ (3) Being responsible for self-discipline, students, colleagues, and public; providing assistance to others to solve problems creatively

● (4) Having academic and profession leadership; having moral courage; being able to teach and share human relationship values to a community and society creatively

4.2. Method of Teaching

- (1) Group learning and presentation in order to develop interpersonal relationships and responsibility.

4.3. Method of Evaluation

- (1) Observation in group discussion
- (2) Evaluation from the achievement of the role play and debate.
- (3) Evaluation of communication and collaboration for department project.

5. Numeral Analysis, Communication, and Information Technology Skills

5.1. Numeral Analysis, Communication, and Information Technology Skills students need to develop

- (1) Analyzing numerical data and relevant information for accurate understanding
- (2) Using technology and innovation to communicate effectively with a variety of speaking, writing and presenting techniques
- (3) Using technology and a computer program to support learning, classroom management, work efficiency, meeting, and task manipulating; using critical thinking to check credibility of information while searching and screening; having awareness of unethical issues in copyright infringement and plagiarism

5.2. Method of Teaching

- (1) Lecture on research articles
- (2) Discussion
- (3) Students use technology in presentation and collecting data.
- (4) Presentation of pair conversation.

5.3. Method of Evaluation

- (1) Evaluation of the assigned tasks according to the criteria.
- (2) Observation of students' analytical, communicative, and technological skills.

6. Learning Management Skills

6.1 Learning Management Skills students need to develop

○ (1) Possessing expertise in learning management with a variety of student-centeredness methods; designing and developing a course and a curriculum; planning and designing content and activities; managing classroom with the use of technology and media; using appropriate and creative assessment methods

- (2) Applying psychological knowledge to analyze students and design suitable learning management for greater support concerning diversity of students' actual performance, interests, and learning needs.

○ (3) Holding activities and designing learning conditions to help students learn from experiences; developing thinking, working, managing, and problem-solving skills; organizing experiential learning as well as nurturing thinking intelligence with integration between working, learning, and morals; applying knowledge to prevent and solve problems, and develop students with an attitude of honesty, discipline, responsibility

○ (4) Creating a good learning atmosphere and using media, materials, technology, resources, cultural contexts, the university's wisdom, and community wisdom to teach; coordinating with parents and community for commitment, learning convenience, and student development to their full performance in knowledge, cognition, and life-long learning dimensions

○ (5) Applying the 21st century skills and technology to teach students and do self-improvement in several aspects (e.g. learning skills, life skills, and literacy skills); applying the sufficiency economy philosophy to daily life

6.2. Method of Teaching

- (1) Lecture on search engine to study and download research articles and academic articles.
- (2) Students are invited to use self-study resources to improve their English language debating and read the research articles on doing debates.
- (3) Students display their time management skills through presentations.

6.3. Method of Evaluation

- (1) Evaluation of individual and conversation in pair presentation (role play and debating).

- (2) Observation of students' time management skills.
- (3) Evaluation on assigned task.

Section 5 Lesson Plan and Assessment

1. Teaching plan/Lesson Plan

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
1 14 th July 2026	Activity: Course Orientation Introduction to English for Mathematics Instruction Classroom English, course orientation, basic mathematics vocabulary Activity 1 Setting the classroom Rules Chapter 1 Arithmetic and Fractions I (Mathematics Vocabulary and Classroom English)	Onsite	-Google classroom -Power point Slide	1. Ice Breaking activities Introducing themselves in English 2. An introductory to the course (lecture and discussion) Introduce mathematics terminology (sum, difference, product, quotient, fraction, decimal); classroom expressions for mathematics lessons; pair conversations using teacher language; mathematics vocabulary games	1. From attendance 2. From participating and responding in the activity. 3. From observation of notes taking and sharing ideas.
#2 21 st July 2026	Chapter 1: Arithmetic and Fractions II	Onsite	<i>Learning Materials:</i> - Google	<i>Teaching and Learning Activities:</i> Lecture through	1. From Attendance. 2. From

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
	Fractions, Decimals and Proportions Reading Mathematics-Related Texts in English Skimming, scanning, identifying main ideas		classroom -Power point Slide -Canva -YouTube	identify headings, definitions, examples, and diagrams; read short mathematics passages Case Study Analysis -Summary of activities and discussion.	participating and responding in the activity 3.From discussion and sharing their opinion 4. Reading Worksheet
#3 4 th Aug, 2026	Chapter 2: Percentages and Ratios	Onsite	<i>Learning Materials:</i> -Power point Slide -YouTube - Canva - Mentimeter	<i>Teaching and Learning Activities:</i> Lecture through <ul style="list-style-type: none"> • Meaning of percent • Applications in finance • Ratios and rates Summary of activities and discussion.	1. From Attendance. 2. From participating in the activity. 3.From discussion and showing their opinion 4. Teacher Talk Performance Checklist

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
#4 11 th Aug, 2026	Chapter 3 : Integers & Number Properties 1. Identify factors and multiples. 2. Determine prime numbers. 3. Calculate GCF and LCM. 4. Solve integer problems.	Onsite	<i>Learning Materials:</i> -Power point Slide -Canva -YouTube - Listening from different resources	<i>Teaching and Learning Activities:</i> Lecture - • Practice explaining mathematical terms in simple English. • Give examples to support explanations. • Ask questions to check students' understanding. • Use classroom instructions and feedback language appropriately.	1. From Attendance. 2. From participating in the activity. 4. From discussion and showing their opinion 5. From Question Design Task
#5 (18 th Aug, 2026)	Chapter 4: Introduction to Algebra 1. Interpret algebraic expressions. 2. Simplify algebraic expressions. 3. Multiply algebraic expressions.	Online Google Meet	-Power point Slide -YouTube -different resources -PDF files of Lecture notes	<i>Teaching and Learning Activities:</i> Lecture - Algebra vocabulary -Expression manipulation -Polynomial multiplication Activities Learn sequencing language; practice giving step-by-step classroom instructions Role Play Teacher-student feedback conferences	1. From attendance 2. From participating in the activity. 4. From discussion and showing their opinion. 5. Feedback Reflection

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
	4. Apply FOIL correctly				
#6 (25 th Aug, 2026)	Chapter 4: Equations & Problem Solving	Online Google Meet	-Power point Slide -YouTube -different resources -PDF files of Lecture notes	<i>Teaching and Learning Activities:</i> Lecture <ul style="list-style-type: none"> • Equation solving strategies • System solving methods • Quadratic equations Activities Feedback Clinic Analyze teacher feedback samples Role Play Teacher-student feedback conferences	1.From attendance 2. From participating in the activity. 4.From discussion and sharing their opinion. 5. Feedback Reflection
#7 (1 st Sep, 2026)	Chapter 5: Word Problems and Applications	Onsite	-Power point Slide -YouTube -different resources	<i>Teaching and Learning Activities:</i> Lecture <ul style="list-style-type: none"> • Problem-solving framework • Mathematical 	1.From attendance 2. From participating in the activity. 3.From discussion and showing their opinion.

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
				modelling Activities Classroom Language Simulation Problem-Solving Scenarios • Summary of activities and discuss on role-play	4. Classroom Language
#8 (8 th Sep, 2026)	Midterm Examination Components Part A: Multiple Choice (Mathematics Vocabulary) Part B: Short Answers (Reading Mathematics Texts) Part C: Classroom English Part D: Teaching Communication Weight 20%				
#9 (15 th Sep, 2026)	Activity: Course Orientation Introduction to English for Mathematics Instruction Classroom English, course orientation, basic mathematics vocabulary	Onsite	-Google classroom • - Power point Slide	3. Ice Breaking activities Introducing themselves in English 4. An introductory to the course (lecture and discussion) Introduce mathematics terminology (sum, difference, product,	4. From attendance 5. From participating and responding in the activity. From observation of notes taking and sharing ideas.

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
	Activity 1 Setting the classroom Rules Chapter 1 Arithmetic and Fractions I (Mathematics Vocabulary and Classroom English)			quotient, fraction, decimal); classroom expressions for mathematics lessons; pair conversations using teacher language; mathematics vocabulary games	
#10 (22 nd Sep, 2025)	Chapter 1: Arithmetic and Fractions II Fractions, Decimals and Proportions Reading Mathematics-Related Texts in English Skimming, scanning, identifying main ideas	Onsite	<i>Learning Materials:</i> - Google classroom -Power point Slide -Canva -YouTube	<i>Teaching and Learning Activities:</i> Lecture through identify headings, definitions, examples, and diagrams; read short mathematics passages Case Study Analysis -Summary of activities and discussion. Introduce listening to Podcast (extra listening)	1. From Attendance. 2. From participating and responding in the activity 3.From discussion and sharing their opinion 4. Reading Worksheet

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
#11 29th Sep, 2026	Chapter 2: Percentages and Ratios	Onsite	<i>Learning Materials:</i> -Power point Slide -YouTube - Canva - Mentimeter	<i>Teaching and Learning Activities:</i> Lecture through <ul style="list-style-type: none"> • Meaning of percent • Applications in finance • Ratios and rates Summary of activities and discussion.	1. From Attendance. 2. From participating in the activity. 3.From discussion and showing their opinion 4. Teacher Talk Performance Checklist
#12 (6 th Oct, 2026)	Chapter 3 : Integers & Number Properties 1. Identify factors and multiples. 2. Determine prime numbers. 3. Calculate GCF and LCM. 4. Solve integer problems.	Onsite	<i>Learning Materials:</i> -Power point Slide -Canva -YouTube - Listening from different resources	<i>Teaching and Learning Activities:</i> Lecture <ul style="list-style-type: none"> • Practice explaining mathematical terms in simple English. • Give examples to support explanations. • Ask questions to check students' understanding. • Use classroom instructions and feedback language appropriately. 	1. From Attendance. 2. From participating in the activity. 4.From discussion and showing their opinion 5. From Question Design Task

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
#13 (20 th Oct, 2026)	Chapter 4: Introduction to Algebra 5. Interpret algebraic expressions. 6. Simplify algebraic expressions. 7. Multiply algebraic expressions. Apply FOIL correctly	Online Google Meet	-Power point Slide -YouTube -different resources -PDF files of Lecture notes	<i>Teaching and Learning Activities:</i> Lecture - Algebra vocabulary -Expression manipulation -Polynomial multiplication Activities Learn sequencing language; practice giving step-by-step classroom instructions Role Play Teacher-student feedback conferences	1.From attendance 2. From participating in the activity. 4.From discussion and showing their opinion. 5. Feedback Reflection
#14 (27 th Oct, 2026)	Chapter 4: Equations & Problem Solving	Online Google Meet	-Power point Slide -YouTube -different resources -PDF files of Lecture notes	<i>Teaching and Learning Activities:</i> Lecture • Equation solving strategies • System solving methods • Quadratic equations Activities	1.From attendance 2. From participating in the activity. 4.From discussion and sharing their opinion.

Week	Topic/Content	Teaching Mode	Program	Teaching Activities	Assessment
#15 (3 rd Nov, 2025)	Chapter 5: Word Problems and Applications	Onsite	-Power point Slide -YouTube -different resources	<i>Teaching and Learning Activities:</i> Lecture <ul style="list-style-type: none"> • Problem-solving framework • Mathematical modelling Activities Classroom Language Simulation Problem-Solving Scenarios Summary of activities and discuss on role- play	1.From attendance 2. From participating in the activity. 3.From discussion and showing their opinion. 4. Classroom Language
#16 (10 th Nov, 2025)	Final Exam	Midterm Examination Components Part A: Multiple Choice (Mathematics Vocabulary) Part B: Short Answers (Reading Mathematics Texts) Part C: Classroom English Part D: Teaching Communication Weight 20%			

Learning Outcome	Assessment Activities	Week	Proportion for Assessment (%)
1. Ethics and Morals	Evaluated from general attitude towards learning Attendance and Class participation	1-15	10%
2. Knowledge 3.Cognitive Skills	Assignment, Discussion, Role play, Group Debating Planning for a debate End of term exams	1-15	30%
4 Interpersonal Skills	Group Discission Role play performance Planning for a debate Group Debating	1-15	30%
5 Numeral Analysis	Collecting Data from Research for Debating	11-15	10%
6 learning management skill	End of term exams Assessed from completed tasks at home	1-15	20%

Section Six: Learning and teaching resources

1. Textbooks and Main Documents

- The Language of Mathematics by Keith Devlin
- English for Mathematics students
- Mathematical Mindsets by Jo Boaler

- Mathematics Education Research Journals
- Mathematics Vocabulary Resources 10. Cambridge Mathematics Glossary

- Educational Studies in Mathematics articles
- Theories of Human Communication
- Communication in Higher Education by Alghamdi, Buhari & Alassafi (2021)
- Creativity, Critical Thinking, Communication, and Collaboration: Assessment, Certification, and Promotion of 21st Century Skills for the Future of Work and Education
- communicative English for 21st century classroom Textbook
- handout for listening and speaking dialogues

2. Suggestion Information (Printing Materials/Website/CD/Others)

The practice of English Language Teaching by Jeremy Harmer (fifth edition)

Effective Teaching Methods by Gary D. Borich (eighth edition)

<https://dictionary.cambridge.org/>

<http://www.google.com>

[ResearchGate](#)

Section 7 Course Evaluation and Revising

1. Strategies for Course Evaluation by Students

Students evaluate the effectiveness of the course, the appropriateness of teaching and learning activities, learning content, and the lecturer's learning management of the course.

2. Strategies for Course Evaluation by Lecturers

The students' feedback is considered for teaching adaptation and development.

3. Teaching Improvement

A meeting in the department is made for further discussion or a teacher keeps updating content and activity arrangement.

4. Feedback for Achievement Standards

Degree ☒ Bachelor's ☐ Master's ☐ Doctoral

The teacher announce score results to the students before sending their grades and hold a meeting with all the department members and a verification committee to double check the grade results.

5. Methodology and Planning for Course Review and Improvement

The teacher analyzes the students' feedback and verification committee' advice and apply them to course planning, teaching, and assessment.

6. Curriculum Mapping

คุณลักษณะบัณฑิต	1. ด้านคุณธรรม จริยธรรม				2. ด้านความรู้					3. ด้านทักษะ ทางปัญญา			4. ด้านทักษะ ความสัมพันธ์ ระหว่างบุคคล และความ รับผิดชอบ				5. ด้านทักษะ การวิเคราะห์ เชิงตัวเลข การสื่อสาร และการใช้ เทคโนโลยี			6. ด้านวิิธีวิทยาการจ้ด การเรียนรู้				
	1	2	3	4	1	2	3	4	5	1	2	3	1	2	3	4	1	2	3	1	2	3	4	5
รายวิชา (หมวดวิชาเฉพาะด้าน)																								
MAI2301 ภาษาอังกฤษสำหรับการจัดการ เรียนรู้คณิตศาสตร์	●	○	○	○	●	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○	○