



MA30103 Foundation Mathematics 3

Teacher Dr. Keerthi Prabhakar
Contact EP Teacher Room, 2nd Floor Colombet Bldg.
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Class Time EP-M5/1: Tue, period 1; Thu, period 1
EP-M5/2: Mon, period 3 ; Thu, period 4

Credits 1.0

Course Description

Study foundation mathematics on the following topics. Sequence and series: finding the terms of finite sequence, arithmetic sequence and geometric sequence, arithmetic series and geometric series. Probability: basic principles of counting and probability of events. Use mathematical skills and processes which are problem-solving, reasoning, communications, mathematical implication and presentation, mathematical connections, and creative thinking, along with possessing the desired characteristics including 1) Love for their country, their King, and faith in their religion, 2) Be honest and upright 3) Possess discipline 4) Eager to learn 5) Be self-sufficient 6) Dedicated to work 7) Proud to be Thai 8) Have a sense of public consciousness.

Textbook / Worksheets

Mathematics for the International Student: Mathematics SL, 3rd Edition
Teacher will also provide handouts

Course Outline & Objectives

Unit	Topic
1	Sequences and Series 1. Sequences 2. Arithmetic sequences* 3. Geometric sequences* 4. Series 5. Arithmetic series 6. Geometric series Sub: Money - Simple interest, Compound interest, Depreciation
2	Probability 1. Basic counting principle* 2. Permutation 3. Combination 4. Probability of events



Resources

- | | |
|-----------|---|
| Required | <input type="checkbox"/> Scientific calculator (not a phone-based application) |
| | <input type="checkbox"/> Ruler |
| | <input type="checkbox"/> Glue stick, stapler, or tape |
| Suggested | <input type="checkbox"/> Many different coloured pens/markers/highlighters |
| | <input type="checkbox"/> Electronic Thai-English translator (not a phone-based application) |

Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonesty lower the quality of education and will not be tolerated. Students involved in any form of academic dishonesty, including any student supplying or allowing copying, will receive a zero.

Plagiarism is taking someone else's work or ideas and passing them off as one's work or ideas. Examples of plagiarism include the failure to give appropriate acknowledgement when repeating another's idea, phrase, sentence or paragraph or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioural Expectations

For the sake of all the class members, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (Notebooks, textbook, scientific calculator, writing utensils, etc.) and to participate throughout the lesson until class is dismissed actively.

Behaviour is monitored daily per the class rules set out at the beginning of the academic year (see the front of your notebooks). Students earn the scores they receive. At the end of the semester the average is taken and used for the student's behavior score (10%).

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an AC gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness.
- Be honest and upright.

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on time, every time. Students are expected to catch up on all missed work outside class time.



Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher as soon as possible.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date. If the work is not done by the start of class, a maximum score of 15 will be possible. All late or missed assignments not turned in *before* the last week of the term will receive a zero.

Grading

This course follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Quiz & Projects	20%
Home/class work	20%
Affective Domains (Behavior)	10% (program mandated)
STEM	10% (program mandated)
Midterm (Summative) Exam	20% (program mandated)
Final Exam	20% (program mandated)

Recommendations for Success

Mathematics can be a challenging course for many students. All students are encouraged to try the following:

1. Read, read, read the course textbook. Reading the text once is often insufficient, even for native English speakers. You may need to read the material multiple times to understand. Students can responsibly manage the material and gain the most from the course by reading along at home with the lessons taught at school (typically only a few pages per night).
2. Search online, in either Thai or English, if you don't understand a topic discussed in class or to better understand the topic.
3. Get a Thai language introductory mathematics book.



4. Get a math and physics tutor. The tutor should be helping you learn, not doing the work for you!
5. Do **not** copy your classmate's work; struggle through and do the work on your own! This is how you learn!
6. See the teacher outside of class time for assistance.
7. Do more than just the bare minimum; the textbook has plenty of problems. We only have time for so many of them. Do the review questions at the end of the chapter and see the teacher for the answers.
8. Study the notes and vocabulary at least a few minutes every day, such as in homeroom or during any free time you might have in other classes.



MA30215	Universal Mathematics 3
Teacher	Mr. Shiv Kumar
Contact	Science lab, 2 nd Floor Colombet Building. skkumarshiv100@gmail.com
Class Time	EP-M5/1: Wednesday Period 1, Thursday Period 3 EP-M5/2: Tuesday Period 1, Thursday Period 1
Credits	1.5

Course Description

This course builds on previous knowledge and lays the foundation for the students' further study in mathematics. We will cover many essential topics that will be necessary when the students study Calculus and higher level mathematics. Included in this course are exponential and logarithmic functions, trigonometric functions, identities and proofs, and three dimensional vectors. We will begin with exponential functions and their applications and then use these to define the logarithmic functions. Next, we will study basic trigonometry with a focus on understanding the meaning of the basic functions and their applications. We will then cover three dimensional vectors and basic vector operations. We will use vectors to model various three dimensional situations.

Textbook

Mathematics for the International Student SL (Haese Mathematics)
ISBN-978-1-921972-08-9

Course Outline & Objectives

Unit 1. Exponential Function and Logarithmic Function

1. Exponents, Rational exponents and law of exponents Pg 82-87
2. Algebraic expansion and factorization of exponents Pg 90-91
3. Interest and Money (Class worksheet and Notes)
4. Exponential function and graphing Pg 94-101
5. Logarithmic function and graphing Pg 110-126

Unit 2. Trigonometric Functions and applications Pg 231-274

1. Sine and cosine functions Pg 236-243
2. Values of sine and cosine functions (Class worksheet and Notes)
3. Trigonometric functions in various dimensions (Class worksheet and Notes)
4. Read the value of trigonometric functions from table (Class worksheet and Notes)
5. Graphs of trigonometric functions (Class worksheet and Notes)
6. Trigonometric functions of sums and differences Pg 256-263
7. Inverse trigonometric functions (Class worksheet and Notes)
8. Sine and cosine rules (Class worksheet and Notes)



Unit 3. Three Dimensional Vectors Pg 275-342

1. Vectors Pg 276-279
2. Vector addition Pg 279-281
3. Vector subtraction Pg 281-283
4. Scalar multiplication of vectors Pg 284-286
5. Cross multiplication (Class worksheet and Notes)

Resources

- | | |
|-----------|--|
| Required | <ul style="list-style-type: none">• A plastic folder for worksheets.• White School Notebook• Red and blue pen. |
| Suggested | <ul style="list-style-type: none">• Many different colored pens/markers/highlighters• Ruler |

Academic Integrity Policy

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Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (Notebooks, textbook, scientific calculator, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.

Behavior is monitored every day as per the class rules that are set out at the beginning of the academic year (see the front of your note books). At the end of the semester the average is taken and used for the student's behavior score (10%). Students *earn* the scores they receive.



Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an AC gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness
- Be honest and upright

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Class work

Homework and class work will be assigned often and must be submitted on or before the due date for a full score of 10 points. Late work without excuse will be deducted at the rate of 20% per day until the maximum possible score is zero. All work must be turned in before the last week of each term. Late work is discouraged.

Grading

This course follows to the Assumption College grading scale:

<i>Final Score</i> ≥ 80%	4.0
$75\% \leq \textit{Final Score} < 80\%$	3.5
$70\% \leq \textit{Final Score} < 75\%$	3.0
$65\% \leq \textit{Final Score} < 70\%$	2.5
$60\% \leq \textit{Final Score} < 65\%$	2.0
$55\% \leq \textit{Final Score} < 60\%$	1.5
$50\% \leq \textit{Final Score} < 55\%$	1.0
<i>Final Score</i> < 50%	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Class work	20%
Class Participation	10%
Note book	10%
Behavior	10%
Quizzes	10%
Midterm (Summative) Exam	20% (program mandated)
Final Exam	20% (program mandated)



Recommendations for Success

Mathematics can be a difficult course for many students. All students are encouraged to try the following:

1. Read, read, read the course textbook. Often, reading the text once is not enough even for native English speakers. You may need to read the material multiple times to understand. By reading along at home with the lessons taught at school (typically only a few pages per night), students will be able to responsibly manage the material and gain the most from the course.
2. Search online, in either Thai or English, if you don't understand a topic discussed in class or simply to get a better understanding of the topic.
3. Get a Thai language introductory mathematics book.
4. Do **not** copy your classmates work; struggle through and do the work on your own! This is how you learn!
5. Come see the teacher outside of class time for assistance.
6. Do more than just the bare minimum; there are plenty of problems in the textbook. We only have time for so many of them. Do the review questions at the end of the chapter and see the teacher for the answers.
7. Study the notes and vocabulary at least a few minutes every day, such as in homeroom or during any free time you might have in other classes.



Semester One: [2024] STUDENT SYLLABUS FOR FOUNDATION ENGLISH

EP(5)-1-2 Subject Code: EN30103 Teacher: Mr. Steven Raine

COURSE DESCRIPTION:

Throughout the year we will prepare students for the **SAT VERBAL, ENGLISH GRAMMAR/ PUNCTUATION & IELTS WRITING TASK ONE & TASK TWO** a prerequisite for joining a university international program. These skills will be used to master examination question types. Through a series of skill based and enriching lessons using Mr. Raine's expertise and selected authentic test materials, students will strengthen their core knowledge. This course is intensive. Students will have many opportunities to participate, and skill will be demonstrated in assessments, homework, and examinations. The course is at an advanced/pre-intermediate level (CEFR C1 & C2 level)

COURSE OBJECTIVES:

The main objectives of this syllabus are:

- **Language for Communication**
- **Language and Culture**
- **Language and Relationship with Other Learning Areas**
- **Language and relationship with Community and the World**

COURSE OUTLINE: SAT VERBAL

SAT PUNCTUATION PROBLEMS COVERED IN THIS COURSE

COLON - SEMICOLON -DASH (em dash) -HYPHENS - COMMAS AFTER DEPENDANT CLAUSE - COMMAS BRACKETING - COMMAS BEFORE, BUT, AND - COMMAS IN LISTS (AMERICAN) - QUOTATION MARKS (AMERICAN)

SAT WORD LEVEL PROBLEMS INTEGRATED WITH IELTS ESSAY WRITING COVERED IN THIS COURSE

VERB FORMS - TENSES (VERB) - SUBJECT/VERB AGREEMENT - PRONOUN/VERB AGREEMENT - PRONOUN-ANTECEDENT AGREEMENT - HAVE/HAS/HAD - COMPOUND WORDS - TITLES - TRANSITIONS - THEIR/THEY'RE - WHO OR WHOM?

SAT ENGLISH VOCABULARY CHOICE & EXPRESSION PROBLEMS

CLARITY - CONFUSED WORDS - HOMOPHONES - CONTEXT - TONE - TRANSITIONS - WORDINESS

SAT ENGLISH SENTENCE LEVEL PROBLEM

ENDING A SENTENCE WITH A PREPOSITION - PLURALS - PRONOUNS - PRONOUN-ANTECEDENTS - SYNTAX / SENTENCE - ACTIVE / PASSIVE - COMPOUND SENTENCE - COMPLEX SENTENCE - DANGLING MODIFIERS - WORD ORDER - FRAGMENT - RUN-



ON SENTENCES-MISPLACED MODIFIER -REDUNDANCY-CONDITIONAL CLAUSES -DEPENDANT CLAUSES -SUBORDINATE CLAUSES -INDEPENDANT CLAUSES

SAT VERBAL QUESTION TYPES

If the author were to remove the phrase, the names how would this change the...

- If the punctuation were adjusted accordingly, the best placement for the underlined portion would be...
- Which of the following true choices would best support the idea presented...
- Which of the following true sentences would best conclude this paragraph...
- Which of the following choices gives the most detailed explanation of...
- The writer is thinking of adding the following sentence based on the information in the chart...
- At this point, the writer is considering adding specific information as support for the main topic of the paragraph.
- Which choice most effectively adds relevant information based on the graph
- Which of the following gives information consistent with the graph?
- The best placement for sentence 5 would be?
- Should the writer delete [sentence]
- The best placement for the underlined portion would be
- The writer is considering deleting the underlined section in paragraph one.
- Should the underlined section be kept or deleted?
- At this point, the writer is considering adding the following sentence...
- If the author were to remove the phrase... and just ended the sentence at the word, ...the sentence would lose...
- Which of the following alternatives to the underlined portion would NOT be acceptable?
- The writer is considering replacing the words ‘.....’ in the preceding sentence with the single word ‘.....’. Should the writer make the change or keep the sentence as it is?
- If the writer were to delete the words ‘.....’ and replace it with the one word ‘.....’ the sentence would primarily lose....
- The writer is considering replacing the wordwith the word Should the writer make the change or keep the sentence as it is?

IELTS

Syllabus is matched with the Thai curriculum Indicators:

M5	INDICATORS	STRANDS
LISTENING	1. All types 8. opinions 17. Analyze 18. skim/scan 20. investigate/search 21. community/national	Strand 2: Language and Culture F2.1 F2.2 Strand:3 F3.1 Strand 4: Language and Relationship with Community and the World F4.1



WRITING	3. answer in sentences 6. explain 7. life skills 8. opinions 10. news 11. Summarize 12. social, and global 14. ideas, beliefs 15. grammar 16. grammar 17. Analyze 19. academic topics 20. investigate/search 21. community/national	Strand 1: Language for Communication F1.1 F1.2 F1.3 Strand 2: Language and Culture F2.1 F2.2 Strand:3 F3.1 Strand 4: Language and Relationship with Community and the World F4.1
SPEAKING	5. All types 6. explain 7. life skills 8. opinions 9. All types 10. news 11. Summarize 12. social, and global 13. purpose 14. ideas, beliefs 17. Analyze 19. academic topics 20. investigate/search 21. community/national	Strand 1: Language for Communication F1.1 F1.2 F1.3 Strand 2: Language and Culture F2.1 F2.2 Strand:3 F3.1 Strand 4: Language and Relationship with Community and the World F4.1

SPECIFIC SKILLS:

IELTS WRITING TASK ONE

Writing includes: Functions (generalization, definitions, classification, comparison and contrast, cause and effect, process and procedure, interpretation of data).

IELTS WRITING TASK TWO

Writing includes: Vocabulary, sentence structure, paragraph structure and essay structure.

IELTS SPEAKING

The content of the syllabus is matched to the Thai curriculum Indicators for Speaking:

Explaining in their own words concepts and ideas from a chosen topic and expand their discussion using appropriate vocabulary. Presentation skills (introductions and stating the



purpose, signposting, creating interest and involving audience, emphasizing and highlighting key points,

PART 1, the examiner asks the candidate simple personal questions on everyday familiar topics: study, where you live, food, holidays, friends, going out, festivals, sports, schools and public transport.

ESSENTIAL KNOWLEDGE Your speaking will be scored using the following four criteria:

Fluency and Coherence? Can you communicate logically, clearly, and without difficulty in English? No pauses to recall words, Do your ideas make sense and are they relevant to the question.

Lexical Resource? Your ability use words accurately. Can you use a wide variety of words and phrases or do you keep repeating yourself

Grammatical Range? This is not simply about avoiding grammar mistakes but if you can demonstrate that you have mastered complex sentence structures, verb tenses, and other advanced grammatical features.

Pronunciation? Scores are reduced for mispronunciation, especially if pronunciation problems make it difficult to comprehend a speaker's message. Many students have even larger pronunciation problems at the sentence level. These problems occur when a student doesn't have a feel for native- intonation patterns.

PART 2, the examiner gives the candidate a topic on a card and the candidate needs to speak about it for about 2 minutes. Before speaking, the candidate has one minute to make notes.

ESSENTIAL KNOWLEDGE: Note taking is the essential skill and students should practice listing single words as prompts to speaking.

PART 3, candidate and examiner will have a discussion relating to the subject area in Part 2. The candidate will be asked to do more complicated things, such as evaluate, justify positions and opinions, make predictions, and express preferences.

ESSENTIAL KNOWLEDGE

The examiner will ask “follow-up” questions. These questions will be related directly to the topic requesting clarification or further detail about something you said. Your goal should be 1) to provide a direct and clear answer 2) to support each answer with at least 1 or 2 examples.

Students should respond to part one in simple and compound sentences citing reasons and giving examples and remove all errors in Subject/Verb Agreement.

GRAMMAR: Present perfect versus past simple--Present tenses to describe books and films-- Present continuous--Past perfect and continuous-- Prepositions of time --Prepositions of place -- Future simple tense --Sentences, simple and compound --conjunctions--Passive voice--adjectives --Superlatives



LEARNING MATERIALS

Textbooks and Test past questions, News, announcements, fictions, non-fictions, media, diagrams, graphs, personal experience, topical events, stories, manners and culture, traditions, festivals, language structures, idioms, life skills, native speakers,

LANGUAGE SKILLS,

conceptualization, analysis, communication problem-solving, critical thinking & technology.

DESIRED CHARACTERS – 1) Love for the country and the king, faith in the religion 2) Be honest and upright 3) Possess discipline 4) Eager to learn 5) Be self-sufficient 6) Dedicated to work 7) Love for Thainess 8) Have a sense of public consciousness and 9) Be an AC gentleman.

RESOURCES:

Textbooks, Handouts, exam papers, worksheets, student notebooks, presentations, information technology

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- | | |
|-----------|--|
| Required | <ul style="list-style-type: none">• notebooks.• Dictionary |
| Suggested | <ul style="list-style-type: none">• Many different colored pens/markers/highlighters |

Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonestly lower the quality of the education and will not be tolerated. Students involved in any form of academic dishonesty, including any student supplying or allowing the copying to take place, will receive a zero.

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Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities.

Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (notebooks, textbook, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.



Behavior is monitored every day as per the class rules that are set out at the beginning of the academic year (see the front of your note books). At the end of the semester the average is taken and used for the student's behavior score (20%). Students *earn* the scores they receive.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an A.C. gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness
- Be honest and upright

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date. After more than one day has lapsed, a maximum score of 10 will be available. Late assignments can be submitted for a maximum of 50% up until the last week of the term. All late or missed assignments that are not turned in *before* the last week of the term will receive a zero.

Grading

This course follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Total Score of all Formative Assessment*	50%
Behavior	10%
Midterm (Summative) Exam	20% (program mandated)
Final Exam	20% (program mandated)



* This total score shall be reflected by the cumulative points scored by students on all class assignments, homework, extra credit work, etc.

Assessment determination:

This syllabus is based on the important skills that students will need to successfully pass the IELTS test at level 6. The assessment will be based on students' understanding of what is expected in the different modules of the test (Listening, Reading, Writing & Speaking).

Recommendations for Success

English can be a difficult course for many students. All students are encouraged to try the following:

1. Be on task during class. Focus and follow instructions and do the required activities to your best abilities. Do not worry about making mistakes as they are the best way for us to incorporate the materials into our long-term memories.
2. Search online (in English) if you don't understand a topic discussed in class to get a better understanding of the topic.
3. Do not copy your classmate's work; struggle through and do the work on your own. This is how you learn.
4. Come see the teacher outside of class time for assistance.
5. Revise your work, as recommended by your teacher and work to continuously improve your work. Learning is a process, not a product.
6. If you don't understand then ask your friends, communication is vital for success in English, communicate with your classmates in English, you'll be surprised how quickly your English improves just by doing this.



Semester One: STUDENT SYLLABUS FOR READING & WRITING ENGLISH

EP(5)-1-2 Subject Code: EN30203 Teacher: Mr. Steven Raine

COURSE DESCRIPTION:

Throughout the year we will prepare students for the **SAT READING & IELTS READING, WRITING & SPEAKING** a prerequisite for joining a university international program. These skills will be used to master examination question types. Through a series of skill based and enriching lessons using Mr. Raine's expertise and selected authentic test materials, students will strengthen their core knowledge. This course is intensive. Students will have many opportunities to participate, and skill will be demonstrated in assessments, homework, and examinations. The course is at an advanced/pre-intermediate level (CEFR C1 & C2 level)

COURSE OBJECTIVES:

The main objectives of this syllabus are:

- **Language for Communication**
- **Language and Culture**
- **Language and Relationship with Other Learning Areas**
- **Language and relationship with Community and the World**

COURSE OUTLINE:

Syllabus is matched with the Thai curriculum Indicators:

M5	INDICATORS	STRANDS
READING	1. All types 2. comprehension 4. supporting ideas 8. opinions 14. ideas, beliefs 17. Analyze 18. skim/scan 20. investigate/search 21. community/national	Strand 1: Language for Communication F1.1 F1.2 F1.3
WRITING	3. answer in sentences 6. explain 7. life skills 8. opinions 10. news 11. Summarize 12. social, and global 14. ideas, beliefs 15. grammar	Strand 1: Language for Communication F1.1 F1.2 F1.3 Strand 2: Language and Culture F2.1 F2.2 Strand:3 F3.1 Strand 4: Language and Relationship with Community and the World F4.1



	16. grammar 17. Analyze 19. academic topics 20. investigate/search 21. community/national	
SPEAKING	5. All types 6. explain 7. life skills 8. opinions 9. All types 10. news 11. Summarize 12. social, and global 13. purpose 14. ideas, beliefs 17. Analyze 19. academic topics 20. investigate/search 21. community/national	Strand 1: Language for Communication F1.1 F1.2 F1.3 Strand 2: Language and Culture F2.1 F2.2 Strand:3 F3.1 Strand 4: Language and Relationship with Community and the World F4.1

SPECIFIC SKILLS:

IELTS READING (40 questions and 23 correct equals level 6) which includes:

recognizing argument and counter-argument; distinguishing between main information and supporting detail, fact and opinion, hypothesis versus evidence; summarizing and note-taking.

IELTS WRITING TASK TWO

Writing has two tasks, a report and an essay, both adding up to an overall IELTS writing score of 0-9 and includes: Essay content and structure (patterns of organization, paragraphing, discussion – argument/counter-argument, advantages and disadvantages, topic sentence and supporting ideas, coherence and cohesion,

IELTS WRITING TASK ONE

Writing includes: Functions (generalization, definitions, classification, comparison and contrast, cause and effect, process and procedure, interpretation of data).

IELTS SPEAKING

The content of the syllabus is matched to the Thai curriculum Indicators for Speaking:

Explaining in their own words concepts and ideas from a chosen topic and expand their discussion using appropriate vocabulary. Presentation skills (introductions and stating the purpose, signposting, creating interest and involving audience, emphasizing and highlighting key points,

PART 1, the examiner asks the candidate simple personal questions on everyday familiar topics: study, where you live, food, holidays, friends, going out, festivals, sports, schools and public transport.



ESSENTIAL KNOWLEDGE Your speaking will be scored using the following four criteria:

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ESSENTIAL KNOWLEDGE Note taking is the essential skill and students should practice listing single words as prompts to speaking.

PART 3, candidate and examiner will have a discussion relating to the subject area in Part 2. The candidate will be asked to do more complicated things, such as evaluate, justify positions and opinions, make predictions, and express preferences.

ESSENTIAL KNOWLEDGE

The examiner will ask “follow-up” questions. These questions will be related directly to the topic requesting clarification or further detail about something you said. Your goal should be 1) to provide a direct and clear answer 2) to support each answer with at least 1 or 2 examples.

Students should respond to part one in simple and compound sentences citing reasons and giving examples and remove all errors in Subject/Verb Agreement.

GRAMMAR: Present perfect versus past simple--Present tenses to describe books and films-- Present continuous--Past perfect and continuous-- Prepositions of time --Prepositions of place -- Future simple tense --Sentences, simple and compound --conjunctions--Passive voice--adjectives --Superlatives

SAT VERBAL

SAT PUNCTUATION PROBLEMS COVERED IN THIS COURSE

COLON - SEMICOLON -DASH (em dash) -HYPHENS- COMMAS AFTER DEPENDANT CLAUSE - COMMAS BRACKETING- COMMAS BEFORE, BUT, AND - COMMAS IN LISTS (AMERICAN) -QUOTATION MARKS (AMERICAN)



SAT WORD LEVEL PROBLEMS INTEGRATED WITH IELTS ESSAY WRITING COVERED IN THIS COURSE

VERB FORMS -TENSES (VERB) -SUBJECT/VERB AGREEMENT-PRONOUN/VERB AGREEMENT-PRONOUN-ANTECEDENT AGREEMENT-HAVE/HAS/HAD -
COMPOUND WORDS -TITLES -TRANSITIONS -THEIR/THEY'RE-WHO OR WHOM?

SAT ENGLISH VOCABULARY CHOICE & EXPRESSION PROBLEMS

CLARITY-CONFUSED WORDS-HOMOPHONES-CONTEXT-TONE-TRANSITIONS-
WORDINESS

SAT ENGLISH SENTENCE LEVEL PROBLEM

ENDING A SENTENCE WITH A PREPOSITION -PLURALS -PRONOUNS -PRONOUN-
ANTECEDENTS-SYNTAX / SENTENCE-ACTIVE / PASSIVE -COMPOUND SENTENCE
-COMPLEX SENTENCE-DANGLING MODIFIERS-WORD ORDER-FRAGMENT-RUN-
ON SENTENCES-MISPLACED MODIFIER -REDUNDANCY-CONDITIONAL
CLAUSES -DEPENDANT CLAUSES -SUBORDINATE CLAUSES -INDEPENDANT
CLAUSES

SAT VERBAL QUESTION TYPES

If the author were to remove the phrase, the names how would this change the...

- If the punctuation were adjusted accordingly, the best placement for the underlined portion would be...
- Which of the following true choices would best support the idea presented...
- Which of the following true sentences would best conclude this paragraph...
- Which of the following choices gives the most detailed explanation of...
- The writer is thinking of adding the following sentence based on the information in the chart...
- At this point, the writer is considering adding specific information as support for the main topic of the paragraph.
- Which choice most effectively adds relevant information based on the graph
- Which of the following gives information consistent with the graph?
- The best placement for sentence 5 would be?
- Should the writer delete [sentence]
- The best placement for the underlined portion would be
- The writer is considering deleting the underlined section in paragraph one.
- Should the underlined section be kept or deleted?
- At this point, the writer is considering adding the following sentence...
- If the author were to remove the phrase... and just ended the sentence at the word, ...the sentence would lose...
- Which of the following alternatives to the underlined portion would NOT be acceptable?
- The writer is considering replacing the words '.....' in the preceding sentence with the single word '.....'. Should the writer make the change or keep the sentence as it is?
- If the writer were to delete the words '..... ..' and replace it with the one word '.....' the sentence would primarily lose....



- The writer is considering replacing the wordwith the word Should the writer make the change or keep the sentence as it is?

LEARNING MATERIALS

News, announcements, fictions, non-fictions, media, diagrams, graphs, personal experience, topical events, stories, manners and culture, traditions, festivals, language structures, idioms, life skills, native speakers,

LANGUAGE SKILLS,

conceptualization, analysis, communication problem-solving, critical thinking & technology.

DESIRED CHARACTERS – 1) Love for the country and the king, faith in the religion 2) Be honest and upright 3) Possess discipline 4) Eager to learn 5) Be self-sufficient 6) Dedicated to work 7) Love for Thainess 8) Have a sense of public consciousness and 9) Be an AC gentleman.

RESOURCES:

Textbooks, Handouts, exam papers, worksheets, student notebooks, presentations, information technology

- | | |
|-----------|--|
| Required | <ul style="list-style-type: none">• notebooks.• Dictionary |
| Suggested | <ul style="list-style-type: none">• Many different colored pens/markers/highlighters |

Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonestly lower the quality of the education and will not be tolerated. Students involved in any form of academic dishonesty, including any student supplying or allowing the copying to take place, will receive a zero.

Plagiarism is the act of taking someone else's work or ideas and passing them off as one's own work or ideas. Examples of plagiarism include the failure to give appropriate acknowledgement when repeating another's idea, phrase, sentence or paragraph, or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities.

Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (notebooks, textbook, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.



Behavior is monitored every day as per the class rules that are set out at the beginning of the academic year (see the front of your note books). At the end of the semester the average is taken and used for the student's behavior score (20%). Students *earn* the scores they receive.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an A.C. gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness
- Be honest and upright

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date. After more than one day has lapsed, a maximum score of 10 will be available. Late assignments can be submitted for a maximum of 50% up until the last week of the term. All late or missed assignments that are not turned in *before* the last week of the term will receive a zero.

Grading

This course follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Total Score of all Formative Assessment*	50%
Behavior	10%
Midterm (Summative) Exam	20% (program mandated)
Final Exam	20% (program mandated)



* This total score shall be reflected by the cumulative points scored by students on all class assignments, homework, extra credit work, etc.

Assessment determination:

This syllabus is based on the important skills that students will need to successfully pass the IELTS test at level 6. The assessment will be based on students' understanding of what is expected in the different modules of the test (Listening, Reading, Writing & Speaking).

Recommendations for Success

English can be a difficult course for many students. All students are encouraged to try the following:

1. Be on task during class. Focus and follow instructions and do the required activities to your best abilities. Do not worry about making mistakes as they are the best way for us to incorporate the materials into our long-term memories.
2. Search online (in English) if you don't understand a topic discussed in class to get a better understanding of the topic.
3. Do not copy your classmate's work; struggle through and do the work on your own. This is how you learn.
4. Come see the teacher outside of class time for assistance.
5. Revise your work, as recommended by your teacher and work to continuously improve your work. Learning is a process, not a product.
6. If you don't understand then ask your friends, communication is vital for success in English, communicate with your classmates in English, you'll be surprised how quickly your English improves just by doing this.



Student Syllabus for: EP5 English for Life Skills 2: EN30243

Teacher: Mr. Joshua Bolen, J.D. (Mr. Bolen)

COURSE DESCRIPTION:

Welcome to English for Life Skills M4! Through a series of engaging and enriching lessons using Mr. Bolen's selected materials, students will continue to strengthen their core knowledge of the language.

The Students will study and listen to a range of English texts. The Students will study and learn how to give effective presentations. They will use learning skills in the 21st century, which encourages the students to be able to have listening, critical thinking and problem solving skills. The learning skills will be used to make students possess learners' key competencies, which are thinking capability, problem solving capability, capability in applying life skills and capability in technological application. This will be done through the teaching and learning focusing on promoting Thai wisdom with respect to the language and literature and religion and tradition. Teaching and learning also promotes students to live under the Sufficiency Economy Philosophy. Students will be provided with desirable characteristics such as love of nation, religion and king, honesty and integrity and self-discipline. Additional important characteristics are avidity for learning, observance of principles of Sufficiency Economy Philosophy in one's way of life, dedication and commitment to work, cherishing Thai-ness, public-mindedness and gentlemen of Assumption College.

COURSE OBJECTIVES:

Indicators

1. Listen to speakers from a range of countries, using different accents and talking in a range of contexts and situations.
2. Predict content before a listening exercise. Use contextual clues to anticipate topics, potential vocabulary and potential grammatical structures before listening.
3. Listen for gist. Show an understanding of the main ideas of a listening exercise after one listen.
4. Understand signposting language when listening. Show a knowledge and understanding of signposting language and how and why it is used. Make lists of the most common signposting language.
5. Listen for detail. Pick out specific information in a listening passage.
6. Infer relevant details when listening. Use contextual clues to gather information about meaning, who is speaking, what is happening and other questions appropriate to the listening exercise.
7. Practice listening activities that are connected to relevant international exams. Some of these should be done with past-paper questions and done in exam conditions.



8. Explain/discuss how listening can be improved, what techniques can be used and useful sources of practice material.
9. Watch examples of good and bad presentations. Have an accurate understanding of the characteristics of good and bad presentations and be able to plan presentations using the good characteristics and avoiding the bad characteristics. The focus should be on presentation skills that may be useful for university admissions and studying at university.
10. Use verbal communication to effectively present information. Use various techniques such as variation of tone of voice and the stress of important words to convey ideas more clearly and concisely.
11. Use non-verbal communication effectively. Use various techniques such as body language and eye contact to show confidence to the audience.
12. Use signposting language effectively when presenting. Show a knowledge and understanding of signposting language and how and why it is used. Make lists of the most common signposting language that are used during presentations.4. Talk and write interactively about personal information and other surrounding incidents, experiences, situations, news/events, and interesting issues in public attention, and communicate continuously and properly.

Learning Contents

Study English on the topics of news, announcements, poems, skits, pictures, different non-text information styles such as maps, graphs, and initiatives. Study non-fictions, fictions, personal information, various experiences, incidents, themes from analyzed stories, languages, voices, social manners and cultures, traditions and customs, festivals, language structures, idioms, proverbs, poems, ways of life, beliefs and cultures of native speakers, and information related to other learning content groups. Use process of establishing knowledge and understanding, reading process, process of establishing practical skills, working process, process of language skills, process of establishing attitudes, process of conceptualization, process of analysis, process of establishing realization, and process of establishing communicative knowledge and understanding to create knowledge and understanding, communicative ability, thinking ability, problem-solving ability, life skills, and ability to use technology. At the same time, students will have the following intended characteristics which are nationalism, religiosity, loyalty, disciplines, diligence, self-sufficiency, endeavor, love of being Thai, and public mind.

Resources

- | | |
|-----------|---|
| Required | <ul style="list-style-type: none">• At least 1 white notebook.• Dictionary (English to English, not a translating one)• Extra lines A4 paper for written assignments. |
| Suggested | <ul style="list-style-type: none">• Many different colored pens/markers/highlighters |



Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonesty lower the quality of the education and will not be tolerated. Students involved in any form of academic dishonesty, including any student supplying or allowing the copying to take place, will receive a zero.

Plagiarism is the act of taking someone else's work or ideas and passing them off as one's own work or ideas. Examples of plagiarism include the failure to give appropriate acknowledgement when repeating another's idea, phrase, sentence or paragraph, or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities.

Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (notebooks, textbook, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.

Behavior is monitored every day as per the class rules that are set out at the beginning of the academic year (see the front of your note books). At the end of the semester the average is taken and used for the student's behavior score (20%). Students *earn* the scores they receive.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an A.C. gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness
- Be honest and upright

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date for a score of 20 points. If the work is not done for the start of class, a maximum score of 15 will be possible. After more than one day has lapsed, a maximum score of 10 will be available. Late assignments can be submitted for a maximum of 50% (10 points) up until the



last week of the term. All late or missed assignments that are not turned in *before* the last week of the term will receive a zero.

Grading

This course follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Total Score of all Assessment	Homework 80%
Behavior	10%
Attendance	10%

Recommendations for Success

English can be a difficult course for many students. All students are encouraged to try the following:

1. Be on task during class. Focus and follow instructions and do the required activities to your best abilities. Do not worry about making mistakes as they are the best way for us to incorporate the materials into our long-term memories.
2. Watch Movies, or TV shows, or YouTube with British / Australian accents, with the English subtitles is a good way to improve your speaking and listening skills; it also helps with vocabulary too.
3. Search online (in English) if you don't understand a topic discussed in class to get a better understanding of the topic.
4. Do not copy your classmate's work; struggle through and do the work on your own. This is how you learn.
5. Come see the teacher outside of class time for assistance.
6. Revise your work, as recommended by your teacher and work to continuously improve your work. Learning is a process, not a product.

Precise resources:

- **Teacher** Handouts, Worksheets, Presentations.
- Whiteboards & Projector.



Week	Content
1	Food & Nutrition
2	Technology & Innovation
3	Education
4	Free Time & Hobbies
5	Architecture & Historical Buildings
6	Social Events & Social Media
7	Life Goals & Strategies
8	Advertising & Media
9	Discussing & Describing Places
10	MIDTERM EXAMS
11	Discussing & Describing People
12	Ranking Presentations
13	Signposting & Discourse Markers
14	Ranking Presentation - Signposting
15	Public Speaking Pro Tips
16	Individual Presentations: 2-3 Minutes, using PowerPoint / Canva
17	Individual Presentations: 2-3 Minutes, using PowerPoint / Canva
18	Individual Presentations: 2-3 Minutes, using PowerPoint / Canva
19	Individual Presentations: 2-3 Minutes, using PowerPoint / Canva
20	FINAL EXAMS



ST30202 **Periodic Movement and Static Electricity**

Teacher Mr. Glenn Thomas

Contact EP Teacher Room, 2nd Floor Colombet Bldg.

Credits 1.0

Course Description

This course focuses on revision of classical mechanics to ensure that the students a sound knowledge of it as a base for future study in Physics. The course offers both a conceptual foundation and an algebra-based presentation of Physics. Critical thinking skills in solving problems will be the emphasis with a sound basic understanding of conventional Mathematics. The course will closely follow the order and content of the SAT Physics test prep book by Barron's.

Students are encouraged to read widely from different resources which include the Internet, various (both British and American) Physics books published for improving examination skills as well as from Thai Physics books. They can always approach the teacher for references should they require.

Textbook (as a base)

Pearson International Physics AS/A level student book 1 and 2 , 2019
ISSN: 2155-6040; ISBN: 978-1-4380-0789-2

Course Outline & Objectives

Unit 1 Revision of basic mechanics in preparation for further learning in Physics, especially in elasticity, circular motion, simple harmonic motion in preparation for the students to learn Wave Mechanics. (Indicators: 1-4, 18-22) [Refer to Teacher Notes]

- Frequency and period of oscillation
- Centripetal acceleration and force.
- Motion in a circle (horizontal and vertical)
- The conical pendulum
- Rotational Motion: angular displacement, velocity and acceleration; moment of inertia, torque, angular kinetic energy and momentum.

End of Midterm Exam Content – Start of Final Exam Content

Unit 2 Wave phenomenon in daily life. (Indicators: 5-22) [Refer to Teacher Notes]

- Properties of waves: reflection, refraction, interference, diffraction, standing waves.
- Light and Vision: anatomy of the hearing organ; nature of light and properties of electromagnetic radiation; geometric properties of light; light intensity and illumination.



- Sound and Hearing: Speed of sound and effect of temperature; reflection and refraction of sound; interference of sound; beats; resonance of sound; power and intensity level of sound; Doppler's effect and shock waves.

Unit 3 Electrostatics: (Indicators: 18-22) [Refer to Teacher Notes]

- Coulomb's Law; definition of S.I. unit Coulomb.
- Electric field and definition of Electric Field Intensity
- Electrical potential and potential energy
- Potential difference and work done in moving charges.

Resources

- | | |
|-----------|---|
| Required | <ul style="list-style-type: none">• Edexcel Physics student book 1 and 2• 1 white notebook• Folder for Physics only (to keep handouts, etc.) |
| Suggested | <ul style="list-style-type: none">• Many different colored pens/markers/highlighters• Electronic Thai-English translator (not a phone-based application)• A Matayom-level physics practice book in Thai |

Academic Integrity Policy

Students are expected to following the guidelines laid down in the Assumption College Student Handbook in terms of academic pursuits and excellence. They are strongly and constantly reminded that it is of paramount importance to understand one topic intensively before being able to move on to the next one. However, all the topics are inter-related. Therefore, any forms of idleness of poor attitude in learning Physics will not be tolerated and remedial actions immediately instigated to rectify the situation. Students are always welcome to consult the teacher for guidance of whatever issues related to learning which may arise.

Behavioral Expectations

A good sense of behavioral awareness in the classroom will be strictly reinforced which is essential to the ultimate success of the learning process. Students are not allowed to do other subjects in the Physics class or play with electronic gadgets not related to what is being taught in the classroom. Infraction of behavioral rules will be handled accordingly.

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.



Classwork

Classwork will be assigned often and must be submitted on or before the due date. Late assignments can be submitted for a maximum of 50% up until the last week of the term. All late or missed assignments that are not turned in *before* the last week of the term will receive a zero.

Grading

Universal Physics follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Classwork	20%
Quiz	20%
Lab	10%
Behavior	10% (program mandated)
Midterm Exam	20% (program mandated)
Final Exam	20% (program mandated)

Recommendations for Success

Physics can be a difficult course for many students. All students are should do the following:

1. Take good notes in the classroom. Go home and revise the notes; make sure every single part is clearly understood. For any doubts, queries, clarifications, the student should immediately note down and ask the teacher either in the classroom or individually in the teachers' room.
2. Students are encouraged to read widely from various textbooks available in the market, from the school library and from the Internet. (e.g., YouTube, Google, etc.)
3. Students must do the prescribed homework.
4. It is useful to organize small study group among the students.
5. Students can consult the teacher individually for techniques in getting high or full scores in external Physics tests like CU-ATS and SAT Subject Test.
6. Ability for find the time to read Thai Physics (e.g., from the library) would be an additional asset.



ST30232 Universal Chemistry 2

Teacher Mrs. Anu Sunny
Contact EP Teacher Room, 2- Floor Colombet Bldg.
Class Time EP-M 5/2:H Tuesday Period 2, Thursday Period, Friday Period 4
EP-M 5/1: Wednesday Period 5, Thursday Period 2, Friday Period 5
Credits :1.5 (3 lessons per week)

Course Description

Although this course is technically called Universal Chemistry 2, in reality it is the third installment within the comprehensive Chemistry program offered here at Assumption College English Program. At this point in the student's progression within the discipline, course material will gradually advance into more concrete, fundamental areas of Chemistry. Within this semester, Atomic Structure, Bonding, Oxidation and Rules of Periodicity of Elements will be explained.

Demonstrations, computer-simulated activities and laboratory sessions will allow students to learn basic laboratory techniques, lab safety and get a hands-on experience of the theories and concepts learned in the lectures. As with many courses within the English Program, critical thinking skills are emphasized over those of rote learning and BMAT- style questions are a part of the evaluation process. The course will follow the content of BMAT Past Paper Worked Solutions (2003-2017) 2018 by Black Stone Tutors. The course is prerequisite to ST30233 Universal Chemistry 3.

Textbook

- *International A Level Chemistry, Oxford International AQA Examinations.*
By Ted Lister & Janet Renshaw

Supplementary:

- *BMAT Past Paper Worked Solutions (2003-2017) 2018* by Black Stone Tutors
-

Course Outline & Objectives

Oxidation Reduction and Redox Reactions (Chapter 7)

- 7.1 Oxidation and Reduction
- 7.2 Oxidation States
- Redox Equations

Atomic Structure (Chapter 1)

- 1.1 Fundamental Particles
- 1.2 Mass number, atomic number and Isotopes
- 1.3 The Mass Spectrometer
- 1.4 The arrangement of Electrons
- 1.5 More about Electron Arrangement in atoms
- 1.6 Electron arrangements and ionization energy



Bonding (Chapter 3)

- 3.1 The Nature of Ionic Bonding
- 3.2 Covalent Bonding
- 3.3 Metallic Bonding
- 3.4 Bonding and Physical Properties
- 3.5 The Shapes of Molecules and Ions
- 3.7 Electronegativity – Bond Polarity in Covalent Bonds
- 3.8 Forces Acting between Molecules

Kinetics (Chapter 5)

- 5.1 Collision Theory
- 5.2 The Maxwell -Boltzmann distribution
- 5.3 Catalysts

Periodicity (Chapter 8)

- 8.1 The Periodic Table
- 8.2 Trends in the properties of elements of Period 3
- 8.3 More Trends in the Properties of elements of Period 3
- 8.4 A Closer look at the ionization energies

Group 2, The Alkaline Earth Metals (Chapter 9)

- 9.1 The Physical and Chemical Properties of Group 2

Group 7, (17) The Halogens (Chapter 10)

- 10.1 The Halogens
- 10.2 The Chemical Reactions of Halogens
- 10.3 Reaction of halide ions
- 10.4 Uses of Chlorine

Resources

Required

- Assumption Notebook (2)
- Binder/ folder
- Scientific calculator (not a phone-based application)
- Ruler

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Suggested

- Many different colored pens/markers/highlighters
- Electronic Thai-English translator (not a phone-based application)
- A Matayom-level chemistry practice book in Thai

Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonesty lower the quality of the education and will not be tolerated. Students involved in



any form of academic dishonesty, including any student supplying or allowing the copying to take place, will receive a zero.

Plagiarism is the act of taking someone else's work or ideas and passing them off as one's own work or ideas. Examples of plagiarism include the failure to give appropriate acknowledgement when repeating another's idea, phrase, sentence or paragraph, or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (Notebook, textbook, scientific calculator, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.

A behavior score (out of 5 points) is taken every day. At the end of the semester the average is taken and used for the student's behavior score (10%).

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Possess discipline - Eager to learn
- Be an AC gentleman - Dedicated to work

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date. Late assignments can be submitted for a maximum of 50% up until the last week of the term. All late or missed assignments that are not turned in *before* the last week of the term will receive a zero.

Grading

Foundation Chemistry follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0



Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Homework/Classwork/Labs	30%
Class Test	20%
Behavior	10% (program mandated)
Midterm Exam	20% (program mandated)
Final Exam	20% (program mandated)

Recommendations for Success

Chemistry can be a difficult course for many students. All students are encouraged to try the following:

1. Read, read, read the Chemistry textbook. Oftentimes, reading the text once is not enough even for native English speakers. You may need to read the material multiple times to understand. By reading along at home with the lessons taught at school (typically only a few pages per night), students will be able to responsibly manage the material and gain the most from the course.
2. Search online, in either Thai or English, if you don't understand a topic discussed in class or simply to get a better understanding of the topic.
3. Get a Thai language introductory chemistry book.
4. Do **not** copy your classmate's work; struggle through and do the work on your own! This is how you learn!
5. Come see the teacher outside of class time for assistance.
6. Do more than just the bare minimum; there are plenty of problems in the textbook. We only have time for so many of them. Do the review questions at the end of the chapter and see the teacher for the answers.
7. Study the notes and vocabulary at least a few minutes every day, such as in homeroom or during any free time you might have in other classes.



ST30247 Animal Physiology

Teacher Mr. Nicholas Crook

Contact General Office, 2nd Floor Colombet Bldg.
epacnic@gmail.com

Class Time EP-M 5/2: Mon period 1; Tues period 2; Thurs period 4&5.

Credits 1.5

Course Description

Students will study the following topics: Functions responsible for gas exchange among sponge, hydra, planaria, earthworm, insect, fish, frog and bird, the structure of lung in mammals, the structure used for gas exchanging and the process of gas exchanging in humans, the functions of lung and the experiment to measure the air quantity of exhalation in humans, the process of cellular respiration in the conditions that oxygen supply is sufficient and insufficient, the open and closed blood circulatory system, the flowing direction of blood and the movement of blood cells in the fish tail, summary of the relationship between size of blood vein and speed of blood circulation, the structure and the functions of heart and blood vein in humans, heart structure of mammals, the direction of blood flow through human heart, blood circulation in humans, the difference of red blood cell, white blood cell, platelet and plasma, blood type and the principles of blood transfusion in ABO and Rh systems. Students will also study the components and the functions of lymph as well as the structure and functions of lymphatic vessel and lymph node, comparison of the mechanism of non-specific immunity with specific immunity, comparison of the active immunity with the passive immunity, immune system disorder that leads to AIDS, allergies and autoimmune disorders. Students will additionally learn about asexual and sexual reproduction in animals, structures and functions of male and female sexual organs, the process of spermatozoa production, egg cell creation and fertilization in human, the embryonic growth and post embryonic phase in frogs, chickens, and humans. The course will closely follow the order and content of the latest version of the American high school textbook *Biology*, by Pearson. The course is prerequisite to SC30256 Universal Biology 1.

Textbook

A, As level Biology, by Oxford 2021 (ISBN-13: 978-0-328-92512-4)

Course Outline, Objectives and Indicators.

Part 1: Respiration and Systems. (Chapters 3, 7 and 8)

- Search data, explain and compare the structure that is responsible for gas exchange among sponge, hydra, planaria, earthworm, insect, fish, frog and bird. (1)
- Observe and explain about the structure of lung in mammals. (2)
- Search for information and explain about the structure used for gas exchanging and the process of gas exchanging in humans. (3)



- Explain about the functions of lung and conduct an experiment on measuring the air quantity of exhalation in humans. (4)
- Explain, compare and summarize the process of cellular respiration in the conditions that oxygen supply is sufficient and insufficient. (5)
- Search data, explain and compare the open blood circulatory system with the closed blood circulatory system. (6)
- Observe, and explain about the flowing direction of blood and the movement of blood cell in the fish tail and summarize the relationship between size of blood vein and speed of blood circulation. (7)
- Explain about the structure and the functions of heart and blood vein in humans. (8)
- Observe and explain heart structure of mammals, the direction of blood flow through human heart and draw a diagram to present blood circulation in humans. (9)
- Search data, identify the difference of red blood cell, white blood cell, platelet and plasma. (10)
- Explain about blood type and the principles of blood transfusion in ABO and Rh systems. (11)
- Explain and make a conclusion on the components and the functions of lymph as well as the structure and functions of lymphatic vessel and lymph node. (12)
- Search data, explain and compare the mechanism of non-specific immunity with specific immunity. (13)
- Search data, explain and compare the active immunity with the passive immunity. (14)
- Search data and explain about the immune system disorder leading consequently to AIDS, allergies and autoimmune disorders. (15)

End of Midterm Exam Content – Start of Final Exam Content

Part 2: Reproduction and Growth. (Chapters 7 and 8)

- Search data, explain and give examples of the asexual reproduction and the sexual reproduction in animals. (16)
- Search data and explain about the structures and functions of male and female sexual organs. (17)
- Explain about the process of spermatozoa production, egg cell creation and fertilization in humans. (18)
- Explain about the embryonic growth and post embryonic phase in frogs, chickens, and humans. (19)
- Learn, and develop the learning skills that address the needs in the 21st century. (20)

Resources

- | | |
|----------|--|
| Required | <ul style="list-style-type: none">• Plastic Folder for F. Biology only (to keep handouts, etc.)• 2 notebooks (white and pink) |
|----------|--|



- Suggested
- Many different colored pens/markers/highlighters
 - Electronic Thai-English translator (not a phone-based application)
 - Ruler
 - Glue stick, stapler, or tape

Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonesty lower the quality of the education and will not be tolerated. Students involved in any form of academic dishonesty, including any student supplying or allowing the copying to take place, will receive a zero.

Plagiarism is the act of taking someone else's work or ideas and passing them off as one's own work or ideas. Examples of plagiarism include the failure to give appropriate acknowledgement when repeating another's idea, phrase, sentence or paragraph, or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (textbook, plastic folder for handouts, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.

A behavior score (out of 3 points) is taken every day. At the end of the semester the average is taken and used for the student's behavior score (10%). Students *earn* the scores they receive.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Possess discipline
- Eager to learn
- Be an AC gentleman
- Dedicated to work

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date. No late assignments will be accepted unless the student is absent the day the assigned work is due. If a student is absent the day an assignment is due, the assigned work will be due



at the beginning of the following class. Remember- it is the student's responsibility to remember what and when assignments are due.

Grading

This course follows to the Assumption College grading scale:

<i>Final Score</i> $\geq 80\%$	4.0
$75\% \leq$ <i>Final Score</i> $< 80\%$	3.5
$70\% \leq$ <i>Final Score</i> $< 75\%$	3.0
$65\% \leq$ <i>Final Score</i> $< 70\%$	2.5
$60\% \leq$ <i>Final Score</i> $< 65\%$	2.0
$55\% \leq$ <i>Final Score</i> $< 60\%$	1.5
$50\% \leq$ <i>Final Score</i> $< 55\%$	1.0
<i>Final Score</i> $< 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Homework/Classwork	45%
Quizzes	5%
Behavior	10% (program mandated)
Midterm (Summative) Exam	20% (program mandated)
Final Exam	20% (program mandated)

Recommendations for Success

Biology can be a difficult course for many students. All students are encouraged to try the following:

1. Read, read, read the *Biology*, by Pearson textbook. Oftentimes, reading the text once is not enough even for native English speakers. You may need to read the material multiple times to understand. By reading along at home with the lessons taught at school (typically only a few pages per night), students will be able to responsibly manage the material and gain the most from the course.
2. Search online, in either Thai or English, if you don't understand a topic discussed in class or simply to get a better understanding of the topic.
3. Get a Thai language introductory biology book.
4. Do **not** copy your classmates work; struggle through and do the work on your own! This is how you learn!
5. Come see the teacher outside of class time for assistance.
6. Do more than just the bare minimum; there are plenty of problems in the textbook. We only have time for so many of them. Do the review questions at the end of the chapter and see the teacher for the answers.
7. Study the notes and vocabulary at least a few minutes every day, such as in homeroom or during any free time you might have in other classes.



ST30106 Data Analytics Technology

Teacher Mr. Dave Thomas
Contact EP Computer Lab 5th Floor 2003 building
 nick.sebasco@gmail.com
Class Time EP-M5/1-3
Credits 0.5

Course Description

This course is designed to use data analysis in a programming environment. The course will focus on introducing students to the general terminology and concepts of programming and use application of python as a tool capable of solving real world problems, and advanced python syntax. Students will build on knowledge from M3 computer programming to learn about more theoretical computer science topics (algorithms, data structures, abstraction, software design). Additionally students will learn how to use python to solve problems and learn practical use cases for python programming. Finally students will learn advanced python syntax not covered in M3 programming.

Course Outline & Objectives

Topics include: [Indicator 1,2,3,4]

Topics
<ul style="list-style-type: none"> • Logic and set theory • Operators, assignment, precedence • Data operations • Advanced control flow • Functional programming • Classes • Algorithms and data structures • Problems solving and program design • 3rd Party Modules • Advanced Syntax

Resources

- Required
- EP Computer Lab

Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonestly lower the quality of the education and will not be tolerated. Students involved in any form of academic dishonesty, including any student supplying or allowing the copying to take place, will receive a zero.

Plagiarism is the act of taking someone else's work or ideas and passing them off as one's own work or ideas. Examples of plagiarism include the failure to give appropriate



acknowledgement when repeating another’s idea, phrase, sentence or paragraph, or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. A behavior score (out of 10 points) is taken every day. At the end of the semester the average is taken and used for the student’s behavior score (10%). Students *earn* the scores they receive.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an AC gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness
- Be honest and upright

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date. Late assignments can be submitted for a maximum of 50% up until the last week of the term. All late or missed assignments that are not turned in *before* the last week of the term will receive a zero.

Grading

This course follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0



Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

STEM	10%
Homework/Classwork	30%
Coursework	30%
Behavior	10% (program mandated)
Midterm Exam/Project	10% (program mandated)
Final Exam	10% (program mandated)

Recommendations for Success

Information technology can be a difficult course for many students. All students are encouraged to try the following:

1. Read, read, read the teacher's online notes. Oftentimes, reading the text once is not enough even for native English speakers. You may need to read the material multiple times to understand. By reading along at home with the lessons taught at school (typically only a few pages per night), students will be able to responsibly manage the material and gain the most from the course.
2. Search online, in either Thai or English, if you don't understand a topic discussed in class or simply to get a better understanding of the topic.
3. Do **not** copy your classmates work; struggle through and do the work on your own! This is how you learn!
4. Come see the teacher outside of class time for assistance.
5. Do more than just the bare minimum; there are plenty of problems in the teacher's online notes. We only have time for so many of them. Do the review questions at the end of the chapter and see the teacher for the answers.
6. Study the notes and vocabulary at least a few minutes every day, such as in homeroom or during any free time you might have in other classes.



ST30276 Integrated Computing

Teacher Mr. Dave

Contact EP Teacher Room, 2nd Floor Colombet Bldg.

Credits 0.5

Course Description

Study information technology and communication knowledge on the topics of, Spreadsheet (Excel) modeling, data management, types of data, files, database system, information system, data processing into information, and software for database management, file structure and file management, compositions of files, types of database, database system in application programs, database system, database design, tables, queries, forms, reports, and macros. Use information technology skills and processes which are data exploration, explanation, demonstration and analysis, discussion, construction of database system, group skills and process to create knowledge and understanding, thinking ability, exploring ability, ability to use technology, learning ability, communicative ability, systematic thinking ability, ability to use living skills and daily life with honesty, diligence, and endeavor.

Course Outline & Objectives

Topics include: [Indicators 1, 2, 3, 4]

Unit 1

Information System [Indicators 1, 2]

- Data, information, and information technology
- Data processing from information
- Software for database management system

Unit 2

File structure and file management [Indicators 2, 3,]

- Information system Structures
- File Systems and Structures
- Analyze/design database

Unit 3 [Indicators 4, 5]

Computer Modeling

- Excel/spreadsheet skills
- Using Models
- Modeling financial systems



Resources

- Required
- EP Computer Lab
 -

Academic Integrity Policy

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Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. A behavior score (out of 10 points) is taken every day. At the end of the semester the average is taken and used for the student's behavior score (10%). Students *earn* the scores they receive.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an AC gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness
- Be honest and upright

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date. Late assignments can be submitted for a maximum of 50% up until the last week of the term. All late or missed assignments that are not turned in *before* the last week of the term will receive a zero.



Grading

This course follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0
$75\% \leq Final\ Score < 80\%$	3.5
$70\% \leq Final\ Score < 75\%$	3.0
$65\% \leq Final\ Score < 70\%$	2.5
$60\% \leq Final\ Score < 65\%$	2.0
$55\% \leq Final\ Score < 60\%$	1.5
$50\% \leq Final\ Score < 55\%$	1.0
$Final\ Score < 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Homework/Classwork	10%
Quiz	20%
Coursework	20%
Behavior	10% (program mandated)
Midterm (Summative) Exam	20% (program mandated)
Final Exam	20% (program mandated)

Recommendations for Success

Information technology can be a difficult course for many students. All students are encouraged to try the following:

1. Read, read, read the textbook. Oftentimes, reading the text once is not enough even for native English speakers. You may need to read the material multiple times to understand. By reading along at home with the lessons taught at school (typically only a few pages per night), students will be able to responsibly manage the material and gain the most from the course.
2. Search online, in either Thai or English, if you don't understand a topic discussed in class or simply to get a better understanding of the topic.
3. Do **not** copy your classmates work; struggle through and do the work on your own! This is how you learn!
4. Come see the teacher outside of class time for assistance.
5. Do more than just the bare minimum; there are plenty of problems in the textbook. We only have time for so many of them. Do the review questions at the end of the chapter and see the teacher for the answers.
6. Study the notes and vocabulary at least a few minutes every day, such as in homeroom or during any free time you might have in other classes.



OC30105 Foundation Occupational Works 2

Teacher	Dr. Hermann Gruenwald	
Contact	EP Teacher Room, 2 nd Floor Colombet Building Hermann_gr@assumption.gmail.com	
Website	https://classroom.google.com/c/Njg0NTc1Njg1MTkx	
Class Time	M5/1 Wednesday	14:50 - 15:40
	M5/2 Monday	13:00 – 13:50
Credits	0.5	

Course Outline & Objectives

Strand 1 Living and Family

Standard OT1.1: Understanding of concept of work; endowment with creativity and skills for various aspects and work processes, management, problem solving, collaboration, investigation for seeking knowledge, morality, diligence, and awareness of the need to economize on the use of energy and the environment for one's life and for family.

Indicators

1. OT1.1 S4-6/1 Explain methods of working for a living.
2. OT1.1 S4-6/2 Create work with creative thinking and have collaboration skill.
3. OT1.1 S.4-6/3 Have management skills for work.
4. OT 1.1 S.4-6/4 Have skills for problem-solving processes.
5. OT1.1 S.4-6/5 Have skills for seeking knowledge for a living.
6. OT1.1 S.4-6/6 Have desirable characteristics for work.
7. OT1.1 S.4-6/7 Use energy and resources for work by taking into account cost-effectiveness and sustainability for the purpose of environmental conservation.

Strand 2 Occupation

Standard OT2.1 Understand and have necessary skills, experiences, and proper perception of future careers; use technology for occupational development; have morality and positive attitudes towards professions.

Indicators

1. OT2.1 S.4-6/1 Discuss guidelines for taking up occupations of interest.
2. OT2.1 S.4-6/2 Choose and apply technology appropriate to the occupations.
3. OT2.1 S.4-6/3 Have experience in occupations which students have aptitude and interest.
4. OT 2.1 S.4-6/4 Have desirable characteristics for occupations.

Unit 2: Forms of Business basics (Indicator 1, 3, 7, 11)

Understand general knowledge about legal forms of business and the registration of business.

Unit 3: Business Functions (Indicators 1, 3, 11)

Understand basic functions and departments of business.



Distinguish differences of approaches to marketing and market research

Understand the purpose of business

Understand different business departments.

Unit 4: Finance and Accounting (Indicators 2, 3, 4, 5, 6, 9, 10)

Introduction to finance and accounting.

Experience recording transactions in ledger accounts with pencil footings.

Recognize the use of accounting methods like trial balance.

Understand financial statements

Understand the purpose of the closing entry to bring the temporary journal account balances to zero for the next accounting period.

Unit 5: Business management (Indicators 1, 2, 3, 4, 6, 8, 10, 11)

Learn basic principles for business management.

Discuss and apply management techniques.

1 Business Operation

1. Business Operation Skills
2. Leadership, Vision and Mission
3. Shares Mobilization, Business Name Generator, Choosing the Executive
4. Plan the fundraising for the Company
5. Marketing Research
6. Production Decision
7. Selling Strategy and Advertising
8. Company Logo Design and Product Design
- 1.9 VDO Presentation
- 1.10 Annual Report

2 Business Plan

2.1 Production

- Schedule the Production steps
- Design and decide to choose the product
- Choose the factory
- Check the Quality of product

2.2 Marketing

- Design the evaluation form and questionnaire
- Survey the target market



- Market Analyzing
- 2.3 Finance
 - Accounting, Check the balance sheet
- 2.4 Human Resource
 - Sell the shares and Salary
 - Company Regulations
- 2.5 Public Relation
 - Create billboards /Website / FB / IG to support the sell and company image
 - Find the distribution channels
- 3 Career Preparation
 - 3.1 Business Extension

Resources

- | | |
|------------|---|
| Required | <ul style="list-style-type: none">• A pink A.C. notebook (minimum A4 size)• Basic stationary (pen, pencil, eraser, ruler, sharpener etc.)• Extra stationary (glue stick, stapler, tape, liquid paper etc.)• AC Portfolio A4 with clear front cover |
| Suggested | <ul style="list-style-type: none">• Various colored pens / markers / highlighters / pencils |
| Occasional | <ul style="list-style-type: none">• Smart phones for research in class• USB thumb drives to save typed work onto• Materials potentially needed for special projects <p><i>The above will be requested a week in advance of use</i></p> |

Academic Integrity Policy

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Plagiarism is the act of taking someone else's work or ideas and passing them off as one's own work or ideas. Examples of plagiarism include the failure to give appropriate acknowledgement when repeating another's idea, phrase, sentence or paragraph, or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioral Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (sketch book,



basic stationary, materials, ingredients etc.) and to actively participate throughout the lesson until class is dismissed.

Behavior and participation is monitored during every class and points are deducted for misbehavior, non-participation or disruption to the class. This is averaged throughout the semester and calculated as a score of 10 at the end of semester.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Possess discipline
- Be an AC gentleman
- Be honest and upright
- Be eager to learn
- Be dedicated to work
- Have a sense of public-consciousness

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time check schoology for the content of the lectures and the in-class assignments and homework and project assignments.

Homework & Class Work

Homework and class work will be assigned often, must be completed to a high standard and be submitted on or before the due date. Late assignments are subject to 50% less marks for each week they are late. All missed assignments will receive a zero and will dramatically reduce the averaged class work and homework scores of the individual.

Grading

This course follows to the Assumption College grading scale:

$Final\ Score \geq 80\%$	4.0	A
$75\% \leq Final\ Score < 80\%$	3.5	B+
$70\% \leq Final\ Score < 75\%$	3.0	B
$65\% \leq Final\ Score < 70\%$	2.5	C+
$60\% \leq Final\ Score < 65\%$	2.0	C
$55\% \leq Final\ Score < 60\%$	1.5	D+
$50\% \leq Final\ Score < 55\%$	1.0	D
$Final\ Score < 50\%$	0.0	F



Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Behavior & Participation	10%	Affective Domain
Class Work	10%	Formative
Home Work	10%	Formative
Presentation	10%	Formative
Portfolio	10%	Formative
Team Work	10%	Formative
		50% Formative
Midterm Exam	20 %	Exams
Final Exam	20%	Exams

Recommendations for Success

1. Bring all the materials that are needed to complete projects on the day of class
2. Be creative and work hard for your own success and learning.
3. Don't be afraid to experiment and have fun studying
4. Plan projects carefully and have the required materials for your project
5. Keep your notebook tidy, attractive and up-to-date and submit work on time
6. Check schoology.com for assignments and course materials and grades



ST30292 Health Science

Teacher: Mr. Grant Shorten

Contact: Teachers Room, 2nd Floor Colombet Building.
grant.sh@assumption.ac.th

Class Time: EP-M5/2H

Credits: 1

Course Description

The M5 Health Science course offers an in-depth exploration of cellular biology, genetics, and the processes that underlie the growth, development, and reproduction of living organisms. This course provides a comprehensive understanding of the structure and function of cells, the mechanisms of cell division, and the principles of inheritance. This course prepares students for advanced studies in health sciences, providing a solid foundation in cellular biology and genetics essential for careers in medicine, research, and biotechnology.

Textbook

No Textbook

External Resources

Course Outline & Objectives

1. Cell Structure and Function:

- Understand the structure and function of the main sub-cellular components of both animal and plant eukaryotic cells.
- Explore the structure and function of the main sub-cellular components of prokaryotic cells (bacteria).

2. Levels of Organization:

- Learn about the levels of biological organization from cells to tissues to organs to organ systems.

3. Transport Processes:

- Understand the processes of diffusion, osmosis, and active transport, including examples in living and non-living systems.

4. Mitosis and the Cell Cycle:

- Understand that the cell cycle includes interphase (cell growth and DNA replication) and mitosis (division leading to genetically identical daughter cells).
- Learn the role of mitosis in growth, tissue repair, replacement of worn-out cells, and asexual reproduction.
- Understand that cancer results from changes in cells leading to uncontrolled growth and division.

5. Meiosis and the Cell Cycle:

- Understand that the cell cycle includes interphase and meiosis.
- Learn the role of meiosis in reducing chromosome number and restoring the full chromosome complement at fertilization.



6. Reproduction:

- Understand that asexual reproduction involves one parent and produces genetically identical offspring when no mutations occur.
- Learn that sexual reproduction involves two parents, producing genetically different offspring, which leads to increased variation.
- Know that in most mammals, including humans, females are XX and males are XY.
- Be able to establish the sex and ratio of offspring using genetic diagrams.

7. Genetics:

- Understand that the nucleus is the site of genetic material (chromosomes/genes) in plant and animal cells.
- Learn key genetic terms: gene, allele, dominant, recessive, heterozygous, homozygous, phenotype, genotype, and chromosome.
- Use and interpret genetic diagrams to depict monohybrid (single gene) crosses.
- Use family trees/pedigrees to express outcomes as ratios, numbers, probabilities, or percentages.
- Understand the concept of inherited conditions.
- Know that most phenotypic features result from multiple genes rather than single-gene inheritance.

Learning Outcomes:

By the end of this course, students will be able to:

- Describe the structure and function of cellular components in eukaryotic and prokaryotic cells.
- Explain the hierarchical levels of biological organization.
- Illustrate and differentiate the processes of diffusion, osmosis, and active transport.
- Detail the phases of the cell cycle, including the roles of mitosis and meiosis.
- Discuss the mechanisms and implications of asexual and sexual reproduction.
- Utilize genetic diagrams and pedigrees to predict and interpret inheritance patterns.
- Understand and apply fundamental genetic concepts and terminology.

If you have questions about the class or your grade you can email me at:

grant.sh@assumption.ac.th

Resources Required

A plastic folder for worksheets.

White School Notebook

Red and blue pen

Ruler



Academic Integrity Policy

Students are expected to adhere to the Assumption College student handbook. There is to be no plagiarism, no copying, and no cheating of any kind. These and any other acts of academic dishonesty lower the quality of the education and will not be tolerated. Students involved in any form of academic dishonesty, including any student supplying or allowing the copying to take place, will receive a zero. Students should be expected to earn their scores. Scores of pass should not be given unless the student has attained sufficient knowledge to earn a passing grade.

Plagiarism is the act of taking someone else's work or ideas and passing them off as one's own work or ideas. Examples of plagiarism include the failure to give appropriate acknowledgement when repeating another's idea, phrase, sentence or paragraph, or failure to give appropriate acknowledgement when paraphrasing any of those.

Behavioural Expectations

For the sake of all the members of the class, students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. Students are expected to be ready at the start of every class (Notebooks, textbook, scientific calculator, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.

Behaviour is monitored every day as per the class rules that are set out at the beginning of the academic year (see the front of your note books). At the end of the semester the average is taken and used for the student's behaviour score (10%). Students *earn* the scores they receive.

Additionally, all Thai students are expected to embrace the following *desired characteristics*:

- Love for the country and the King, faith in religion
- Possess discipline
- Be self-sufficient
- Proud to be Thai
- Be an AC gentleman
- Eager to learn
- Dedicated to work
- Have a sense of public consciousness
- Be honest and upright

Attendance & Tardiness

Attendance will be taken at the start of every class. Students are expected to be in class on-time, every time. Unexcused absences or tardiness will not be tolerated. In the case of planned absences, please notify the teacher in as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

Homework & Classwork

Homework and classwork will be assigned often and must be submitted on or before the due date for a full score of 10 points. Late work without excuse will be deducted at the rate of 10% per day until the maximum possible score is zero. All work must be turned in before the last week of each term. Late work is discouraged.



Grading

This course follows to the Assumption College grading scale:

<i>Final Score</i> $\geq 80\%$	4.0
$75\% \leq$ <i>Final Score</i> $< 80\%$	3.5
$70\% \leq$ <i>Final Score</i> $< 75\%$	3.0
$65\% \leq$ <i>Final Score</i> $< 70\%$	2.5
$60\% \leq$ <i>Final Score</i> $< 65\%$	2.0
$55\% \leq$ <i>Final Score</i> $< 60\%$	1.5
$50\% \leq$ <i>Final Score</i> $< 55\%$	1.0
<i>Final Score</i> $< 50\%$	0.0

Evaluation and Assessment

The final semester grade for this course out of 100% is broken down as follows:

Class work	20%
Class Participation	10%
Note book	10%
Behavior	10%
Quizzes	10%
Midterm (Summative) Exam	20% (program mandated)
Final Exam	20% (program mandated)

Recommendations for Success

Mathematics can be a difficult course for many students. All students are encouraged to try the following:

1. Read, read, read the course textbook. Often, reading the text once is not enough even for native English speakers. You may need to read the material multiple times to understand. By reading along at home with the lessons taught at school (typically only a few pages per night), students will be able to responsibly manage the material and gain the most from the course.
2. Search online, in either Thai or English, if you don't understand a topic discussed in class or simply to get a better understanding of the topic.
3. Get a Thai language introductory mathematics book.
4. Do **not** copy your classmates work; struggle through and do the work on your own! This is how you learn!
5. Come see the teacher outside of class time for assistance.
6. Do more than just the bare minimum; there are plenty of problems in the textbook. We only have time for so many of them. Do the review questions at the end of the chapter and see the teacher for the answers.
7. Study the notes and vocabulary at least a few minutes every day, such as in homeroom or during any free time you might have in other classes.



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EP-M.5 Course Syllabus – Semester 1/2024