



## MA30102 Foundation Mathematics 2

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<b>Teacher</b>	Mr. Shiv Kumar
<b>Contact</b>	Science Lab, 2 <sup>nd</sup> Floor Colombet Building. shiv.ku@assumption.ac.th
<b>Class Time</b>	EP-M4/1: Monday Period-2, Wednesday Period-3 EP-M4/2: Wednesday Period-6, Friday Period-6
<b>Credits</b>	1.0

### Course Description

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#### Before midterm exams:

The first topics will be function and relations, domain and range of a function and different types of functions. Relations and an introduction to functions: definitions and terminology.

As with many courses within EP, critical thinking skills are emphasized over those of rote learning and where possible an investigative approach is used.

#### After midterm exams:

After the midterm exams, the different types of functions explored will continue in particular, drawing linear, quadratic, exponential, absolute and step functions. The topics of unit circle along with trigonometric value of 30, 45 and 60 degree and the application of trigonometry for height and distance problems.

In general, the key competencies for the math course are: 1. Communicative ability 2.

Thinking ability 3. Problem solving ability 4. Ability to use life skills 5. Technological ability

The key process skills are: 1. Problem solving 2. Reasoning 3. Communicating the meaning

4. Connecting 5. Creative thinking

### Textbook

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[Book 1] Barron's SAT Math Level 1, 13<sup>th</sup> Edition.

[Book 2] IGCSE Cambridge International Mathematics Extended (0607), 2015 Edition \* For new students, or those who have lost this EP3 textbook, I will have a shared online version.

Additional teacher handouts

### Online resources

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*Khan Academy, Kahoot and Schoology*

### Course Outline & Objectives

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Learning Unit 1.1: **Relations** [Strand 1, Standard MA1.2, Indicators MA 1.2 S.5/1]

1. Ordered pairs
2. Cartesian product
3. Relations
4. Graphs of relations
5. Domain and range of a relation
6. Inverse of a relation

Learning Unit 2: **Functions** [Strand 1, Standard MA1.2, Indicators MA 1.2 S.5/1]

1. Definition of function



2. Domain and range of function
3. Value of a function  $f(x)$

End of Midterm Exam Content – Start of Final Exam Content

Learning Unit 2: **Functions** [Strand 1, Standard MA2, Indicators MA 2.1 S.5/2]  
*continued..*

4. Types of functions
  - Linear and Quadratic functions
  - Exponential function
  - Absolute value function
  - Step function

Learning Unit 3: **Trigonometry** [Strand 1, Standard MA2.1, Indicators MA 2.2 S.2/1]

1. trigonometric ratio
2. calculation of 30, 45 and 60 degree of trigonometric identities
3. relation between side and angles
4. height and distance problems

### **Resources**

- |           |   |
|-----------|---|
| Required  | <input type="checkbox"/> At least 3 notebooks (2 white, 1 pink)                             |
|           | <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 colored 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 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, 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**

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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**

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Homework and classwork will be assigned often and must be submitted on or before the due date. All late or missed assignments that are not turned in *before* the last week of the term get 0%.

**Grading**

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This course follows to the Assumption College grading scale:

<i>Final Score</i> ≥ 80%	4.0
75% ≤ <i>Final Score</i> < 80%	3.5
70% ≤ <i>Final Score</i> < 75%	3.0
65% ≤ <i>Final Score</i> < 70%	2.5
60% ≤ <i>Final Score</i> < 65%	2.0
55% ≤ <i>Final Score</i> < 60%	1.5
50% ≤ <i>Final Score</i> < 55%	1.0
<i>Final Score</i> < 50%	0.0

**Evaluation and Assessment**

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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**

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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.



**MA30214 Universal Mathematics 2**

**Teacher** Mr. Chris Won

**Contact** EP Teacher Room, 2<sup>nd</sup> Floor Colombet Bldg.

**Class Time** EP-M4/1: Wed, period 1; Fri, period 4  
EP-M4/2: Mon, period 5; Tues, period 4

**Credits** 1.0

**Course Description**

This mathematics course focuses on the topics of matrices and determinants, functions, and analytic geometry. This course enables students to learn and use mathematical skills and processes which include problem-solving, reasoning, communications, mathematical implication and presentation, mathematical connections, and creative thinking. Students are encouraged to have responsibility, discipline, self-confidence, and positive attitudes toward mathematics. The course closely follows the content of the Thai syllabus while also exposes students to questions and word problems from an international syllabus.

**Textbook**

*Wazir, Ibrahim. Higher Level Mathematics: Developed Specifically for the IB Diploma. Pearson, 2012. ISBN 978-0-435-07496-8*

**Course Outline & Objectives**

Learning Units	Chapters from the textbook
<p><b>1. Matrices and Determinants</b></p> <ol style="list-style-type: none"> <li>1. Matrix               <ol style="list-style-type: none"> <li>1. Types and properties of matrices</li> </ol> </li> <li>2. Determinant               <ol style="list-style-type: none"> <li>1. Find the determinant of a <math>n \times n</math>; <math>n \leq 3</math> matrix</li> <li>2. Find the determinant of a <math>n \times n</math>; <math>n &gt; 3</math> matrix</li> <li>3. Properties of determinant</li> </ol> </li> <li>3. System of linear equations               <ol style="list-style-type: none"> <li>1. Elementary row operation</li> <li>2. Inverse multiplication of matrix</li> <li>3. Cramer's Rule</li> </ol> </li> </ol>	<p><i>Chapter 9. Vectors</i> <i>Chapter 6. Matrix Algebra</i></p>
<p><b>2. Functions</b></p> <ol style="list-style-type: none"> <li>1. Definition of a function</li> <li>2. Types of functions               <ol style="list-style-type: none"> <li>1. Identify functions</li> <li>2. Monotonic Functions</li> <li>3. Quadratic functions</li> </ol> </li> <li>3. Algebra of functions</li> <li>4. Composite functions</li> </ol>	<p><i>Chapter 2. Functions</i></p>



<b>5. Inverse functions</b>	
<b>3. Analytic Geometry</b> <b>1. Foundation of analytic geometry</b> <b>1.</b> Distance between two points <b>2.</b> Midpoint between two points <b>3.</b> Slope of linear, parallel and perpendicular <b>4.</b> Solving linear equations <b>5.</b> Distance between a line and a point <b>6.</b> Distance between parallel lines <b>2. Conic sections</b> <b>1.</b> Parabolas <b>2.</b> Circles <b>3.</b> Ellipses <b>4.</b> Hyperbolas	<i>Not covered in the textbook</i> <i>Use teacher's notes</i>

### Resources

- Google Classroom
- My Open Math
- A4 plastic portfolio (to keep all student work and handouts)
- A4 paper or notebook
- Ruler
- Writing supplies

### 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

Students are expected to respect themselves, their classmates, the teacher, and the facilities. Students must accept responsibility for themselves and their actions. Students must speak English in class. 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 class. At the end of the semester the points are accumulated and used for the student's behavior score (10%).



Furthermore, 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
- Be honest and upright
- Proud to be Thai
- Have a sense of public consciousness
- Eager to learn
- Dedicated to work
- Be an AC gentleman
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### 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 as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

### Assignments & Projects

An assessment item must be submitted on or before the due date. **An assessment item submitted later than the due date, without an extension from the teacher, will be subject to a penalty (deduction of marks).** Late homework may be completed and submitted to qualify towards eligibility for exams. At the end of the semester, if the students have not completed a sufficient number of homework assignments to pass this aspect of the course, additional work will be set for them.

### Grading

This course adheres 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:

Formative (Tests, Quizzes, Assignments)	50%
Behavior	10%
Midterm Exam	20%
Final Exam	20%



### **Recommendations for Success**

Mathematics can be difficult for many students. All students are encouraged to do the following:

1. Read the provided course notes. You may need to read the material multiple times to understand. By reading along at home with the lessons taught at school, students will be able to responsibly manage the material and gain the most from the course.
2. Complete all forms of assessment and submit all homework and assignments.
3. 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.
4. Do not copy the work of your classmates' work; try to struggle through on your own. This will help you learn.
5. Seek the teacher for assistance.
6. Do more than just the bare minimum; do the additional problems in the textbook and the review questions at the end of the chapter and check your answers.
7. Study the notes and vocabulary daily.





## **EN30102 Foundation English 2**

**Teacher** Mr. Jonas Godson

**Contact** EP Teacher Room, 2<sup>nd</sup> Floor Colombet Bldg.  
jonas.go@assumption.ac.th

**Credits** 1.5

### **Course Description**

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The Foundation English course focuses on laying solid groundwork on basic grammar, speech, reading and vocabulary skills. Using an integrated learning methodology, this course aims to give students the more advanced skills needed to converse in English. Starting with parts of speech and focusing on more complex grammar tenses, such as present perfect simple, present perfect progressive and past perfect simple, and then moving on to prefixes and suffixes, conditionals and comparative and superlatives.

For reading, the focus will be on more advanced reading skills and higher level critical thinking skills. Writing will be more focused on essays and complex, flowing paragraphs and connectives. Speaking and listening will be integrated into activities, but phonetics and correct pronunciation will be highlighted. There will be more of an emphasis on debating, rather than role-playing.

This course will follow the content of the course book, with a few extra adaptations and activities where necessary.

### **Textbook**

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(Cambridge) Prepare – Student book with activity workbook B2 – Level 7

### **Course Outline & Objectives**

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#### **Weeks 1 & 2: Unit 6: Totally Emotional**

Vocabulary: Emotions that students experience, fears and phobias  
Reading: Reading and discussion – When fear becomes phobia  
Grammar: be / get used to  
Writing: Students write about new habits they have adapted to

#### **Weeks 3 & 4: Unit 7: Telling Stories**

Vocabulary: Verbs of movement and sound  
Reading: Tales from Sherlock Holmes  
Identifying main ideas and supporting information from text  
Grammar: Narrative tenses  
Writing: Writing a good story

#### **Weeks 5 & 6: Unit 7: Telling Stories continued**

Vocabulary: Verbs of movement and sound  
Reading: Tales from Sherlock Holmes  
Identifying main ideas and supporting information from text  
Grammar: Narrative tenses  
Writing: Writing a good story

#### **Weeks 7 & 8: Unit 9: A Bright Future**

Vocabulary: Collocations  
Reading: Discussing optimistic and pessimistic views about the future.  
Grammar: Future continuous & Perfect



Writing: Writing a compare & contrast essay

**Week 9 & 10: Revision & mid-term exam**

Contents: Be / get used to, Narrative tenses, Writing a compare & contrast essay, Collocations, Future continuous & Perfect

End of Midterm Exam Content – Start of Final Exam Content

**Weeks 11 & 12: Unit 16: New and improved**

Vocabulary: Advertising: Nouns and verbs  
Reading: Guerrilla Marketing – Is it effective?  
Grammar: Conditionals, adverb + adjective collocations  
Writing: Describing an advertising campaign

**Weeks 13 & 14: Unit 16: New and improved continued**

Vocabulary: Advertising: Nouns and verbs  
Reading: Guerrilla Marketing – Is it effective?  
Grammar: Conditionals, adverb + adjective collocations  
Writing: Describing an advertising campaign

**Weeks 15 & 16: Unit 18: Creative Careers**

Vocabulary: The world of work  
Reading: The Big Decision – Career choice  
Grammar: Uses of verb + -ing  
Writing: Agreeing & disagreeing about types of work

**Weeks 17 & 18: Unit 18: Creative Careers**

Vocabulary: The world of work  
Reading: The Big Decision – Career choice  
Grammar: Uses of verb + -ing  
Writing: Agreeing & disagreeing about types of work

**Week 19: Tourism in Thailand. (Handouts in class)**

Students will use previously taught skills and vocabulary to produce a written guide to Thailand for tourists. They will then present this to the class and answer questions.

**Week 20: Revision for final exam**

Content: Conditionals, adverb + adjective collocations, uses of verb + -ing

**Resources**

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|-----------|--|
| Required  | <ul style="list-style-type: none"> <li>• At least 3 notebooks.</li> <li>• Dictionary (English to English, not a translating one)</li> <li>• Extra lines A4 paper for written assignments.</li> <li>• Access to a computer and internet.</li> <li>• A Gmail email account would be beneficial.</li> </ul> |
| Suggested | <ul style="list-style-type: none"> <li>• Many different colored pens/markers/highlighters</li> </ul>   |



### **Academic Integrity Policy**

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### **Behavioral Expectations**

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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**

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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**

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Homework and class work 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:

Participation in class	10%
Class work	10%
Notebooks	10%
Quiz 1	10%
Quiz 2	10%
Behavior	10% (Program Mandated)
Midterm Exam	20% (Program Mandated)
Final Exam	20% (Program Mandated)

## Recommendations for Success

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

1. Read, read, read and read. The best way to learn English is to read literature. It helps with nearly every aspect of English. The best students are always the ones who *enjoy* reading. Find a book you like and keep at it. A little every day is a good way to start.
2. Watching American movies or TV shows with the English subtitles is a good way to improve your speaking and listening skills; it also helps with vocabulary too. When you come across a new word, just pause the movie and write it down in your vocabulary book.
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 classtime for assistance.
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.
7. 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.



## **EN30202 M4 - English Reading Writing 2**

**Teacher** Mr. Andrew Neale

**Contact** EP Teacher Room, 2<sup>nd</sup> Floor Colombet Bldg.  
[simon.an@assumption.ac.th](mailto:simon.an@assumption.ac.th)

**Class Time** EP-M4/1 & M4/2: two periods a week for each class

### **Course Description**

Welcome to part two of the IELTS Introduction course! My aim before the end of this semester is to take students with an IELTS band score of 3 up to the band score of IELTS 4 through a range of activities and different topics. I will also offer basic techniques to help build confidence for those who may currently be worried. I'm also passionate about ensuring students develop with their general communication skills and so will also mix up the lessons with useful, everyday English activities. I will also make reference to the English Grammar workbook, as necessary, either for the class as a whole or 121, whenever I feel extra attention on a particular area would be beneficial. For this reason, I cannot guarantee that the general course outline that I am prescribing below, will apply to every student 100% of the time as I am keen to offer as much direct 121 support as possible.

The course overall, however, will focus on preparing students for the academic reading, academic writing, speaking and listening elements of the IELTS examination.

### **Textbooks**

*IELTS Introduction – Student's Book* – Macmillan Exams book  
*English Grammar in Use 5<sup>th</sup> edition* - Cambridge book

### **Course Outline & Objectives**

#### **Week 1 & 2 - Introductions**

- Vocabulary: Meet the teacher, the UK, the world, volunteerism & travel
- Speaking: Introduce your friend, discuss how to be the best student
- Listening: Tongue twisters - write what you hear
- Pronunciation: practice with difficult phonetic blends
- Reading: Quick review of last semester
- Writing & Presentation: "*What I learnt last semester?*"

#### **Weeks 3-6 - IELTS Introduction Unit 6: Read What You Want**

- Reading skills: Matching headings, matching multiple choice,
- Vocabulary: Reading statistics, evaluating adjectives, developing ideas
- Grammar: First conditionals
- Speaking: Discuss a story / book you've enjoyed or not liked
- Listening: Sentence completion and matching answers

#### **Week 7 - Writing practice**

- '*What do you think about...?*' - Review a modern day piece of technology.
- Skills: Title & body; eye catching headings, paragraph use, telling a story.

#### **Week 8 - Revision of content / Skill development / Catch up on missed work**

#### **Week 9 - Midterm Exams**

#### **Week 10 - Christmas / New Year break**



**Weeks 11-13 - IELTS Introduction Unit 7: *The Mind***

- Listening: Pre-listening, choosing answers from lists, table completion
- Skim Reading: Yes / No / Not Given
- Vocabulary: word building – nouns versus adjectives
- Grammar: Second conditionals
- Speaking: make a task card and describe a passion

**Weeks 14-16 - IELTS Introduction Unit 9: Finance**

- Listening: completing forms,
- Vocabulary: word association, pay-related phrases, entrepreneurialism...
- Grammar: Complex sentences – concession.
- Writing: true/false statements, opinions, writing introductions
- Speaking: Brainstorm and Rate - different jobs / business types

**Week 17** – **Concerns, fears & challenges, and strategies for success.**

**Week 18** – **Revision of content / Skill development / Catch up on missed work**

**Week 19/20** – **Final Exams**

**Resources**

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- |          |  |
|----------|--|
| Required | <ul style="list-style-type: none"><li>• 1 notebook (1 white notebook)</li><li>• Folder for English only (to keep handouts, etc.)</li><li>• Textbooks</li><li>• Blue or black pen + red pen for checking work</li><li>• Dictionary (English to English)</li></ul> |
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Other resources such as worksheets may be given throughout the semester.

**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 (notebook, worksheets, English Folder, writing utensils, etc.) and to actively participate throughout the lesson until class is dismissed.

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



- Possess discipline
- Be an AC gentleman
- Eager to learn
- 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 but some marks will be taken off as a penalty. 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:

Formative Score	50% or less
Behavior	10% (program mandated)
Midterm Exam	20% (program mandated)
Final Exam	20% (program mandated)

### **Recommendations for Success**

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

1. Remember your commitment on how to be the best student (from week 1).
2. Have your materials for English on your desk at the beginning of class.
3. Pay attention and listen carefully while taking notes.
4. Always use English during discussions.
5. Do your homework yourself and do not copy.
6. Come see the teacher outside of class time for assistance.
7. Give feedback to, and share ideas with, Mr Andy to help maximize your learning.
8. Always try your best.



## **ST30201 Mechanics Physics 1**

**Teacher** Mr. Steven Kuhn

**Contact** EP Teacher Room, 2<sup>nd</sup> Floor Colombet Bldg.

**Class Time** EP-M4/2: Mon, period 3; Wed, period 3; Thurs, period 2

**Credits** 2.0

### **Course Description**

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This physics course focuses on classical mechanics and is a continuation from SC30101 Foundation Physics. Building off the fundamentals of semester one, the course reviews Newton's laws and everyday forces, work and energy and introduces momentum and collisions, circular motion and gravitation, vibrations and waves, sound, and light. Physics 1 is 2.0 credits and therefore consists of four periods per week. The course offers both a conceptual foundation and an algebra-based presentation of physics. As with many courses within EP, critical thinking skills are emphasized over those of rote learning. The course will closely follow the order and content of the latest version of the American high school textbook, Holt *Physics*. The course is prerequisite to SC30202 Physics 2.

### **Textbook**

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*Physics*, Holt McDougal 2012

ISBN-13: 978-0-547-58669-4; ISBN-10: 0-547-58669-8

### **Course Outline & Objectives**

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#### **Chapter 4: Forces and the Laws of Motion**

##### Section 1: Changes in Motion

- (Review Topic) Describe how force affects the motion of an object.
- Interpret and construct free-body diagrams.

##### Section 2: Newton's First Law

- Explain the relationship between the motion of an object and the net external force acting on the object.
- Determine the net external force on an object.
- Calculate the force required to bring an object into equilibrium.

##### Section 3: Newton's Second and Third Laws

- Describe an object's acceleration in terms of its mass and the net force acting on it.
- Predict the direction and magnitude of the acceleration caused by a known net force.
- Identify action-reaction pairs.

##### Section 4: Everyday Forces

- Explain the difference between mass and weight.
- Find the direction and magnitude of normal forces.
- Describe air resistance as a form of friction.
- Use coefficients of friction to calculate frictional forces.

#### **Chapter 5: Work and Energy**

##### Section 1: Work

- Recognize the difference between the scientific and ordinary definitions of work.
- Define work by relating it to force and displacement.





- Identify where work is being performed in a variety of situations.
- Calculate the net work done when many forces are applied to an object.

Section 2: Energy

- Identify several forms of energy.
- Calculate kinetic energy for an object.
- Apply the work-kinetic energy theorem to solve problems.
- Distinguish between kinetic and potential energy.
- Classify different types of potential energy.
- Calculate the potential energy associated with an object's position.

Section 3: Conservation of Energy

- Identify situations in which conservation of mechanical energy is valid.
- Recognize the forms that conserved energy can take.
- Solve problems using conservation of mechanical energy.

Section 4: Power

- Relate the concepts of energy, time and power.
- Calculate power in two different ways.
- Explain the effect of machines on work and power.

**Chapter 6: Momentum and Collisions**

Section 1: Momentum and Impulse

- Compare the momentum of different moving objects.
- Compare the momentum of the same object moving with different velocities.
- Identify examples of change in the momentum of an object.
- Describe changes in momentum in terms of force and time.

Section 2: Conservation of Momentum

- Describe the interaction between two objects in terms of the change in momentum of each object.
- Compare the total momentum of two objects before and after they interact.
- State the law of conservation of momentum.
- Predict the final velocities of objects after collisions, given the initial velocities.

Section 3: Elastic and Inelastic Collisions

- Identify different types of collisions.
- Determine the changes in kinetic energy during perfectly inelastic collisions.
- Compare conservation of momentum and conservation of kinetic energy in perfectly inelastic and elastic collisions.
- Find the final velocity of an object in perfectly inelastic and elastic collisions.

**Chapter 7: Circular Motion and Gravitation**

Section 1: Circular Motion

- Solve problems involving centripetal acceleration.
- Solve problems involving centripetal force.
- Explain how the apparent existence of an outward force in circular motion can be explained as inertia resisting the centripetal force.
- (Supplemental) Determine the contributing forces to the centripetal force.
- (Supplemental) Draw free-body diagrams of objects undergoing circular motion.



- (Supplemental) Describe the requirements for a vehicle negotiating a banked turn under various scenarios, e.g. lack of friction, varying velocities, etc.

Section 2: Newton's Law of Universal Gravitation

- Explain how Newton's law of universal gravitation accounts for various phenomena, including satellite and planetary orbits, falling objects, and the tides.
- Apply Newton's law of universal gravitation to solve problems.

Section 3: Motion in Space

- Describe Kepler's laws of planetary motion.
- Relate Newton's mathematical analysis of gravitational force to the elliptical planetary orbits proposed by Kepler.
- Solve problems involving orbital speed and period.

Section 4: Torque and Simple Machines

- Distinguish between torque and force.
- Calculate the magnitude of a torque on an object.
- (Review topic from EP 3) Identify the six types of simple machines.
- (Review topic from EP 3) Calculate the mechanical advantage of a simple machine.

**Chapter 11: Vibrations and Waves**

Section 1: Simple Harmonic Motion

- Identify the conditions of simple harmonic motion.
- Explain how force, velocity, and acceleration change as an object vibrates with simple harmonic motion.
- Calculate the spring force with Hooke's law.

Section 2: Measuring Simple Harmonic Motion

- Identify the amplitude of vibration.
- Recognize the relationship between period and frequency.
- Calculate the period and frequency of an object vibrating with simple harmonic motion.

Section 3: Properties of Waves

- Distinguish local particle vibrations from overall wave motion.
- Differentiate between pulse waves and periodic waves.
- Interpret waveforms of transverse and longitudinal waves.
- Apply the relationship among wave speed, frequency, and wavelength to solve problems.
- Relate energy and amplitude.

Section 4: Wave Interactions

- Apply the superposition principle.
- Differentiate between constructive and destructive interference.
- Predict when a reflected wave will be inverted.
- Predict whether specific traveling waves will produce a standing wave.
- Identify nodes and antinodes of a standing wave.

**Chapter 12: Sound (*time permitting*)**

Section 1: Sound Waves

- Explain how sound waves are produced
- Relate frequency to pitch.
- Compare the speed of sound in various media.
- Relate plane waves to spherical waves.



- Recognize the Doppler effect, and determine the direction of a frequency shift when there is relative motion between a source and an observer.

### **Chapter 13: Light and Reflection (*time permitting*)**

#### Section 1: Characteristics of Light

- Identify the components of the electromagnetic spectrum.
- Calculate the frequency or wavelength of electromagnetic radiation.
- Recognize that light has a finite speed.
- Describe how the brightness of a light source is affected by distance.

#### **Resources**

##### Required

- At least 3 notebooks (2 white, 1 pink)
- Scientific calculator (not a phone-based application)
- Ruler

##### Suggested

- 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 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 (3 notebooks, textbook, scientific calculator, ruler, 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 (15%). Students *earn* the scores they receive.

#### **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:

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

### **Recommendations for Success**

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

1. Read, read, read the Holt *Physics* 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 physics book.
4. Get a math and/or physics tutor. The tutor should be helping you learn, not doing the work for you!
5. Do **not** copy your classmates work; struggle through and do the work on your own! This is how you learn!
6. Come see the teacher outside of class time for assistance.



THE ENGLISH PROGRAM AT ASSUMPTION COLLEGE  
Course Syllabus – Semester 2/2024

7. 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.
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.



**ST30231 Universal Chemistry 1**

**Teacher** Mr. Michael Dew

**Contact** EP Teacher Room, 2- Floor Colombet Bldg.

**Class Time** EP-M 4/1: Monday Period 1, Wednesday Period 2

**Credits** 1.5 (2 lessons per week)

**Course Description**

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Universal Chemistry is the second installment within the comprehensive Chemistry program offered here at Assumption College English Program. This course serves as a continuation into a student's progression within the subject as the course material will build upon prior knowledge and advance into more complex and detailed areas of Chemistry. Within this semester, redox reactions, electrolysis, energy changes, rates of reaction, and reactivity of metals will be explored and discussed.

Demonstrations, computer-simulated activities and laboratory experiments 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.

**Textbook**

- *Cambridge IGCSE & O Level Chemistry*  
By RoseMarie Gallagher and Paul Ingram

Supplementary:

- N/A

**Course Outline & Objectives**

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**Reversible Reactions and Equilibrium (Chapter 10)**

- Reversible reactions
- Shifting the Equilibrium
- The Haber Process
- The Contact Process

**The Behavior of Metals (Chapter 13)**

- Comparing Metals and Non-metals
- Comparing Metals for reactivity
- Metals in Competition
- Reactivity Series
- Rusting of Iron

**Extracting and Using Metals (Chapter 14)**

- Metal Ores and Metal Extraction
- Extracting Iron
- Extracting Aluminum



- Making use of metals
- Metals and Alloys

### **Organic Chemistry (Chapter 16)**

- Petroleum
- Refining petroleum
- Families of Organic Compounds
- Alkanes and Alkenes
- Alcohols and Carboxylic Acids

### **Polymers (Chapter 17)**

- Introduction to Polymers
- Addition Polymerization
- Condensation Polymerization
- Plastics
- The Plastics Problem
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### **Resources**

- |           |   |
|-----------|---|
| Required  | <ul style="list-style-type: none"><li>• Assumption Notebook (2)</li><li>• Binder/ folder</li><li>• Scientific calculator (not a phone-based application)</li><li>• Ruler</li></ul>  |
| Suggested | <ul style="list-style-type: none"><li>• Many different colored pens/markers/highlighters</li><li>• Electronic Thai-English translator (not a phone-based application)</li><li>• A Matayom-level chemistry practice book in Thai</li></ul> |

### **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**

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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 as far in advance as possible. Students are expected to catch up on all missed work outside of class time.

### **Homework & Classwork**

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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**

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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**

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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**

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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 the homeroom or during any free time you might have in other classes.



**ST30291 Health Science 1**

**Teacher** Mr. Michael Dew

**Contact** EP Teacher Room, 2- Floor Colombet Bldg.

**Class Time** EP-M 4/2: Monday Period 1, Wednesday Period 2

**Credits** 1.5 (2 lessons per week)

**Course Description**

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This Health Science course encompasses a detailed and comprehensive approach to learning. The course embraces the unique spirit of Assumption in delivering both a dynamic and holistic approach to learning; addresses the needs of individual students at varying academic levels. The new teaching and learning of science focuses on students themselves, allowing them to discover the knowledge mostly by themselves. With their fundamental knowledge and the results from their scientific investigations, students can construct their own principles, conceptual ideas and understandings systematically. Health science topics include the history of medicine, medical breakthroughs, detailed insight of various medical fields, and the benefits of different types of medicine. Enhanced knowledge and understanding of scientific processes and developing skills in observation, experimentation and the interpretation of data, and production of conclusions. Students will understand the importance of applying knowledge to real-life situations with responsibility, honesty, integrity, discipline, creativity, self-sufficiency, a scientific mind and attitude. See course outline and objectives below.

**Textbook**

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- *Cambridge IGCSE & O Level Chemistry*  
By RoseMarie Gallagher and Paul Ingram

Supplementary:

- N/A

**Course Outline & Objectives**

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**History of Medicine and Thailand's Healthcare history (Chapter 1)**

Explore the background and progression of medicine and health care

Discuss and explore major healthcare breakthroughs in the past 200 years.

**Medical Breakthroughs and Fields of Medicine (Chapter 2)**

Investigate and discuss possible future medical breakthroughs.

Investigate the different fields of medicine

**Physician Specialties and subspecialties (Chapter 3)**

Explore and discuss the various Physician specialties and sub-specialties.

*Midterm Exam*

**Benefits of Modern Medicine (Chapter 4)**

Identify and research benefits and side effects of various types of medicine.

Investigate and conduct healthcare based experiments.

**Alternative Medicine (Chapter 4)**

Identify and research benefits and side effects of various types of medicine.

Investigate and conduct healthcare based experiments.

**Resources**

- Required
- Assumption Notebook (2)



- Binder/ folder
  - Scientific calculator (not a phone-based application)
  - Ruler
- Suggested
- Many different colored pens/markers/highlighters
  - 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 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 (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 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 the homeroom or during any free time you might have in other classes.



<b>ST30246</b>	<b>Biochemistry and Biodiversity</b>
<b>Teacher</b>	Mr. Nicholas Crook
<b>Contact</b>	EP Teacher Room, 2 <sup>nd</sup> Floor Colombet Bldg.
<b>Email</b>	epacnic@gmail.com
<b>Class Time</b>	EP-M 4/2: Mon, period 5; Tues, period 5 - 6
<b>Credits</b>	1.5

### Course Description

This biology course focuses on the following contents: biodiversity and the connection between the genetic diversity, species diversity and ecological diversity, forming of the protocell of living organisms and the evolution of the single celled organisms, bacterial organisms, protist, plants, fungus and animals, organism classification from large scale to smaller ones and the methods of creating scientific names in sequence of species, creation of Dichotomous Key to identify the organism or the selected samples that have been categorized into groups, application of knowledge about biotechnology, energy from the agricultural raw materials: biomass gas and ethanol to explain about alternative energy for future use. The course will closely follow the order and content of the latest version of the American high school textbook *Biology*, by Pearson.

### Textbook

*Biology*, by Pearson (ISBN-13: 978-0-328-92512-4)

### Course Outline & Objectives

#### **TERM 2: Biodiversity**

##### **Chapter: 6**

###### 6.3 Diversity [Indicators 1-3]

- Discuss the significance of biodiversity.
- Explain the connection between genetic – species – and ecological diversity.

##### **Chapter: 7**

###### 7.1 Protocells [Indicators 4-6]

- Explain about protocells of organisms.
- Describe evolution of singled celled organisms.

##### **Chapters: 20/21/25**

###### 20.2 Bacterial Organisms [Indicators 7-9, 38]

- Explain important characteristics of bacteria.
- Give examples of bacteria.

###### 21.2 Protist Organisms [Indicators 10-12, 39]

- Explain important characteristics of protists.
- Give examples of protists.

###### 22.1 Plant Organisms [Indicators 13-14, 40]

- Explain important characteristics of plants.
- Give examples of plants.

###### 21.4 Fungus Organisms [Indicators 13-14, 40]

- Explain important characteristics of fungi.



- Give examples of Fungi.
- 25.1 Animal Organisms [Indicators 13-14, 40]
- Explain important characteristics of animals.
  - Give examples of animals.

End of Midterm Exam Content – Start of Final Exam Content
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**TERM 2: Biodiversity.**

**Chapter 18: Classification of Organisms.**

18.1 Classification System [Indicators 15-19]

- Explain the classification system from large to small scale.
- Describe the methods used to create scientific names of organisms.
- Describe the sequence of classifying organisms of a species.
- Give examples of the classification of specific species.

18.2 Create Dichotomous Key [Indicators 20-23]

- Explain the function of a dichotomous key system.
- Describe the process for creating a dichotomous key.
- Categorize selected organisms into groups.

**Chapter: Biotechnology.**

1 Biotechnology [Indicator 29]

- Search for information about biotechnology.
- Discuss biotechnology.
- Apply knowledge about biotechnology.

2 Energy from agricultural raw materials [Indicators 30-32]

- Explain alternative energy such as biomass gas and ethanol for future use.

**Resources**

Required  Textbook: *Biology*, by Pearson

Plastic Folder for Biology only (to keep handouts, etc.)

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> ≥ 80%	4.0
75% ≤	3.5
70% ≤	3.0
65% ≤	2.5
60% ≤	2.0
55% ≤	1.5
50% ≤ <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	30%
Quizzes	20%
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.





**Student Syllabus for: EP4 English for Life Skills 2: EN30242**

**Teacher:** Mr. Joshua Bolen, (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. 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:**

**This course is for preparation of the IELTS examination.**

**Indicators**

- Understand the format, structure, and scoring criteria of the **IELTS**

**Speaking test.** • Familiarize students with the three parts of the test:

- **Part 1:** Introduction & Interview (4-5 minutes)
- **Part 2:** Long Turn (3-4 minutes, including preparation time)
- **Part 3:** Discussion (4-5 minutes)

**Content:**

- **Structure:** Timings and sections explained.
- **Assessment Criteria:**
  - **Fluency and Coherence:** Speaking smoothly and logically.
  - **Lexical Resource:** Using a wide range of vocabulary.
  - **Grammatical Range and Accuracy:** Using various structures and grammar correctly.
  - **Pronunciation:** Clarity and ease of understanding.

**Learning Objectives:**

- Build confidence in answering basic personal questions on familiar topics.
- Practice providing detailed responses to everyday topics.
- Develop strategies for expanding simple answers.

**Content:**

- Common Topics: Work/study, hometown, family, hobbies, daily routines, and future plans.
- Question Types: Open-ended questions that require more than just “yes/no” answers.
- Answer Expansion: Techniques for elaborating answers, including:



- Giving reasons and examples.
- Talking about likes/dislikes, experiences, and comparisons.
- Fluency Practice: Responding promptly with varied vocabulary.

**Practice Activity:**

- Vocabulary building.
- Practicing Part 2 topic responses.
- Sentence-building exercises focusing on fluency and coherence.

**Part 2: The Long Turn (Cue Card)**

Learning Objectives:

- Develop the ability to speak at length on a given topic.
- Practice structuring a 1-2 minute monologue.
- Enhance skills in organizing thoughts and using cohesive devices (linkers and connectors). Content:

- Cue Cards: Understanding the format, typically containing:
  - A topic (e.g., "Describe a place you have visited recently.")
- o 3-4 prompts (e.g., what you did there, who you went with, why you enjoyed it).
  - Preparation Time: Tips for using the 1-minute preparation wisely (brainstorming ideas, outlining).
  - Answer Structure: Beginning, middle, and end format for speaking.
  - Storytelling Techniques: Using descriptive language, past tenses, and time markers to tell a story.
  - Linking Words: Organizing thoughts using high level connectors

**Part 3: Discussion**

Learning Objectives:

- Engage in a more in-depth discussion, developing ideas, opinions, and complex responses.
  - Practice answering abstract and opinion-based questions related to the Part 2 topic.
  - Develop skills for responding to challenging follow-up questions.

Content:

- Common Themes: Social issues, education, technology, environment, etc.
- Critical Thinking Skills: Formulating opinions and supporting them with evidence, examples, and reasoning.
- Agreeing/Disagreeing: Phrases for expressing and justifying opinions and handling contrasting viewpoints.
- Complex Sentences: Using conditional structures, modals, and passive voice to add variety to responses.
- Interactive Techniques: Engaging with the examiner by asking for clarification if needed and responding naturally.

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

- At least 1 white notebook.
- Dictionary (English to English, not a translating one)
- Extra lines A4 paper for written assignments.

Suggested  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.



<b>OC30104</b>	<b>Foundation Occupational Works 1</b>		
<b>Teacher</b>	Dr Hermann Gruenwald		
<b>Contact</b>	EP Teacher Room, 2 <sup>nd</sup> Floor Colombet Building <a href="mailto:DrHermann365@gmail.com">DrHermann365@gmail.com</a>		
<b>Website</b>	Google Classroom		
<b>Class Time</b>	EP-M4/1:	Mondays	P4
	EP-M4/2H	Mondays	P2
<b>Credits</b>	0.5		

### Course Description

This introduction to the upper-mathayom Occupational Works course focuses on the basic principles of craftwork and the development of skills and creativity in producing craftworks. Group, pair and individual work will incorporate theory of craftwork with a practical integration.

Students will work on projects which give them the opportunity for creativity and design. They will refine their research, planning, designing and collaborative skills and apply them to producing craftworks that include woodwork and electrical work. Students will gain experience in using a variety of tools as well as developing their working processes.

The goals of the Occupational Works subject are to:

- endow students with creative opportunities and curiosity
- refine skills for individual and group working processes such as management, teamwork, problem-solving and attention to detail
- develop and apply research and investigation skills to coursework
- improve awareness of human impact on the environment for one's life and family
- acquire technological knowledge for occupational development
- promote awareness of nationalism, religiosity, royalty, honesty, self-discipline, studiousness, self-sufficiency, endeavor, love of being Thai, and public-mindedness.

### Course Outline & Objectives

#### **Unit 1: Basic principles of craftwork (theory)**

##### **Unit 1.1: Woodwork and electrical work for crafts** (*Indicators 1, 2, 3, 5*)

- Understand the working process for creating craftwork.
- Research and identify basic woodworking tools and their applications for crafts.
- Research and identify basic electrical tools / devices and their applications for crafts.

##### **Unit 1.2: Design and selection of material for craftwork** (*Indicators 1, 2, 3, 4, 7*)

- Recognize the basic principle and procedure for creating craftwork with creativity.
- Identify how to select appropriate materials for craftwork based on limitations of tools, equipment and funds (reuse or recycle items).

##### **Unit 1.3: Creativity and intellectual property** (*Indicators 3, 4, 5, 11*)

- Identify the process of designing with creativity using modern examples.
- Distinguish between various aspects of intellectual property protection such as; copyright, trademarks, geographical indication and patents.



- Compare tangible versus intangible intellectual property.
- Discuss methods of enforcing intellectual property rights if they are violated.

**Unit 1.4: Creative Occupations** (*Indicators 8, 9, 10*)

- Discuss types of creative occupations and guidelines for taking them up.
- Students determine if they have aptitude and interest in creative occupations.
- Identify ways to gain experience in creative occupations of interest.

**Unit 2: Integration for craftworks (practice)**

**Unit 2.1: Craftwork for environmental conservation** (*Indicators 3, 4, 6, 7*)

- Produce your own work from leftover materials to help reduce global warming effects (individual work).
- Create, design and select materials appropriate to the brief.

**Unit 2.2: Useful crafts** (*Indicators 1, 2, 3, 4, 5, 6*)

- Express in writing the inspiration to create the work.
- Write the plan for the project.
- Use woodworking skills to create an item in pairs.

**Unit 2.3: Craft project** (*Indicators 2, 3, 4, 5, 6, 7, 11*)

- Work in groups to create an electrical item.
- Present work by setting up an exhibition
- Take photographs of your craftworks and present your work online.

**Resources**

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Required	<ul style="list-style-type: none"><li>• Pink AC notebook A3</li><li>• AC 3 ring binder portfolio A4</li><li>• Basic stationary (pen, pencil, eraser, ruler, glue, sharpener etc)</li></ul>
Suggested	<ul style="list-style-type: none"><li>• Various colored pens / markers / highlighters / pencils</li></ul>
Occasional	<ul style="list-style-type: none"><li>• Electrical / woodworking tools</li><li>• Specific craftwork materials or items</li><li>• Leftover waste materials to construct projects</li></ul> <p><i>The above will be requested a week in advance of use</i></p>

**Academic Integrity Policy**

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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**

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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**

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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**

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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**

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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	20%	Affective Domain
Formative 1 Class Work & Home Work	15%	Formative
Formative 2 Class Work & Home Work	15%	Formative
STEM	10%	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





## **ST30105 Design & Technology**

<b>Teacher</b>	Mr. Matt Harris
<b>Contact</b>	Location: 5th Floor Computer Lab
<b>Class</b>	EP-M 4/1: Friday 14:00 – 14:50
<b>Time</b>	EP-M 4/2: Monday 08:30 – 09:20
<b>Credits</b>	1.0

### **Course Description**

To understand the key concepts of Design & Technology for living in a rapidly changing society; apply knowledge and skills in science, mathematics and other disciplines to creatively solve problem or develop work by using the engineering design process; select technology to use properly by taking into account impacts on life, society, and environment. Students will study the following topics: main concepts of technology, relationships of technology with other fields of study especially science or mathematics; evaluating its impact on humans, society, economy and environment so as to use the information as a guideline for developing technology. Students will apply many learning processes: attitude development process, knowledge and understanding development process, critical thinking process, practicing process and problem-solving process.

### **Course Outline & Objectives**

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

### **Design & Technology [Indicator 1, 2, 3, 4]**

Week 1: Introduction week

Week 2-4: **Unit 1.** Analyze the main concepts of technology and relationship of technology with other fields of knowledge especially science, or mathematics.

Week 5-6: Identify problems or needs that have impacts on society; gather and analyze information

#### **Midterm Exam (Week 7 and 8)**

Week 9-10: **Unit 2.** Design a solution by analyzing and comparing information; then, select essential information under the conditions and existing resources

Week 11-12: Test, evaluate, analyze and give reasons of problems or defects found within conditions scope; generate improvement alternatives

Week 13-14: **Unit 3.** Understand and use computational thinking concept to solve problems found in real life systematically and step by step; use information technology and communication for efficient learning, work, and problem solving.

Week 15: **Unit 4.** Apply computational thinking creatively to develop a project work which is integrated with other disciplines and is connected with real life.

[Indicators 1, 2, 3, 4]

#### **Final Exam (Week 16)**

### **Resources**

Required • EP Computer Lab



### **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**

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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**

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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**

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

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

### **Recommendations for Success**

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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.