Subject Description and Rationale:
This course (Business Mathematics) is about understanding the use of mathematics in negotiating problems in business operations. It includes the fundamental operations on fractions, decimals, percentages, ratio, proportion, etc. It also deals with mathematics concepts and skills in buying and selling, computing gross and net earnings, overtime, commission and business data presentation, analysis and interpretation. Through the aid of computer and software application (MS Excel) in computation and data presentation, students will become more efficient.

Student Learning Outcomes: On completion of this course, the students will have been able to....

<table>
<thead>
<tr>
<th>ELGA</th>
<th>Learning Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>As Critical and Creative Thinker</td>
<td>LO 1: Generate ideas to uplift the way of living of the residents in the community through entrepreneurship. Correctly apply the concepts of buying and selling to become a responsible entrepreneur. Analyze available information and resources with innovativeness to alleviate poverty within the community.</td>
</tr>
<tr>
<td>Constructs and applies knowledge, concepts theories and generations to make meaning and communicate clear and coherent ideas and concepts as much as possible aligned with Christian principles</td>
<td></td>
</tr>
<tr>
<td>As Effective Communicator</td>
<td>LO 2: Persuade potential investors to contribute in the propagation of micro business in the community. Explain the basic concept of buying and selling and illustrate how mark- on, mark- down, and mark- up are obtained. Illustrate how profit is obtained and how to avoid loss in a given transaction.</td>
</tr>
<tr>
<td>Explores ideas critically and expresses them clearly for a variety of purposes.</td>
<td></td>
</tr>
</tbody>
</table>
## ELGA

### As Reflective Lifelong Learner
Critically reflects on problems and issues to shape ideas and solutions that contribute to a better understanding of the wider world church.

**Learning Outcome**
LO 3: Analyze and interpret the data presented in a graph/table. Critique constructively on a business proposal to further improve it. Critically reflects on problems and issues in the community to plan out possible solutions and recommendations.

### As Environmental Steward and Service Driven Citizen
Creates products and performances that achieve their purpose that are appropriate for their intended audience.

**Learning Outcome**
LO 4: Practice the value honesty and responsibility in owning a business. Practice orderliness and neatness in presenting business data through MS Excel. Exhibit patience in dealing with the stakeholders in running a business. Recognize the importance of sustainable resources in running a business. Enable communities to improve the quality of life through participating and promoting micro business.

## CULMINATING PROJECT AS EVIDENCE OF OUTCOMES:

### Mathematical Modeling
As evidence of attaining the above learning outcomes, the student is required to submit the following during the indicated dates of the term.

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Required Output</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Concretize learning in the form of a business plan/proposal.</td>
<td><strong>Micro Business Plan Proposal and Defense</strong>&lt;br&gt;Submit and defend a concrete micro business plan/proposal.&lt;br&gt;- It must be supported with complete sample of computation of salaries/wages of two to five employees for at least one month.&lt;br&gt;- Use MS Excel to show operational cost and projected net income.&lt;br&gt;- Indicate the kind of business and how it operates.&lt;br&gt;- Include your sourcing (must be sustainable).&lt;br&gt;- Indicate the estimated capital needed and budget allocation.&lt;br&gt;- Present it to a panel for critiquing. The panel will serve as potential investors that you have to persuade to consider your proposal.&lt;br&gt;- Must be in proper business attire when presenting.</td>
<td>13th</td>
</tr>
<tr>
<td>• Project the least gross sale to generate revenue.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Decide on the number of workers needed in the planned micro business.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Use MS Excel to show operational cost and projected net income.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Present the business proposal to a panel to convince potential investors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Decide on the proper business attire to wear in a business presentation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RUBRICS FOR EVALUATING CULMINATING PROJECT:

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>EXEMPLARY 4</th>
<th>SATISFACTORY 3</th>
<th>DEVELOPING 2</th>
<th>BEGINNING 1</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of Concepts and Skill in running a business</td>
<td>The submitted business plan manifests the concepts and skills in business operation which go beyond the requirements.</td>
<td>The submitted business plan manifests the required concepts and skills in business operation.</td>
<td>The submitted business plan partially manifests the required concepts and skills in business operation. Certain aspects are either incomplete or incorrect.</td>
<td>The submitted business plan does not manifest any of the required concepts and skills in business operation.</td>
<td></td>
</tr>
<tr>
<td>“Doability” of the business plan/ proposal</td>
<td>The submitted business plan manifests qualities which go beyond the requirements that makes it very doable.</td>
<td>The submitted business plan is doable.</td>
<td>The submitted business plan partially manifests the required qualities which makes it somehow doable. Certain aspects are either incomplete or incorrect.</td>
<td>The submitted business plan is not doable.</td>
<td></td>
</tr>
<tr>
<td>Persuasiveness in convincing potential investors</td>
<td>The group presents the business proposal persuasively and convincingly to invite potential investors</td>
<td>The group presents the business proposal in such a way that the potential investors are convinced to invest in the business</td>
<td>The group presents the business proposal in a manner that left the potential investors to conduct further study about the proposal</td>
<td>The group presents the business proposal but did not convince potential investor</td>
<td></td>
</tr>
<tr>
<td>Relevance of the business attire during presentation</td>
<td>The group uses business attire that made them stand out and pleased the potential investors</td>
<td>The group uses business attire relevant to the occasion and pleasing to the potential investors</td>
<td>The group uses business attire relevant to the occasion but not quite pleasing to the potential investors</td>
<td>The group uses business attire not relevant to the occasion and unpleasing to the investors</td>
<td></td>
</tr>
</tbody>
</table>

GRADING SYSTEM:
- Written Works – 30 %
  - Quizzes
- Performance Tasks – 40 %
  - Exercises, Homework, Seatworks and Case Studies – 20%
  - Culminating Project – 20%
- Trimester Examination – 30 %
<table>
<thead>
<tr>
<th>UNIT TOPIC</th>
<th>WEEK</th>
<th>LEARNING OUTCOMES</th>
<th>LEARNING OBJECTIVES (Learning Competency)</th>
<th>ASSESSMENT</th>
<th>LEARNING ACTIVITIES AND RESOURCES</th>
</tr>
</thead>
</table>
| ORIENTATION               | 1    | The learner demonstrates understanding of a. requirements of the course            |                                                                                                               |                                               | 1. Eliciting Prior Knowledge  
2. Discussion of Syllabus |                                                   |
| 1. Fractions, Decimals, and Percent | 1-2  | The learner demonstrates understanding of the key concepts of a. fractions b. decimals | • Perform fundamental operations on fractions and decimals  
• Express fractions to decimals and percent forms and vice versa  
• Illustrate how fractions and decimals can be written in terms of percent  
• Give real-life situations to illustrate fractions, decimals, and percent  
• Solve problems involving fractions, decimals, and percent | Exercises on:  
1. Place value and order  
2. Rounding whole numbers and decimals  
3. Add, subtract, multiply and divide whole numbers and decimals  
4. Add, subtract, multiply and divide fractions  
5. Fractions, decimals, and percents | 1. Lecture  
2. Demonstration Teaching  
3. Peer Tutoring  
4. Group Reporting |
| 2. Ratio and Proportion   | 3-4  | c. ratio and proportions.                                                          | • Compare and differentiate ratio and rate  
• Write proportions illustrating real-life situations  
• Identify the different kinds of proportion and give examples for each | Exercises/Homework  
Quiz 1 | 1. Lecture  
2. Demonstration Teaching  
3. Peer Tutoring  
4. Group Reporting |
## Business Mathematics Course Syllabus
### DLSU IS Senior High School
### SY 2016-17

<table>
<thead>
<tr>
<th>UNIT TOPIC</th>
<th>WEEK</th>
<th>LEARNING OUTCOMES</th>
<th>LEARNING OBJECTIVES (Learning Competency)</th>
<th>ASSESSMENT</th>
<th>LEARNING ACTIVITIES AND RESOURCES</th>
</tr>
</thead>
</table>
| Buying and Selling  
  a. Selling | 5-6  | The learner demonstrates understanding of the key concepts of a. selling | • Solve problems involving direct, inverse, and partitive proportion  
  • Differentiate Mark-on, Mark-down, and Mark-up  
  • Illustrate how Mark-on, Mark-down, and Mark-up are obtained  
  • Differentiate mark-up from margins  
  • Describe how gross margins is used in sales  
  • Illustrate how to compute single trade discounts and discount series  
  • Differentiate profit from loss  
  • Illustrate how profit is obtained and how to avoid loss in a given transaction  
  • Define break-even; illustrate how to determine break-even point | Exercises/ Homework/  
  Computer Workshop:  
  1. Forecasting Sales  
  2. Preparing Income Statements  
  3. Breakeven analysis spreadsheet | 1. Lecture  
  2. Demonstration Teaching  
  3. Peer Tutoring  
  4. Group Reporting |
| Buying and Selling  
  b. Buying | 7-8  | b. buying | | | |

Business Mathematics Course Syllabus  
DLSU IS Senior High School  
SY 2016-17  

1. Buying and Selling  
  a. Selling  
  b. Buying  

Exercises/ Homework/  
Computer Workshop:  
1. Rent or buy comparison template  
2. Demonstration Teaching  
3. Peer Tutoring  
4. Group Reporting
<table>
<thead>
<tr>
<th>UNIT TOPIC</th>
<th>WEEK</th>
<th>LEARNING OUTCOMES</th>
<th>LEARNING OBJECTIVES (Learning Competency)</th>
<th>ASSESSMENT</th>
<th>LEARNING ACTIVITIES AND RESOURCES</th>
</tr>
</thead>
</table>
| Salaries and Wages | 9-10 | The learner demonstrates understanding of... a. the fundamental operations of mathematics as applied in salaries and wages | • Define salary, wage, income, benefits  
• Compute gross and net earnings  
• Differentiate gross from net earnings  
• Enumerate the benefits of a wage earner  
• Define each of the benefits given to wage earners  
• Distinguish taxable from nontaxable benefits  
• Enumerate the standard deductions with the corresponding computation  
• Identify the variables needed in the computation of the overtime  
• Compute overtime pay  
• Use e-spread sheet in the computation of salary and overtime pay  
• Illustrate the different types of commissions  
• Compute commissions on cash basis and commission on installment basis | Exercises/ Homework/  
Computer Workshop:  
1. Payroll template  
2. Sales commission spreadsheet  
3. Payroll Deduction template  
4. Job benefits spreadsheet | 1. Lecture  
2. Demonstration Teaching  
3. Peer Tutoring  
4. Group Reporting |
<table>
<thead>
<tr>
<th>UNIT TOPIC</th>
<th>WEEK</th>
<th>LEARNING OUTCOMES</th>
<th>LEARNING OBJECTIVES (Learning Competency)</th>
<th>ASSESSMENT</th>
<th>LEARNING ACTIVITIES AND RESOURCES</th>
</tr>
</thead>
</table>
| Presentation and Analysis of Business Data | 11-12 | The learner demonstrates understanding of... b. key concepts of business data present them in graphs, charts, and tables | - Present graphical representation of the details or particulars of the salary  
- Show samples of business data  
- Compare the forms (textual, tabular, and graphical) of data presentation  
- Identify the essential parts of a table  
- Analyze and interpret the data presented in the table using measures of central tendency and variability and tests of significant differences  
- Describe the different kinds of graph for data presentation  
- Describe the essential parts of a graph  
- Give a set of business data: identify the graph to be used  
- Draw the graph/table to present the data  
- Analyze and interpret the data presented in a graph/table  
- Use software (i.e., MS Excel, SPSS) programs to compute and present graphical representation of business data | Exercises/ Homework/ Quiz 3  
Class Market Survey:  
1. Survey the class in the school to determine possible school-based business ideas.  
2. Tabulation of survey responses in worksheet  
3. Prepare tables, graphs and charts of survey results  
4. Compute for measures of central tendency and variability and test of significant differences across demographics of respondents | 1. Lecture  
2. Demonstration Teaching  
3. Peer Tutoring  
4. Group Reporting |
<table>
<thead>
<tr>
<th>UNIT TOPIC</th>
<th>WEEK</th>
<th>LEARNING OUTCOMES</th>
<th>LEARNING OBJECTIVES (Learning Competency)</th>
<th>ASSESSMENT</th>
<th>LEARNING ACTIVITIES AND RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Making, Consultation, and presentation</td>
<td>13</td>
<td>The learner demonstrates understanding of...&lt;br&gt;a. key concepts of business data present them in graphs, charts, and tables</td>
<td>• Concretize learning in the form of a business plan/proposal&lt;br&gt;• Project the least gross sale to generate revenue&lt;br&gt;• Decide on the number of workers needed in the planned micro business&lt;br&gt;• Use MS Excel to show operational cost and projected net income&lt;br&gt;• Present the business proposal to a panel to convince potential investors&lt;br&gt;• Decide on the proper business attire to wear during presentation</td>
<td>5. Choose product or service idea that has highest preference based on survey results</td>
<td>Project Presentation&lt;br&gt;Prepare business proposal based on result of class market survey activity using the following outline:&lt;br&gt;1. A description of the product or service to be offered&lt;br&gt;2. The intended target market.&lt;br&gt;3. The benefits of the product or service.&lt;br&gt;4. A description of how the product or service will be promoted, priced, sold or rendered (if service) and distributed.</td>
</tr>
</tbody>
</table>

---

Business Mathematics Course Syllabus
DLSU IS Senior High School
SY 2016-17
<table>
<thead>
<tr>
<th>UNIT TOPIC</th>
<th>WEEK</th>
<th>LEARNING OUTCOMES</th>
<th>LEARNING OBJECTIVES (Learning Competency)</th>
<th>ASSESSMENT</th>
<th>LEARNING ACTIVITIES AND RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5. Information about the founder or founders of the firm.</td>
<td></td>
</tr>
</tbody>
</table>

**REFERENCES:**

**ONLINE RESOURCES:**
DepEd Link for Curriculum Guide
Retrieved December 12, 2014

Business 110: Business Math Course - Online Video Lessons
Retrieved January 28, 2015
https://www.google.com.ph/?gfe_rd=cr&ei=3lnlVNa7BcGJ8Qftw4G4CA&gws_rd=ssl#q=business+mathematics

Retrieved January 28, 2015

Retrieved January 28, 2015
http://www.hurdlebook.com/
CLASS POLICIES:

a. Regarding submission of papers and other requirements, one letter grade is deducted for each class day of failure to meet a deadline. All requirements are to be printed with font size 12 and black ink, to be submitted during the pertinent class period. (Do not run after the instructor outside the class.) Submissions through email or fax are NOT allowed.

b. Avoid unnecessary noise and distracting activities (texting, PDA, sleeping, eating) during the class. Always turn off your cell phones or put them in silent mode. iPods, MP3 players and the like must be turned off AND kept inside your bag during class. Other communication and information technology equipment cannot be used in class without the explicit permission of the instructor.

c. Eating, smoking, and drinking are not allowed, except for water or lozenges.

d. Practice proper hygiene: cover your mouth and nose while sneezing or coughing. If you have fever, by all means stay home and rest. Do not transmit your sickness to others.

e. Class attendance should be not only regular, but punctual.