MATAPRE – Mathematics Appreciation

Prerequisite: 

Instructor: ____________________ Contact details: ________________
Consultation Hours: ________________ Class Schedule and Room: ___________

**Course Description**

This course covers topics in college algebra focusing on applications to solving problems that may be used by students in everyday living. The course is designed to provide students with opportunities to discover and appreciate the relevance of mathematics to industry, business, science, arts and architecture, music, games and recreation, and other areas of human endeavor.

**Learning Outcomes**

On completion of this course, the student is expected to present the following learning outcomes in line with the Expected Lasallian Graduate Attributes (ELGA)

<table>
<thead>
<tr>
<th>ELGA</th>
<th>Learning Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical and Creative Thinker</td>
<td>At the end of the course, the student will apply appropriate mathematical concepts, processes, tools, and technologies in the solution to various conceptual and real-world problems.</td>
</tr>
<tr>
<td>Effective Communicator</td>
<td></td>
</tr>
<tr>
<td>Lifelong Learner</td>
<td></td>
</tr>
<tr>
<td>Service-Driven Citizen</td>
<td></td>
</tr>
</tbody>
</table>

**Final Course Output**

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>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the end of the course, the student will apply appropriate mathematical concepts, processes, tools, and technologies in the solution to various conceptual and real-world problems.</td>
<td>An inquiry-based group presentation highlighting the uses of mathematics in different problem situations encountered in business and industry, arts, humanities, social sciences, and other fields of endeavor</td>
<td>Week 13</td>
</tr>
</tbody>
</table>

**Rubric for assessment**

**Written Group Report**

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>Excellent (4)</th>
<th>Good (3)</th>
<th>Satisfactory (2)</th>
<th>Needs Improvement (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content and Organization (60%)</td>
<td>In-depth and insightful discussion in addition to score 3 performance</td>
<td>Logical sequencing of information throughout. Sufficient supporting details. Clear and effective concluding paragraph</td>
<td>Logical sequencing of information most of the time. Details are given but inadequate to support the topic. Clear concluding paragraph but lacks effectiveness</td>
<td>Information presented with little organization. Most of the details irrelevant. Concluding paragraph not clear</td>
</tr>
<tr>
<td>Grammar (30%)</td>
<td>No error</td>
<td>Between one and three errors</td>
<td>More than four errors</td>
<td></td>
</tr>
<tr>
<td>Bibliography (10%)</td>
<td>All resources cited</td>
<td>Some of the resources not cited</td>
<td>Majority of the resources not cited</td>
<td></td>
</tr>
</tbody>
</table>

**Group Member Assessment**

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>EXCELLENT 4</th>
<th>VERY GOOD 3</th>
<th>SATISFACTORY 2</th>
<th>NEEDS IMPROVEMENT 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content and Organization (30%)</td>
<td>Creative and insightful presentation in addition to score 3 performance</td>
<td>All points presented with depth and clarity. Logical and interesting sequencing of ideas</td>
<td>Majority of points covered with depth and clarity; some tackled lightly Logical sequencing of ideas</td>
<td>Majority of points tackled lightly Less logical sequencing of ideas</td>
</tr>
</tbody>
</table>
### Knowledge of Topic (20%)

- **All questions answered with insights in addition to score 3 performance**
- **All questions answered correctly with explanation**
- **All questions answered but with little explanation**
- **Majority of the questions not answered correctly**

### Delivery (20%)

- **Techniques make the presentation interesting in addition to score 3 performance**
- **Techniques make the presentation highly convincing, audience attentive throughout**
- **Techniques make the presentation convincing, audience attentive most of the time**
- **Techniques make the presentation not understandable; audience could no follow**

### Group Effort and Participation (20%)

- **All members contributed significantly in addition to score 3 performance**
- **All members actively involved in presentation; all of them contribute**
- **Majority of members involved in presentation; some do not contribute**
- **Majority of members not involved in presentation and do not contribute**

### Bibliography (10%)

- **With insightful comments on resources in addition to score 3 performance**
- **All resources cited**
- **Some of the resources not cited**
- **Majority of the resources not cited**

### Additional Requirements

Aside from the learning output, the student will be assessed at other times during the term by the following:

- Skills Check (Seatwork/Quizzes/Boardwork)
- Individual/Group Report
- Individual/Group Problem Set

### Grading System

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Output</td>
<td>20%</td>
</tr>
<tr>
<td>Skills Checks</td>
<td>50%</td>
</tr>
<tr>
<td>Reaction/Critique/Term Paper</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Scale:**
- 95-100% 4.0
- 89-94% 3.5
- 83-88% 3.0
- 78-82% 2.5
- 72-77% 2.0
- 66-71% 1.5
- 60-65% 1.0
- <60% 0.0

### Learning Plan

**LEARNING OUTCOME**

At the end of the course, the student will apply appropriate mathematical concepts, processes, tools, and technologies in the solution to various conceptual and real-world problems.

**TOPIC**

### I. Functions

1. Definition of a function and function notation
2. Representations of functions (equation, set of ordered pairs, graph)
3. Linear functions and system of linear equations
4. Quadratic functions
5. Exponential functions

**WEEK NO.**

- **Week 1-6**

**LEARNING ACTIVITIES**

- Prior knowledge and beliefs survey
- Concept mapping
- Library work
- Group/class discussion
- Computer laboratory activity
- Skills exercises
- Problem solving

### II. Sequences and Patterns

1. Definition of a sequence
2. Arithmetic sequences
3. Geometric sequences
4. Other sequences and patterns (Fibonacci sequences, Pascal's triangle, figurate numbers, etc.)

**WEEK NO.**

- **Week 7-10**
III. Mathematics in Business and Industry, Arts, Humanities, Social Sciences, and Other Fields of Endeavor

<table>
<thead>
<tr>
<th>Week 11-13</th>
<th>Library work</th>
<th>Group/class discussion</th>
<th>Project presentation</th>
</tr>
</thead>
</table>

Class Policies

1. The required minimum number of quizzes for a 3-unit course is 3, and 4 for 4-unit course. No part of the final exam may be considered as one quiz.
2. Cancellation of the lowest quiz is not allowed even if the number of quizzes exceeds the required minimum number of quizzes.
3. As a general policy, no special or make-up tests for missed exams other than the final examination will be given. However, a faculty member may give special exams for A. approved absences (where the student concerned officially represented the University at some function or activity).
   B. absences due to serious illness which require hospitalization, death in the family and other reasons which the faculty member deems meritorious.
4. If a student missed two (2) examinations, then he/she will be required to take a make up for the second missed examination.
5. If the student has no valid reason for missing an exam (for example, the student was not prepared to take the exam) then the student receives 0% for the missed quiz.
6. Students who get at least 89% in every quiz are exempted from taking the final examination. Their final grade will be based on the average of their quizzes and other prefinal course requirements. The final grade of exempted students who opt to take the final examination will be based on the prescribed computation of final grades inclusive of a final examination. Students who missed and/or took any special/make-up quiz will not be eligible for exemption.
7. Learning outputs are required and not optional to pass the course.
8. Mobile phones and other forms of communication devices should be on silent mode or turned off during class.
9. Students are expected to be attentive and exhibit the behavior of a mature and responsible individual during class. They are also expected to come to class on time and prepared.
10. Sleeping, bringing in food and drinks, and wearing a cap and sunglasses in class are not allowed.
11. Students who wish to go to the washroom must politely ask permission and, if given such, they should be back in class within 5 minutes. Only one student at a time may be allowed to leave the classroom for this purpose.
12. Students who are absent from the class for more than 5 meetings will get a final grade of 0.0 in the course.
13. Only students who are officially enrolled in the course are allowed to attend the class meetings.

Approved by:

Dr. Arturo Y. Pacificador, Jr.
Chair, Department of Mathematics

Online Resources


References
