EASTERN MEDITERRANEAN UNIVERSITY
DEPARTMENT OF MATHEMATICS

COURSE CODE: MATH 191  COURSE LEVEL: Spring / 2009-2010

COURSE TITLE: Mathematics and Geometry for Designers

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CREDIT VALUE: 3  ECTS VALUE: NONE

PREREQUISITES: NONE
COREQUISITES: NONE

DURATION OF COURSE: One Semester

WEB LINK:

CATALOGUE DESCRIPTION

AIMS & OBJECTIVES
To introduce some elementary tools and concepts of mathematics, namely calculus and geometry. To give some simple examples which shows their connections with design sciences, namely architecture. It also provides an opportunity to enhance the students analytical thinking and to see the importance of fundamental mathematical knowledge for design science.

GENERAL LEARNING OUTCOMES (COMPETENCES)
On successful completion of this course, all students will have developed knowledge and understanding of:
- Fundamental mathematical notions of numbers, functions, equations and inequalities
- Basic methods and ideas of trigonometry and elementary geometry
- Main principles of space drawing

On successful completion of this course, all students will have developed their skills in:
- Using the elementary methods of mathematics in solving the problems assigned in the course
- Drawing the graphs of elementary functions
- Performing space drawings

On successful completion of this course, all students will have developed their appreciation of and respect for values and attitudes regarding the issues of:
- Appreciation of fundamental notations in mathematics
- Analysing the problems and choosing the efficient methods of solution

<table>
<thead>
<tr>
<th>GRADE</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>A (excellent)</td>
<td>Excellent understanding of the concepts and the principles as demonstrated by correct and accurate knowledge and application of theory/laws in solving problems. Response to problems is clear, legible, concise and accurate. Excellent performance.</td>
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<tr>
<td>B (good)</td>
<td>Better than average understanding of the concepts and the principles as demonstrated by correct and accurate knowledge and application of theory/laws in solving problems, but doesn’t have the depth and outstanding quality of an “A”. Response to problems is fairly clear, legible, but occasionally contains some inaccuracies. Performance exceeds the minimum requirements.</td>
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<tr>
<td>C (fairly good)</td>
<td>An average understanding of the concepts and the principles as demonstrated by reasonably correct knowledge and application of theory/laws in solving problems, but doesn’t have any depth. Response to problems is reasonably clear, legible, but contains inaccuracies. It reveals a sufficient understanding of the material, but lacks depth in understanding and approach/application. Content and form don’t go beyond basic expectations and/or display some substantial errors. Acceptable but non-exceptional performance that doesn’t go beyond the minimum requirements.</td>
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<td>D (average)</td>
<td>Minimal knowledge and barely sufficient understanding of the concepts and the principles as demonstrated by approximately correct application of theory/laws in solving problems. Response to problems is not very clear and is barely legible, and contains many inaccuracies. It reveals a minimum (confused) understanding of the material, and lacks depth in understanding and approach/application. Content and form do not adequately meet the basic expectations, and/or display significant errors. Performance demonstrates severe problems in one or more areas.</td>
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<tr>
<td>F (fail)</td>
<td>Work does not meet the most minimal standards. It reveals no understanding of the material, lack of basic academic skills and knowledge, or completely incomprehensible writing. Performance is not acceptable.</td>
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</table>
| NG (Nil Grade) | Conditions that might lead to NG grade.  
  i) Not attending the class more than 20% of total lecture hours.  
  ii) Not attending any two exams, including make-up. |

RELATIONSHIP WITH OTHER COURSES

NONE

LEARNING / TEACHING METHOD

Lectures and Exercises

ASSIGNMENTS

NONE

METHOD OF ASSESSMENT

Mid-term Examination: 30%
Quizzes: 30% (Two Quizzes Each Worth of 15 %)
Final Examination: 40%

ATTENDANCE

Attendance is compulsory. Students with attendance less than 80% in lectures will be given NG grade.

TEXTBOOK/S

Lecture Notes

INDICATIVE BASIC READING LIST


EXTENDED READING LIST

NONE

SEMESTER OFFERED

Fall and Spring

CONTENT & SCHEDULE

The lecture topics within the semester are as in the following schedule.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1.</td>
<td>Numbers, operations,</td>
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<tr>
<td>2.</td>
<td>Topics in algebra: Simplify the algebraic expression</td>
</tr>
<tr>
<td>3-4</td>
<td>Linear equations, Linear inequalities, ratio, proportion, quadratic equations,</td>
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<tr>
<td>5-6</td>
<td>The rectangular coordinate system and the line, functions.</td>
</tr>
<tr>
<td>7-8</td>
<td>Measurements, Conversions, Percentage.</td>
</tr>
<tr>
<td>9-10</td>
<td>Midterm Examination Period</td>
</tr>
<tr>
<td>11-12</td>
<td>Trigonometry and Introduction to Elementary Geometry</td>
</tr>
<tr>
<td>13</td>
<td>Basic plane drawings: Triangles, quadrangles, circles, perimeters and areas.</td>
</tr>
<tr>
<td>14-15</td>
<td>Basic space drawings: Pyramids, prisms, spheres, areas and volumes.</td>
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<tr>
<td>16</td>
<td>Final Examination Period</td>
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</tbody>
</table>

PLAGIARISM

This is intentionally failing to give credit to sources used in writing regardless of whether they are published or unpublished. Plagiarism (which also includes any kind of cheating in exams) is a disciplinary offence and will be dealt with accordingly.

ANY OTHER USEFUL INFORMATION (SUCH AS STUDIO RULES, MAKE-UP EXAMS, STUDENTS’ RESPONSIBILITIES, EQUIPMENT OR MATERIAL NEEDED, SITE TRIPS, ETC.)

There will be one make-up exam including all the subjects for the students who missed any of the exams. This exam will be administered after the final exams.