**LEHMAN COLLEGE**
**OF THE**
**CITY UNIVERSITY OF NEW YORK**

**DEPARTMENT OF MATHEMATICS**

**CURRICULUM CHANGE**

1. **Type of change:** New Course

2.

| Department(s) | Mathematics |
|---|---|
| Career | [X] Undergraduate  [  ] Graduate |
| Academic Level | [X] Regular  [  ] Compensatory  [  ] Developmental  [  ] Remedial |
| Subject Area | Mathematics |
| Course Prefix & Number | MAT 103 |
| Course Title | Trigonometry |
| Description | Unit Circle Trigonometry, Radians, Graphing Trigonometric Functions, Inverse Trigonometric functions, Trigonometric Identities, Laws of Sines and Cosines, and Applications |
| Pre/ Co Requisites | Placement by the Department of Mathematics |
| Credits | 2 |
| Hours | 2 |
| Liberal Arts | [X] Yes  [  ] No |
| Course Attribute (e.g. Writing Intensive, WAC, etc) | NA |
| General Education Component | __X_ Not Applicable<br>____ Required<br> ____ English Composition<br> ____ Mathematics<br> ____ Science<br><br>____ Flexible<br> ____ World Cultures<br> ____ US Experience in its Diversity<br> ____ Creative Expression<br> ____ Individual and Society<br> ____ Scientific World |

3. **Rationale:**
The Department of Mathematics currently has no course offering students a thorough and rigorous treatment of trigonometry. MAT 103 fills this need.

4. **Learning Outcomes (By the end of the course students will be expected to):**
   1. Use the unit circle to determine the values of trigonometric functions
   2. Evaluate and Graph all six Trigonometric Functions
   3. Work with Inverse Trigonometric functions: Arcsin, Arccos, Arctan
   4. State and apply trigonometric identities
   5. Apply the Law of Sines and the Law of Cosines
   6. Solve real-world problems using Trigonometry

5. **Date of Departmental Approval:** March 22, 2018

**LEHMAN COLLEGE**
**OF THE**
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**DEPARTMENT OF MATHEMATICS**

**CURRICULUM CHANGE**

1. **Type of Change:** Change of Title

2. **From:**

| Department(s) | Mathematics |
|---|---|
| Career | [X] Undergraduate  [   ] Graduate |
| Academic Level | [X] Regular  [   ] Compensatory  [   ] Developmental  [   ] Remedial |
| Subject Area | Mathematics |
| Course Prefix & Number | MAT 171 |
| Course Title | ~~Problem Solving for Management, Economics, and Life Sciences~~ |
| Description | The use of functions, graphs, and matrices to solve various applied problems. Geometry of linear, quadratic, logarithmic, and exponential functions. |
| Pre/ Co Requisites | A grade of C (or better) in MAT 104 or placement by the Department of Mathematics ~~and Computer Science~~.<br><br>Notes<br>(1) MAT 171 is a prerequisite for MAT 174. Students planning on taking MAT 175 should take ~~MAT 172 instead of MAT 171~~. (2) Students may not receive credit for both MAT 171 and MAT 172. |
| Credits | 4 |
| Hours | 4 |
| Liberal Arts | [X] Yes   [   ] No |
| Course Attribute (e.g. Writing Intensive, WAC, etc) | NA |
| General Education Component | ____ Not Applicable<br>____ Required<br>    ____ English Composition<br>    __X_ Mathematics<br>    ____ Science<br><br>____ Flexible<br>    ____ World Cultures<br>    ____ US Experience in its Diversity |

|  |  |
|---|---|
| | _____ Creative Expression |
| | _____ Individual and Society |
| | _____ Scientific World |

3. **To:**

| Department(s) | Mathematics |
|---|---|
| Career | [X] Undergraduate  [  ] Graduate |
| Academic Level | [X] Regular  [  ] Compensatory  [  ] Developmental  [  ] Remedial |
| Subject Area | Mathematics |
| Course Prefix & Number | MAT 171 |
| Course Title | <u>Elements of Precalculus</u> |
| Description | The use of functions, graphs, and matrices to solve various applied problems. Geometry of linear, quadratic, logarithmic, and exponential functions. |
| Pre/ Co Requisites | A grade of C (or better) in MAT 104 or placement by the Department of Mathematics.<br><br>Notes<br>(1) MAT 171 is a prerequisite for MAT 174. Students planning on taking MAT 175 should take <u>both MAT 171 and MAT 103</u>. (2) Students may not receive credit for both MAT 171 and MAT 172. |
| Credits | 4 |
| Hours | 4 |
| Liberal Arts | [X] Yes   [  ] No |
| Course Attribute (e.g. Writing Intensive, WAC, etc) | NA |
| General Education Component | _____ Not Applicable<br>_____ Required<br>    _____ English Composition<br>    __X_ Mathematics<br>    _____ Science<br><br>_____ Flexible<br>    _____ World Cultures<br>    _____ US Experience in its Diversity<br>    _____ Creative Expression<br>    _____ Individual and Society<br>    _____ Scientific World |

4. **Rationale (Explain how this change will impact the learning outcomes of the department and Major/Program):**
This new title more accurately describes the course content. The department has added a new course in Trigonometry, MAT 103. Students completing both MAT 171 and MAT 103 will be prepared for MAT 175.

5. **Date of departmental approval:** March 22, 2018

**LEHMAN COLLEGE
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**DEPARTMENT OF MATHEMATICS**

**CURRICULUM CHANGE**

1. **Type of Change:**  Change in Prerequisite

2. **From:**

| Department(s) | Mathematics |
|---|---|
| Career | [X] Undergraduate  [   ] Graduate |
| Academic Level | [X] Regular  [   ] Compensatory  [   ] Developmental  [   ] Remedial |
| Subject Area | Mathematics |
| Course Prefix & Number | MAT 175 |
| Course Title | Calculus I |
| Description | Differentiation of functions of one variable; applications to motion problems, maximum-minimum problems, curve sketching, and mean-value theorems. |
| Pre/ Co Requisites | Prerequisite<br>A grade of C (or better) in MAT 172 or placement by the Department of Mathematics ~~and Computer Science~~.<br><br>Co-requisite MAT 155 |
| Credits | 4 |
| Hours | 4 |
| Liberal Arts | [X] Yes   [   ] No |
| Course Attribute (e.g. Writing Intensive, WAC, etc) | NA |
| General Education Component | ____ Not Applicable<br>____ Required<br>    ____ English Composition<br>     X  Mathematics<br>    ____ Science<br><br>____ Flexible<br>    ____ World Cultures<br>    ____ US Experience in its Diversity<br>    ____ Creative Expression<br>    ____ Individual and Society |

_____ Scientific World

3. **To:**

| Department(s) | Mathematics |
|---|---|
| Career | [X] Undergraduate  [  ] Graduate |
| Academic Level | [X] Regular  [  ] Compensatory  [  ] Developmental  [  ] Remedial |
| Subject Area | Mathematics |
| Course Prefix & Number | MAT 175 |
| Course Title | Calculus I |
| Description | Differentiation of functions of one variable; applications to motion problems, maximum-minimum problems, curve sketching, and mean-value theorems. |
| Pre/ Co Requisites | Prerequisite<br>A grade of C (or better) in MAT 172 or a grade of C (or better) in both MAT 103 and MAT 171  or placement by the Department of Mathematics.<br><br>Co-requisite MAT 155 |
| Credits | 4 |
| Hours | 4 |
| Liberal Arts | [X] Yes  [  ] No |
| Course Attribute (e.g. Writing Intensive, WAC, etc) | NA |
| General Education Component | __X_ Not Applicable<br>_____ Required<br>    _____ English Composition<br>    _____ Mathematics<br>    _____ Science<br><br>_____ Flexible<br>    _____ World Cultures<br>    _____ US Experience in its Diversity<br>    _____ Creative Expression<br>    _____ Individual and Society<br>    _____ Scientific World |

4. **Rationale (Explain how this change will impact the learning outcomes of the department and Major/Program):**
The department just created a new course in trigonometry, MAT 103. Students taking both MAT 103 and Mat 171 will be prepared for MAT 175.

5. **Date of departmental approval:** March 22, 2018