CATALOG DESCRIPTION OF THE COURSE. [Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ___ units); time distribution (Lecture ___ hours, laboratory ___ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]

MATH 331 HISTORY OF MATHEMATICS (3)
Three hours of lecture per week.

Study of breakthrough mathematical ideas and their creators within historical and scientific context. Topics include: inception, development, obstacles of mathematical ideas.

GenEd- :B3; D and Interdisciplinary

2. Mode of Instruction.

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Units</th>
<th>Hours per Unit</th>
<th>Benchmark Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

3. Justification and Learning Objectives for the Course. (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) [Use as much space as necessary]

The course is an elective for Mathematics and History majors, required for majors intending to teach in secondary schools.

Through this course, students will be able to

- Discuss the emergence and development of fundamental mathematical ideas and their creators.
- Discuss historical, political and social background for various scientific achievements.
- Analyze various historical, technological and economical constrains on mathematical development
- Solve various problems using historical methods.
- Discuss various historical dependences between theories.
- Analyze important current mathematical concepts.
- Present ideas of Mathematics in oral and written form.

This course is not designed to satisfy the University Writing or Language requirements.

4. Is this a General Education Course YES

If Yes, indicate GE category:

<table>
<thead>
<tr>
<th>A (English Language, Communication, Critical Thinking)</th>
<th>B (Mathematics &amp; Sciences)</th>
<th>C (Fine Arts, Literature, Languages &amp; Cultures)</th>
<th>D (Social Perspectives)</th>
<th>E (Human Psychological and Physiological Perspectives)</th>
</tr>
</thead>
</table>
5. Course Content in Outline Form. [Be as brief as possible, but use as much space as necessary]

Study of breakthrough mathematical ideas and their creators: Historical and scientific context.
Problem solving from historical point of view.
Important concepts of current mathematics: Inception, development, difficulties, significance and various viewpoints.
Research on lives and work of famous mathematicians and their contemporaries from the historical perspective
   Ancient Mathematics
   Greek Mathematics
   Medieval Mathematics
   Development of Algebra
   Probability, Geometry and Calculus
   Analysis
   Modern Mathematics and applications

6. References. [Provide 3 - 5 references on which this course is based and/or support it.]

Internet resources.

7. List Faculty Qualified to Teach This Course.

   All Mathematics Faculty

8. Frequency.
   a. Projected semesters to be offered: Fall ___X__ Spring ___X__ Summer _____

9. New Resources Required.
   a. Computer (data processing), audio visual, broadcasting needs, other equipment
      None
   b. Library needs
      None
   c. Facility/space needs
      None

10. Consultation.
    Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

   __Ivona Grzegorczyk_________________________1/8/03___________________________
   Proposer of Course Date

NEWCRSFR 9/30/02