A. Rationale/Justification for the Course

Placing a student into the appropriate mathematics course is key to the student successfully completing math requirements. Students with an ACT Math sub-score of less than 19, or an SAT Math sub-score of less than 520, as well as transfer students with no college-level math credits, are initially placed into math level I, Basic Mathematics. Level I Basic Math, MATH 097, is a 5-credit basic mathematics course for students with weak arithmetic skills who need a comprehensive course to prepare them for success in a developmental elementary algebra course.

Students may take the math placement test to place into a higher math level. A score of 100 or more points, out of 120, on the arithmetic portion of the test, indicates that a student has adequate arithmetic skills to place into math level II, Introductory Algebra, MATH 098.

Students are strongly encouraged to prepare for the arithmetic placement test by reviewing basic arithmetic operations and concepts in order to obtain an accurate measure of skills. In 2010, the developmental mathematics program offered four intense math review sessions to assist motivated students to reexamine previously learned basic math and beginning algebra concepts. Students who took the math placement test and scored in the medium-skill range were invited to register for a trial math review session. Each session met 8 times in a two-week period. About 20 students registered per session; however, not all students were able to complete the fast-paced review of arithmetic and elementary algebra. At the end of the trial sessions, it was suggested that concentrating only on basic math skills, or only on elementary algebra concepts, in a review session may be more practical for a student to successfully complete the review process.

Sixty percent of the students who completed the review sessions tested up to a higher math placement level, demonstrating that some students could benefit from an intense, structured review of basic math and/or elementary algebra concepts and avoid the cost and time required for a 5-credit hour course. A motivated student with some minimal basic math skills could very well place into MATH 098 Introductory Algebra with only a short review of basic math.

For the proposed MATH 091 course, students with an initial arithmetic math placement score of 60-99 points would be eligible to register for the course. The review course is intended for students who need a short refresher course of basic math concepts in order to demonstrate preparation for the next level math course. After completing the one-credit hour review course, students may choose to retake the arithmetic portion of the math placement test, attempting to score 100 or more points for placement into MATH 098. As with MATH 097 and 098, credit for MATH 091 will not count towards graduation. We envision running the course in a compressed format, such as a two-week course in Summer.

Successful completion of MATH 091:
- could eliminate the need to take MATH 097, and place a student directly into MATH 098;
- would be cost effective for the student if the student was able to by-pass MATH 097; and
B. Course Information

1. Subject Code and Course Number: MATH 091
2. Course Title: Basic Mathematics Review
3. Credit Hours: one (1)
4. Repeatable forCredit? Yes______ No X If “Yes”, how many total credits may be earned?______
5. Catalog Description (Limit to approximately 50 words):
   This basic math review course is for highly motivated students who need only a short review of basic math concepts before attempting to place into a developmental algebra course. Topics include principles and applications of decimals, fractions, percents, proportions, and order of operations. The course covers concepts in an intense, fast-paced setting.
   
   Note: Credit for this course will not count toward graduation

6. Method of Delivery (Check all that apply.)
   a. Standard (lecture/lab) X
      On Campus X Off Campus X
   b. Fully Online X (possibly in the future)
   c. Hybrid/ Web Enhanced X (possibly in the future)

7. Grading Mode: Normal (A-E) Credit/No Credit X

8. Prerequisites: Courses that MUST be completed before a student can take this course. (List by Subject Code, Number and Title.)
   Arithmetic placement score of 60 – 99 points (MPT1 between 60 and 99)

9. Concurrent Prerequisites: Courses listed in #5 that MAY also be taken at the same time as a student is taking this course. (List by Subject Code, Number and Title.)

10. Corequisites: Courses that MUST be taken at the same time as a student in taking this course. (List by Subject Code, Number and Title.)

11. Equivalent Courses. A student may not earn credit for both a course and its equivalent. A course will count as a repeat if an equivalent course has already been taken. (List by Subject Code, Number and Title)

12. Course Restrictions:
   a. Restriction by College. Is admission to a specific College Required?
      College of Business Yes______ No X
      College of Education Yes______ No X

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b. Restriction by Major/Program. Will only students in certain majors/programs be allowed to take this course?

Yes_________ No____ X____

If “Yes”, list the majors/programs

__________________________________________  ______________________________________

__________________________________________  ______________________________________

c. Restriction by Class Level  Check all those who will be allowed to take the course:

Undergraduate  Graduate

All undergraduates X____  All graduate students X____

Freshperson____  Certificate____

Sophomore____  Masters____

Junior________  Specialist____

Senior____  Doctoral____

Second Bachelor____  UG Degree Pending____

Post-Bac. Tchr. Cert._____  Low GPA Admit____

Note: If this is a 400-level course to be offered for graduate credit, attach Approval Form for 400-level Course for Graduate Credit. Only “Approved for Graduate Credit” undergraduate courses may be included on graduate programs of study.

Note: Only 500-level graduate courses can be taken by undergraduate students. Undergraduate students may not register for 600-level courses.

d. Restriction by Permission. Will Departmental Permission be required?  Yes_________ No____ X____

(Note: Department permission requires the department to enter authorization for every student registering.)

13. Will the course be offered as part of the General Education Program?  Yes_________ No____ X____

If “Yes”, attach Request for Inclusion of a Course in the General Education Program: Education for Participation in the Global Community form. Note: All new courses proposed for inclusion in this program will be reviewed by the General Education Advisory Committee. If this course is NOT approved for inclusion in the General Education program, will it still be offered? Yes_________ No________

C. Relationship to Existing Courses

Within the Department:

14. Will this course will be a requirement or restricted elective in any existing program(s)? Yes_________ No____ X____

If “Yes”, list the programs and attach a copy of the programs that clearly shows the place the new course will have in the curriculum.

Program________________________________________ Required___ Restricted Elective ___

Program________________________________________ Required___ Restricted Elective ___

15. Will this course replace an existing course? Yes ______ No____ X____

16. (Complete only if the answer to #15 is “Yes.”)

a. Subject Code, Number and Title of course to be replaced:  

b. Will the course to be replaced be deleted? Yes_________ No________

17. (Complete only if the answer #16b is “Yes.”) If the replaced course is to be deleted, it is not necessary to submit a Request for Graduate and Undergraduate Course Deletion.

a. When is the last time it will be offered? Term_______ Year ______

b. Is the course to be deleted required by programs in other departments?  Yes_________ No________

Contact the Course and Program Development Office if necessary.
c. If “Yes”, do the affected departments support this change?  Yes__________  No__________  
If “Yes”, attach letters of support. If “No”, attach letters from the affected department explaining the lack of support, if available.

**Outside the Department:** The following information must be provided. Contact the Course and Program Development office for assistance if necessary.

18. Are there similar courses offered in other University Departments?  
Yes__________  No__________  
If “Yes”, list courses by Subject Code, Number and Title

19. If similar courses exist, do the departments in which they are offered support the proposed course?  
Yes__________  No__________  
If “Yes”, attach letters of support from the affected departments. If “No”, attach letters from the affected department explaining the lack of support, if available.

**D. Course Requirements**

20. Attach a detailed Sample Course Syllabus including:

   a. Course goals, objectives and/or student learning outcomes
   b. Outline of the content to be covered
   c. Student assignments including presentations, research papers, exams, etc.
   d. Method of evaluation
   e. Grading scale (if a graduate course, include graduate grading scale)
   f. Special requirements
   g. Bibliography, supplemental reading list
   h. Other pertinent information.

**NOTE:** COURSES BEING PROPOSED FOR INCLUSION IN THE EDUCATION FOR PARTICIPATION IN THE GLOBAL COMMUNITY PROGRAM MUST USE THE SYLLABUS TEMPLATE PROVIDED BY THE GENERAL EDUCATION ADVISORY COMMITTEE. THE Template IS ATTACHED TO THE REQUEST FOR INCLUSION OF A COURSE IN THE GENERAL EDUCATION PROGRAM: EDUCATION FOR PARTICIPATION IN THE GLOBAL COMMUNITY FORM.

**E. Cost Analysis** (Complete only if the course will require additional University resources. Fill in Estimated Resources for the sponsoring department(s). Attach separate estimates for other affected departments.)

<table>
<thead>
<tr>
<th>Estimated Resources:</th>
<th>Year One</th>
<th>Year Two</th>
<th>Year Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty / Staff</td>
<td>$________</td>
<td>$________</td>
<td>$________</td>
</tr>
<tr>
<td>SS&amp;M</td>
<td>$________</td>
<td>$________</td>
<td>$________</td>
</tr>
<tr>
<td>Equipment</td>
<td>$________</td>
<td>$________</td>
<td>$________</td>
</tr>
<tr>
<td>Total</td>
<td>$________</td>
<td>$________</td>
<td>$________</td>
</tr>
</tbody>
</table>

**F. Action of the Department/School and College**

1. **Department/School**

   Vote of faculty: For 18________  Against 0________  Abstentions 0________  
   (Enter the number of votes cast in each category.)

   Department Head/School Director Signature ________________________________  Date ____________________
2. College/Graduate School

A. College

__________________________
College Dean Signature

Date

B. Graduate School (if Graduate Course)

__________________________
Graduate Dean Signature

Date

G. Approval

__________________________
Associate Vice-President for Academic Programming Signature

Date
Basic Mathematics Review

Syllabus and Course Information

MATH 091

Instructor:
Instructor email:
Office Hours:
Office Location:
Course Credit: one-credit hour credit/no credit

Course Description

Basic Mathematics Review is for highly motivated students who need only a short review of basic math concepts before attempting to place into a developmental algebra course. Topics include principles and applications of decimals, fractions, percents, proportions, and order of operations. The course covers concepts in an intense, fast-paced setting.

Prerequisite: Arithmetic placement score 60 – 99 points
Credit for this course will not count toward any degree program.

Course Goal

Successful completion of MATH 091 could eliminate the need to take MATH 097, and place a student directly into MATH 098.

Course Objectives

By successfully completing this course, the student should be able to:
1. Be competent with basic mathematical operations and concepts including fractions, decimals, and percents.
2. Apply basic mathematical operations to solve real-world problems.
3. Critically analyze information given in a word problem and identify how to use the information to solve the problem.

Required Materials

• Coursepack: Basic Mathematics Review---available in EMU Bookstore
• notebook or folder to keep homework organized

Homework

Keep your homework in a notebook that you bring to class every day. A homework assignment will be given every class period. Before coming to class, please make sure you have checked your work, so that you will be prepared with questions. The instructor will spend the first part of each class period answering questions on the homework assignment.

Getting Additional Help

You are encouraged to meet with the instructor whenever you need extra help or have any questions. This course is an intense review of basic math concepts. Do not let yourself get behind. Another resource, the Math Tutoring Lab (Pray-Harrold Room 411), also offers math help free of charge. The hours are Monday-Thursday 8 am - 8 pm, Friday 8 am - 2 pm, and Sunday 1 pm – 5 pm in the Halle Library.

Attendance

You are expected to attend each class period in order to develop the basic math skills necessary to successfully complete the Basic Mathematics Review.
Evaluation
A comprehensive Final Exam will be administered on the last day of class. A score of at least 75% on the Final Exam is necessary to receive credit for the course.

Students will take the arithmetic portion of the math placement test within 3-7 days of completing the review course. A score of 100 points or more will place the student in MATH 098, Introductory Algebra.

Requirements to successfully complete Basic Mathematics Review with credit:

1. Achieve at least 75% on the final exam.
2. Complete the ACCUPLACER arithmetic portion of the math placement test.

Math Prep I: Basic Mathematics Review
Course Assignment Information

MATH 091 Course Calendar

<table>
<thead>
<tr>
<th>*CLASS MEETING</th>
<th>IN-CLASS DISCUSSION and ASSIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>day one</td>
<td>Basic Mathematics Review</td>
</tr>
<tr>
<td>Estimation</td>
<td></td>
</tr>
<tr>
<td>Decimals</td>
<td>pages 1 – 8</td>
</tr>
<tr>
<td>homework: page 8 #’s 1-20 and page 16 #’s 1-20</td>
<td>pages 9 – 16</td>
</tr>
<tr>
<td>day two</td>
<td>Fractions</td>
</tr>
<tr>
<td>Mixed Numbers</td>
<td>pages 17 – 24</td>
</tr>
<tr>
<td>homework: page 24 #’s 1-20, page 29 #’s 1-15, page 31 #’s 1-15, and page 32 #’s 1-20</td>
<td>pages 25 – 32</td>
</tr>
<tr>
<td>day three</td>
<td>Percents</td>
</tr>
<tr>
<td>Conversions</td>
<td>pages 33 – 46</td>
</tr>
<tr>
<td>homework: page 36 #’s 1-10, page 38 #’s 1-10, pages 45, 46 #’s 1-36, and page 52 #’s 1-20</td>
<td>pages 47 – 52</td>
</tr>
<tr>
<td>day four</td>
<td>Proportions</td>
</tr>
<tr>
<td>Word Problems</td>
<td>pages 52 – 60</td>
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<tr>
<td>homework: pages 59, 60 #’s 1-30</td>
<td>pages 61 – 69</td>
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<tr>
<td>day five</td>
<td>Word Problems</td>
</tr>
<tr>
<td>Challenge Problems</td>
<td>pages 69 – 75</td>
</tr>
<tr>
<td>homework: pages 72-75 #’s 1-25 and pages 77, 78 #’s 1-18</td>
<td>pages 76 – 78</td>
</tr>
<tr>
<td>day six</td>
<td>Final Exam and schedule Math Placement Test</td>
</tr>
</tbody>
</table>