Math/Science Department
MTH 099 D01 Intermediate Algebra (4 Credits)
Spring 2017

INSTRUCTOR: Stephanie Shultz  PHONE: 410-334-6786
EMAIL: sshultz@worwic.edu  OFFICE: HH 103J
OFFICE HOURS: Monday- Thursday  8:15am-8:45am
Tuesday and Wednesday  12:30pm-1:30pm
Monday  5:00pm-6:00pm

I. COURSE DESCRIPTION: This course is designed to help students develop the algebra skills needed for advanced college-level mathematics. This course includes a review of the real number system and its application to solving linear and quadratic equations. Topics also include graphing and solving systems of equations and inequalities. This course is taught in a computer laboratory to give students maximum hands-on learning opportunities while having the benefits of teacher instruction. Hours: 39 lecture and 26 laboratory.
Prerequisite: MTH 092 with a grade of “C” or better, acceptable mathematics diagnostic assessment scores, or permission of the department head. Laboratory fee: $15. This course is usually offered in the fall, spring, and summer. (4 credits)

II. REQUIRED COURSE MATERIALS:

(MYLABSPLUS access code from MTH 092 can be used) website: www.worwic.mylabsplus.com

CALCULATOR: The recommended calculator is the TI 83 plus/TI 84 plus by Texas Instruments. A TI 89 or TI 92 is not permitted.

HEADPHONES: Headphones for use in classroom to view video lessons on the computer.

NOTEBOOK: A three ring notebook is required to hold the student notes and work.

BLACKBOARD: Blackboard is being used as a supplementary site in this course. To access course content in Blackboard you need to have access to a computer with an Internet connection, (other requirements may apply). Please refer to this link for computers available on campus that meet these requirements:

http://www.worwic.edu/Students/LearningResources/ResourceLabs.aspx

Please follow these directions to access course syllabi and any other materials posted for this course:

Login Information
1. From the Wor-Wic home page, click on myWor-Wic (top-right above Quick Links).
2. Enter your Wor-Wic user ID and password (same as your Wor-Wic email user ID and password) to access the portal homepage.
3. In the “My Blackboard Classes” web part, click on a class listed to be directed to the Blackboard site.
4. Blackboard may also be accessed through Quick Links on the college homepage and
also through a link at the bottom of the homepage.

**Blackboard academic integrity and computer usage policy:**

All students logging into Blackboard affirm that they understand and agree to follow Wor-Wic Community College policies regarding academic integrity and the use of College resources as described in the college catalog. Wor-Wic Community College considers the following as violations of the computer usage policy:

- Using the campus computing network and facilities to violate the privacy of other individuals.
- Sharing of account passwords with friends, family members or any unauthorized individuals
- Violators are subject to college disciplinary procedures

**OFF CAMPUS TECHNICAL SUPPORT:** If you are experiencing trouble with MyLabsPlus, the Pearson student support number is 1-888-883-1299.

**III. RESOURCES FOR SUCCESS:** If you find yourself struggling to understand the material, help is available! You can:

- Establish a study group with your classmates
- Go to the Math Lab (BH 309) for drop in tutoring. Call 410-334-2818 for Math Lab hours
- Attend one of the scheduled group tutoring sessions held in the Math Lab. The schedule will be posted in the lab for the group tutoring times.

**IV. Course Objectives:** Upon completion of this course the student will be able to:

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>Assessment Goals</th>
<th>Assessment Strategies</th>
</tr>
</thead>
</table>
| 1. Factor polynomials | A. Review factoring out a GCF.  
B. Review factoring a polynomial by grouping.  
C. Factor a polynomial in the form of ax² + bx + c  
D. Factor the difference of squares and the sum and difference of cubes  
E. Solve a quadratic equation by factoring. | Written and Lab exercises  
Test questions  
Final Exam questions |
| 2. Use rational expressions. | A. Simplify a rational expression.  
B. Simplify the product of two or more rational expressions.  
C. Simplify the quotient of two or more rational expressions.  
D. Find the LCD and add or subtract two or more rational expressions.  
E. Simplify complex rational expressions.  
F. Solve a rational equation.  
G. Solve application problems requiring the use of a rational equation.  
H. Solve problems involving dimensional analysis | Written and Lab exercises  
Test questions  
Final Exam questions |
| 3. Use radical expressions. | A. Simplify expressions with rational exponents.  
B. Evaluate radical expressions.  
C. Evaluate higher order radical expressions.  
D. Change radical expressions to expressions with rational exponents.  
E. Change expressions with rational exponents to radical expressions.  
F. Simplify a radical using the power rule.  
G. Add, subtract, multiply and divide radical expressions.  
H. Simplify a radical expression by rationalizing the denominator.  
I. Solve a radical equation. | Written and Lab exercises  
Test questions  
Final Exam questions |
| 4. Use complex numbers | A. Simplify expressions involving complex numbers. | Written and Lab exercises |
### B. Add, subtract, multiply and divide complex numbers.
C. Evaluate complex numbers in the form of \(i^n\).

### 5. Use quadratic equations.
A. Solve a quadratic equation by the square root method.
B. Solve a quadratic equation using the quadratic formula.
C. Use the discriminant to determine the nature of the roots of a quadratic equation.
D. Solve problems requiring the use of the Pythagorean Theorem.
E. Find the vertex and intercepts of a quadratic function.
F. Graph a quadratic function using appropriate technology.

### 6. Use algebraic functions.
A. Evaluate expressions using function notation.
B. Determine whether a relation is a function.
C. Find the sum, difference, product and quotient of two functions.
D. Find the composition of two functions.
E. Determine whether a function is one-to-one.
F. Find the inverse of a function.
G. Graph a function and its inverse.
H. Solve absolute equations and inequalities.

### 7. Use exponential and logarithmic functions.
A. Graph an exponential function.
B. Solve exponential equations.
C. Solve application problems requiring the use of an exponential equation.
D. Write exponential equations in logarithmic form.
E. Write logarithmic equations in exponential form.
F. Solve logarithmic equations.

### 8. Use writing to communicate mathematical topics.
A. Write the steps used to add or subtract rational expressions.

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**V. COURSE CONTENT:** This course includes mastery of factoring quadratic expressions, manipulation of quadratic expressions and radical expressions and an introduction to logarithmic and exponential functions. These concepts will be applied in problem solving activities.

**VI. Course Activities:**
In fulfilling these course objectives, the student is expected to work with instructor by:
1. attending and participating actively in class discussions, activities, and problem solving sessions.
2. complete lab assignments as required by due dates
3. maintain a complete and well organized notebook
4. completing writing and/or electronic assignments (specific topic, details and grading rubric provided by individual instructors)
5. complete required practice tests and chapter tests as assigned
6. completing one comprehensive final exam based on all units completed during the semester

**VII. Course Evaluation:** This course will include in-class and at-home assignments, required note keeping, tests, and a departmental final exam. The assessments will consist of multiple-choice, graphing, and
problem solving questions. \((\text{GEO 1, 2, 3, 4, 5, 6, 7})\) The instructor will provide an outline for the course and a tentative schedule for lectures and assignments. Your grade for the course will be determined as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>45%</td>
<td>Tests</td>
</tr>
<tr>
<td>10%</td>
<td>Quizzes</td>
</tr>
<tr>
<td>15%</td>
<td>Student Notebook &amp; MyLabsPlus Assignments (including a writing assignment)</td>
</tr>
<tr>
<td>25%</td>
<td>Final Examination</td>
</tr>
<tr>
<td>5%</td>
<td>Skill Checks/Progress</td>
</tr>
</tbody>
</table>

The grade report will list one of the following:

- A 92% - 100%
- B 84% - 91%
- C 75% - 83%
- R 70% - 74% Reregister – The student is required to register for MTH 099 the following semester. If the student does not register MTH 099 the following semester the R automatically becomes an F.
- F 69% or below

**VIII. Instructor Policies:**

**Skill Checks/Progress** – Students are expected to attend all class sessions, be on time, and stay for the duration of the class. Treat this as a professional appointment, plan around it, and avoid scheduling an appointment during this time. Students are expected to come prepared for class with notebook, paper, pencils, and calculator. Contact the instructor in advance if there is an emergency that will cause the student to be late, or need to leave early. Contact can be made by voice mail or e-mail at the contact information listed on the front page of this syllabus. Students are expected to attend the math lab to complete the lab requirements when necessary. Skill Checks will be administered at either the beginning or end of class to encourage mastery of concepts. These will be short, off line teacher generated exercises. These cannot be made up. **Skill Checks / Progress is 5% of your grade in the course.**

**Student Notebook/MyLabsPlus Assignments** – Students are required to maintain a notebook which consist of notes taken from the videos and work for completed homework assignments. These will be graded by the instructor. Keep in mind that the amount of time needed to devote to any college class requires, on average, 2 to 3 hours outside of class for every 1 hour you spend in class. This means you can expect to spend 12 hours or more each week outside of class completing the student notebook, lab assignments, reading the e-text, going over your class notes, and preparing for tests. Late assignments will be given 50% credit. It is important that you keep current with the assignments since the progression from one unit to the next requires a good understanding of each previous unit in the progression. **Student Notebook and MyLabsPlus assignments are 15% of your grade in the course.**

Throughout the semester you will be required to complete several assignments in Wor-Wic Community College’s Math Lab. Math Lab attendance allows additional time with math instructors reinforcing skills and concepts introduced in class. Assignments in the math lab could be computer exercises on MyLabsPlus or worksheets to be completed and graded in the lab.

**Testing** – You are expected to take all tests on or before the scheduled due date. If you are unable to take the test due to an emergency, you must call or e-mail your instructor no later than the date of the test. The phone number and e-mail address are listed on the front of this syllabus. If you do not contact your instructor by the end of the day on the test date, you will receive a zero on the test. If you are granted permission to take a make-up test, you will be required to make-up the test by the next class session. Plan to leave a phone number or an e-mail address where you can be contacted to make those arrangements. Do not assume that it is acceptable to take a make-up test until you have spoken with your instructor. There is also an option to re-take a test if the student desires. **Your test average is 45% of your grade in this course.**
Quizzes—Quizzes are periodically assigned throughout the chapter to help students review presented concepts. Students have an option to complete the quiz two times to maximize quiz performance. Students may use their notes. However, the online support is not available during the quiz. Students are urged to review the initial quiz attempt with their instructor if necessary to improve their performance. **The quiz average is 10% of your grade in this class.**

Final Exam - The comprehensive final exam may be taken as soon as a student has completed all of the required course work, including a practice final exam. As with all courses the final exam is the LAST course assignment. **NO late work or re-tests will be allowed after the final exam is administered. The final exam grade is 25% of your grade in this class.**

Writing Assignment: Research shows that students who are able to describe how they solve mathematical problems in a written format develop a higher understanding of the mathematical concepts. Therefore, students will be assigned a problem to solve and asked to explain the mathematical concepts used when solving the problem complete with correct terminology. A rubric will be included to guide the completion of the writing assignment. Students needing assistance in the preparation of written assignments should first meet with their instructor during his or her office hours, and if further assistance is required, the instructor can refer the student to the Reading and Writing Center (MTC 204), (410) 334-2842 for technical assistance.

Electronic Literacy - Wor-Wic Community College believes that all students must be prepared and have experience using today’s technology. The format of this course embraces this ideology. Students will be required to access videos, their electronic textbook, PowerPoint, and assignments all online in order to meet the requirements of this course. If at any time a student has problems using the technology course instructors are available to help develop the necessary technology skills to be successful in this course.

IX. STUDENTS WITH DISABILITIES:
Wor-Wic provides reasonable accommodations for students with disabilities, in compliance with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. If you are in need of accommodations, please contact the counseling office at (410) 334-2899. For more information, see Wor-Wic's Services for Students with Disabilities web page.

X. EMERGENCY CLOSING/ INCLEMENT WEATHER POLICIES:
1. **Emergency Closing** – In the event of severe inclement weather or other emergency, information about the closing of the college will be communicated via e2Campus or the college’s website. Faculty will communicate with their students about their courses and course requirements such as, assignments, quiz and exam dates, and class and grading policies, via Blackboard. Students will be responsible for completing all assignments in accordance with class policies.

   **Inclement Weather** – When classes are canceled due to inclement weather, an announcement is called in to area radio stations and TV stations. These announcements may specify whether day and/or night classes are cancelled. When classes are not canceled, students are responsible for making their own decisions based on their judgment of local road conditions.

XI. MATH LAB HOURS AND LOCATION:

   **MATH LAB CONTACT**
   Room BH 309  410-334-2818

   **Hours**
   Monday – Thursday  8:30 a.m. – 8 p.m.
   Friday           8:30 a.m. – 4 p.m.
   Saturday        10 a.m. – 3 p.m.
   Sunday            closed
Open: January 13th – April 24th
Exam Week: April 25th – April 27th from 8:30am – 6:30 pm
and May 1st from 9:00 am to 1:00 pm
Closed: January 4th – 12th, March 6th – 11th, and April 14th - 16th
Last Day for Dropping Classes – February 7th
Last Day to Withdraw – March 29th

XII. WITHDRAWAL: A student may choose to withdraw from a course for individual reasons at any time prior to the posted date for the “Last Day To Withdraw”. If you have made the decision to withdraw from the course, please complete the necessary paperwork; do not rely on me to do it for you. After the posted withdraw deadline, all students still on the course roster MUST be given a letter grade in the course.

XIII. SEXUAL VIOLENCE DISCLOSURES:
Wor-Wic Community College seeks a campus free of sexual violence which includes sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. Please be aware that if a student discloses a personal experience verbally or in writing as a Wor-Wic student to a faculty or staff member, the employee cannot maintain confidentiality and has the mandatory responsibility to notify one of the college’s Title IX coordinators. However, if you’d like to make a confidential disclosure of any such violence, you can contact Wor-Wic’s director of counseling (X-2900) or you can contact the Life Crisis Center at 410-749-HELP or 2-1-1.
Information on rights of victims of sexual violence and related resources is available in the college catalog and at the public safety page of Wor-Wic’s website: http://www.worwic.edu/Administration/PublicSafety.aspx.

XIV. CIVILITY STATEMENT:
Wor-Wic Community College respects the rights of faculty to teach and the rights of students to learn. Consequently, the college regards classroom civility as crucial to building and maintaining diverse, dynamic, and productive learning environments.

XV. ACADEMIC HONESTY POLICY: Academic honesty is expected of all students. Cheating and plagiarism are violations of academic integrity. Any student found violating the academic honesty policy will receive an automatic “0” for the assignment and then the matter will be turned over to the Student Disciplinary Committee. Documented evidence of the plagiarism or cheating will be kept in the Math and Science Office.

Plagiarism: (honesty) — defined as the presentation of seemingly-original work that is derived in whole or in part from an existing source without properly citing the source of the material. Common forms of plagiarism include, but are not limited to, the following:
1. Duplicating an author’s work (in part or whole) without quotation marks and/or accurate citations
2. Duplicating an author’s words or phrases with accurate citations, but without quotation marks
3. Paraphrasing an author’s ideas without accurate citations
4. Providing accurate citations, but merely substituting synonyms for or rearranging an author’s exact words.
5. All papers and presentations must be the student's own work.

There are ambiguities in concepts of plagiarism. Each instructor will be available for consultation regarding any confusion a student may have.

Cheating: Cheating is the act of obtaining information or data improperly, or by dishonest or deceitful means. Examples of cheating are copying from another student’s test paper, obtaining information illegally on tests, and using unauthorized electronic devices or other deceitful practices.

The college guidelines concerning academic misconduct will be strictly enforced in this course. Please refer to the current catalog for the full description of policies pertaining to student conduct.
**XVI. Schedule:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Assignment Details</th>
</tr>
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<tbody>
<tr>
<td>Jan 18</td>
<td>review fractions, orientation</td>
</tr>
<tr>
<td>Jan 23</td>
<td>6.2 due</td>
</tr>
<tr>
<td>Jan 28</td>
<td>6.3 &amp; 6.4 due</td>
</tr>
<tr>
<td>Feb 1</td>
<td>Quiz 6.3-6.5</td>
</tr>
<tr>
<td>Feb 5</td>
<td>practice test 6</td>
</tr>
<tr>
<td>Feb 8</td>
<td>7.1 due</td>
</tr>
<tr>
<td>Feb 11</td>
<td>lab assignment #2</td>
</tr>
<tr>
<td>Feb 17</td>
<td>7.6 &amp; 7.7 due</td>
</tr>
<tr>
<td>Feb 19</td>
<td>practice test 7</td>
</tr>
<tr>
<td>Feb 22</td>
<td>9.1 due</td>
</tr>
<tr>
<td>Feb 27</td>
<td>Quiz 9.1-9.2</td>
</tr>
<tr>
<td>Mar 1</td>
<td>9.4 due</td>
</tr>
<tr>
<td>Mar 13</td>
<td>10.1 due</td>
</tr>
<tr>
<td>Mar 18</td>
<td>10.3 &amp; 10.4 due</td>
</tr>
<tr>
<td>Mar 21</td>
<td>10.5 due</td>
</tr>
<tr>
<td>Mar 25</td>
<td>10.7 due and Quiz 10.4-10.6</td>
</tr>
<tr>
<td>Mar 27</td>
<td>TEST CHAPTER 9&amp;10</td>
</tr>
<tr>
<td>Apr 1</td>
<td>11.2 &amp; 11.3 due</td>
</tr>
<tr>
<td>Apr 5</td>
<td>11.5 due</td>
</tr>
<tr>
<td>Apr 10</td>
<td>12.1 due and Quiz 11.5 &amp;11.6</td>
</tr>
<tr>
<td>Apr 12</td>
<td>12.3 due and Quiz 12.1 &amp;12.2</td>
</tr>
<tr>
<td>Apr 17</td>
<td>Quiz 12.3 &amp;12.4</td>
</tr>
<tr>
<td>APR 19</td>
<td>TEST CHAPTER 11&amp;12</td>
</tr>
<tr>
<td>D02 exam April 26</td>
<td>10:00am-12:00pm</td>
</tr>
</tbody>
</table>
| D01 exam May 1            | 9:00am-11:00am

- **Jan 25** Quiz 6.1-6.2
- **Jan 30** 6.5 due
- **Feb 4** lab assignment #1 6.6 due
- **FEB 6** TEST CHAPTER 6
- **Feb 10** 7.2 and 7.2b due
- **Feb 13** Quiz 7.1-7.3
- **Feb 15** 7.5 due
- **Feb 18** Quiz 7.4-7.6
- **FEB 20** TEST CHAPTER 7 writing assignment
- **Feb 25** lab assignment #3 and 9.2
- **Feb 28** 9.3 due
- **Mar 4** Quiz 9.3 &9.4
- **Mar 15** 10.2 due
- **Mar 20** Quiz 10.1 -10.3
- **Mar 22** 10.6 due
- **Mar 26** practice test 9&10
- **Mar 29** 11.1 due
- **Apr 3** Quiz 11.1-11.3
- **Apr 8** 11.6 due
- **Apr 11** 12.2 due
- **Apr 15** 12.4 & 12.5 due
- **Apr 18** practice test 11 & 12
- **Apr 24** EXAM REVIEW closes 4/25 for D02
- **Apr 29** EXAM REVIEW closes for D01
- **D02 exam April 26** 10:00am-12:00pm
- **D01 exam May 1** 9:00am-11:00am

**Spring Break March 6-11 school closed**