Ivy Tech Community College  
Lafayette/Regional Syllabus

Course Information
Course and Section Number: MAT 080-90D  
(CRN 28010)
Credits: 3.0
Course Title: Mathematical Principles  
Contact Hours: 3  3 Hours Lecture

Semester: Fall 2016

PREREQUISITES:
• IVYT 11X First Year Seminar or IVYT 120 New Student Seminar, and
• demonstrated math competency through appropriate assessment, and
• demonstrated reading competency through appropriate assessment or successful completion of ENGL 083 Reading Strategies for College or ENGL 095 Integrated Reading and Writing
COREQUISITES: MATH 123 Quantitative Reasoning and IVYT 11X First Year Seminar

School: Liberal Arts and Sciences  
Program: Liberal Arts and Sciences
Days/Time: TR 8:00am-9:15am  
Building/Room: Ivy Hall 1165

Faculty Information
Name: Kristin Oakes
Office Location: Ivy Hall 1157
E-mail address: koakes3@ivytech.edu
Contact Phone Number: 765-269-5468
Fax number: 765-269-5271
Office Hours: TBA
School Office: Ivy Hall 1157
Supervisor: Rebecca Wulf

Catalog Description:
Concentrates on percent, proportions, measurement, exponents, linear equations, formulas, descriptive statistics, vocabulary and applications. Designed to support students for success in MATH 123.

Major Course Objectives:
Upon successful completion of this course the student will be expected to define problems clearly, identify relevant information, ask pertinent questions, and support conclusions using persuasive quantitative reasoning. Students will be able to:
1. Use order of operations with real numbers, including exponents
2. Define variables, label units of answers, and translate application problems to algebraic expressions
3. Demonstrate number sense including recognizing place value, identifying powers of 10, rounding, and determining reasonableness of answers.
4. Convert within and between U.S. Customary and metric measurement systems.
5. Select appropriate formulas and evaluate formulas. Solve linear equations.
6. Convert between fractions, decimals and percents. Recognize and solve percent and proportion problems.
7. Organize data in various forms such as tables, charts, bar graphs, histograms and scatter plots.
8. Compute mean, median, mode, min, max & range
9. Demonstrate effective study strategies for learning mathematics
10. Utilize College resources as needed. These may include math faculty, tutoring, counseling, advising, testing, the library, and other student support services.
11. Communicate using relevant mathematical terminology, laws, and notation.
12. Use a scientific calculator proficiently as related to coursework including performing operations with signed numbers, fractions, exponents, and grouping symbols.
13. Use computer technology, which may include basic Excel formulas & graphs, the Internet, the Web, email, or computer tutorials to enhance the course objectives.
14. Solve a variety of application problems in the above areas
COURSE CONTENT: Topical areas of study include-
Measurement
Linear equations and formulas
Percent and proportion
Descriptive statistics
Math vocabulary
Student success strategies
Calculator skills
Applications

Additional Course Learning Objectives:
The purpose of this course is to assist in the understanding of material from Math 123. In addition, students will develop skills to enhance their academic success. These skills include, but are not limited to, time management, learning styles, using resources, test preparation, and test taking.

Critical thinking and problem solving are to be an emphasis, with the application of quantitative skills to real world scenarios requiring reasoning from evidence. These reasoning capabilities are based upon the ability to communicate with numbers effectively, so this will also be a focus. We will use the spreadsheet Excel to help achieve these goals, thus providing students with valuable computer skills in addition to strengthening their quantitative reasoning abilities.

In addition, we value and will focus on the ability to recognize and define problems clearly, ask pertinent questions, identify arguments/issues on all sides, gather relevant facts, appreciate their relevance, perceive as many plausible solutions as possible, exercise good judgment in choosing solutions and use inference/analogy/logic to test the cogency of arguments.

Course Content (Math 123): Topical areas of study include –
Ratio, proportion
Visual displays of quantitative information
Simple and compound interest, loans and investments
Measurement systems
Probability
Normal Distributions
Correlation and causation
Percent and percentiles
Absolute and Relative Change
Variables and Equations

Required Texts or Other Instructional Materials:
Students will receive a Course Packet in the mail after paying the included course fee. Resource material will be provided to the student in class and via Blackboard.

Required Supplies:
- Notebook
- A large capacity 3-hole binder (minimum 2-3 inches)
- Pencils and erasers
- Scientific calculator (TI-30Xa for example)
- Access to EXCEL and WORD software.

Required Calculators:
Calculators may be used on all tasks within this course unless specifically announced by the instructor. Some topics in the course may be more challenging without the use of a scientific calculator. Please ask if you have questions about using a particular calculator. Sharing calculators or using phones/computers as calculators will not be allowed on tests and quizzes.

Teaching Methods:
Lecture, group work, discussion.
Grading and Evaluation:
Course grades are available for students by logging into the College’s online student system, Campus Connect, at the following address: http://cc.ivytech.edu/ Grades will not be distributed by mail.

Methods of Evaluation: (Instructor may vary number of organization and self-assessment activities to any number within the recommended range)

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<tr>
<th>Final grade calculation:</th>
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<tr>
<th>Assigned</th>
<th>Points</th>
<th>Course Percent</th>
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<tr>
<td>Organization</td>
<td>1-3</td>
<td>20</td>
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<tr>
<td>Self-Assessment</td>
<td>3-6</td>
<td>50</td>
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<tr>
<td>Assignments</td>
<td>16 weeks</td>
<td>X 10=160</td>
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<tr>
<td>123 Project Progress Check</td>
<td>3 X 15</td>
<td>45</td>
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<tr>
<td>123 Test Rewrite</td>
<td>2 X 20</td>
<td>40</td>
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<tr>
<td>Vocabulary Quiz</td>
<td>3 X 10</td>
<td>30</td>
</tr>
<tr>
<td>Math Skills Quiz</td>
<td>3 X 20</td>
<td>60</td>
</tr>
<tr>
<td>Reasoning Quiz</td>
<td>3 X 40</td>
<td>120</td>
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<tr>
<td>Total:</td>
<td>525</td>
<td>100%</td>
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Grading scale:
90-100 = SA
80-89 = SB All scores will be maintained in Blackboard’s online
70-79 = SC grade book. Students are responsible to track their progress by
60-69 = SD referring to the online grade book.
0-59 = SF Students who do not finish the course and do not withdraw receive SFW grade.

Additional Assignment/Grading Information:

IN-CLASS PROBLEMS/ACTIVITIES
Class time will be spent exploring and investigating mathematics through discussion, lecture, group work and interaction with problem solving activities. Students will deepen their knowledge of the subject matter through in-class activities, therefore attendance is vital.

GUIDELINES FOR WRITTEN WORK
Your name, course and section number must be on all assignments. Your work must be typed. Please double space your work using 12 Times New Roman or 10 Courier New font with 1 inch margins. Use APA citation to reference research.

DISCUSSION ETIQUETTE
The design of this course will often require students to participate in classroom discussions. Students are expected to adhere to the following guidelines:
- Listen actively – Respect your instructor and other students when they are speaking. Ask for clarification if you are confused.
- Remember that the goal of this course is to use quantitative reasoning. Make sure that your statements are based on facts and not opinions.
- Do not be afraid to respectfully challenge one another by asking questions, but refrain from personal attacks -- focus on ideas.
- The goal is not to agree -- it is to gain a deeper understanding.
- Participate to the fullest of your ability -- community growth depends on the inclusion of every individual voice.

READINGS
There will be assigned readings from newspaper articles dealing with present day issues, to provide meaningful context for our studies. The articles will demonstrate the importance of numbers in current events.
ASSIGNMENTS
Students will be provided with assignments in class. Some of these assignments may also be assigned as homework. Some assignments will require students to access additional files or links via Blackboard.

QUIZZES
There will be a minimum of three quizzes for each 123 Unit. There will be a vocabulary quiz which will be administered through Blackboard. Students may take this quiz as many times as they would like while the unit is being studied. There will be a math skills quiz and a reasoning quiz for each unit as well. Additional quizzes may be given at the discretion of the instructor.

PROJECT REFLECTION
Projects provide an opportunity for students to extend their learning on topics from the course. More information about the requirements for each project reflection will be provided in detail. When working on projects, please keep in mind the honor system. It is also OK for you to collaborate with your classmates outside of class, but it is expected that you will turn in your own work. Copying another student’s work is considered cheating and has serious academic ramifications.

MATH 123 EXAM REWRITE
To help ensure mastery of material, students will rework all problems that were missed on the Math 123 exam. The correct solution and work should be written neatly on a separate piece of paper and attached to the original exam. This should be completed within one week of receiving the graded exam back from the Math 123 instructor. Students may find that meeting with either course instructor individually is helpful in making these corrections. All missed problems should be corrected in order to receive credit.

FINAL GRADE
Math 080 has been designed so that your active participation, attendance and work in MATH 080 will improve your chance of success in MATH 123. In the rare case a student earns a D or higher in MATH 123, but does not pass MATH 080, that student’s grade in MATH 080 will be reconsidered. If a student earns a grade of C or higher in MATH 080 but is not successful in MATH 123, then that student only needs to retake MATH 123.

Makeups/Late submittals:
Assignments must be submitted by the due date during your assigned class time. If you cannot attend a class; you may have another student turn in your homework, or turn it into the LRC, or scan and e-mail it before class without it being considered late. No late work will be accepted, however the final class grade will include some grace points to account for legitimate absences.

Quizzes given during regular class time can only be made up with prior instructor approval.

Attendance:
Communicating ideas and group work are an integral part of this class, so active participation is required to be successful. Any student who has decided to not complete the course and withdraw him/herself from the course will also be withdrawn from MATH 123. This can significantly impact student financial aid, student standing and academic progress. Meeting with the instructor and an advisor is recommended before such a decision is made. Any student who remains enrolled in the course and stops participating will receive zero scores for any work not completed.

Students who miss class are responsible for learning the material that was covered in their absence. Contact your instructor and/or a classmate and refer to resources in Blackboard. Make arrangements to copy notes from a classmate. Stay on track with the syllabus deadlines. Utilize tutoring resources and/or instructor office hours as needed.

Final Withdrawal Date and Responsibility for Withdrawal
Withdrawal from a course may delay progression toward program completion and may impact your financial aid. If you must withdraw, consult with your academic advisor and with a financial aid advisor, if applicable. There is no refund for withdrawn courses.

The last day to withdraw from this course is November 12th, 2016.

Academic Honesty Statement:
The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement.
Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

**ADA Statement:**
Ivy Tech Community College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services in Room 1323 at the beginning of each semester. If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classrooms.

**Extra Assistance:**
The Student Support and Development office is located in Ivy 1323. Tutoring is available in the Learning Resource Center. Students are encouraged to use the LRC.

**Conduct:**
**Cell Phones in Class:** Cell phones and other unapproved electronic devices should be turned off when you are in class. If you have unusual circumstances, you should talk to the instructor. Any use of cell phones and pagers during a quiz or test is strictly prohibited. Any student who violates this policy will earn a zero on the quiz or test.
Emergency calls may be addressed to the Registrar's Office at (765) 269-5609; the Registrar’s staff will have you contacted in the classroom. After 5:00 p.m., calls may be directed to the main switchboard at (765) 269-5100. In the event of an emergency after 9:00 p.m., calls should be directed to the security officer on duty at (765) 269-5254, (765) 430-2882, or (765) 430-2883.
No student will behave in a manner that is unacceptable in a learning environment or that endangers or infringes on the rights and/or safety of him/her or other students, visitors, staff or faculty. If misconduct warrants an immediate suspension from the institutional setting for the remainder of the instructional period, the instructor may do so without a prior hearing. If the student does not voluntarily leave the institutional setting, campus official(s) and/or campus security officers may remove the student from that setting upon oral request by the instructor.
If you are unruly or disruptive in class, or if you are verbally or physically abusive to your instructor or your fellow students in class, you will lose all class work points for that class meeting, and you will lose all quiz or test points available during that class meeting.

**Veterans/Military Notice:**
If you are a Veteran, currently serving as a member of the Armed Forces (Active, Reserve or National Guard), or an immediate family member, promptly communicate with your instructor any potential commitments or deployments that may interfere with course requirements. If you are receiving GI Bill benefits or have questions about your benefits, contact the Veterans Affairs Office, room 1349. An active Student Veterans Organization is also available on campus.

**Virtual Library:**
The Ivy Tech Virtual Library is available to students on- and off- campus, offering full-text journals and books and other resources essential for course assignments. The Virtual Library can be found under the “Library” tab on the first page of Campus Connect.

**E-mail:**
E-mail communication from the College is directed to the online student system. Students are responsible for checking their e-mail accounts, even if they also use other e-mail accounts. Please refer to the Ivy Vine Student Handbook for more information. Check out Campus Connect at [http://cc.ivytech.edu](http://cc.ivytech.edu). Click on “First time users start here” link for more information.

**Course Evaluations:**
Course evaluations by students may be conducted at the end of the course using the College’s “Course Evaluation” form.

**Emergency Procedures:**
Please note emergency evacuation procedures posted in the classroom.

**Certification and Licensing Statement:**
Ivy Tech cannot guarantee that any student will pass a certification or licensing exam. Your success will be determined by several factors beyond the instruction you are given in the classroom including your test-taking skills, your willingness to study outside of class, and your satisfactory completion of appropriate practice exams. Certification and licensure exam questions are drawn from
databases of hundreds of possible questions; therefore, a thorough understanding of the subject matter is required. The goal of Ivy Tech in providing a certification exam studies class is to assist you in understanding the material sufficiently to provide a firm foundation for your studies as you prepare for the exam.

**Copyright:**
“Students shall adhere to the laws governing the use of copyrighted materials. They must ensure that their activities comply with fair use and in no way infringe on the copyright or other proprietary rights of others and that the materials used and developed at Ivy Tech Community College contain nothing unlawful, unethical, or libelous, and do not constitute any violation of any right of privacy.”

**Children on Campus Policy**
So that each student may give full attention to the task of learning, and to comply with insurance regulations, children are prohibited from attending classes, exams, clinical, or laboratories with the parent or guardian. Children also may not accompany adults using the Learning Resource Center or open computer laboratory.

If a student brings a child to class, an exam, or a clinical, the student and the child will be asked to leave. Exceptions may be made for instructional activities which meet the course objectives. The student will be responsible for any consequence detailed in the course syllabus for missing the class, exam, etc. Students are encouraged to make alternative arrangements for children in the event of school cancellations, childhood illnesses, and other issues. Unaccompanied children cannot be left in the library.

**Right of Revision:**
**NOTE:** This syllabus and the information contained within it are subject to change without notice.

**Attendance:**
Students are expected to attend and participate regularly in class meetings, online learning activities assigned as part of a course of instruction. Faculty are required to report student participation in compliance with institutional policies and federal financial aid guidelines. Faculty and staff shall be sensitive to students’ religious beliefs and observances, including an expectation that instructors make reasonable arrangements when a student must miss an exam or other academic exercise due to their religious observance. When notified in advance, and when possible, faculty will make allowances for students to make up missed work.
# Math 123 Scoring Rubric for general problem solving tasks

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<tr>
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<th>Level 0-1</th>
<th>Level 2-3</th>
<th>Level 4-5</th>
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<tr>
<td><strong>Solving the Problem</strong></td>
<td>Did not understand the problem and/or didn’t show any work.</td>
<td>Understood the problem well enough to solve the task.</td>
<td>Solved the task and showed evidence that verified the answer.</td>
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<tr>
<td><strong>Degree of Sophistication</strong></td>
<td>Little or no attempt was made to actively explore the solution method.</td>
<td>A systematic approach was used that will produce a correct answer.</td>
<td>Solution method is efficient, and/or elegant and demonstrates mathematical sophistication.</td>
</tr>
<tr>
<td><strong>Representations</strong></td>
<td>Did not use any representations such as tables, diagrams, equations, organized lists, etc., to help explain the solution.</td>
<td>Made appropriate representations to help solve the task or help explain the solution, but more organization or explanation was needed.</td>
<td>Used appropriate and correct representations to solve the task.</td>
</tr>
<tr>
<td><strong>Presentation</strong></td>
<td>The presentation of the solution and reasoning was unclear to others.</td>
<td>The presentation of the solution was clear in most places, but others may have trouble understanding parts of it.</td>
<td>The presentation of the solution is clear and can be understood by others.</td>
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