NKU SYLLABUS FOR MAHD092 – SECTION

BASIC MATH SKILLS AND ESSENTIAL ALGEBRA -

INSTRUCTOR: OFFICE: OFFICE HOURS: EMAIL: OFFICE PHONE:

DEPT PHONE: 859-572-6347

Prerequisites: Placement

Course Description:

- MAHD092 is a basic mathematical skills course which builds the mathematical foundation for students and then develops their algebraic skills.
- Topics include: Signed numbers, fractions, decimals, percents, ratio and proportion, measurements, equations and inequalities in one variable, graphs of linear and quadratic equations, systems of equations, integer and rational exponents, square roots, polynomial operations, factoring, proportions, quadratic equations, and equations of lines.
- This course is a prerequisite to various courses such as MAHD 099, MAT 115, STA 205 and STA212.
- This course does not count toward graduation, does not meet the general education requirement and does not count in the GPA.

You can be successful in this course! You just need to:

- Meet your weekly time goals in our computer program, ALEKS.
- Take notes as you work in ALEKS, writing down every topic name, at least one example problem, and all information shown in table form.
- Complete each ALEKS module before the deadline.
- Take the practice tests at least 3, 4 or 5 times to prepare for the tests.

TEXT: Miller/O'Neill/Hyde: Beginning and Intermediate Algebra, 4th Ed. (McGraw-Hill) - ALEKS 360 TEXT is optional but you must purchase the code.

Your Course Code is:

Your Financial Aid Access Code is:

The Financial Aid Access Code does not add an additional two weeks to your account.

NOTE: This code gives you temporary access to ALEKS for a two-week period. Once the code expires, you will be locked out of your ALEKS account until you purchase a regular Student Access Code. It is highly recommended that you purchase the Student Access Code BEFORE the two weeks expire to prevent interruptions with your ALEKS account.

- 1. To log into ALEKS using the Financial Aid Access Code, go to: http://www.aleks.com.
- 2. Click on the "SIGN UP NOW!" link located under the login box on the left of the page.
- 3. Enter your Course Code in the box labeled "Using ALEKS with a Class?" and click on "Continue."
- 4. Verify that you are registering for the correct course and click on "Continue." Enter the 20-character Financial Aid Access Code.
- 5. Continue with the registration process until your account has been set up successfully.
- 6. After you complete your account set up you will be logged into ALEKS and can immediately begin working in the course.
- 7. You can extend your ALEKS account at any time by clicking on "extend your account" and entering an Access Code purchased at the bookstore or your credit card number (this option is cheaper). If your temporary access expires before you purchase a Student Access Code, simply log in to ALEKS and you will be directed on how to extend your current account. You will then be able to continue your course where you left off before the temporary access expired. You do NOT need to create a new ALEKS account to continue your course.
- 8. Once you have access, you will be asked to complete a short tutorial (how to input answers) and to take the INITIAL ASSESSMENT. This test is NOT for a grade, but it is very important as it will be used to assess what you know and what you need to work on.
- 9. All the work in this course will be completed in ALEKS. I have provided structure to help and encourage you to stay on task. Please keep in mind that you should be spending a minimum of 8-15 hours a week on this course if you expect to complete and pass it.
- 10. ALEKS houses everything you will need to complete the course: the textbook, lecture videos, worked examples, etc. There are links to the electronic textbook, videos and a link to email me when you have questions. I will try to return your email within 24 hours. Be sure to check out the alternate explanations at the bottom of topic explanations. Do not get frustrated! Your tutors and I are here to help you!

CALCULATOR POLICY FOR MAHD092:

- Calculators are not permitted on Part A of the 1st Test. Calculators are allowed on Test 2-5 and the final exam.
- Allowed: Scientific calculators such as TI-30, TI-32, Casio FX-82, FX-85, FX-300 and FX-350, and Sharp 506 may be
- Not allowed:
 - Calculators on cell phones, iPods, or other electronic/digital devices
 - Graphing Calculators such as TI-83, TI-84, TI-nspire, Sharp EL-9650 and EL-960, Casio FX-9750 and PRIZM.
 - Calculators with algebraic capabilities such as TI-36X, Sharp EL-516, EL-520, EL-531, Casio fx-991 and FX-570MS
- Students may not share a calculator during any quiz, test, or the final exam.
- If you do not have an appropriate calculator you will not be permitted to use one on the tests.

To avoid the appearance of impropriety, during any test given in a Developmental Mathematics course, any device capable of sending messages, taking pictures, or accessing the internet (cell phones, IPod, etc) must be stored in an inaccessible location. A violation of this policy will result in a 0 on that test.

Evaluation: Multiple forms of assessment will be used to measure your understanding of algebraic concepts and problem solving.	% of Class Grade
 NOTEBOOK: It is vital for your success in this class to take careful notes in a spiral notebook or binder. You will essentially be creating your own textbook. As you work through topics, write down the topic name and at least one example problem for each topic. Write down all essential information ALEKS provides in table form in the explanations. Use your notebook to complete the knowledge checks, take practice tests and create a note card for Tests 1-5 and the Final Exam. Bring your notebook to every class and tutoring session. Bring your notebook to each Test and turn it in to receive a notebook grade according to the following rubric: Binder/notebook: 0=none, 1=very unorganized or incomplete, 2=mostly complete, 3=excellent Using the scale (0=none, 1=some, 2=most, 3=all) to assess: Writes down topic name for each topic. Writes down 1 example problem for each topic, neatly showing all steps. Includes all information in ALEKS presented in explanations in tables. 	6%
 Objectives/Modules: This course is divided into 15 objectives/modules, each consisting of a varying numbers of topics. You must learn all the topics in an objective/module by its due date to earn a grade of 100 points. Check the ALEKS calendar for the 15 due dates. You will receive partial credit for incomplete objectives, i.e. learning 20 out of 25 topics will give you a grade of ²⁰/₂₅ = 80 points. At the end of a module, unlearned topics will either become prerequisite topics for the next module or will be hidden from view until you reach one of the Review Modules before each test and the final exam. Each Modules: There are 6 Review Modules, one before Tests 1-5 and the final exam. Review Modules will consist of just a few important topics which you can finish quickly to achieve <u>Open Pie Mode.</u> You can then go back and learn any lost topics or topics not learned in previous modules. This will not change your module grades. Review Modules 1-5 will count as 5 bonus points, and the Final Exam Review Module will count as 15 bonus points. 	6%
 Attendance: Your attendance is critical to your success in this class. You are expected to be present at all class meetings. You are responsible for knowing which assignments are due and making up/learning any missed lesson from class. You will receive 1 point for each class attended. You must sign the attendance sheet to verify you have attended class. You may not sign the attendance sheet for other students. Email me before class if you have a verifiable excused absence. Attendance grades will be put into ALEKS weekly. The lowest weekly grade will be dropped. 	6%
Weekly Time Spent in ALEKS:	6%

 Keep in mind that you should be spending a <u>minimum</u> of 9-12 hours a week on this course <u>outside</u> of class if you expect to complete and pass it. Each weekly goal begins every Sunday at 11:59 pm and ends the following Sunday at 11:59 pm. Your goal is 10 or more hours weekly. If you only spend 8 hours during week 1 in ALEKS, your score will be ⁸/₁₀ = 80% in the grade book under the time category. The maximum weekly grade is 100%, so if you spend 10 hours or more, your grade will be 100%. The lowest time grade will be dropped. 	
 Tutoring: FREE Tutoring is available in the Learning Plus center 	6%
 Tests: There will be 5 tests, with 25-33 questions. Each test is worth 10% of your class grade. Tests are closed book and closed notebook, but you may use one 3" x 5" index card with hand written notes on both sides for each test. You will have up to 90 minutes to take each test. You may take a test up to 4 times with the following maximum grades: 1st attempt: 100% 2nd attempt: 90% 3rd attempt: 80% 4th attempt: 70% You will still be required to meet module deadlines if you are retaking tests. The tests must be completed by the due dates, but they may be taken early if you have achieved 100% on the associated modules and scored at least 70% on the practice test. Test 1: Jan-29, Part A: No Calculator, and Part B: With a Calculator Test 2: Feb 14 - Test 3: Mar 14 - Test 4: Apr 4 - Test 5: Apr 21 Practice Tests: Before each test, there will be a practice test that can be taken an <u>unlimited</u> number of times. It will contain all the problems found on the test plus 5-15 additional problems. You will be able to earn 5 bonus points if you score 100% on the practice test, 4 bonus points if you score 80% on the practice test, etc. Practice tests are the key to making a good index card and passing the tests. 	50%
 Final Exam: The final exam has 45 questions, covers modules 1-15, and may be taken <u>only one time</u>. Twenty questions will be 20 multiple choice, completed on paper on or before the April 28th. You will have 2 hours to answer 25 questions on ALEKS. You will take the test on or before May 2nd from 1:00 – 3:00. You may use one 5" x 7" index card with handwritten notes on both sides. You may take the final exam early if you have scored 100% on all the modules and at least 70% on the practice final exam. Practice Final Exam: There will be a practice final exam with 50 questions worth up to 15 bonus points. 	20%
Grades will be determined by the following scale: A (93-100%) A- (90-92.9%) B+ (87 - 89.9%) B (83 - 86.9%) B- (80 - 82.9%) C+ (77 - 79.9%) C (73 - 76.9%) C- (70 - 72.9%) F (below 70%) Notice that there is no grade of D in developmental math courses.	100%

Learning and Mastering Topics:

- You will read a topic and answer 3 or more questions about it to learn it.
- Upon completion of 20 topics or 5 hours of time logged into ALEKS, you will be given a **Knowledge Check**.
- Use your notebook to carefully answer the questions in the Knowledge Check. If you answer the knowledge check questions correctly, the topics will then be <u>mastered</u>.
- If you do not answer a question correctly, the associated topic will be <u>lost</u> and placed back into your carousel of unlearned topics.
- You will have to repeat the process until the topic is <u>mastered</u> or you reach the module due date.
- If you lose a topic, please ask your teacher or tutor for help with that topic.
- Knowledge Checks are not included in your grade. They sometimes include topics that you have not yet learned as ALEKS continues to determine what you need to learn next.

• If you are having trouble learning a topic, try Alternate Explanations at the bottom of some topics, try watching the video, try searching for the topic name on Khan Academy's website, and email or ask me to help get you through it.

Worksheets:

- ALEKS will create a worksheet for you based upon the topics that you are currently learning.
- Go to Home/Worksheet/New ALEKS Worksheet to print a worksheet and answers just for you.
- These worksheets are not graded, but you might find them very helpful in working with a tutor, practicing more problems or preparing for a test.

ALEKS Tips:

- Index Cards: Take the practice tests several times to create the best index card to help you pass the test.
- **Carousel:** When you are learning or continuing on your path, ALEKS will suggest which topics you should learn first. Click on the blue arrow at the top left of your screen, and you will see a carousel of topics in your current module. You can choose to learn a different topic, as long as it is not locked. Click on the module number at the top left of the carousel, and you will be able to see all the modules and what percent of topics in each you have mastered. When you complete a module ahead of the deadline, you will be in **Open Pie Mode** and will be able to access all previous modules. This will be easy to do when working on Review Modules before each test. If you have unlocked pre-requisite topics, you will be able to work on topics from future modules.
- Locked Topics: Some topics are locked, which is indicated by a picture of a lock at the top right of their description. Double-click on locked topics, and another box will appear telling you which pre-requisite topics you must learn <u>before</u> you will have access to the locked topic. Double click on the name of the pre-requisite topic and ALEKS will take you directly to it for you to complete.

Read your email and messages in ALEKS every day. I will be sending your important information and reminders.

THE INSTRUCTOR RESERVES THE RIGHT TO MAKE ANY CHANGES IN THE SYLLABUS AS DEEMED NECESSARY.

Credit Hour Policy Statement

In accordance with federal policy, NKU defines a credit hour as the amount of work represented in the achievement of student learning outcomes (verified by evidence of student achievement) that reasonably approximates one hour (50 minutes) of classroom instruction and a minimum of two hours of out-of-class student work. For every course credit hour, a typical student should expect to spend at least three hours per week of concentrated attention on courserelated work including, but not limited to, class meeting time, reading, reviewing, organizing notes, studying and completing assignments. At least an equivalent amount of time is expected for other academic activities such as online courses, laboratory work, internships, practica, studio work and other academic work leading to the award of credit hours.

Estimates of the time required for a typical student to complete course expectations are as follows:

		Hours	Minutes
In-Class:	2 days x 50 minutes x 15 weeks and 2 days x 75 minutes x 15 weeks	62.5	3750
ALEKS:	Read explanation, work examples, answer questions, watch videos	120	7200
Knowledge Checks:	Every 5 hours or 30 topics	15	900
Tutoring:	50 minutes x 15 weeks	12.5	750
Test Preparation:	5 tests x 180 minutes	15	900
Self-Assessment:	(after each test) 5 x 45 minutes	3.75	225
Final Exam and Preparation:	360 minutes	6	360
	Total:	234.75	14085

STUDENT LEARNING OUTCOMES:

Upon successful completion of the course, students should be able to:

- 1. Perform arithmetic operations on whole numbers, integers, fractions, and decimals, and when necessary, write the answer in simplest form.
- 2. Identify examples of the commutative, associative, and distributive laws.
- 3. Read and interpret tables and graphs and plot points on a number line and in a plane.
- 4. Simplify and evaluate algebraic expressions using order of operations.
- 5. Solve linear equations and inequalities in one variable.
- 6. Solve literal equations for the designated variable.
- 7. Write decimals as percents and vice versa.
- 8. Write ratios and solve proportions.
- 9. Graph linear equations in two variables by plotting points and finding intercepts.
- 10. Graph linear inequalities in two variables.
- 11. Find the slope of a line given two points, its graph, or its equation.
- 12. Simplify expressions with integer and rational exponents using the product, quotient, and power rules.
- 13. Add, subtract, multiply, and divide polynomials with one or more variables.
- 14. Factor the greatest common factor from a quadratic; factor simple trinomials of the form $ax^2 + bx + c$.
- 15. Simplify square roots of numeric and algebraic expressions.
- 16. Solve quadratic equations.
- 17. Determine an equation of a line given two points or a point and slope.
- 18. Solve systems of linear equations in two variables by graphing, substitution, and elimination.
- 19. Graph parabolas by finding the vertex and axis of symmetry and plotting points.
- 20. Apply the concepts learned in the course to solve application problems, including:
 - perimeter, area, and volume of geometric figures
 - motion problems (distance = rate \cdot time)
 - percentage problems
 - maximization and minimization problems

Critical reading and writing skills will be emphasized in this course. Reading and writing exercises will be assigned with each chapter. Students will be required to express the solutions to their algebraic manipulations in complete, coherent sentences.

DEVELOPMENTAL MATHEMATICS PROGRAM INFORMATION FOR ALL COURSES

<u>MISSION STATEMENT</u>: The Developmental Mathematics Program of Northern Kentucky University plays a crucial role in fulfilling the mission of the University. The Program offers educational opportunities to address the needs of a large and diverse population. Through learner-centered experiences, the Developmental Mathematics Program prepares students to be successful in academic pursuits, to be active participants in the University community, to realize their full potential, and to appreciate the value of lifelong learning. As an integral part of the academic community, the Developmental Mathematics Program promotes intellectual development and helps to insure the access to higher education necessary for students to meet the challenges of the University and of the Information and Knowledge Age.

<u>STUDENTS:</u> For each class you take under this program, you will receive a syllabus with specific information about the section in which you are enrolled. The following information applies to all developmental mathematics courses.

<u>PREREQUISITES:</u> Mastery of Basic Mathematics is a prerequisite for Essential Algebra, mastery of Essential Algebra is a prerequisite for Intermediate Algebra. Additionally, mastery of Essential Algebra is a prerequisite for college-level mathematics courses and mastery of Intermediate Algebra is a prerequisite for Algebra for College Students.

<u>CLASS WORKLOAD AND STUDY HABITS</u>: Mathematics is not a spectator sport. It is not sufficient to watch someone else working problems. To succeed in a mathematics course, one must invest time and effort outside of class. It is important to read the sections in the text <u>before</u> they are covered in class and all homework should be completed by the due date. The pace of these courses is 4 times that of a high school course. Experience has shown it is unrealistic for a student to expect to successfully carry a full course load (12 or more semester hours) and work more than 20 hours a week at a job. Students must take out-of-class obligations into account when making out their schedule. Quality of time spent studying is as important as the amount of time spent. Students need to learn the underlying principles behind problems rather than just memorizing rules. Homework and working additional problems provides the practice necessary to master the mechanics of working the problem. To prepare for tests students need to correctly work several problems completely without any outside assistance.

<u>CALCULATOR POLICIES</u>: A scientific calculator may be used on select material in each course. No graphing calculators, computer algebra systems, or their equivalent may be used on any content in any Developmental Mathematics course. There are specific calculator policies for each course. See individual faculty syllabi for these policies. To avoid the appearance of impropriety, during any test given in a Developmental Mathematics course, any device capable of sending messages, taking pictures, or accessing the internet (cell phones, IPod, etc) must be turned off and stored in an inaccessible location. A violation of this policy will result in a 0 on that test.

ATTENDANCE AND CLASSROOM EXPECTATIONS: Class attendance is of critical importance to the success of any student in a developmental mathematics class. The instructor may have an attendance policy which affects a student's final grade. Active classroom participation is essential to the learning process. One cannot participate if one is not in class. Students are responsible for learning the material covered in class even if they are absent. It is imperative that you maintain your attendance **throughout** the semester. Our statistics and experiences show that students with 90-100% attendance have passed the course in 95% or more of the time. On the absence side, our records indicate that students with less than 70% attendance have not passed the course in 95% of the cases. We expect students to attend every class. If absent, students are still responsible for the material covered in class. We understand there are instances where an absence/missed class is unavoidable due to illness, conflicts, or other reasons. But the focus should not be on the reason why a class is missed, your focus should be "if you miss a class, now what are you going to do about it?"

<u>MID-TERM GRADES</u>: Mid-term grades will be posted in myNKU by the deadline established in the Academic Calendar (<u>http://registrar.nku.edu/academiccalendar.html</u>).

OFFICE HOURS: The instructor's posted office hours, listed on the class syllabus, are an indication of when he or she will usually be in his/her office. Occasionally other commitments will require him/her to be out of the office during those times. For important matters, or to meet with a professor outside of office hours, make an appointment in advance. On the other hand, you should not feel restricted to seeing faculty only during office hours. The faculty is here to help you. Your instructor is the first person to turn to for help.

PLUS TUTORING: At the PLUS Tutoring Center you can get help with concepts that you do not understand or with homework problems that you cannot solve. Trained peer tutors offer assistance to individuals. Students may sign up

for two hours of one-on-one tutoring per week. The PLUS Center is located in UC 170. To sign up for a tutor go to the website <u>https://tutortrac.nku.edu</u>. Any questions call: 859-572-5475, or e-mail <u>wasburnmoj1@nku.edu</u>.

PLUS TUTORING CENTER HOURS:

Monday thru Thursday 8:00 a.m. – 7:00 p.m. Friday 8:00 a.m. – 3:00 p.m. Saturday 9:00 a.m. – 1:00 p.m.

<u>CLASSROOM BEHAVIOR</u>: The department attempts to maintain a classroom environment conducive to learning. Therefore, as stated in the NKU Code of Student Rights and Responsibilities, "disruptive student behavior will not be tolerated. If a student becomes disruptive, the professor may take disciplinary measures judged appropriate to protect the learning environment, including dismissal from the course." Disruptive behavior can include the use of cell phones and beepers, excessive chatter and noise, eating or drinking, arriving late, leaving early, sleeping in class, bringing small children, and monopolizing class time. Any threatening behavior will be considered disruptive.

<u>WITHDRAWAL FROM CLASS</u>: The deadline for withdrawing from class with a grade of W is listed in the Schedule of Classes published for each semester. It is your responsibility as a student to be aware of this deadline. To withdraw from class, a student must log onto My NKU. Students who stop coming to class without withdrawing will receive a grade of F. Students are generally not permitted to withdraw after the deadline; they must either complete the course successfully or receive a failing grade. Exceptions are made only for very unusual extenuating circumstances involving some change in the student's situation after the deadline. This will require documentation and the permission of the program director.

Student Honor Code:

This Student Honor Code [the "Honor Code"] is a commitment by students of Northern Kentucky University, through their matriculation or continued enrollment at the University, to adhere to the highest degree of ethical integrity in academic conduct. It is a commitment individually and collectively that the students of Northern Kentucky University will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements.

The purpose of the Honor Code is to establish standards of academic conduct for students at Northern Kentucky University and to provide a procedure that offers basic assurances of fundamental fairness to any person accused of violations of these rules. Each Northern Kentucky University student is bound by the provisions of the Honor Code and is presumed to be familiar with all of its provisions. Students also should aspire to conduct themselves in a manner that is consistent with the highest degree of ethical integrity in all matters, whether covered in the Honor Code or not. The success of this commitment begins in the diligence with which students uphold the letter and the spirit of the Honor Code. Students may view the complete honor code at http://deanofstudents.nku.edu/policies/student-rights.html#policies.

Accommodations Due to Disability:

The University is committed to making reasonable efforts to assist individuals with disabilities in their efforts to avail themselves of services and programs offered by the University. To this end, Northern Kentucky University will provide reasonable accommodations for persons with documented qualifying disabilities. If you have a disability and feel you need accommodations in this course, you must present a letter to me from the Disability Programs and Services Office (SU 303), indicating the existence of a disability and the suggested accommodations. More information can be found at http://disability.nku.edu/.

Student Evaluation of Instructor and Course:

Northern Kentucky University takes Instructor and Course Evaluations very seriously as an important means of gathering information for the enhancement of learning opportunities for its students. It is an important responsibility of NKU students as citizens of the University to participate in the instructor and course evaluation process. During the two weeks* prior to the end of each semester classes, you will be asked to reflect upon what you have learned in this course, the extent to which you have invested the necessary effort to maximize your learning, and the role your instructor has played in the learning process. It is very important that you complete the online evaluations with thoughtfully written comments.

Student evaluations of courses and instructors are regarded as strictly confidential. They are not available to the instructor until after final grades are submitted, and extensive precautions are taken to prevent your comments from being identified as coming from you. Students who complete an evaluation for a particular course (or opt out of doing so in the evaluation) will be rewarded for their participation by having access to their course grade as soon as that grade is submitted by the instructor. On the other hand, any student who does not complete the course

evaluation (or opt out of doing so in the evaluation) should expect to incur a two week delay in access to his or her course grade beyond the university's official date for grade availability. To complete online evaluations go to http://eval.nku.edu. Click on "student login" and use the same USERNAME and PASSWORD as used on campus.

In addition, you should be aware of:

- Evaluations can affect changes in courses. Evaluations without comments are less valuable and less credible than those filled out thoughtfully. Comments that are expressed well are more effective than those that are not.
- Positive feedback is just as important as criticism. Moreover, negative evaluations without any explanation and specifics are not especially useful.
- Once grades are submitted, all evaluations are read not only by the instructor, but also by the instructor's department chairperson.
- Evaluations not only provide feedback to your instructor, but also provide information to the department chair for use in performance evaluations. This information affects reappointments, promotions, salaries, and teaching assignments.

<u>ADMISSION WITH CONDITIONS COURSE TAKING POLICY:</u> Students with any academic deficiency, ACT/SAT or Pre-College Curriculum, are required to enroll in all necessary developmental courses during their first two semesters at NKU. Developmental courses do not contribute to the credits required for graduation and will not be calculated in the GPA.

<u>CHANGES IN THE SYLLABUS</u>: The syllabus is a projection of what the instructor reasonably plans for the course. Circumstances may dictate altering the syllabus and the instructor has the right to do so.

<u>COMPLAINTS</u>: Any complaints relative to the operation of the course or program can be brought to the attention of the coordinator, Ms. Joetta Browning, MEP 468, 859-572-6521.

DEPARTMENTAL OFFICE: The Developmental Mathematics Program is housed with the Department of Mathematics & Statistics in MEP 401. The phone number is 859-572-6347. You can also visit the website: <u>http://lap.nku.edu/developmental/mathematics.html</u> for more information.

Revised August 2016