VIBRATIONS AND WAVES (PHYS 224)
SYLLABUS, Fall 2018

Instructor: Dr. Markos Georganopoulos (PHYS 409, georgano@umbc.edu, tel:410-455-8149)

Lectures, time and place: MoWeFr 11:00 AM - 11:50 AM in Public Policy 206

Office Hours: Mo 1:00 PM-2:15 PM & We 2:00 PM-3:15 PM in PHYS 409

Textbook: George C. King, *Vibrations and Waves*

Learning Goals and Course Overview: By the end of the course, students should be able to understand and quantitatively address situations including oscillations with and without damping and with or without a driving force, coupled oscillators, travelling and standing waves, as well as wave interference, diffraction, and dispersion of waves. Anticipate an interactive environment where your participation is expected. Demonstrations, small computer simulations, as well as quantitative and qualitative problem solving will be an integral part of the lectures.

Resources. We will rely on the required book "*Vibrations and Waves*" by George C. King. Additional material will be provided through notes.

Academic Integrity: By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, and the UMBC Policies section of the UMBC Directory.

GRADING

Your final letter grade will be determined by a numerical score, calculated as follows:

Homework (30 points total): Homework questions will provide good practice for the types of questions likely to be posed in the mid term and final exams. A homework will be assigned every week. Students are expected to solve all the problems of the homework but are not required to turn them in. In the beginning of the class on the due day of the homework, students will be given 10 min to clearly reproduce the solution of one the homework problems selected by me.

Mid Term exams (20 points each): The first one will cover the material from the beginning of the class up to the lecture before the first mid term. The second one will cover the material taught after the first mid term, all the way to the lecture before the second mid term. The times of the mid term exams will be announced in

class at least a week in advance of the exam.

Final Exam (30 points): An exam at the end of the course on all the course material.

The letter grade will be assigned from your numerical grade as follows:

A: >90   POINTS
B: 80-89 POINTS
C: 70-80 POINTS
D: 50-69 POINTS
F: <50   POINTS

Clear handwriting, proper English grammar and syntax, as well as logical flow of your arguments and no missing steps are required in all exams and homework. Please let me know **in advance** if you cannot participate in any of the exams due to religious or personal or any other reasons.