



Facilitated Study Groups (FSGs) at UTSC

Average Grade + Attrition Data 2012-2016: BIO, CHM, MATH, LIN, MGT, PHY, STATS, OTHER depicted in Fig. 1 and Fig. 2 graphs

FSGs:

- Based on UMKC Supplemental Instruction model targeting high risk courses through offering peer-based support
- Weekly study sessions for students who want to meet peers and improve their understanding of course material and improve their grades

Judgment-free zone

- Research has demonstrated that FSG attendance \rightarrow improves grades, increases course retention
- FSGs are voluntary study sessions run by undergraduate students who have completed and excelled in the course they are supporting

REFERENCES:
Bian RA et al. 1983. Breaking the Attrition Cycle The Effects of Supplemental Instruction on Undergraduate Performance and Attrition. Journal of Higher Education 54(1):su-su
Congos DH and Schoeps N. 1988. Inside Supplemental Instruction Sessions: One Model of What Happens that Improves Grades and Retention. Research and Teaching in Developmenta Education 15(1): 47-61.
Dawson P, van der Weer J, Skalicky J, Cowley K. 2014. On the Effectiveness of Supplemental Instruction: A Systematic Review of Supplemental Instruction and Peer-Assisted Study Sess Literature Between 2001 and 2010. Review of Educational Research 84(4): 600-639.

Some of the Things You'll Learn... To study smarter, not longer, for exams

Fig. 1 Mean final grade

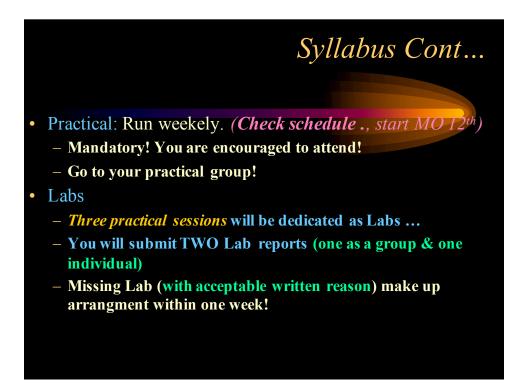
 To read the textbook/other materials strategically To learn and apply key terminology and concepts

How to organize your lecture notes more effectively

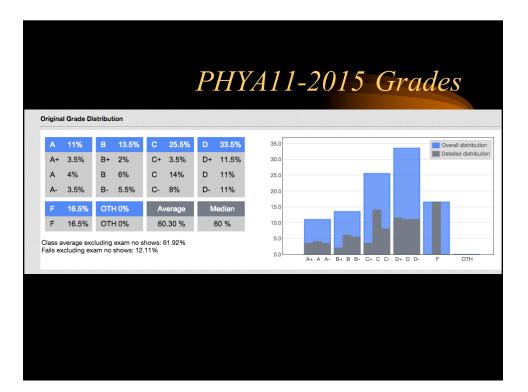


Syllabus

- Text Book: "Physics for Scientists & Engineers" 4th ed, Randall Knight Mastering Physics & Student Workbook (optional)
- Homework (about 10 Assignments)
 - On line (Mastering Physics) for 2% & more practice.
 - <u>Course ID</u>: PHYA11F2017 (enter your UTOR id)
 - No late Assignment accepted
- web site: (Admin, Notes, Quizzes & Tests....etc) on Blackboard (BB)



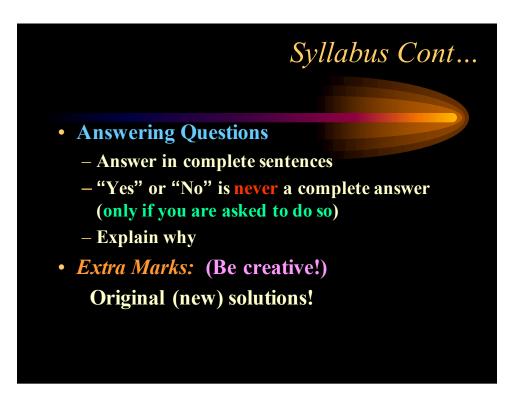
Syllabus cont.... Marking Scheme: • Practical: 25% (2 reports 8%, Practical Notebook 15%, TA impression 2%) • Term test: 30% (2 term tests; 15% each) • Final exam: 45%

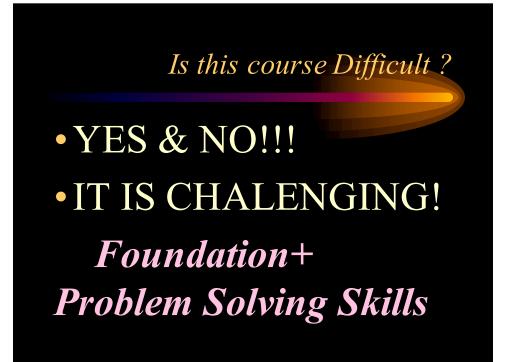


Syllabus Cont...

- Exam & Tests (Don't memorize equations)
 - You will prepare a One page Formulae Sheet
 - 2 Tests & Final Exam
 - Quizzes: multiple choice questions + short answer
 - Tests: multiple choice questions + short open response + Problem solving
- Final Exam: (Cumulative) multiple choice + short open response + problems

Syllabus Cont	
To succeed: Integration of Lecture/Textbook/Practical	
• Extra Help: Tutors, FSG & Instructor . CENTER	Also PHYSICS AID
Coverage (Topics from):	
Tentative Schedule !	
- Mechanics:	
➢ Ch 1-4 Kinematics	2 week
≻ Ch 5-8: Dynamics	3 weeks
- Ch 9-11: Conservation Laws	2.5 weeks
– Applications:	
Ch 12 Rotation	2.5 weeks
≻Ch 15 Oscillation	2 weeks





Syllabus Cont...

- Solving Problems (Check the textbo
 - Show basic equation
 - Include drawing and units
 - Solve algebraically
 - Show substitution of numbers (at the end)
 - Use words & be Organized
 - Only 80% points for correct answer and minimal work
 - Communicate!



- Crucial for advancing frontiers of Physics
- Crucial for developing a facility for using Physics
- Must know algebra very well & basic Calculus !
- (MATA29H3) *MATA30H3 or MATA31H3* is a co-requisite
 - Will review some basics (if needed) in practical as we go along