- 1. Is this course required for your students?
- 2. If this course is required, what is the primary reason (in your opinion) your department requires students to take this physics course?
- 3. How many quarters of physics do you think should be required for your students? 0 1 2 3 4 5 6
- 4. Many different goals could be addressed through this course. Would you please rate each of the following possible goals in relation to its importance for your students on a scale of 1 to 5?

1=unimportant	2=slightly important	3=somewhat important	4=important		5=v	,	ortant			
Know the basic principles behind all physics (e.g. forces, conservation of energy,)						3	4	5		
Know the range of applicability of the principles of physics (e.g. conservation of energy applied to fluid flow, heat transfer, plasmas,)					2	3	4	5		
Be familiar with a wide range of physics topics (e.g. specific heat, AC circuits, rotational motion, geometrical optics,)						3	4	5		
Solve problems using general quantitative problem solving skills within the context of physics						3	4	5		
Solve problems using general qualitative logical reasoning within the context of physics					2	3	4	5		
Solve many problems to gain familiarity with solving physics problems					2	3	4	5		
Formulate and carry out experiments					2	3	4	5		
Analyze data from physical measurements					2	3	4	5		
Use modern measurement tools for physical measurements (e.g., oscilloscopes, computer data acquisition, timing techniques,)					2	3	4	5		
Program computers to solve problems within the context of physics.					2	3	4	5		
Overcome misconceptions about the behavior of the physical world						3	4	5		
Understand and appreciate 'modern physics' (e.g. solid state, quantum optics, cosmology, quantum mechanics, nuclei, particles,)						3	4	5		
Understand and appreciate the historical development and intellectual organization of physics.						3	4	5		
Express, verbally and in writing, logical, qualitative thought in the context of physics.						3	4	5		
Learn to work in teams to solve problems within the context of physics.						3	4	5		
Use with confidence the physics topics covered.						3	4	5		
Apply the physics topics covered to new situations not explicitly taught by the course.						3	4	5		
Other goal. Please specify here					2	3	4	5		

**★** Please place a star (\*) next to the TWO goals listed above that you consider to be the MOST IMPORTANT for your students.

5. In three quarters it is impossible to cover every topic in physics, so some topics need to be left out. The purpose of this question is to inform us of your priorities of the topics we might cover in the course. Below are the chapter headings from a typical textbook at this level. Currently about one week is spent on each chapter/topic. Each week consists of four lectures and a two-hour laboratory. Please indicate if you would prefer to see **more** time spent on a topic, **less** time spent on a topic, or about the **same** amount of time. Please remember that we have about 24 weeks total to spend, given a week of introduction and a week of review each quarter. Mark "more", "less", "same" or use + for more, = for same, - for less for each topic.

	Introduction to physics, units, significant figures
	Kinematics: Speed and Velocity
	Kinematics: Acceleration
	Newton's Three Laws: Momentum
	Dynamics: Force and Acceleration
	Equilibrium: Statics
	Gravity, According to Newton
	Rotational Motion
	Energy (mechanical energy, conservation)
	Solids (atoms, elasticity, moduli)
	Fluids (statics and dynamics)
	Oscillations and Waves (harmonic motion, mechanical waves)
	Sound (acoustics, Doppler effect, standing waves)
	Thermal Properties of Matter (temperature, expansion, gas laws)
	Heat and Thermal Energy (change of state, transfer of energy)
	Thermodynamics
	Electrostatics: Forces (electric force, electric field)
	Electrostatics: Energy (electric potential, capacitance)
	Direct Current
	Circuits
	Magnetism
	Electromagnetic Induction
	Alternating Current and Electronics
	Radiant Energy: Light (nature of light, spectra)
	The Propagation of Light: Scattering (reflection, refraction)
	Geometrical Optics and Instruments
	Physical Optics (polarization, interference, diffraction)
	Special Relativity
	The Origins of Modern Physics (sub-atomic particles, nuclear atom)
	The Evolution of Quantum Theory (blackbody radiation, atomic theory)
	Quantum Mechanics
	Nuclear Physics
	High-Energy Physics
	Other. Please specify.
24	Total number of weeks

**★** Please place a star (\*) next to the FOUR chapters listed above that you consider to be the MOST IMPORTANT for your students.

6.	. The <u>laboratory</u> associated with this course is typically taught by graduate teaching assistants and could in several ways. Please place an 'X' by that structure that you feel would be most appropriate for the structure						
		A lab with well defined directions which verifies a physical principle previously explained to the students using the given apparatus.					
		A lab where the students are given a specific question or problem for which they must conduct an experime with minimal guidance using the given apparatus.	ent				
		A lab where the students are given a general concept from which they must formulate an experimental question, then design and conduct an experiment from a choice of apparatus.					
		Other. Please describe.					
7. Would you please give examples of topics or subjects covered in <u>your curriculum</u> that assume some kno skills or understanding which should be imparted by this physics course? Specific course numbers woul helpful.							
you	ır curric	for completing this questionnaire. If you have any material which illustrates the topics or subjects covered culum which assume knowledge, skill, or understanding which should be imparted in Physics 1104-5-6/7-8-appreciate receiving a copy.					
		or us to ask you more detailed questions and consult with you as the need arises, we ask that you complete the information. Thank you.	e				
Naı	me:						
Dep	partmei	nt / program:					
Car	npus a	ddress:					
Car	npus p	hone:					