APR Action Plan
(date)

DEPARTMENT: Physics & Astronomy

#	Goals and Objectives Action Item	Individual(s) Responsible	Resources Needed	Action Taken/ Status	Projected Start Date	Target Date for Completion	Progress Review Date (if needed)	Funding Request	Dean's Support
Recommendation 1: Faculty teaching load not to increase									
	Remain competitive with other physics departments, not jeopardize research enterprise	Dean & Provost	Sufficient $s for PTI and/or Lecturers, apart from the need to maintain a healthy size of the faculty, of course	So far, so good, i.e. have kept teaching load where it has been	ongoing	never		Sufficient PTI and lecture line support	
Recommendation 2: Develop biophysics course(s)									
	Advantages of regular course offertings; continued course development work, incl. for a possible lab component	Biophysics group (Prof. Jim Thomas et al.)	Potential implications on teaching load, i.e. PTI for other courses. Substantial money (& space!) for a lab component.	Biophysics courses have been offered from time to time in the past. Now P480 is established and being offered on a regular basis. Lab component will need significant time for development plus money.		Completed (2011) Lab: unclear		For a biophys lab	
Recommendation 3: Offer some "21st century" experiments in our lab classes									
	Modernize labs; action item is the very time-consuming development of new lab experiments	Faculty teaching upper division labs	To do properly, several tens of k$s, plus Bill Miller (Teaching Lab Supervisor) replacement at end of 2012, plus some faculty release time	none	2012 (?)	unlikely before 2013 or 2014, depending upon resources		~$20k for starters	
Recommendation 4: Among service courses offer one focusing on Energy?									
	Undisputed importance of topic	Various faculty		Energy is clearly addressed in both P102 & P105, unclear if more is needed at this point					
Recommendation 5: On undergrad webpage list interesting/relevant courses in other depts									
	Useful & convenient for majors	Undergrad Committee		We prefer to deal with this as part of the regular advising process between student & undergrad faculty advisor					
Recommendation 6: Develop Math Methods course for undergrad majors									
	Being able to apply math to physics problems; would replace two courses from Math dept, thereby freeing up time for an elective	Prof. Sudhakar Prasad		Done, course developed and being offered for the 1st time during fall 2011	Fall 2011	Fall 2013	Spring 2012		
Recommendation 7: (Perennial) issue of requiring the additional 1-hour problems section in the 160 series (for science & engineering majors)									
	Would be good for the problems-solving skills of our majors and for engineers; School of Engineering does not want to increase the # of required credit hours (already high)	Undergrad Committee	More TA support (when we just had to cut 2 TA lines in connection with the FY12 budget cut)	Has been discussed with the School of Engineering; Shelved for now because of the TA budget situation, to be re-discussed later		unclear			
Recommendation 8: Are our majors programs underloaded or overloaded or about right? Need to be "modernized" in any way?									
	Teach Quantum Mechanics earlier (Junior year?) in order to leave the Sr year open for more modern physics topics	Undergrad Committee		Discussed by undergrad committee, and decided against any changes for now. If the Group Requirements are dropped (as planned by A&S), then more room for modern electives would open up anyways.					
Recommendation 9: Undergrad research - needs enhanced visibility?									
	Do more advertising about the large amount of research being done here? Undergrad research tends to be an excellent experience for the majors.	Undergrad Committee		Students doing Honors research are now required to produce a poster. Better advertising of all undergraduate research on dept homepage is being discussed. Unlikely that research credit hours will be allowed to be counted as electives, especially given that the proposed Group Requirement changes would free up hours for research credit or electives.	Fall 2011	Spring 2012			
Recommendation 10: Graduate Electives & our difficulty of offering "officially under-enrolled" grad courses									
	Crucial for depth & breadth of our grad education	Graduate Committee & Assoc. Chair for Graduate Affairs	Support by A&S to not cancel "officially slightly under-enrolled" grad courses	Graduate Committee is conducting a dept-wide re-assessment of the graduate specialized course requirements for each research subfield	Fall 2011	Summer 2012			
Recommendation 11: Revise our Prelim Exam - substitute our Prelim Exam with Physics GRE									
	Concerns expressed over time to complete, impact on recruitment of new grad students, and use as a diagnostic tool	Entire Faculty		See our detailed response. We disagree with the APR team's recommendation. However, we are now requiring the Physics GRE, and students with a high score on that exam do not need to take our Prelims. Usefulness of the Physics GRE and its correlation with other success indicators will be monitored.					

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Recommendation 12: Desperate need for a ** NEW BUILDING!!**									
	See APR team report & our response; Action Item: secure funding, proper design of a modern academic & research bldg w/o cutting corners, followed by careful oversight of construction phase	Entire UNM Upper Administration has to be onboard.	A modest $60-80 million?	Despite Chair pushing at every opportunity, there is still no clear path, nor any reliable time line for the faculty to work with and plan for. If we are forced to live & work in our current building for more than about 5 more years, major upgrades have to be done ASAP. Our ability to hire urgently needed experimentalists is currently seriously jeopardized. Example: a senior faculty member declined our offer in Aug 2011 due largely to building deficiencies.	The sooner, the better!	The sooner, the better!		The previously mentioned modest $60-80 million or thereabouts	
Recommendation 13: Departmental Website: update & maintenance									
	Old website had been customized by an outside developer, was somewhat outdated and more & more difficult to maintain, plus deemed unattractive by some	IT/Web committee had been formed in Nov 2009		Done! Website has been completely overhauled & updated, general UNM layout has been adopted.		Already completed.			
Recommendation 14: Support for choices & priorities for dept research program and future faculty hires									
	Continue to follow & adhere to our carefully developed departmental Long Range Plan, including hiring the best faculty we can attract and afford; work on strengthening our research areas along the lines outlined in our Long Range Plan	Faculty & Dean & Provost & VPR	Faculty salaries and (sometimes substantial) start-up	Proceeding with our carefully developed faculty hiring plan as quickly as possible and whenever realistically feasible. Connections with our National Labs being pursued vigorously, see recommendation 19 (Quantum Info w. SNL, and 2010 hiring of Prof. Huaiyu Duan jointly w. LANL). Search for a Quantum Info theorist going on during 2011/12. Other top priority faculty needs are in theoretical astrophysics, theoretical optics, and in experimental quantum optics. In addition, we are always ready & willing to evaluate targets of opportunity as they arise, depending upon their fit into our faculty hiring plan. Such target of opportunity hires have worked out well for us several times in the past.	ongoing	never			
Recommendation 15: Coordinated mentoring program for all departmental postdocs									
	Provide postdoc mentoring across various research subfields	??		None so far - as funding agencies develop new guidelines & requirements we plan to deal with those. It is common that faculty members involve postdocs in teaching and student mentoring activities as well as in the preparation of research proposals. Beyond that it remains unclear whether more is really needed across our various research subfields with their different cultures.					
Recommendation 16: Climate for women & minorities in dept: contact APS (American Physical Society) for a site visit to analyze this?									
	Make sure that climate for women & minorities is good; make improvements if needed.	Chair		None so far - with 4 women faculty out of 28 we're doing OK for a physics dept, but plan to follow up with APS.	2012?				
Recommendation 17: Strong support for retaining both our shops									
	Essential for any experimental research in a physics dept.	Dean (& VPR ?)	Staff salary to refill the electronics shop vacancy	No progress due to the pause & hold since retirement in 2009. Given recent budget cuts, the reduced overhead return to the department in recent years, and the fact that we already support about 1.2 staff FTE from overhead, we cannot also use overhead return to support our shops. Exact needs in our electronics shop need to be re-evaluated by the faculty; no consensus at this point.	?			About $38K	
Recommendation 18: Procedure for merit raises - leave as this for the time being									
	APR team seemed happy enough with current procedure, therefore no immediate action item. Let's see some raises first!	Chair, possibly involve Assoc. Chairs more	Some money for actual raises!	No immediate action needed. However, there is some desire to re-visit the issue of a more equitable faculty workload, which requires attention.		Sometime in 2012 (?) for better workload "algorithm"			
Recommendation 19: Strengthening connections with our National Labs									

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	Foster collaborations, provide opportunities for students, seed joint positions (faculty of otherwise)	Chair & various faculty	Upper Admin buy-in and financial support for opportunities such as joint faculty hires	Definitely work in progress with significant recent positive results: hire of Prof. Duan in 2010 jointly with LANL; significantly expanded collaboration in QI (Quantum Info) with SNL, incl. several grad students working at and being supported by SNL. Currently (fall 2011) a target of opportunity is being pursued with SNL in an attempt to possibly attract Wes Campbell to UNM as a faculty member. He is a very promising young experimental QI researcher, who could fill the slot vacated by Prof. Geremia a couple years ago.	ongoing	never			