Department of Physics and Astronomy
Response to the Task Force on Graduate Excellence Rating and Rationale
January 21, 2010

We appreciate the difficulties in gauging a PhD program given the time-span for a typical PhD student, in our case an average of 5.8 years. The TF conclusions and recommendations, however, are based on a PhD completion rate of 38% for students entering our program in the 1996-2000 cohort, 10-15 years ago! That data does not accurately reflect the situation in the department in 2010. First, it must be noted that the late 1990’s was an anomalously difficult time for recruiting physics graduate students since, during that period we were competing with booming dot-com companies for the same pool of technically inclined students. Since the year 2000, our statistics have markedly improved. In the five year cohort of 2000-2004, we had 64 entering students with a PhD degree objective. Of that group, 61% have either completed the degree (20 students) or have passed the PhD Qualifying Exam and are nearing completion of the PhD (19 students). (In this regard it is important to note that the extreme majority of our students who pass the Qualifying Exam go on to successfully complete the PhD degree.) Of the 18 students who entered in the 2000-04 cohorts with an MS degree objective, half earned the degree. (As noted in the TF report, we do not filter applicants into MS and PhD programs; rather, our accepted students enter the programs they indicate on their applications.) Furthermore, this upward trend continues: seventy percent of the 43 students who entered the program in 2005-2008 with a PhD objective have passed the qualifying exam, and our experience suggests that nearly all of them will complete the PhD at UI.

The Department has been working to improve the qualifier pass rate, through summer training and a recent revision (Fall 2009) of the Qualifier Exam structure and schedule. The goal of these recent changes is to move qualified students into research activities more quickly, which should help to improve both the degree completion rate and the time-to-degree. Our efforts to keep students on track toward their degree objectives also include greater involvement of the DGS in monitoring student progress and, when appropriate, working to overcome obstacles that may have been previously left to the student and his or her advisor. We have also stepped up efforts to limit long-term TA appointments to increase the incentive for timely graduation.

Student recruitment is a key to a successful graduate program. In Fall 2010, we unveiled a revamped web page for the department, including the graduate admissions information. In recent years we have increased the number of faculty outreach visits and presentations to small colleges throughout Iowa and the surrounding states. This has led to an increased number of applications from students from regional small colleges. Our admissions committee continues to work in concert with faculty members to develop admissions offers to applicants that will attract the most qualified students to the University of Iowa.

It is a fact that we have difficulty recruiting astronomy graduate students despite the fact that 20% of our departmental faculty members are astronomers. Many undergraduate astronomy majors specifically seek PhD programs in Astronomy, which we do not offer at the UI. We believe this is a major factor limiting our ability to recruit qualified astronomy graduate students. We continue to actively seek astronomy graduate students, and we are exploring way to highlight the astronomy component of our program.

The TF rationale noted that the size of our graduate program is small relative to our faculty number. As indicated in our Strategic Assessment, the available TA support to our department is also low compared to our Big Ten peers. The department is very well funded by grants and contracts, and this funding has increased over the past few years. Some of the increase has resulted in more RA positions, but not all of these funds are available to support students, especially incoming (pre-Qual) students. We rely on a mix of TA and RA support for our new and continuing graduate students. As is common in graduate physics programs, most new students enter on TAs, and so cuts to TA allocations would directly impact the incoming graduate class size. Continuing graduate students in some research subfields may also remain on TA support for several years. (Recently this number has been unusually high due to flood related delays in graduation.) One of our goals is to have a more consistent incoming class size; however, budget cuts and the recent flood have made this difficult.