Response to the Task Force on Graduate Education  
Department of Geoscience, Mark K. Reagan DEO

The Geoscience Department believes that our graduate program deserves a higher ranking than that given by the Task Force. A primary reason for this belief is that the Geoscience Ph.D. program in Paleontology ranks eighth among all public and private institutions in the US by *US News and World Report*, which is among the highest rankings of any graduate program at the University of Iowa. The strength of the Paleontology graduate students, who constitute about 40% of our graduate population, is one reason for the increasing quality of students admitted into our program as shown by its increasing average GRE scores. Other factors are the growing reputations of other Department specialties, and the competition for admission among all student applicants because admission to our graduate program is independent of area of interest.

We also do not concur with the chief criticism of the review, which is the “high M.S. enrollment at a research institution.” We consider our M.S. degree program a strength of the Department and an asset for the University.

- Our M.S. and Ph.D. students both conduct rigorous research on par with graduate research at peer institutions and other physical science departments at U. Iowa. M.S. projects are an integral part of the faculty’s research programs, and result in theses with a depth and breadth similar to one published research paper. In contrast typical Ph.D. projects are broader, more independent, and result in dissertations with the approximate research content of three published papers. Much of the research conducted by students in both programs is externally funded and is published in peer-reviewed journals and/or is presented at professional meetings. Thus, both programs directly benefit the overall research productivity of the Department.

- In the geosciences, the M.S. degree is commonly the first step in post-graduate education and provides essential training for the Ph.D. program. Indeed, a large majority of Ph.D. students in our program and most of our faculty members have Master’s degrees. One of the principal benefits of the M.S. degree for a Ph.D. student is that it provides training in conducting research and writing, which positively impacts TTD.

- The principal degree for employment in geo-scientific industries (Oil and gas, mineral exploration and mining, environmental remediation) is the M.S. degree because it is considered the best training for designing, implementing, and disseminating the results of a scientific project. Most of the alumni who have contributed generously to our department have M.S. degrees. Employment projections from the Bureau of Labor Statistics indicate that geoscience jobs will increase significantly over the next several years, with the professional, scientific, and technical services industry expanding the most. We prepare students to fill these high-tech, cutting-edge, and often sustainability-focused jobs.

It should be noted that the number of M.S. versus Ph.D. students varies widely in our department from year to year based on the relative strength of the applicants in each category each year. The report cites 22 M.S. and 23 Ph.D. students for our department. We now have 13 M.S. and 23 Ph.D. students due to recent graduations. Many CIC departments have percentages of M.S. students similar to ours including Penn State, Wisconsin, Illinois, and Indiana, which are all highly ranked for their overall Earth Science graduate programs by *US News and World Report* (7, 15, 34, and 34 respectively). Finally, we would like to note that another departmental strength, which also directly supports the advancement of the University, is our research and curricular centrality at both the undergraduate and graduate levels to the recently implemented sustainability initiative.

We agree that TTD, completion percentage, and number of RAs given by the Department can be improved. The Task Force document indicated that that our TTD is currently long, but improving. We had previously recognized this issue and had acted to further improve TTD by changing deadlines in our new Guidelines for Graduate Study in Geoscience and by laying out a mechanism for enforcing them. Advisors must now be chosen in the first month; advisory committees must be chosen and plan of study must be completed by the end of the second semester; and thesis proposals are required by the end of the 2nd (M.S.) or 3rd (Ph.D.) semester. The Department faculty will discuss progress of each student each semester in a faculty meeting. Non-compliant students will be notified after these faculty meetings, and will be given one additional semester to comply before being terminated from the program barring documented mitigating circumstances. We will strive to improve our completion percentage by continuing efforts to improve the quality of our graduate students through enhanced recruitment and by continuing to raise department visibility. Our faculty members have been increasing their efforts to obtain extramural funding, largely from NSF, in order to increase the number of RAs. All research proposals submitted to NSF in 2009 and through January 2010 have included requests for RA support.