

Synopsis: Governor Rounds' 2010 Initiative seeks to expand the state's scientific research infrastructure. Ph.D. students working as graduate research assistants are an essential part of the university's research workforce. In his proposed budget, Governor Rounds recommends funding 10.5 FTE for new graduate research assistants. In order to attract top-notch graduate students and quality research staff to South Dakota's public universities, graduate research assistantships are critical. The state's resources will be allocated to three new Ph.D. programs, as well as to existing graduate programs in science and engineering.

Governor Rounds' 2010 Initiative, a series of specific goals for economic growth in South Dakota, includes a substantial investment in scientific research. In 2004, the Legislature set the groundwork for this important development by funding four 2010 research centers.

The Board of Regents has requested state resources to fund 10.5 new FTE for graduate research assistants; all of these positions are half time, so a total of 21 students are funded. These research assistants will be allocated to new Ph.D. programs and to existing science and engineering programs. The universities will support additional graduate assistants for the new programs using their own resources from internal redirections and grants and contracts. This table shows the distribution of requested graduate research assistant FTEs, along with the graduate assistant positions to be supported by the universities.

Distribution of New Graduate Research Assistant FTE	State Request	University Resources	Total
SDSMT Ph.D. in Nanoscience & Nanoengineering	4.00	4.00	8.00
SDSU-USD Ph.D. in Computational Science & Statistics	2.50	5.00	7.50
USD Combined M.D./Ph.D. Physician Scientist Program	2.00	6.00	8.00
Existing Science & Engineering Programs	2.00		
Total	10.50	15.00	23.50

FTE numbers reflect full implementation. For example, SDSMT's proposed nanoscience and nanoengineering program is to have 16 (8.0 FTE) graduate research assistants at full implementation, with half supported by the university through redirections and external resources and half supported with the requested state resources. New state resources not needed for operations in the initial years will be used for start-up costs.

This table summarizes costs involved in supporting the new graduate research assistants (GRA):

	State Request	University Resources
SDSMT Ph.D. in Nanoscience & Nanoengineering	\$185,400	\$200,000
SDSU-USD Ph.D. in Computational Science & Statistics	\$115,875	\$250,000
USD Combined M.D.-Ph.D. Physician Scientist Program	\$92,700	\$300,000
Existing Science & Engineering Programs	\$92,700	
Total Resources for Graduate Research Assistant Salaries	\$486,675	\$775,000
Tuition Reduction for GRAs	\$110,401	
Total Recommendation	\$597,076	

Note: The regents' budget request and university program budgets used a GRA salary of \$25,000. The GRA salary used in the recommendation is \$23,175.

Graduate Research Assistants in Research Labs

Doctoral (Ph.D.) programs are an essential element in building a state's capacity to conduct research, and graduate research assistants are an equally essential and expected component of these programs:

- Faculty members receive federal and other grants to conduct research. Much of the work is carried out by advanced graduate students under a faculty member's supervision.
- Faculty who are able to generate large research grants expect to have these advanced students available to work in their laboratories.
- Assistantships are needed to attract qualified students who are now enrolling at universities in other states to continue their education.
- Research laboratory work is an important part of a student's training as a scientist.

A Competitive Financial Package to Develop the Research Infrastructure

A competitive financial package for Ph.D. students is necessary if South Dakota programs hope to attract more highly qualified students. The reduction in the numbers of foreign graduate students admitted to this country is likely to increase financial competition among universities for American students.

Ph.D. students consider a number of factors when selecting a university, including program reputation for placing graduates, faculty reputation, faculty research projects, opportunities for their spouse at the university, community characteristics, climate, etc.

The common components of graduate student financial packages include academic year and summer salary, a waiver of some or all tuition and fees, and, at some universities, health insurance coverage.

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