

SOUTH DAKOTA BOARD OF REGENTS

Committee on Academic and Student Affairs

AGENDA ITEM: I – I (1)

DATE: October 8-9, 2014

SUBJECT: Program Review Reports – DSU

Dakota State University facilitated program reviews during the 2013-14 academic year for the following programs, and the materials found in the designated attachments provide institutional summaries for each program:

- Mathematics for Information System (Attachment I)
- MS in Information Assurance and Computer Security (Attachment II)

The system has established a process requiring periodic reviews of all programs offered which is guided by [Institutional Program Review Guidelines](#) established through the Academic Affairs Council (AAC). A primary purpose for these reviews is to continuously improve the quality of all educational programs. Periodic program review involves stakeholders in an analysis of past performance which is used to inform present and future directions and decision-making. The review process is integrated with strategic planning and budgeting, with regional and specialized accreditation processes, and with student-learning outcome assessment. The system's processes require each campus to maintain a schedule that indicates the time frame for the review of every program offered.

For each review, representatives of the program completed a self-study driven either by the system's guidelines or by those of an external accrediting body, if applicable. An external review was engaged to evaluate the program using both the self-study and interviews of constituents. In each case the reviewer prepares a report of findings and the campus then prepares a response.

RECOMMENDED ACTION OF THE EXECUTIVE DIRECTOR

Information only.

PROGRAM REVIEW REPORT TO BOARD OF REGENTSInstitution: Dakota State UniversityDepartment or School: College of Arts and SciencesProgram(s) Reviewed: Mathematics for Information SystemDate of Review: February 28, 2014

Please identify the program reviewers and any external accrediting body:

Asok K. Sen, Ph.D., Department of Mathematical Sciences, Indiana University PurdueUniversity Indianapolis, 402 Blackford Street, Indianapolis, IN 46202

A. Describe the strengths and weaknesses identified by the reviewers.

The strengths identified by the reviewer for the Mathematics for Information Systems program at Dakota State University were: effective use of technology, excellent job placement record of graduates, quality of the faculty, consistency with university mission, program assessment, low student to faculty ratio, and support of other academic programs on campus. The weakness of the program was identified as low enrollment and the concurrent problem of offering upper-level courses on a more frequent basis.

B. Briefly summarize the review recommendations.

The program review of the Mathematics for Information Systems degree at Dakota State University recommended a new tenure track faculty position to meet the ongoing needs of the program, increasing student enrollment by better advertising the program to high school teachers and their students, directing efforts to increasing scores on the MFAT Exam, offering upper-level courses on a more regular basis, encouraging Computer Network Security majors to take Calculus I, and expanding online course offerings by the program.

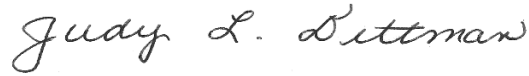
C. Indicate the present and continuing actions to be taken by the college or department to address the issues raised by the review. What outcomes are anticipated as a result of these actions?

Dakota State University just completed a successful search for a new tenure track position in mathematics with an emphasis in discrete mathematics to further support and enhance the Computer Network Security and Computer Science degree programs on campus. Filling this position will certainly help to strengthen the program. As noted in the reviewer's report, enrollment in the program has been increasing again after declining briefly in 2010. Increasing advertising of the Mathematics for Information Systems Program at Dakota State University should focus on its integration and use of technology and the excellent job placement of its graduates. Given that the majority of students in the program are double majors in Computer Science (as noted in the reviewer's report), efforts should be made to increase inter-program collaboration and communication. The computer science faculty are in the best position to encourage students to double major in mathematics. Discussions among the program faculty regarding the MFAT scores (and assessment in general) are already taking place and focus on creating a 1-credit capstone/seminar course that provides some motivation for students to do their best on the assessment measures – at present, a certain subset of students do not take the

MFAT Exam seriously and hence do very poorly. Efforts to increase enrollment and the addition of a new tenure track faculty should help with the upper-level and online course offering recommendations.



Reviewed by: _____
Dean of the College for Arts and Sciences



Approved by: _____
Vice President for Academic Affairs

PROGRAM REVIEW REPORT TO BOARD OF REGENTS

Institution: Dakota State University

Department or School: Graduate School, College of Business and Information Systems

Program(s) Reviewed: MS in Information Assurance and Computer Security

Date of Review: March 3, 2014

Please identify the program reviewers and any external accrediting body:

Dr. Ray Vaughn, Vice President for Research, The University of Alabama in Huntsville

A. Describe the strengths and weaknesses identified by the reviewers.

Strengths identified by the reviewer included the 4+1 Graduate Program, which allows students to obtain a MS in 5 years. Our strong hands-on components of the program were also highlighted as a strength. This includes our Information Assurance (IA) virtual lab. Other strengths include very dedicated, hardworking and technically competent faculty, hands-on exercises for students integrated into all classes, strong distance learning participation, national credentials and a good assessment program.

Opportunities for improvement include the “extraordinary high teaching loads that the faculty are assigned, the lack of institutional support for research by the faculty, and an apparent below average salary structure.” In addition the reviewer also noted that there needs to be more assessment data collected on distance students’ graduation rates and persistence in DSU programs. Other weaknesses include structured distance learning modules that use more modern distance education approaches, a request to change the name to MS in Cyber Security, and faculty diversity was noted as female and minority populations are not represented equally in terms of faculty numbers.

B. Briefly summarize the review recommendations.

Overall the reviewer identifies the following areas for improvements:

- Need for teaching load reduction to accommodate research time
- Structure distance learning modules using more modern techniques rather than simply recording lectures and posting them on a web site.
- Assessment data should include graduation rates, persistence, and retention of distance students separate from on-campus students.
- Consider changing the name of the MSIA program to MS Cyber Security (a more current term)
- Consider forming a faculty committee to look at overlap/duplication between various IS/IA programs
- Faculty diversity appears to need improvement- female and minority populations are weak.
- Consider technology refreshment in IA laboratory

C. Indicate the present and continuing actions to be taken by the college or department to address the issues raised by the review. What outcomes are anticipated as a result of these actions?

There are a number of actions that the university is undertaking to address the issues raised by the review including:

- To handle the need to manage the faculty workload, the institution is hiring additional graduate faculty members coupled with actively managing the teaching workload for faculty teaching in graduate programs. Moreover, as part of an Academic Quality Improvement Program (AQIP) project, the institution is embarking on a project that is aimed at optimizing faculty schedules to accommodate research time. We expect these initiatives will result in manageable teaching loads that will allow time for research activities.
- DSU has a number of resources to support the development of innovative distance delivery modules. This includes the Office of Extended Programs with in-house expertise in distance delivery, the College of Education with graduate faculty supporting its Master in Educational Technology, and a Professional Development institutional committee. The program will take proactive measures to ensure that its entire faculty leverages these resources to continue to provide innovative delivery modes for its courses.
- The Office of Institutional Effectiveness currently collects data on graduation rates. There is already an ongoing project to extend the data collection to include persistence and retention which can be further segmented by delivery mechanism.
- The program committee will have conversations regarding the reviewer's suggestion to change the name of the MSIA program to MS Cyber Security.
- Many of the MSIA program faculty are also members of other graduate programs' committees at DSU. This ensures that curriculum discussions in any one program do not result in duplications across programs. Moreover, DSU's Graduate Council oversees and approves all curriculum changes providing an added measure against duplication.
- The institution recognizes the issue of faculty diversity and every effort is taken to address this issue. Given the composition of the faculty in the computer science and related areas, the institution recognizes that this is a long-term endeavor.
- DSU continues to invest in its information technology infrastructure and the IA lab is no exception.

Submitted by: Ashley P. Pothodony

Reviewed by: Richard O. Puth
Interim Dean of the College of Business and Information Systems

Approved by: Judy L. Dittman
Vice President for Academic Affairs