

1 **NDSU Self-Study Steering Committee**
 2 **Criterion Three Student Learning and Effective Teaching**
 3 **Draft Report Developed by the Earlier General Education Focus Group**
 4 **and the Subsequent Criterion Three Writing Sub-Committee**
 5

6 **General Education Focus Group Members:**

7 Gary Clambey, Biological Sciences
 8 Larry Peterson, History (Chair)
 9 Carolyn Schnell, Director of University Studies
 10 William Slanger, Director of Institutional Research and Analysis
 11 Kristi Wold-Mccormick, Registrar
 12 Cindy Silvernagel, Undergraduate Student
 13 Amanda Eder, Undergraduate Student
 14

15 **Criterion Three Writing Sub-Committee Members:**

16 Gary Clambey, Biological Sciences (Chair)
 17 Douglas Freeman, Chair of Veterinary and Microbiological Sciences
 18 Dean Gross, Nursing
 19 Charles Harter, Chair of Accounting and Information Systems, Incoming University Senate
 20 Presiding Officer
 21 Carolyn Schnell, Director of University Studies
 22 William Slanger, Director of Institutional Research and Analysis
 23 Jaclynn Walette, Coordinator of Native American Pharmacy Program
 24
 25

26 **Development of This Draft Report:**
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29 As indicated in the heading, the contents of this report concerning Criterion Three Student
 30 Learning and Effective Teaching reflect the efforts of that Criterion Writing Sub-Committee
 31 superimposed on an earlier framework developed by the General Education Focus Group. The
 32 latter group addressed the topic of General Education from the perspective of three of the five
 33 criteria currently under consideration, with a majority of attention given to Criterion Three. The
 34 Writing Sub-Committee has drawn in additional material from other Focus Group reports as well
 35 as other sources within the University.
 36

37 Criterion Three Student Learning and Effective Teaching includes the following four core
 38 components, each of which is addressed in this report:
 39 Core Component 3A: The organization's goals for student learning outcomes are clearly stated
 40 for each educational program and make effective assessment possible.
 41 Core Component 3B: The organization values and supports effective teaching.
 42 Core Component 3C: The organization creates effective learning environments.
 43 Core Component 3D: The organization's learning resources support student learning and
 44 effective teaching.
 45

46 Several types of examples of evidence for each core component have been identified by The
 47 Higher Learning Commission. Those are identified as bullet points in bold print, which are then
 48 followed by information relevant to NDSU.
 49

50 **Criterion III: Student Learning and Effective Teaching**
 51

52 **Criterion Statement: The organization provides evidence of student learning and teaching**
 53 **effectiveness that demonstrates it is fulfilling its educational mission.**
 54

55 **Core Component -- 3A. The organization's goals for student learning outcomes are clearly**
 56 **stated for each educational program and make effective assessment possible.**

57

58 • **The organization clearly differentiates its learning goals for undergraduate, graduate, and**
 59 **post-baccalaureate programs by identifying the expected learning outcomes for each.**

60

61 The expected learning outcomes for the undergraduate, graduate, and post-baccalaureate
 62 programs are clearly differentiated.

63

64 Undergraduate Programs

65 The expected learning outcomes for undergraduate programs fall into two categories: general
 66 education and undergraduate majors. General education learning outcomes are identified in the
 67 *University Bulletin* (<http://www.ndsu.edu/ndsu/deott/bulletin/>) and the General Education
 68 Committee home page (<http://www.ndsu.nodak.edu/ndsu/deott/gened/>).

69

70 The General Education program includes seven intended student outcomes:

71

a. Communicate effectively in a variety of contexts and formats;

72

b. Locate and use information for making appropriate personal and professional
 73 decisions;

73

74 c. Comprehend the concepts and perspectives needed to function in national and
 75 international societies;

75

d. Comprehend intrapersonal and interpersonal dynamics;

76

e. Comprehend concepts and methods of inquiry in science and technology, and their
 77 applications for society;

77

f. Integrate knowledge and ideas in a coherent and meaningful manner;

78

g. Comprehend the need for lifelong learning.

79

80
 81
 82 The General Education program includes the following requirements, with the associated number
 83 of credits noted in parentheses, and approved courses from various disciplines also noted.

84

a. First-Year Experience (1): Introduction to the university experience and skills to be
 85 successful in that environment;

85

b. Communication (9): College composition and fundamentals of public speaking;

86

c. Quantitative Reasoning (3): Mathematics, statistics, and computer science;

87

d. Science and Technology (10): Natural sciences, physical sciences, and technology,
 88 including one associated laboratory experience;

89

e. Humanities and Fine Arts (6): Those basic areas, including no more than 3 fine arts
 90 performance credits;

90

f. Social and Behavioral Sciences (6)

91

g. Wellness (2): Integration of at least two of four areas, including emotional well-being,
 92 nutrition, physical activity, and psychological development

92

h. Cultural Diversity: Incorporated in certain humanities and fine arts courses, social and
 93 behavioral science courses, together with approved study-abroad experiences;

93

i. Global Perspectives: Incorporated in a variety of approved general education
 94 courses; also approved study-abroad experiences allowed

94

j. Computer Usage Integrated in All Majors

95

k. Communication Activities in Upper-Division Major Courses

96

l. Comprehension of Personal and Professional Ethics Integrated into Majors

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100

101 Learning outcomes for undergraduate majors are identified in one or more of the following ways:
 102 (a) in a unit's assessment plan and its annual assessment reports (exhibit ###); (b) in the
 103 *University Bulletin* (<http://www.ndsu.edu/ndsu/deott/bulletin/>); (c) in Fact Sheets (exhibit ###) and
 104 other materials prepared by departments; (d) on department homepages (exhibit ###); (e) in
 105 accreditation documents for individual programs (exhibit ###).
 106
 107
 108

108

109 Graduate And Post-baccalaureate Programs

110 The expected learning outcomes for graduate and post-baccalaureate programs are identified in
 111 the assessment plan for each unit with graduate or post-baccalaureate programs and its annual
 112 assessment reports (exhibit ###). The learning outcomes for some graduate and post-

112

113 baccalaureate programs are identified in accreditation documents for individual programs (exhibit
114 ###), and in graduate manuals published by departments (exhibit ###).

115

116 • **Assessment of student learning provides evidence at multiple levels: course, program,
117 and institutional.**

118

119 The two University offices closely associated with assessment efforts covered in this and several
120 subsequent points are the Office of Accreditation and Assessment and the Office of Institutional
121 Research and Analysis, which evolved from the previous Office of Assessment and Institutional
122 Research ca 2001. Their respective Web sites are
123 <http://www.ndsu.edu/ndsu/accreditation/index.shtml> and <http://www.ndsu.nodak.edu/oia/>.

124

125 Courses

126 The annual assessment reports of some units contain both direct and indirect evidence to assess
127 student learning in some courses, most often the capstone experience (exhibit ###). In the annual
128 assessments done by the 52 reporting units, 26 had information for at least one year about the
129 capstone course from 1996-2002. Only 3 reporting units had information on capstone courses for
130 all six years (exhibit ###). In addition, some courses utilize pre-tests and post-tests to assess
131 student learning (exhibit ###).

132

133 Programs

134 Continuous and informed improvement of the General Education program is directly provided by

- 135 • University Senate standing committees of University Assessment and General
136 Education, each of which has a faculty representative from each of the academic
137 colleges
- 138 • Offices of 1) Accreditation and Assessment (director and two staff) and 2) Institutional
139 Research and Analysis (director and three staff)
- 140 • Previous and current Bush Grants

141

142 The University Assessment and General Education Committees (by-law memberships and
143 responsibilities in exhibit ##) meet monthly during the academic year. Members of the
144 Assessment Committee analyze and subsequently discuss, in general, departmental yearly
145 assessment of student learning reports required by the V.P. for Academic Affairs but submitted to
146 the chair of the University Assessment Committee, who is also Director of the Office of
147 Accreditation and Assessment. Each academic department, plus others, such as the Office of
148 Orientation and Student Success, submits a report each year following the Guidelines (exhibit
149 ###) updated yearly by the Assessment Committee. The Director of Accreditation and
150 Assessment provides each department chair with a summary of the Committee's analysis of that
151 assessment report.

152

153 The General Education Committee has broad responsibilities for general education (exhibit ###),
154 e.g., general education course approval recommendation and assessment of students' attainment
155 of the General Education Intended Student Outcomes (exhibit ###) instituted by the University
156 Senate starting fall semester 1994. Beginning after the Spring 2003 semester, the General
157 Education Committee required that "All general education course syllabi and course web sites
158 must identify the course as having been approved for meeting General Education requirements
159 and include the general education outcomes for which each course is approved [and] explain how
160 students meet the general education outcomes by the activities in the course."

161 (<http://www.ndsu.nodak.edu/ndsu/deott/gened/syllabi.shtml>)

162

163 Assessing student learning in general education has proved difficult. In 2002 the University
164 Assessment Committee requested that all departments with general education courses provide
165 information on the student learning in those courses as part of the unit's annual assessment
166 report. The results have been mixed (exhibit ###). The shortcomings of assessment of student
167 learning in general education have been a concern, as evidenced in the minutes of both the
168 University Assessment Committee (exhibit ###) and the General Education Committee (exhibit

169 ###) and in comments of outside consultants such as Dr. William Wresch (exhibit ###) and Dr.
170 Susan Hatfield, Winona State University (exhibit ###).

171

172 Both direct and indirect evidence to assess student learning at the program level may be
173 contained in each unit's annual assessment reports (exhibit ###). Unfortunately as many as 9 of
174 the 52 reporting units (including General Education) have never completed an annual
175 assessment report and another 3 units have completed very few. Direct evidence to assess
176 student learning is also provided by the subscores on professional licensure exams in fields such
177 as Accountancy, Engineering, Nursing, and Pharmacy (exhibit ###).

178

179 Assessment of student learning is also considered during Program Reviews, which are done on
180 approximately a six-year interval by the Program Review Committee, which is a standing
181 committee of the University Senate with representatives from each of the colleges.

182

183 Indirect evidence to assess student learning at the program level is also available for some
184 programs from a variety of sources. Some colleges and departments (exhibit ###) conduct
185 regular surveys of their alumni and their employers (exhibit ###). Some departments (exhibit
186 ###) receive feedback from the NDSU survey of supervisors of cooperative education internships
187 (exhibit ###).

188

189 Institutional

190 There are no direct measures of student learning at the institutional level. Four surveys provide
191 indirect measures: ACT Alumni Outcome Survey, Noel-Levitz Student Satisfaction Inventory,
192 National Survey of Student Engagement, and NDSU survey of supervisors of cooperative
193 education internships (exhibit ###). In addition, two surveys provide indirect measures of student
194 learning about diversity: the spring 2003 Campus Climate Survey conducted by the NDSU
195 Diversity Council (exhibit ###) and the fall 2003 survey on the campus racial climate conducted
196 by Training Our Campuses Against Racism (TOCAR) (exhibit ###).

197

198 The Student Satisfaction Inventory measures students' satisfaction with a wide range of college
199 experiences. Produced by USA Group Noel-Levitz, Inc., feedback is collected on over 100 items.
200 "Principles of consumer theory serve as the basis for the inventory's construction. Therefore,
201 students are viewed as consumers who have a choice about whether to invest in education and
202 where to enroll. In addition, students are seen as individuals who have definite expectations
203 about what they want from their campus experience. From this perspective, satisfaction with
204 college occurs when an expectation is met or exceeded by an institution."

205

206 The National Survey of Student Engagement (NSSE) is "designed to provide institutions of higher
207 education and the public with reliable, meaningful information about collegiate quality...A major
208 focus is an annual survey of first-year and senior students at about 300 four-year colleges and
209 universities."

210

211 The Alumni Outcomes Survey assesses "alumni's perceptions regarding the college's impact on
212 their personal and professional growth and development and to provide a detailed employment
213 and educational history." The survey gathers background information, employment history and
214 experiences, educational outcomes, educational experiences, activities and organizations,
215 mailing addresses, additional questions, and comments and suggestions.

216

217 NDSU also surveys supervisors of cooperative education internships. See exhibit ### for the
218 years in which these surveys were administered and their latest executive summaries.

219

220 Results of these surveys are distributed to the campus via reports to the President's Cabinet,
221 President's Council, University Assessment Committee, department chairs' meetings, Provost
222 and V.P. for Academic Affairs during staff meetings, the OIRA newsletter, the OIRA Web site,
223 NDSU's *It's Happening*, and personal visits to student body presidents and editors of the student
224 newspaper. The OIRA director and staff keep abreast of regional and national discussions and

225 research on general education via attending meetings of the Association for Institutional
226 Research, Association for the Study of Higher Education, and the Higher Learning Commission
227 and subscriptions to the periodicals of these and other organizations. See exhibit ### for the
228 most recent summary of the pattern and depth of exposure to the General Education Learning
229 Outcomes and associated General Education Categories as revealed by a transcript analysis.
230 See exhibit ## for a summary of information obtained from focus groups of students asked for
231 feedback on NDSU's General Education requirements.

232

233

• Assessment of student learning includes multiple direct and indirect measures of student learning.

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Since 199X (?) the *Guidelines for Reporting Assessment Activities* from the University Assessment Committee

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(<http://www.ndsu.edu/ndsu/accreditation/assessment/guidelines/Guidelines%202002-3.pdf>)

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(exhibit ###) have urged departments to use multiple direct and indirect measures of student learning and have given examples of each. Assessment Committee feedback to departments about their annual assessment reports praises users of direct measures and urges non-users to adopt them.

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Direct Measures

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The Director of Accreditation and Assessment was the principal investigator for the 1999-2003 Bush Grant To Improve Undergraduate Learning Through Faculty Development and Improvement of Teaching (see exhibit ### for final report to the Bush Foundation). One of the three main funded activities was University Assessment. In the writing assessment project, an English Professor and graduate student conducted electronic surveys of faculty perceptions of student writing, analyzed and assessed student papers from a variety of disciplines, and interviewed 26 professors to determine what kind and amount of writing their students are required to do and how well they do it. They discovered that

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- a great amount and variety of writing is expected of juniors and seniors at NDSU
- instructors consider writing skills to be essential in their fields
- even well-intentioned and creative instructors need guidance (a) in writing clear, complete assignments; (b) in creating guidelines and rubrics to show students what their assignments require; and (c) in responding effectively to student writing.

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In the quantitative project, a mathematics professor and research assistants administered tests in 6-8 courses and 3-4 departments each semester to determine what quantitative skills students must have to succeed in selected courses. The project worked with instructors in courses across the campus to develop customized pretests to determine whether students entering those courses have the required mathematical skills and knowledge. Test results identified strengths and weaknesses of student quantitative backgrounds. Participating departments and the Mathematics Department reviewed results and are discussing their implications, working to make specific responses to address identified weaknesses.

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The 2002-2005 Bush Grant "Building a Caring Community of Leaders and Problem-Solvers (CCLP), A National Model for Reconsidering the Role of Higher Education in Society" assessed general education, leadership behavior, and emotional intelligence. (See exhibit ### for final report to Bush Foundation.) The Long Form of the Academic Profile as well as the Academic Profile Content-Related Essay were administered to stratified random samples of freshmen as well as to the students in learning communities and their non-learning community pairs. See exhibit ### for a summarization of the scores in the 12 areas of the three samples of 100 freshmen.

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As noted earlier, some annual assessment reports use direct measures to assess student learning in capstone courses (exhibit ###) and some courses use the direct measures from pre-tests and post-tests (exhibit ###). Direct evidence is also gained from the subscores on professional licensure exams in some fields (exhibit ###). An unsuccessful pre-proposal to FIPSE

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281 in 2003 projected an on-line, scenario-based approach to gather direct measures for assessing
282 general education outcomes (exhibit ###).

283

284 Indirect Measures

285 Indirect measures to assess student learning are used in some annual assessment reports
286 (exhibit ###) and are also provided to some units by their surveys of alumni and their employers
287 (exhibit ###), as well as by the cooperative education internship survey (exhibit ###). Institutional
288 indirect measures are available through six campus surveys, which were discussed earlier. Two
289 other indirect measures are the transcript analysis to study the depth of exposure to General
290 Education Learning Outcomes (exhibit ###), and the 2002-2005 Bush Grant (exhibit ###).

291

292 • **Results obtained through assessment of student learning are available to appropriate**
293 **constituencies, including students themselves.**

294

295 The University Assessment Committee has focused on making results of student assessment of
296 learning available to faculty through dinners, coffees, and assessment lunches funded initially by
297 a Bush Foundation Grant and later by the Provost and Vice-President of Academic Affairs (exhibit
298 ###). Since 1997, the Assessment Committee has held a total of _____ **such activities.**
299 The yearly number of such activities ranged **from ___ to ___**. The number of attendees each
300 year ranged **from ___ to ___** (exhibit ###). In addition, as of **200X**, _____ campus units posted
301 their annual assessment reports on their home pages to make them available to students and
302 other appropriate constituencies (exhibit ###).

303

304 • **Faculty are involved in defining expected student learning outcomes and creating the**
305 **strategies to determine whether those outcomes are achieved.**

306

307 The General Education and University Assessment Committees have been described previously
308 with regards to continuous improvement (exhibit ###). Both are standing committees of the
309 University Senate and most members are faculty. The University Senate must approve changes
310 in policies by either committee and must approve all new general education courses, all
311 successful five-year reviews of general education courses, and any deletions of courses from the
312 list of approved general education courses (exhibit ###). The homepage for the General
313 Education Committee (<http://www.ndsu.nodak.edu/ndsu/deott/gened/committee.shtml>) has links
314 to the Committee's administrative policies and minutes, to forms for general education proposals
315 and five year review, to syllabi requirements, and to working definitions and essential
316 considerations for general education courses.

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318

319 • **Faculty and administrators routinely review the effectiveness of the organization's**
320 **program to assess student learning.**

321

322 The University Assessment Committee's annual review of assessment reports from campus units
323 (exhibit ###), the 1999-2003 Bush Grant: "To Improve Undergraduate Learning Through Faculty
324 Development and Improvement of Teaching" (exhibit ###), the 2002-2005 Bush Grant: "Building
325 a Caring Community of Leaders and Problem-solvers" (exhibit ###), Reviews of Teaching,
326 (exhibit ###), and the Review of Programs by the Program Review Committee all contribute to
327 this function.

328

329 The Annual Reports from Departments begin with "Instruction and Student Success" and ask
330 each department to report on nine related areas of activity: 1. teaching initiatives; 2. incorporation
331 of technology into courses and programs; 3. advising efforts; 4. curriculum development
332 including new programs, deletion of programs, administrative changes; 5. accreditation or other
333 reviews; 6. activities in student recruitment/retention, enrollment management, and other student
334 activities; 7. employment of graduates; 8. senior professors teaching freshman and transfer
335 students; and 9. summer school activities.

336

337 The Dean of each college synthesizes and analyzes the individual department reports into a
338 college report to submit to the Provost and Vice President for Academic Affairs. The Provost
339 synthesizes and analyzes the reports of each college into a university report to submit to the
340 State Board of Higher Education. In addition, the Provost uses the annual college reports to
341 evaluate the progress of each college in meeting its goals for student learning (exhibit ###).

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343

344 **Core Component 3B -- The organization values and supports effective teaching.**

345

346 • **Qualified faculty determine curricular content and strategies for instruction.**

347

348 Planning of appropriate curricular content and strategies for instruction begins with qualified
349 faculty having advanced degrees in that discipline. That planning reaches out to fellow faculty in
350 that department and, in some departments, a curriculum committee, as well as sometimes to
351 faculty in allied departments. Oversight is provided by a curriculum committee in each college,
352 which, in turn, reports to the University Senate Academic Affairs Committee.

353

354 Reports from the Office of Institutional Research and Analysis for 2002-2003 indicate that from
355 the 1999-2000 to 2002-2003 the percentage of student credit hours in general education courses
356 taught by graduate assistants and lecturers increased from 30.2 to 37.0%. In the same period,
357 the percentage of student credit hours in general education courses taught by tenured or tenure-
358 track faculty decreased from 55.4 to 42.5%. In terms of student credit hours for all classes in
359 2002-2003, tenured or tenure-track faculty taught 53% and graduate assistants and lecturers
360 taught 28% of the student credit hours (exhibit ###).

361

362 • **The organization supports professional development designed to facilitate teaching
363 suited to varied learning environments.**

364

365 The support for professional development begins with a series of orientation sessions designed to
366 introduce new faculty member to important aspects of the university. Start-up funds, of varying
367 amounts, help new faculty initiate teaching, research, and scholarly work. Often, a senior faculty
368 member acts as a mentor to offer assistance in performing teaching and advising endeavors.

369

370 A College Teaching Certificate Program for graduate teaching assistants has recently been
371 proposed, and that is currently being reviewed for approval. That would enhance teaching by
372 such individuals, as well as preparing them for teaching careers after completion of their graduate
373 degrees..

374

375 The 1999-2002 Bush Grant had as one of its three main components Non-Traditional Learning,
376 which included Problem-Based Learning, Cooperative Learning, and Studio-Based Learning. An
377 associated Faculty Institute for Excellence in Learning (FIEL) facilitated the development of
378 faculty with problem-based learning and incorporation of new classroom technology. Periodic
379 workshops and pedagogical luncheons also introduced a wider number of faculty to these
380 alternative forms of learning.

381

382 The University Senate Faculty Development Committee evaluates faculty proposals for course
383 development, and, most recently in January 2003, awarded grants totaling \$20,000 to twelve
384 faculty members.

385

386 In 2002 a Peer Review of Teaching Board was initiated and has provided the opportunity for pairs
387 of faculty volunteers to work collaboratively to review each other's teaching methods and
388 materials.

389

390 In 2004, development of a Teaching Academy to coordinate varied teaching activities was
391 proposed, with an initial meeting of interested faculty held in February. The intent is to get this
392 endeavor underway during fall semester 2004.

393

394 For several years the President's Office has provided professional development grants of up to
395 \$1,000 for applications of technology and professional travel, while the Vice-President for
396 Academic Affairs Office has provided partial summer salary support for suitable faculty
397 development efforts.

398

- 399 • **The organization evaluates teaching, recognizes effective teaching, and provides**
400 **services to support improved pedagogies.**

401

402 One form of student evaluation, NDSU Policy 332.2 (<http://www.ndsu.nodak.edu/policy/332.htm>)
403 (exhibit ###) requires that all classes in every term use the Student Rating of Instruction
404 instrument to conduct a summative evaluation to determine "student perception of fairness within
405 the course, course quality, student understanding of the principles in the subject, and instructor's
406 ability to communicate effectively." Students complete it anonymously near the completion of
407 each course with the instructor absent from the classroom. Each college and instructor can
408 choose to append additional questions to that common form if additional evaluative information is
409 sought.

410

411 To assist faculty seeking input during the academic term, NDSU Policy 332.1
412 (<http://www.ndsu.nodak.edu/policy/332.htm>) (exhibit ###) requires all instructors to conduct a
413 formative assessment in at least one class each term "for the purpose of improving instruction." In
414 2002 Associate Vice President for Academic Affairs Sudhir Mehta developed a web-based
415 formative assessment tool that he reminds all instructors about every semester
416 (<http://www.ndsu.nodak.edu/ndsu/desaraju/>). This tool has been used approximately in 100
417 courses/semester since Fall 2002 by about 3,000 students each semester. (exhibit ###)

418

419 Departmental chairs and heads, when doing annual reviews of faculty, evaluate teaching.
420 Teaching competency is considered by college promotion, tenure, and evaluation committees
421 during third-year reviews of untenured faculty and during consideration of faculty for tenure and
422 promotion. NDSU Policy 352.4.3: Promotion, Tenure, and Evaluation
423 (<http://www.ndsu.nodak.edu/policy/352.htm>) (exhibit ###) requires that all full-time faculty are
424 reviewed annually. Third, quality of teaching is closely examined in the PTE process. NDSU
425 Policies 352.2.35, 352.2.36, and 352.2.37 outline multiple sources of evidence for quality
426 teaching that are to be considered. These include:

427

428 2.3.5 peer, student, and client evaluation of course materials, of expertise and ability to
429 communicate knowledge, and of respect for students and receptivity to their questions and
430 concerns in all instructional settings;

431

432 2.3.6 peer evaluation of course content and design, of teaching methods, and of an
433 individual's contribution to the improvement of instructional programs through the development
434 and/or implementation of new courses, curricula or innovative teaching methods;

435

436 2.3.7 peer evaluation of the development or implementation of innovative courseware
437 tools that support technology-enhanced learning; (exhibit ###)

438

439 2.3.7 peer evaluation of the development or implementation of innovative courseware
440 tools that support technology-enhanced learning; (exhibit ###)

441

442 The office of the NDSU Provost and Vice President for Academic Affairs implements the PTE
443 review procedures of Policy 352 through the "Guidelines for Promotion and Tenure: Portfolio
444 Preparation" (<http://www.ndsu.edu/ndsu/vpaa/forms/2002-2003.pdf>) (exhibit ###). The Guidelines
445 require faculty to supply data from the Student Rating Of Instruction on "student rating of the
446 course and instructor" for all courses they have taught at NDSU. The Guidelines also specify that
447 faculty must demonstrate "continuous improvement of courses or instructional programs" by
448 providing the following supporting evidence:

449

450 < Quality of teaching (administration and peer evaluation)

448 *Evidence:* Required statement by department chair or appropriate unit head, peers, or
449 department/unit PTE Committee which evaluates a) course content and design, b) teaching
450 methods, c) individual contributions to the improvement of instructional programs, and d)
451 impact on student learning.

452 < Curriculum development

453 *Evidence:* A list of contributions in curriculum development including a)
454 employment of innovative ideas, b) incorporating new techniques in classroom
455 presentations, and c) development and improvement of instructional materials.
456 Also, list educational committees and activities at departmental, college, and
457 university level primarily involved with teaching/education/curriculum/program
458 development.

459

460 Since 199X faculty whose teaching has been unsatisfactory have been mentored by the Director
461 of the Teaching Center, Dr. Ron Stammen. In cases where mentoring has been unsuccessful,
462 faculty have been given early non-renewals or turned down for promotion and tenure.

463

464 Recognition of effective teaching is demonstrated in various ways. As just noted, it is one of the
465 elements weighed by departmental chairpersons and promotion, tenure, and evaluation
466 committees when making decisions related to tenure, promotion, and merit pay. Two of the
467 university-wide awards given annually specifically denote notable teaching efforts. These are the
468 Robert Odney Award for Excellence in Teaching and the Peltier Award for Innovation in
469 Teaching. Other university-wide awards for academic excellence, with teaching being one of the
470 components, include three endowed Presidential Professorships (Engberg, Hogoboom, and
471 Gehrts), the annual Faculty Lectureship, and the locally supported Chamber of Commerce
472 Distinguished Professorship. Student organizational awards for faculty efforts include the Blue
473 Key Distinguished Educator Award, Mortar Board Outstanding Advisor and Preferred Professor
474 Awards, and honorary faculty membership in honor societies such as Golden Key and Phi Kappa
475 Phi. Individual colleges annually give variously labeled teaching awards, e.g., Outstanding
476 Teacher, Teacher of the Year, Excellence in Teaching.

477

478 Provision of services of support for improved pedagogies has included a varied set of activities.
479 At the beginning of each academic year, prior to the beginning of classes, a series of faculty
480 workshops are offered and concern topics such as incorporation of classroom technology,
481 suitable writing projects, non-traditional forms of learning. Periodic workshops and luncheon
482 meetings devoted to problem-based learning and assessment have been held as part of the
483 1999-2002 Bush Foundation Grant. The Peer Review of Teaching, recently instituted, is actually
484 a return to a similar measure used for a time almost 20 years earlier.

485

486 Much support has come for increasing a technological component to enhance teaching and
487 learning. Through Information Technology Services, classroom multi-media equipment is made
488 available and serviced, software systems are made available, e.g., Blackboard, and an extensive
489 set of training sessions for faculty and staff are offered each semester.

490

- 491 • **The organization demonstrates openness to innovative practices that enhance**
492 **learning.**

493

494 The University has been repeatedly successful in obtaining three-year Bush Foundation grants
495 targeted toward faculty development to enhance teaching and learning. The just-completed
496 grant, entitled "To Improve Undergraduate Learning Through Faculty Development and
497 Improvement of Teaching," had three components: Non-Traditional Learning, University
498 Assessment, and a University-wide Honors Program. The first of these included problem-based
499 learning, cooperative learning, studio-based learning. Related to that was a "Next Generation
500 Interactive Classrooms" component, which addressed the incorporation of new classroom
501 technology and which led to the establishment of a Faculty Institute for Excellence in Learning
502 (FIEL). Interested faculty could volunteer to become FIEL Fellows, who would receive special
503 training in the above forms of learning and incorporation of classroom technology.

504

505 The 2002-2005 Bush Foundation grant, "Building a Caring Community of Leaders and Problem-
506 Solvers: A National Model for Reconsidering the Role of Higher Education in Society," (see lines
507 244-250) is designed to create cohesive, collaborative student groups, whose members will feel
508 an elevated sense of community within a large university and who will develop problem-based
509 learning skills.

510

511 The University has had a long history of supporting computing efforts, including their applications
512 for improved teaching and learning. Examples of that include equipping of larger classrooms with
513 permanent multi-media systems, sometimes accompanied by classroom renovation, provision of
514 mobile multi-media carts to be used among smaller units of classroom buildings, and support for
515 numerous computer clusters. The Blackboard Course Information system is now used
516 extensively on campus, and support has been provided for the periodic updating of that system
517 and the training of faculty. Use of personal response systems began in 2002 and is being
518 adopted in a number of larger classes as a means of generating more active student involvement.

519

520 The previously mentioned Peltier Award for Innovation in Teaching offers another example of
521 receptivity to and encouragement of innovation.

522

- 523 • **The organization supports faculty in keeping abreast of the research on teaching and**
524 **learning, and of technological advances that can positively affect student learning and**
525 **the delivery of instruction.**

526

527 [Evidence of that appears in the items discussed above.]

528

529

530 **Core Component 3C -- The organization creates effective learning environments.**

531

532 Before addressing the specific evaluative statements associated with this core component, it is
533 important to note the varied services, programs, and activities designed to create a supportive
534 environment in which effective learning can occur. These include the following:

535

Student Services

536

Student Financial Services and various forms of financial assistance overseen by that
537 office

538

Orientation and Student Success

539

Counseling and Disability Services

540

Personal counseling

541

Academic counseling

542

Career counseling

543

Psychiatric services

544

Chemical dependency services

545

Services for non-traditional students

546

Testing

547

Faculty and staff development

548

Multicultural Services

549

Native American Pharmacy Program

550

International Program Services

551

TRIO Programs

552

Student Support Services

553

Upward Bound

554

Veterans Upward Bound

555

McNair Scholars Program

556

Center for Writers

557

Career Center

558

Wellness Center

559

Special Programs

560 University Honors (Scholars) Program

561 Cooperative Education

562 Global Studies

563 Student Activities

564 Student organizations and government

565 Honor societies

566 Fraternities and sororities

567 Athletics

568 University 189, Skills for Academic Success: A course designed to introduce students to important aspects of university life during their first term on campus

569 Advising of Students

571 Faculty Advising: In many units, students are individually assigned to advisors, and advising is done one-on-one. In some instances, block advising is done, where one faculty member assumes the responsibility for advising a cohort of students.

574 Peer Advising: In some units, peer advising is used, i.e., upper-level students within a program assist entry-level students.

576 Caring Community of Leaders and Problem-Solvers (CCLP): This is a new program developed as part of a current Bush Foundation grant, which brings together smaller groups of students, who wish to take certain common courses, live in a common residential setting, and share additional experiences intended to enhance their sense of community within the university along with their learning and leadership skills.

581

582 Other forms of facilitation and creation of favorable learning environments include the following:

583 Articulation Agreements with Other Institutions, GERTA (General Education Requirement Transfer Agreement), and Determination of Transfer Credit Equivalencies: With approximately one-third of the NDSU undergraduates being transfers from other schools, these greatly ease the move into NDSU degree programs.

587 Office of Registration and Records: Services, such as those associated with registration, course and program changes, determination of transfer equivalencies, and graduation audits, are important to students.

590 Physical Facilities and Technological Support: These are described much more under Component 3D, however, these elements can first be mentioned here as being central to effective learning environments, e.g.:

593 Appropriately equipped classrooms, laboratories, practice rooms, performance facilities

594 Libraries

595 Computer access, including computer clusters, network connections to dormitories, and off-campus access

597 ALFI: Access Line for Information

598 Support services from Information Technology Services

599

600 Providing a welcoming environment for a diverse student body is also an important component of an effective learning, and issues of diversity are thoroughly explored in the Diversity Focus Group report, where programs are described which are related to gender, race/ethnicity, national origin, disability, age, sexual orientation, and religion.

604

605

606 • **Assessment results inform improvements in curriculum, pedagogy, instructional resources, and student services.**

607

608

609 University policy provides two formal mechanisms by which summative assessment should inform improvements in curriculum and pedagogy in all departments. Since 1997 the Annual Reports completed by departments have asked for information on "How each department makes use of assessment data in decision making within the framework of the institution's mission and purpose" (exhibit ###). Since **2001(?)** the Guidelines for Reporting Assessment Activities from the University Assessment Committee

614

615 (<http://www.ndsu.edu/ndsu/accreditation/assessment/guidelines/Guidelines%202002-3.pdf>)
616 (exhibit ###) have provided a "suggested format" that included:

617

618

3. Answers to the following questions for each student outcome assessed:

619

B. What did you do? Describe clearly and concisely how you assessed each
620 outcome.

621

C. What did the faculty in the department or program learn? Explain what
622 strengths and weaknesses this assessment demonstrated.

623

C. What will be done differently as a result of what was learned?

624

625

Using assessment to improve pedagogy has been promoted in at least two ways. NDSU Policy
626 332.1 (<http://www.ndsu.nodak.edu/policy/332.htm>) (exhibit ###) requiring formative assessment
627 was previously discussed in Core Component 3C, lines ____ - ____

628

629

In Fall 2001 the Associate Vice President of Academic Affairs made the Survey of Student
630 Engagement (www.ndsu.edu/SSE) available to faculty through the College Deans and
631 encouraged faculty to learn "How effective are your teaching methods in developing higher
632 cognitive level and career related skills?" Approximately 100 faculty have used this each
633 semester (exhibit ###).

634

635

As of 2003 there were no formal procedures to assess and to improve the general education
636 curriculum. Individual departments may improve pedagogy and curriculum in general education
637 courses, but this was not systematically encouraged or monitored as part of general education.

638

639

**• The organization's systems of quality assurance include regular review of whether its
640 educational strategies, activities, processes, and technologies enhance student learning.**

641

642

University procedures provide for regular reviews of teaching, general education, courses,
643 programs, and technologies in order to enhance student learning.

644

645

Reviews of Teaching:

646

Teaching is reviewed by three university wide mechanisms. The first, NDSU Policy 332.2:
647 Student Rating of Courses and Instruction (<http://www.ndsu.nodak.edu/policy/332.htm>) (exhibit
648 ###) was previously discussed in Core Component 3C, lines ____ - ____ . Quality teaching is also
649 assured by NDSU Policy 352.4.3: Promotion, Tenure, and Evaluation
650 (<http://www.ndsu.nodak.edu/policy/352.htm>) (exhibit ###) examined earlier in Core Component
651 3C, lines ____ - ____ .

652

653

In addition to these university-wide mechanisms, teaching is reviewed to enhance student
654 learning through the programs of the University Senate ad hoc Committee on Peer Review of
655 Teaching (<http://www.ndsu.edu/univsenate/prt/index.shtml>). Beginning in the 2001 - 2002
656 academic year, ten NDSU faculty compose a "Peer Review Board" to oversee this process.
657 The process includes observing classroom instruction, interviewing students, and reviewing
658 syllabi that are intended to "add to, supplement, or replace peer review activities currently
659 established within departments." (<http://www.ndsu.nodak.edu/prt/>)
660 (http://www.ndsu.nodak.edu/ndsu/deott/univ_senate/sm200001/m0104a5.pdf) Peer review is now
661 organized through voluntary pairing of faculty. Feedback from the participants in the program has
662 been generally very positive (<http://www.ndsu.nodak.edu/prt/pfb/>).

663

664

Review of Courses:

665

All courses approved for general education are reviewed every five years to evaluate if they are
666 still meeting the General Education Learning Outcomes for which they were approved
667 (<http://www.ndsu.nodak.edu/ndsu/deott/gened/geforms.shtml>) (exhibit ###).

668

669

On January 16, 2003 the Provost and Vice President for Academic Affairs notified all departments
669 they were to complete a curriculum review by May 16, 2003. Although this was mostly a review of
670 courses with low enrollments or courses that were not frequently taught, departments were asked

671 to address how their undergraduate and graduate courses meshed to advance the requirements
672 of any of their new programs developed in response to President Chapman's initiative for NDSU
673 to become a research extensive university.

674

675 Review of Programs:

676 According to the University Senate Constitution and Bylaws

677 (http://www.ndsu.nodak.edu/ndsu/deott/univ_senate/constitutionmay2001.pdf) (exhibit ###), the

678 Program Review Committee has the following responsibilities:

679

680 a. Develop criteria and procedures for review of academic programs.

681 b. Perform a continuing review of the University's academic graduate and undergraduate
682 programs with regard to such factors as mission, need, quality, cost, and contribution to other
683 programs.

684 c. Address concerns regarding duplication of programs and courses.

685 d. Recommend policies for levels of University support to the various programs.

686

687 The Program Review Committee is composed of one tenured faculty member from each college
688 on campus (except University Studies), the Presiding Officer of the University Senate, the Dean
689 of the Graduate School, and the Provost and Vice President for Academic Affairs.

690

691 The Program Review Committee is responsible for developing criteria and procedures for the
692 review of academic programs, performing a continuing review of NDSU's academic graduate and
693 undergraduate programs, addressing concerns regarding duplication of programs and courses,
694 and recommending policies for levels of University support to programs. Each department is
695 subject to Program Review on a rotating basis. These reviews include a description of the
696 program including the mission statement, an overview, a brief history, goals, strengths and
697 weaknesses, and changes implemented; comments on data bases including students served,
698 cost of program, student evaluations, and external funding; graduate programs including overview
699 and success of graduates; and the quality of the program, followed by variety of appendices.

700

701 The Committee Chair meets with the Provost and Vice President for Academic Affairs and the
702 Chairs of programs that have been reviewed to discuss the Committee's recommendations for
703 levels of institutional support. Recommendations to discontinue a program may be reviewed by
704 the University Senate. The Department of Economics was closed in 1999(?), due to a negative
705 review from the Program Review committee and in response to a mandated budget reduction
706 from the Governor.

707

708 Review of Technology

709 Two university committees have the responsibility to examine how technology is used to enhance
710 student learning.

711

712 The Computing and Information Technologies Planning and Goals Committee is a standing
713 committee of the University Senate (<http://www.ndsu.nodak.edu/ndsu/cpg/>). It is composed of one
714 faculty member from each college on campus (except University Studies), a Senate liaison
715 person, the Provost and Vice President for Academic Affairs, the Director of Information
716 Technology Services, a representative from the Staff Senate, Information Technology Services,
717 the NDSU Extension Service Communications/Computer Services, a member of the Department
718 of Computer Science, a representative from the NDSU Libraries, and a student representative.

719 According to the University Senate Constitution and Bylaws (exhibit ###), it is responsible to:

720

721 a. Formulate and maintain long-range goals for academic computing and information
722 technologies at NDSU.

723 b. Assist the NDSU administration in developing plans and goals regarding facilities for
724 computing and information technologies on campus.

725 c. Provide input in formulating policies and procedures for the NDSU Information Technology
726 Services.

727 d. Receive, review, and address computing and information technology concerns at NDSU.

728

729 According to its bylaws, "the Technology-Enhanced Learning Committee addresses issues
730 associated with curriculum delivery that are uniquely tied to technological advances in education,
731 with special focus on delivery format, budgetary policy, intellectual property rights, academic
732 freedom, and the relevance of technology-enhanced learning efforts to faculty rewards and to
733 promotion, tenure, and evaluation. To the extent concerns raised by technological developments
734 overlap with issues assigned as primary responsibilities of other Standing Committees of the
735 University Senate (e.g. Academic Affairs Committee, Computer and Information Technology
736 Planning and Goals, Teaching and Professional Service, and Faculty Development, the
737 Technology-Enhanced Learning Committee shall inform those committees of recommendations it
738 plans to take to the University Senate." It is composed of one faculty member from each college
739 on campus (except University Studies), a Senate liaison person, one undergraduate student, and
740 one graduate student. In addition there are non-voting members who represent the NDSU
741 Libraries, Information Technology Services, Continuing Education, the Distance Education Work
742 Group, the Division of Student Affairs, and the NDSU Extension Service.

743

744

745 **Core Component 3D -- The organization's learning resources support student learning and**
746 **effective teaching.**

747

748

OUTLINE

749

The organization's learning resources support student learning and effective teaching.

750

- The organization ensures access to the resources necessary to support learning and teaching.

751

752

- Libraries

753

- Technology Services

754

- Performance and Rehearsal Facilities, Division of Fine Arts

755

- Other Teaching and Learning Support

756

- Robb Lawrence Building Historic Renovation

757

- Teaching Circle

758

- University 189, Skills for Academic Success

759

- TRIO Programs

760

- Center for Writers

761

- Honors Program

762

- Super Tutor

763

- The organization evaluates the use of its learning resources to enhance student learning and effective teaching.

764

765

- Libraries

766

- Technology Services

767

- Other Learning Resources

768

- Intensive English Language Program

769

- Teaching Circle

770

- TRIO Program

771

- Center for Writers

772

- Honors Program

773

- Super Tutor

774

- Supplemental Instruction

775

- The organization regularly assesses the effectiveness of its learning resources to support learning and teaching.

776

777

- Assessment Committee Activities

778

- Procedures for Assessment

779

780

Component: Resources currently extend beyond the campus boundaries.

- 781
- 782
- 783
- 784
- 785
- 786
- 787
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- 790
- 791
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- 795
- 796
- 797
- Collaborative ventures exist with other higher learning organizations and education sectors (e.g., K-12 partnerships, articulation arrangements, 2+2 programs).
 - Higher Education Partnerships/Engagement
 - K-as Partnerships/Engagement
 - Miscellaneous Engagement and Collaborative Efforts with Educationa, Governmental, Community and Industry Sectors
 - The organization's transfer policies and practices create an environment supportive of the mobility of learners.
 - The organization's transfer policies and practices create an environment supportive of the mobility of learners.
 - The organization participates in partnerships focused on shared educational, economic, and social goals.
 - The organization's partnerships and contractual arrangements uphold the organization's integrity.
 - The organization's outreach example through College of Pharmacy

798 **Component: Technology has become an integral resource for teaching and learning**

- 799
- 800
- 801
- 802
- 803
- 804
- 805
- 806
- 807
- 808
- 809
- Institutional Scan of Technology Related to Learning
 - Technology: Current Use and Impact
 - Technology: Future Use and Impact
 - Technology-related projects
 - Technologies
 - Technology issues
 - Technology strategic plans
 - Technology professional development/training
 - Technology tools/services

810 North Dakota State University is committed to providing the resources necessary to support

811 student learning and effective teaching. This support is evident across campus from the level of

812 students to that of administrators. A student generated and disseminated technology fee, faculty

813 led pedagogical lunches, peer review of teaching, faculty recognition and monetary stipends, and

814 central administration practices show that the entire campus community places a high priority on

815 teaching and learning. One example of the NDSU commitment to teaching and learning can be

816 read in the executive profile of a 1999 successfully funded Bush Grant. It states:

817

818 The Bush Foundation Planning Grant Committee at North Dakota State

819 University (NDSU) presents the following proposal as a means of advancing

820 student learning while emphasizing faculty involvement in the development and

821 dissemination of the means and methodologies of creating enhanced

822 opportunities for student learning. The three components of this proposal are:

823 Nontraditional Teaching/Learning - Problem-Based Learning/Studio-Based

824 Learning; Assessment of Student Learning; and University-wide Honors

825 Program.

826 Under Studio-Based/Problem-Based Learning, the primary purpose is to

827 create an alternative learning environment that incorporates an active, problem-

828 based approach to teaching as a counter to the more traditional teaching

829 (lecturing) methodologies. We believe that this section of the proposal

830 addresses items 2 (Curriculum revision and analysis), 3 (Understanding learning

831 patterns of students), 4 (Diversification of teaching methods), 5 (Encourage

832 collaborative teaching and collaborative learning), and 6 (Extend and improve the

833 use of technology) of the general themes found in the Bush Foundation's

834 *Guidelines for Faculty Development* (1996, p.5).

835 University Assessment is included as an overarching umbrella for
 836 determining student learning at NDSU. The proposal expects to implement a
 837 solid and administrative- and faculty-friendly assessment of student learning by
 838 evaluating current assessment methods and revising, retooling, and refurbishing
 839 the assessment process as a whole. This aspect of the proposal focuses on item
 840 8 (Improve assessment and evaluation of academic programs) of the *Guidelines*.
 841 Finally, the University-wide Honors Program is conceived as a means to advance
 842 student learning through interdisciplinary courses that emphasize new
 843 instructional strategies and pedagogical practices that focus on team teaching by
 844 faculty from various disciplines. We believe that this portion of the proposal
 845 addresses items 4 (Diversification of teaching methods) and 5 (Encourage
 846 collaborative teaching and collaborative learning) of the *Guidelines*.
 847

848 Time and space limit a full accounting of all that is being accomplished, but this section of the
 849 report will attempt to highlight a number of visible efforts to demonstrate NDSU's support of
 850 student learning and effective teaching.

851

852 • **The organization ensures access to the resources necessary to support learning and**
 853 **teaching.**

854

855 North Dakota State University recognizes the importance of access to both paper based and
 856 technologically based resources in support of learning and teaching. The availability of both is
 857 crucial to a successful learning and teaching environment.

858

859 Libraries

860 North Dakota State University provides service at one main library; three branch libraries,
 861 Chemistry, Architecture/Landscape Architecture, and Health Sciences; plus the Institute for
 862 Regional Studies. The library provides special sessions and resources for the McNair Scholars
 863 Program, Governor's School, Upward Bound Program, and University Studies 189. Academic
 864 credit is given for courses in Library Research, Archival Photography, and Archival Theory and
 865 Practice

866

867 The Library Mission is prominently stated on the Web site. It states that:

868

869 The mission of the NDSU Libraries is to make available through a strong organizational
 870 structure and with sound financial planning those resources, training, services, and staff
 871 necessary to support the research and information needs of the university faculty,
 872 students, and staff.

873

874 The Libraries will emphasize service to the patron and endeavor to provide outreach
 875 services to the people of North Dakota as appropriate. All people who wish to are
 876 welcome to use the resources and services of the NDSU Libraries.

877

878 The NDSU Libraries remain closely aligned with the Morrill Act of 1862 in which land
 879 grant universities are obligated to promote "the liberal and practical education to the
 880 industrial classes in the several pursuits and professions of life."

881

882 Data received from Mark England, the Library's Assistant Director for Information Technology,
 883 reflect the growing complexity of library resources. The NDSU Libraries strongly emphasize the
 884 provision of information in electronic formats through campus computer networks. This fiscal
 885 year, the Libraries will likely spend more than \$290,000 on reference databases, such as the
 886 following online indexes and full text periodical databases: ABI-INFORM, Agricola, America:
 887 History and Life, Beilstein Crossfire, BIOSIS, CAB Abstracts, CINAHL, COMPENDEX,
 888 Contemporary Authors, Dictionary of Literary Biography, Current Contents, FSTA (Food Science
 889 & Technology Abstracts), GeoREF, InfoTrac databases, INSPEC, Life Sciences Collection,
 890 MathSciNet, MLA Bibliography, New York Times Index, PsycINFO, Science Citation Index,

891 SciFinder Scholar, Sociological Abstracts, TRIS, Los Angeles Times Index, Minneapolis
892 Star/Tribune Index, Wall Street Journal Index, Washington Post Index, and others. These
893 resources are used thousands of times a month by NDSU students, faculty, and staff. The
894 Infotrac databases, for example, were searched over 200,000 times in the past year, and more
895 than 29,000 periodical articles were downloaded from Infotrac databases. The Libraries provide
896 online journals from many large publishers, such as: Highwire Press, JSTOR, Project Muse,
897 Ingenta, Catchword, American Chemical Society, American Mathematical Society, American
898 Physical Society, American Society of Civil Engineers, American Society of Mechanical
899 Engineers, Association for Computing Machinery, Blackwell, Cambridge University Press,
900 Elsevier ScienceDirect, Institute of Electrical and Electronics Engineers, Kluwer, National
901 Research Council Research Press, Oxford University Press, Royal Society of Chemistry,
902 Springer Link, Taylor and Francis Ltd., and Wiley Interscience. Statistics are kept on the use of
903 these online resources, and resources are evaluated for cost and benefit to the campus.
904

905 These offerings do not come without increasing cost. In fiscal year 2002, NDSU spent \$1,049,079
906 on periodicals and \$210,113 on books. The Interlibrary loan budget for 2002/2003 was \$35,000.
907

908 Technology Services

909 In a like manner, Information Technology Services is at the core of the resources that support
910 student learning and effective teaching. ITS provides both access and support in the effective
911 use of technology, and directly supports the long range goals of the State Board of Higher
912 Education and the Higher Education Roundtable. The Mission Statement of ITS states:
913

914 "Information Technology Services is dedicated to providing academic, research, and
915 business technology to the North Dakota University System and its constituents. We
916 support and live the land grant ideals in an environment of collaboration, teamwork, and
917 individual initiative.
918

919 ITS services are an integral part of the day-to-day operations of NDSU. Although there are many
920 similarities in the technology that is used, there are many different ways that departments use
921 technology to support learning and teaching. This spans the university from help-desk support, to
922 cluster maintenance, to virtual conferencing. In 2001-2002, ITS brought three Corporate Time
923 calendar servers online, increased mail and network quotas, installed a MySQL database server
924 to backend NDSU's web server, led a task force to revise the Network Usage Policy, and updated
925 and removed obsolete email lists. ITS provided faculty, staff, and student training and support. It
926 provided classroom technology support, Blackboard support, and HelpDesk and desktop support.
927 Statistics detailing services and usage are provided in the following section.
928

929 The Technology Fee Committee is a special committee of the Provost and Vice President for
930 Academic Affairs (<http://www.ndsu.edu/tfac/>). The Committee's purpose is "to discuss and
931 formulate recommendations to the Provost and Vice President for Academic Affairs about
932 supporting projects that improve the information technology capabilities on campus by the
933 appropriate use of the technology fee." The Technology Fee fund has provided ITS with
934 opportunities to enhance services used by students and faculty. ITS has engaged the use of
935 Technology Funding to help foster technology advances on behalf of the students at NDSU.
936 Residence Halls are now fully wired for personal computers.
937

938 For student technology support, during academic year 2001/2002, ITS received over \$650,000 in
939 student technology fees. This money was used to fund full-time staff members and student
940 consultants, trainers, and technicians; to support computer clusters and high-tech multimedia
941 equipment, including instrumented classrooms and multimedia carts; to provide services such as
942 graphics, editing, animation, and custom presentations; and to purchase necessary equipment.
943 Designated computer clusters allow 24 hour access.
944

945 Instructors who plan to assign technology-related projects are invited to request support services
946 from the Technology Learning Center (TLC) and the SPONGE project. An extension of TLC and

947 SPONGE was implemented by ITS staff in response to a growing need for enhanced support
948 services for instructors and their students who engage in technology-intensive projects. TLC and
949 SPONGE staffs assist instructors and students with Web sites, music videos, electronic portfolios,
950 and other projects. Available services include help with project planning, classroom training for
951 students (in or out of the class), and individual assistance for students on a walk-in basis at the
952 TLC.

953

954 *Performance and Rehearsal Facilities, Division of Fine Arts*

955 Joy Erickson, Division of Fine Arts

956

957 The Division of Fine Arts has four performance facilities: Festival Concert Hall and Beckwith
958 Recital Hall—both in the Music Education Building—and Askanase Auditorium and Walsh Studio
959 Theatre—in Askanase Hall. Festival Concert Hall and Beckwith Recital Hall are available for
960 rental.

961

962 Festival Concert Hall: Festival Concert Hall is an acoustically excellent, 1000-seat hall, opened in
963 1981. FCH is the concert home for all NDSU major music ensembles and for many local arts
964 organizations, including the Fargo-Moorhead Symphony Orchestra, the F-M Opera, Carousel
965 Dance Theatre, the Bonnie Haney School of Ballet, and Red River Dance and Performing
966 Company. The facility also hosts the NDSU Lively Arts series, major musicals produced by
967 NDSU Little Country Theatre, and many special student events, such as Bison Brevities, the
968 Homecoming Show, and Mr. NDSU. In addition, touring arts organizations, such as the Blenders,
969 the Smuin Ballet, the National Symphony Orchestra, have performed in the hall.

970

971 Beckwith Recital Hall: Beckwith Recital Hall has the same acoustical excellence as FCH but is a
972 smaller setting with capacity being 200. It is used as a classroom for art and music courses as
973 well as faculty, student and small group recitals. Beckwith is also available for outside rental.

974

975 Music Practice Rooms: The Music Education Building has a band practice room, a choral
976 practice room, and a suite of smaller practice rooms or individual and small ensemble practice.
977 The larger practice rooms served as rehearsal space for NDSU major ensembles and well as
978 such community groups as the Fargo-Moorhead Area Youth Symphony, the Jazz Arts Group, and
979 the Fargo-Moorhead Chamber Chorale. Most of the small practice rooms are available for use by
980 any NDSU student.

981

982 Askanase Auditorium: Askanase auditorium, a 380-seat proscenium theatre built in 1968, is the
983 home of Little Country Theatre. The facility is also used as a large lecture hall for campus
984 classes and also hosts occasional performances by student groups. It is also the site for the
985 Meritcare Foundation's annual Children's Miracle Network telethon.

986

987 Walsh Studio Theatre: Walsh Studio Theatre is a flexible studio-laboratory "black box" space,
988 which was added onto Askanase Hall in 1976. It is used as a studio classroom for acting and
989 directing classes, as a rehearsal facility for class projects, and as a performance space for both
990 student and main stage productions.

991

992 All production spaces are handicap accessible and assistive listening devices are available upon
993 request.

994

995

996 Other Teaching and Learning Support

997

998 Additional sites devoted to support of learning and teaching include a renovated building in the
999 heart of downtown Fargo. (bruce.frantz@ndsu.nodak.edu) The Robb Lawrence Building
1000 Historic Renovation is a renovation of a 1903 historic downtown warehouse in Fargo that will
1001 house the NDSU Visual Arts and Architecture & Landscape Architecture Departments. The
1002 project is a complete renovation of the existing building's 70,000 square feet, and includes a fifth

1003 floor addition to accommodate architectural studio space and mechanical penthouse. Completion
1004 is scheduled for July 2004. Space includes a large classroom, woodshop, art gallery, conference
1005 room, art and architectural studios, two computer labs, offices, and necessary support spaces.
1006 The site will provide a small parking lot and a landscaped plaza on its eastern edge shared by the
1007 students and downtown community. Regular transportation will be provided for easy access to
1008 the main campus.

1009
1010 The Plant Sciences Teaching Circle (Ed Deckard, Plant Sciences) has met about twice a month
1011 since 1994 to discuss topics related to teaching. The Teaching Circle philosophy is "Everyone a
1012 Teacher, Everyone a Learner". We believe it is important to provide opportunities for teachers to
1013 get together and share ideas, thoughts, and research on teaching/learning topics. Since many
1014 graduate students will likely find themselves in teaching environments, we also try to produce an
1015 environment that welcomes them to the circle. The topics discussed help develop the picture of
1016 the Plant Science Teaching Circle. Those discussed during this school year include:
1017 "Understanding student persistence", "A discussion on effective teaching of ethics", "The
1018 interrelationships between teaching/learning and accreditation", "Neurobiology of learning and
1019 memory: a primer", "A conversation with Catherine Cater", "Leadership images: metaphors for
1020 teaching and learning", "Learning from learners", and "Engaging students in writing". Regardless
1021 of the topic, each Teaching Circle is interactive and alive with discussion.

1022
1023 University 189, Skills for Academic Success, is a first-year experience course required of all
1024 entering freshmen and new students who transfer fewer than 24 semester credits to NDSU. The
1025 course is designed to ease the transition for new students at North Dakota State University. The
1026 students learn skills and techniques used by successful college students. In addition to
1027 introducing the students to campus resources and governance, topics include study techniques,
1028 time management, test taking, note taking, goal setting, wellness, stress management, and
1029 career orientation.

1030
1031 The Office of TRIO Programs administers four projects funded by federal grants from the U.S.
1032 Department of Education. Through these grants the department endeavors to provide academic
1033 and supportive assistance to high school students preparing to attend college (Upward Bound, 50
1034 participants), veterans preparing to attend college (Veterans Upward Bound, 120 participants),
1035 students presently enrolled in college (Student Support Services, 350 participants), and upper-
1036 division students who are preparing for graduate education (McNair Scholars Program, 25
1037 participants). Two-thirds of the participants served by the projects must come from families with
1038 incomes under \$24,000, where neither parent graduated from college. Target areas include North
1039 Dakota, northwestern Minnesota, and northern South Dakota. The main office is located in Fargo
1040 on the NDSU campus. Additional offices are located in Grand Forks on the UND campus and
1041 Minot on the MiSU campus.

1042
1043 The Center for Writers offers one-on-one conferences during which writers can discuss their
1044 writing tasks with Center consultants. Hours are M&W 8-12 and 1-5, T&R 8-5, and F 8-12 & 2-4.
1045 Consultants are available to assist writers at any stage of the writing process, from outlining and
1046 researching to formatting and documenting the final draft. Staff are trained to help writers
1047 develop strategies to improve their own writing and become stronger, more confident writers.
1048 The center also offers teacher assistance by providing course-specific workshops assisting in the
1049 design of writing assignments, the evaluation of student writing, the planning of group writing
1050 projects, and the use of writing as a teaching tool.

1051
1052 The University-wide Honors Program is conceived as a means to advance student learning
1053 through interdisciplinary courses that emphasize new instructional strategies and pedagogical
1054 practices that focus on team teaching by faculty from various disciplines.

1055
1056 Super Tutor is free to students and exists to provide learning support. It is available in multiple
1057 locations including the wellness center where it is available every Monday, Tuesday, Wednesday,
1058 and Thursday from 2pm to 5pm. Tutoring is available in accounting, Biology, Chemistry,

1059 Economics, Electrical Engineering, English, Mathematics, Physics, Psychology, Sociology,
 1060 Speech, and Statistics. Additional subjects may be covered upon request. Over \$5,000 per year
 1061 is spent is wages paid to tutors.

1062

1063 • **The organization evaluates the use of its learning resources to enhance student learning
 1064 and effective teaching.**

1065

1066 NDSU regularly evaluates the use of its learning and teaching resources with a variety of ways.

1067

1068 Libraries

1069 Based on information tabulated by Mark England, the Library's Assistant Director for Information
 1070 Technology, use of the library is well documented. In 2001-2002, there were 367,038 visits to the
 1071 Main Library. NDSU Libraries circulated more than 61,500 books, and more than 20,570 items
 1072 were borrowed from other libraries for NDSU students, faculty, and staff. The library has 2,492
 1073 periodicals subscriptions, many of which are available electronically as online journals. In fiscal
 1074 year 2002, 4,207 books and 1,775 government documents were added. The Libraries have
 1075 394,941 printed books, more than 15,000 online books, and 92,959 periodical volumes in the
 1076 collection.

1077

1078 NDSU also takes part in a Interlibrary Loan program and a Tri-College document delivery service
 1079 with Minnesota State University Moorhead and Concordia College. During 2001/2002, NDSU
 1080 Interlibrary Loan handled 28,705 requests and filled 25,469 requests.

1081

1082 Technology Services

1083 The following information from the Information Technology Services (ITS) Annual Report
 1084 indicates high usage of their services that enhance student learning and effective teaching:

1085

1086 *ITS provided Faculty, staff training and support:*

1087 24 training sessions to five ND sites (219 participants)

1088 Dispatched training via the Internet

1089 Held 90 training sessions at NDSU (690 participants)

1090 200 staff participated in one of 15 "Emergency" Corporate Time/Eudora training

1091 Distributed ITS Training News LISTSERV to over 1100 subscribers

1092 Held LunchBox sessions on popular technology products/uses

1093

1094 Classroom technology support:

1095 Increased the number of instrumented classrooms from 20 – 27

1096 Added two multimedia carts and updated five LCD projectors

1097 Provided setup services for approximately 100 cart reservations per week

1098 Moved the library computer cluster

1099 Increased cluster usage by 10.5 percent from 2001 academic year

1100

1101 Blackboard support:

1102 Provided training, documentation, and support for NDSU's online course

1103 management system

1104 Delivery of web-based distance-learning courses

1105

1106 Help Desk and desktop support:

1107 Handled a total of 25,102 phone calls at the general support line.

1108 Received and answered over 12,000 email messages

1109 Processed over 1,000 software site license orders for HECN

1110 NDSU staff made 1,149 software-licensing purchases

1111 Maintained and supported more than 2,500 computers throughout campus

1112

1113 Student support:

1114 Printed 81,342 black and white pages

1115 Printed 44,893 color pages
1116 Used over 38,407 square feet of plotter paper
1117 Handled 6,700 digital camera reservations
1118 Checked out laptop computers for a total of 37,000 hours
1119 Checked out digital projectors for a total of 21,500 hours
1120 Employed 45 student assistants
1121 Helped an average of 20 people per hr (42 students during peak hours)
1122 Provided support for 1,500 ResNet users
1123

1124 Other Learning Resources

1125 NDSU provides an Intensive English Language Program designed to help non-native English
1126 speaking students develop their competence in the English language in order to succeed in
1127 academic pursuits. Enrollment varies but generally averages about 30 students at any one time.
1128

1129 Although Teaching Circle was organized by Ed Deckard in the Department of Plant Sciences,
1130 teachers from other departments and colleges have always participated. This is especially true
1131 today. Although the actual people participating in a Teaching Circle varies with the week, a typical
1132 Teaching Circle today consists of a discussion leader and 20 to 25 participants from five NDSU
1133 colleges. Some of the participants have degrees in education, while others have degrees in a
1134 discipline. Some of the participants have primarily teaching appointments, while others have
1135 appointments with combinations of teaching, research, and extension. All participants care about
1136 students and effective teaching and learning. The learning that occurs on these Fridays is
1137 definitely enriched by the diversity of participants.
1138

1139 In 2002, the Office of TRIO Programs served 50 Upward Bound participants, 120 Veterans
1140 Upward Bound, participants, 350 Student Support Services participants, and 25 McNair Scholars
1141 Program participants.
1142

1143 The Center for Writers reported that for Fiscal Year 2002, the center had 889 student contacts.
1144 This indicated an increasing trend in usage from 761 in academic year 2001, 705 in 2000, and
1145 313 in 1999.
1146

1147 The University-wide Honors Program was conceived as a means to advance student learning
1148 through interdisciplinary courses that emphasize new instructional strategies and pedagogical
1149 practices that focus on team teaching by faculty from various disciplines. Students are invited to
1150 join based upon their ACT scores and interest. Number of sections varies depending on interest,
1151 with two sections of 20 students each generally offered during the first year. Students may
1152 choose to remain in the program until graduation.
1153

1154 Super Tutor collects annual information reflecting usage of the service. Total tutoring contacts
1155 over a five-year period range from 582 to 854 students with average hours tutored per week
1156 ranging from 55.3 to 68.5. In addition, students were asked to respond to questions regarding
1157 usage of Super Tutor. They expressed satisfaction with the one-on-one help, the availability of
1158 tutors, and the session times and locations.
1159

1160 Supplemental Instruction exists in Science and Math, and provides additional opportunity for
1161 enhanced student learning. Records indicate higher grade point averages earned by students
1162 using the service.
1163

1164 As mentioned above, the use of technology resources is evaluated annually and funds are
1165 appropriated to those exhibiting the greatest need.
1166

1167 • **The organization regularly assesses the effectiveness of its learning resources to**
1168 **support learning and teaching.**
1169

1170 NDSU is committed to assessment, and assessment has become part of the culture of the
1171 institution. The Assessment Committee's activities are outlined Core Component 2C (lines 154-
1172 163). Built upon intended student outcomes, the NDSU [University Assessment Committee](http://www.ndsu.edu/ndsu/accreditation/assessment/statement_principles_uac.htm)
1173 formulated and approved sixteen principles
1174 (http://www.ndsu.edu/ndsu/accreditation/assessment/statement_principles_uac.htm)
1175 designed to guide the assessment activities at the University in 1993. They are as follows:
1176
1177 1. The purpose of assessment is to improve student learning and development by identifying
1178 the intended student outcomes for each program, providing feedback on the progress toward
1179 these outcomes, and using the feedback to modify aspects of the programs to ensure that the
1180 outcomes are being achieved and student learning is improved.
1181
1182 2. Assessment examines both the product (quality education) and the process (how
1183 achieved).
1184
1185 3. Assessment plans use multiple approaches to assessment including both quantitative and
1186 qualitative data, and multiple indicators of effectiveness that reflect the complexity of the goals
1187 of higher education and the diversity of the NDSU campus.
1188
1189 4. Effective assessment depends upon clearly stated, assessable outcomes; data collected
1190 which are meaningful, valuable, and accurate; data which are analyzed, not merely tabulated;
1191 and results that are communicated. Unit assessment activities are "driven" by the unit-
1192 identified outcomes.
1193
1194 5. Assessment demands a holistic approach to students and student development.
1195
1196 6. Assessment plans, where possible and appropriate, make use of existing databases and
1197 evaluation programs already in place, e.g., information of admissions, retention, and
1198 completion, results from surveys of students, alumni, and employers, findings of accreditation
1199 agencies, institutional program reviews, etc.
1200
1201 7. Instruments used for assessment are expected to measure the intended student outcomes
1202 determined by the faculty to be important for each program with acceptable levels of technical
1203 quality, e.g., validity, reliability, etc.
1204
1205 8. Faculty and students are to be involved in the development of assessment plans, in their
1206 implementation, and in the continuing efforts to use assessment to improve institutional and
1207 student performance.
1208
1209 9. Assessment resides in the unit; ownership for effective teaching lies with the teacher;
1210 responsibility for learning lies with the student.
1211
1212 10. Effective assessment provides feedback to students and units with implications for
1213 improvement.
1214
1215 11. Students will participate in assessment activities. (This will be so noted in the University
1216 bulletin and in orientation programs.)
1217
1218 12. Assessment results will be used for program improvement. Such results will not be used to
1219 penalize students or faculty. Student performance on assessment instruments will not become
1220 part of the transcript. Assessment is to be used to demonstrate current levels of achievement
1221 and to improve future performance.
1222
1223 13. Effective assessment is continuous, creating a self-correcting loop of experimentation and
1224 measurement. Choices about what/when/how to assess are continuously reviewed.
1225

1226 14. Units include assessment of student performance and satisfaction at appropriate times
1227 during college and of alumni after graduation.

1228
1229 15. Units will provide annual reports of assessment activities to the University Assessment
1230 Committee on the level of performance and trends over time, especially in relation to
1231 institutional outcomes. These reports will include changes in programs and activities that
1232 result from problems or possibilities identified in prior report.

1233
1234 16. Assessment feeds into planning, continuous improvement, and institutional and unit
1235 resource allocations.

1236
1237 The University Assessment Committee also approved the following procedures for assessment
1238 (http://www.ndsu.edu/ndsu/accreditation/assessment/statement_procedures_uac.htm)
1239 in 1993:

1240
1241 1. The unit is accountable for the technical aspects (such as validity and reliability) of the
1242 assessment instruments used. The Office of Assessment and Institutional Research (A&IR)
1243 and the University Assessment Committee (UAC) are available for technical assistance.

1244
1245 2. Each unit will prepare an annual report of assessment activities to be submitted to the
1246 University Assessment Committee by July 1 of each year (2).

1247
1248 3. Assistance to faculty or units will be provided by the UAC, the Office of A&IR, and the
1249 Teaching Support Center for assessment-related activities.

1250
1251 4. The University Assessment Committee will prepare an annual report of assessment
1252 activities.

1253
1254 5. Assessment instruments will be reviewed for curricular validity by unit faculty in the
1255 case of major's assessment, by the general education committee for general education
1256 outcomes, and by representatives of the University faculty for institution-wide procedures.
1257 Measures of alumni or student satisfaction will be reviewed by the University Assessment
1258 Committee or its designee, such as student services.

1259
1260 6. Locally developed assessment instruments will be reviewed by unit faculty, the
1261 University Assessment Committee, or the Office of Assessment and Institutional
1262 Research for the match between the table of specifications and the outcomes desired

1263
1264 7. Assessment methods that require professional judgment in the evaluation of student
1265 responses, such as portfolio analysis, senior projects or papers, or performance analysis, will
1266 include clearly developed criteria to be used by the judges, selection procedures for the
1267 judges, and number of judges to be used.

1268
1269 NDSU regularly assesses the effectiveness of teaching and learning resources through Program
1270 Review (lines 690-721 in Core Component 3C), the Student Satisfaction Inventory (see lines
1271 186-192 in Core Component 2C), the National Survey of Student Engagement (lines 194-197 in
1272 Core Component 2C), and the Alumni Outcomes Survey (lines 199-203 in Core Component 2C).

1273
1274 Having reviewed NDSU's access, usage, and effectiveness of learning resources supportive of
1275 student learning and effective teaching, it is obvious that much is being done in this area. Efforts
1276 are made to stay current in each of the endeavors mentioned. Library and technology resources
1277 are in continual need of upgrading, and internal and external resources are sought for this
1278 endeavor. Both student and faculty input must be sought in order to prioritize needs within limited
1279 budgets. Assessment has been woven into the culture of the institution, and assessment results
1280 drive change and upgrades at NDSU.

1281

1282 **Component: Resources currently extend beyond the campus boundaries.**

1283

1284 (Supporting documentation and evidence may be found in the 2002-2004 Bulletin, in the Office of
1285 Registration and Records, or in the respective academic or student service department on
1286 campus).

1287

- 1288 • **Collaborative ventures exist with other higher learning organizations and**
- 1289 **education sectors (e.g., K-12 partnerships, articulation arrangements, 2+2**
- 1290 **programs).**

1291

1292 North Dakota State University engages in diverse outreach efforts with secondary and other post-
1293 secondary educational institutions as well as with business and industry. These activities uphold
1294 the land-grant mission of NDSU and meet the needs of its student population based on changing
1295 North Dakota demographics, industry demands, and current economic conditions.

1296

1297 Higher Education Partnerships/Engagement

1298

- 1299 • Articulation Agreements-NDSU has established relationships with regional community
1300 and two-year colleges through the development of general and programmatic articulation
1301 agreements. Such agreements provide prospective transfer students with more user-
1302 friendly and reliable guides to academic planning and transfer preparation. Students may
1303 complete associates degrees and/or select courses that fit neatly into baccalaureate
1304 degree programs of study at NDSU. These agreements are reviewed and approved by
1305 academic representatives and administrators at both NDSU and the transferring two-year
1306 institutions for accuracy and applicability. They are promoted to prospective transfer
1307 students through Office of Admission outreach efforts, through inquiries to the Office of
1308 Registration and Records, and on the Registration and Records Web site (as they are
1309 developed for each institution). For more information, contact Office of Registration and
1310 Records.

1311

- 1312 • General Education Requirements Transfer Agreement (GERTA)-The North Dakota
1313 University System established GERTA in the mid-1990s to streamline the course
1314 numbering system as well as the applicability of common courses to institutional general
1315 education requirements. The goal of this effort is to better facilitate the understanding
1316 and transferring of credits between NDUS institutions. General education courses
1317 agreed upon by all member institutions are assigned a common course number as well
1318 as a general education categorical indicator. This is promoted to students by each
1319 institution as well as on the NDUS Web page. For more information, contact Office of
1320 Registration and Records.

1321

- 1322 • Collaborative Student-A process established by the North Dakota University System to
1323 accommodate students who wish to enroll at multiple NDUS institutions while maintaining
1324 enrollment status and financial aid at their home institution. While initially designed to
1325 primarily serve students enrolling in distance education courses offered by other
1326 institutions, several students have utilized this process to take classes at other member
1327 institutions for a variety of reasons (e.g.: summer classes closer to home, courses not
1328 offered by NDSU during a given term, etc.). For more information, contact Office of
1329 Registration and Records.

1330

- 1331 • Elementary Education Major Offered at NDSU by Valley City State University-To avoid
1332 duplication of certain programs among in-state institutions, NDSU and VCSU partnered
1333 to meet the needs of students who wish to attend college at NDSU, but plan to pursue a
1334 major in elementary education, which is not a Board-approved program at NDSU. VCSU
1335 faculty travel to NDSU weekly to teach elementary education courses to students
1336 enrolled in its program. These students receive the same co-curricular, housing and
1337 student service privileges as NDSU students and take non-major courses offered by

- 1338 NDSU faculty. However, their degrees are conferred by VCSU. For more information,
 1339 contact Office of Registration and Records or the School of Education.
 1340
- 1341 • Tri-College-Tri-College is a long-standing consortium between NDSU, Minnesota State
 1342 University-Moorhead (MSUM) and Concordia College (CC) whereby students may be
 1343 enrolled at one institution and take courses at another partner school at no additional cost
 1344 or admission process. Earned credit appears on the home institution transcript. Certain
 1345 restrictions apply between CC and the two public institutions. In addition to all students
 1346 having the Tri-College program available to them, programs of study have been
 1347 established under the Tri-College name. These include masters programs in Nursing
 1348 and Educational Leadership as well as an undergraduate program in Nursing. Students
 1349 may earn minors at another institution if not offered by their home institution. In addition,
 1350 NDSU has developed articulation agreements (not common between baccalaureate
 1351 granting institutions) to facilitate the transfer of students who choose to begin their
 1352 studies at MSUM or CC, but plan to transfer into a program of study only offered by
 1353 NDSU. For more information, contact Office of Registration and Records.
 1354
 - 1355 ○ NDSU/UND Joint History Program-NDSU and the University of North Dakota (UND)
 1356 received approval during the 2002-2003 academic year to collaboratively award a Ph.D.
 1357 in History. Courses taught at the two universities will be available to students enrolled at
 1358 either. Various means of distance education and flexible faculty schedules will allow this
 1359 joint venture to be successful. For more information, contact the History Department.
 1360
 - 1361 ○ Other PhD programs-Collaborative efforts between several other academic
 1362 departments at NDSU and other institutions, such as UND, have been established. For
 1363 example, the two Communication Departments are beginning to collaborate on faculty
 1364 exchanges and course offerings. Another example is NDSU graduate students in
 1365 Mechanical Engineering studying Brain Anatomy and Physiology for Impact
 1366 Biomechanics at the UND Medical School.
 1367
 - 1368 • Interactive Video Network (IVN)-Offered between colleges and universities across the
 1369 state, IVN allows students to participate synchronously in courses while the course is
 1370 being broadcast out of one central location. NDSU and other NDUS institutions may
 1371 cross-list courses in their registration schedules to broaden course offerings to students.
 1372 For more information, contact the IVN Office.
 1373
 - 1374 • Global Studies International Agreements-The NDSU Office of International Programs
 1375 facilitates international educational opportunities for students, staff, and faculty.
 1376 Exchange agreements are coordinated between NDSU and foreign institutions for
 1377 international study, teaching or research. For more information, contact Office of
 1378 International Programs.
 1379
 - 1380 • Study Abroad-NDSU coordinates exchange programs with universities in Canada,
 1381 France, Germany, Mexico, The Netherlands, Norway, Sweden, to name just a few
 1382 countries. Students studying abroad pay NDSU tuition and fees. NDSU students also
 1383 participate in the International Student Exchange Programs, The American Institute of
 1384 Foreign Study, and AustraLearn. For more information, contact Office of International
 1385 Programs.
 1386
 - 1387 • Expanding Your Horizons-NDSU hosts an annual event each spring for junior high girls to
 1388 broaden their understanding and interests in the fields of science, technology and
 1389 engineering.
 1390
 - 1391 • FFHA-NDSU hosts annual conventions each summer for Future Farmers and
 1392 Homemakers of America for in-state youth.
 1393

- 1394 • Governor's School-NDSU hosts the state's annual Governor's School to reward
1395 academic excellence and provide leadership development opportunities for in-state
1396 youth.
1397
- 1398 • Graduate Student-University-School Collaborative for Science, Mathematics, Engineering
1399 and Technology (GraSUS) – Beginning in 2002 and funded with a National Science
1400 Foundation three-year grant in excess of \$1 million, this project links 31 science and
1401 mathematics teachers from 11 area high schools and junior high schools with 19 NDSU
1402 graduate and undergraduate fellows to enhance the science and mathematics education
1403 of over 2300 students. The project includes schools in Fargo, Central Cass County,
1404 Northern Cass County, Enderlin, and Moorhead, Minnesota.
1405 (www.ndsu.nodak.edu/grasus/)
1406
- 1407 • High School Speech and Debate Tournament-NDSU annually hosts tournaments for
1408 regional and state-wide youth participating in speech and debate competition and
1409 development.
1410
- 1411 • Little International-NDSU annually hosts agricultural competition and judging
1412 opportunities for students.
1413

1414 *K-12 Partnerships/Engagement*

- 1415 • Early Entry Program-High school juniors and seniors wishing to take courses at NDSU
1416 prior to high school graduation may enroll as early-entry students. Approval must be
1417 granted by both the high school and NDSU based on a student's academic ability. Early
1418 Entry enables students to 1) take advanced courses not offered at their high schools, and
1419 2) get a head start on their college academic programs of study. With high school
1420 approval, students may count credits earned at NDSU toward high school graduation
1421 requirements. For more information, contact Office of Admission.
1422
- 1423 • PSEO Students-Similar to Early Entry, incoming freshmen from Minnesota often transfer
1424 in college credits earned through MN colleges and universities while still enrolled in high
1425 school. NDSU works closely with such students to ensure proper transcripts are received
1426 so that credit may be awarded accordingly. Incoming freshmen with more than 24
1427 earned college credits may take advantage of early registration opportunities offered to
1428 transfer students who have already graduated from high school. For more information,
1429 contact Office of Registration and Records or Office of Admission.
1430
- 1431 • SEND-IT-NDSU cooperates with North Dakota's Information Technology Department and
1432 the Educational Technology Council to operate SENDIT Technology Services, which
1433 serves as the Internet support center for K-12 students and schools across the state. For
1434 more information, contact Information Technology Services.
1435
- 1436 • High School Upward Bound-This program serves high school students who want to get a
1437 college degree and who fall within a specified target population or are first-generation
1438 college students.
1439
- 1440 • Music Department Jazz Festival-is an invitational for high school and college students
1441 throughout the region to participate in musical competition and appreciation at NDSU.
1442
- 1443 • Writing Partners Workshop in English-need more information here.
1444
- 1445 Miscellaneous Engagement and Collaborative Efforts with Educational, Governmental,
1446 Community and Industry Sectors (for additional details, see 2002-2004 Bulletin, pp. 4-5,
1447 20).
1448 ○ Bio-Imaging and Sensing Center

- 1449 ○ Center for Business and Consumer Research
- 1450 ○ Center for Child Development
- 1451 ○ Center for Main Group Chemistry
- 1452 ○ Center for Science and Mathematics Education (develops and operates K-16
- 1453 educational projects)
- 1454 ○ Computer Systems Institute
- 1455 ○ Family Therapy Center
- 1456 ○ Group Decision Center
- 1457 ○ Institute for Natural Resources and Economic Development (INRED)
- 1458 ○ NDSU Biotechnology Institute
- 1459 ○ North Dakota Institute for Regional Studies
- 1460 ○ Center for Social Research
- 1461 ○ Center of Rural Studies
- 1462 ○ North Dakota State Data Center
- 1463 ○ North Dakota Transportation Technology Transfer Center
- 1464 ○ North Dakota Water Resources Research Institute
- 1465 ○ Northern Crops Institute (NCI)
- 1466 ○ Northern Plains Policy and Trade Research Center
- 1467 ○ Quentin N. Burdick Center for Cooperatives
- 1468 ○ Robert Perkins Engineering Computer Center
- 1469 ○ Research and Technology Park
- 1470 ○ Skills Training and Technology Center
- 1471 ○ Cooperative Education
- 1472 ○ *Extension Services*

1473

1474

For more information, contact the respective office or center.

1475

1476

The organization's transfer policies and practices create an environment supportive of the mobility of learners.

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- Common Course Numbering-Institutions in the North Dakota University System have established common course numbers (CCN) for many courses to facilitate transfer between system schools. Transfer students who have successfully completed CCN courses are not required to retake them at NDSU. While CCN courses may fulfill general education and major requirements, NDSU upholds its residence and upper-division requirements for graduation. For more information, contact Office of Registration and Records.
- Collaborative Student-(see above) This process allows students to be mobile within the state and take courses at any NDUS institution while retaining their enrollment status and associated benefits (financial aid, organizational participation, etc.) at their home institution. Students simply need to indicate their intent to NDSU Collaborative Student contact, who in turn will handle necessary notification and registration with the other participating institution(s).
- Interactive Video Network-(see above) IVN permits students to take advantage of course offerings at other NDUS institutions while remaining on-site at their home institution, such as NDSU. This broadens course availability and allows students who are place bound for their first year(s) of college to access select courses at NDSU that may later be applied to their programs of study.
- Distance Education-A growing number of courses are being made available via various modes of distance education by a growing number of in- and out-of-state higher education institutions. NDSU will accept in transfer credits for any course successfully completed by a regionally-accredited post-secondary institution, whether they be taken

- 1504 prior to or concurrent with NDSU courses. For more information, contact Office of
 1505 Distance and Continuing Education.
 1506
 1507
- 1508 • Articulation Agreements-Articulation agreements developed by NDSU with regional
 1509 community colleges provide prospective transfer students with more user-friendly and
 1510 reliable guides to academic planning and transfer preparation. Students may complete
 1511 associates degrees and/or select courses that fit neatly into baccalaureate degree
 1512 programs of study at NDSU. Once agreements are completed with colleges, they are
 1513 posted to the NDSU web page, linked to both Admission and Registration and Records.
 1514 For more information, contact Office of Registration and Records.
 1515 www.ndsu.edu/registrar
 1516
 - 1517 • Transfer Student Database-The Office of Registration and Records has developed an on-
 1518 line database for prospective transfer students to identify course-by-course equivalencies
 1519 between their transferring institution(s) and NDSU. This is updated on a daily basis and
 1520 includes thousands of courses from regional and national colleges and universities. This
 1521 document, along with articulation agreements, provides transfer students a useful guide
 1522 when selecting courses at their transferring institution. For more information, contact
 1523 Office of Registration and Records.
 1524
 - 1525 • Special Student Status for Non-Degree Seeking Students-Students who are pursuing
 1526 degrees at other post-secondary institutions may take a limited number of courses at
 1527 NDSU under a non-degree seeking status. This facilitates the pursuit of a degree for
 1528 students who are temporarily stationed in the Fargo area (e.g. home for the summer,
 1529 conducting an internship in the area, etc.) For more information, contact Office of
 1530 Admission.
 1531
 - 1532 • Community College Outreach-The Office of Admission regularly visits two-year colleges
 1533 in the Tri-State area. The purpose of admission staff visits is to educate prospective
 1534 transfer students on the transfer admission process, transfer credit evaluation process,
 1535 and provide guidance for their final term(s) registration at their current institution. During
 1536 pre-registration for each spring semester, the Registration and Records Office staff
 1537 accompanies the Admission staff to two-year colleges in the state and region to conduct
 1538 on-site registration opportunities and advising.
 1539
 - 1540 • Transfer Student Orientation and Early Registration Opportunities-Incoming transfer
 1541 students who make early application to NDSU are permitted to register early, via Web or
 1542 phone registration, along with current NDSU students. This opportunity benefits students
 1543 by better ensuring registration in major-required courses. For more information, contact
 1544 Office of Registration and Records or Office of Orientation and Student Success.
 1545
 - 1546 • Veterans Upward Bound-This is an individualized educational program for veterans who
 1547 want to obtain academic preparation before entering or during post-secondary education.
 1548
 - 1549 • Publications-Special publications are produced by the Offices of Admission, Registration
 1550 and Records, and Orientation and Student Success to apprise incoming transfer students
 1551 of services, registration and transfer credit advisement opportunities prior to
 1552 matriculation.
 1553
 - 1554 • Multicultural Student Services-The Offices of Admission and Multicultural Student
 1555 Services regularly visit tribal colleges in the state to promote educational opportunities
 1556 beyond their two-year degrees. Diversity waivers, scholarships and special academic
 1557 programs (e.g. Native American Pharmacy Program) are designed to meet the
 1558 educational and financial needs of this population as well as the reservation populations

- 1559 in general. Cultural programming, services and support are provided to current and
 1560 prospective by the Office of Multicultural Student Services.
 1561
- 1562 • Counseling and Disability Services-Professional counselors and learning specialists help
 1563 students who have difficulties that range from everyday concerns to those that are more
 1564 serious in nature. Services and programming are also provided in this department to non-
 1565 traditional students, including those who are older-than-average and/or have families.
 1566
 - 1567 • President's Diversity Council- The NDSU Diversity Council focuses primarily on those
 1568 dimensions of diversity that have significant impact on individuals and groups in society:
 1569 age, ethnicity, gender, mental and physical abilities, race, religion, and sexual orientation.
 1570
 - 1571 • Project 65-People aged 65 or over may audit one course per semester free of tuition and
 1572 related fees (with the exception of the application fee). Courses do not count as credit
 1573 toward a degree, but help to enrich the lives of seniors living in the area. For more
 1574 information, contact Office of Registration and Records.
 1575
 - 1576 • Displaced Farmers and Homemakers-Individuals who have been forced out of their
 1577 livelihoods due to a declining farm economy and dwindling rural conditions. For more
 1578 information, contact the College of Agriculture, Food Systems, and Natural Resources.
 1579
 - 1580 • Intensive English Language Program-The English Department offers the IELP program to
 1581 non-native English speakers who have been identified as needing additional English
 1582 language skills in order to be successful in college. The primary target population for this
 1583 program includes the permanent resident student body who have not scored high enough
 1584 on English proficiency exams for unconditional admission to NDSU. For more
 1585 information, contact the English Department.
 1586
 - 1587 • TOCAR (anti-racism programming)-educates students, faculty, staff and administration
 1588 on historic racial injustices, tolerance, perceptions of those in minority populations, and
 1589 inclusion.
 1590
 - 1591 • Tri-College Pow-Wow-Annual event celebrating the American Indian culture and heritage
 1592 in the state and region.
 1593
 - 1594 • Black History Month, Civil Education Month, Coming Out Week, Cultural Awareness
 1595 Month, Human Rights Day, International Week, and Women's Week-These nationally
 1596 recognized days, weeks or months are also recognized at NDSU every year with
 1597 students, faculty and staff organizing special programming and events are the various
 1598 themes to create awareness and increase acceptance.
 1599
 - 1600 • Safe Zone Program-This program educates faculty and staff to the basic needs of
 1601 respect, privacy and safety of those who are gay, lesbian, transgender and bisexual. It
 1602 recognizes those individuals who embrace diversity and are willing and able to assist
 1603 such students in their educational pursuits without the fear of intimidation or labeling.
 1604
 - 1605 • Service Learning Programs-The 2002-2005 Bush Grant has a service-learning
 1606 component.
 1607
- 1608 **The organization participates in partnerships focused on shared educational, economic,**
 1609 **and social goals.**
 1610
- 1611 • UND collaborative doctoral programs (see above)-Collaborative efforts in doctoral
 1612 programs (Communication, History) between NDSU and the University of North Dakota
 1613 were established in an effort to share resources and related costs between two

- 1614 comparable institutions 75 miles apart from one another. Additionally, this effort better
 1615 serves the needs of students by making more courses available to students. Students
 1616 may be enrolled at one institution and access courses offered by the other at no
 1617 additional expense or enrollment process. With state institutions under close scrutiny by
 1618 the Board of Higher Education and the ND Legislature for duplication of programs, such
 1619 collaborative efforts prove economically and socially sound as well as student-centered.
 1620 For more information, contact the Departments of History or Communication.
 1621
- 1622 • VCSU Elementary Education program (see above)- To avoid the creation of another
 1623 elementary education program in the state, NDSU and VCSU partnered to meet the
 1624 needs of students wishing to pursue such a degree while studying the Fargo area. VCSU
 1625 faculty travel to NDSU weekly to teach elementary education courses to students
 1626 enrolled in its program. NDSU accommodates the faculty with classroom and office
 1627 space. Students receive the same co-curricular, registration and student service
 1628 privileges as NDSU students and take non-major courses offered by NDSU faculty.
 1629 However, their degrees are conferred by VCSU. For more information, contact School of
 1630 Education.
 1631
 - 1632 • Tri-College (see above)-This consortium between NDSU, Minnesota State University-
 1633 Moorhead (MSUM) and Concordia College (CC) permits students to be enrolled at one
 1634 institution and take courses at another partner school at no additional cost. This program
 1635 broadens course availability and offerings to students, lessening the demand on each
 1636 institution to offer certain courses. In addition, graduate-level programs under the Tri-
 1637 College name have been developed to share resources, including lab facilities and
 1638 faculty. Students also may earn Tri-College minors offered by a non-home institution
 1639 without the requirement of transferring. For more information, contact Office of
 1640 Registration and Records.
 1641
 - 1642 • Collaborative Student (see above)-This initiative was established to allow institutions to
 1643 broaden course availability and accessibility for students pursuing degrees at a North
 1644 Dakota University System institution. While improving accessibility for students,
 1645 collaborative student also allows institutions to share resources by utilizing distance
 1646 education as a means to meet the academic needs of their students.
 1647
 - 1648 • Shared Library Services-Within the North Dakota University System and between Tri-
 1649 College institutions, library resources and accessibility is shared to increase the volume
 1650 of resources available to students as well as to minimize the demands and costs of each
 1651 institution in regard to subscriptions and purchases. For more information, contact the
 1652 NDSU Libraries.
 1653
 - 1654 • Extension Service- extension services assist NDSU with its state-wide mission and land-
 1655 grant heritage to serve the diverse needs of people throughout the state.
 1656
 - 1657 • Distance and Continuing Education-Distance and Continuing Education courses are
 1658 offered through a variety means to reach out to populations across the state, region (and
 1659 beyond). Courses offered include those that developmentally prepare students for
 1660 college-level work, assist professionals in maintaining credentials, and provide personal
 1661 and professional development information and skills training.
 1662
 - 1663 • **The organization's partnerships and contractual arrangements uphold the**
 1664 **organization's integrity.**
 1665
 1666
- 1667 All articulation agreements and partnerships incorporate and uphold the academic policies
 1668 and requirements of NDSU. This ensures that all incoming and current NDSU students are

1669 treated in a fair and consistent fashion. NDSU's various outreach efforts are consistent with
 1670 its land-grant mission and vision to serve the people of the state and region through a variety
 1671 of academic services and programs.

1672
 1673 ● **The organization's outreach example through College of Pharmacy** (College of
 1674 Pharmacy Annual Report)

1675
 1676 The College conducts over 3600 hours of continuing pharmaceutical education each year to
 1677 over 15000 pharmacists in the region. Through the North Dakota Institute for Pharmaceutical
 1678 Care, the College has implemented a state-wide skills training program for North Dakota
 1679 pharmacists in laboratory health screening and immunizations. The College developed ten
 1680 community-based pharmacy teaching sites across North Dakota to train students to deliver
 1681 pharmaceutical care in a community pharmacy setting. The College contributes to cultural
 1682 diversity on campus and offers a Native American Pharmacy Program supported through a
 1683 grant from the Dakota Medical Foundation. In 2002, the College purchased the Family
 1684 Health Center Pharmacy in Fargo which serves a very culturally diverse population of
 1685 uninsured clients including many refugees from third world war town countries. The College
 1686 is currently in the process of developing a major teaching program at FHCT including
 1687 placement of faculty and students. Through a cooperative agreement with the University of
 1688 Colorado, the College has implemented an on-line distance education nontraditional
 1689 Pharm.D. degree program for former B.S. graduates. (From Chuck Peterson, Dean, College
 1690 of Pharmacy Annual Report, 2002)

1691

1692

1693 **Component: Technology has become an integral resource for teaching and learning.**

1694 (Primary Source part 3: Technology and Learning Focus Group, 2003)

1695

1696 ● **Institutional Scan of Technology Related to Learning**

1697

1698 This section represents our best effort at assembling an inventory of technologies
 1699 implemented across the campus in support of learning. Some have been referenced in
 1700 earlier sections of the document, but others have not. Inclusion of the following information
 1701 was an attempt to provide others with an environmental scan supporting both a broad and
 1702 deep view of the campus investment in technology.

1703 ● **Technology: Current Use and Impact**

1704

1705 NDSU uses information technology extensively throughout the institution in meeting its
 1706 mission of teaching, research and service. It is used in the classrooms, student residence
 1707 halls, faculty offices, student clusters/labs and in all staff offices. In addition, it is used by
 1708 students, faculty, and staff from their homes and while traveling. It is used to process the
 1709 simplest accounting task to the most complex research algorithm. Primary applications
 1710 include e-mail, world-wide-web, word processing, spreadsheets, databases, calendar,
 1711 scheduling, online course management, and videoconferencing. In addition to core
 1712 applications, data collection, massive storage, and data analysis are becoming critical
 1713 components of a successful IT strategy. It is important to the success of NDSU's programs
 1714 that the information technology infrastructure, tools, and technology effectiveness of
 1715 employees stay current to meet the competitiveness of the academic and research
 community.

1716 ● **Technology: Future Use and Impact**

1717

1718 NDSU will continue to advance its programs with the use of information technology. As
 1719 information technology changes, the latest IT tools affordable will be integrated extensively in
 1720 support of every aspect of teaching, learning and research. The conventional instructional
 1721 environment will continue to take place in campus classrooms at given times and days.
 However, instruction and learning will also take place in the homes and offices of students,

1722 anytime and anyplace through the use of information technology. In addition, faculty and staff
 1723 will be given more flexibility in how and where they work with the use of modern information
 1724 technology tools. Through continued participation in Internet2 initiatives, and by doing internet
 1725 research and application development, NDSU is now part of a community that is advancing
 1726 the economic vitality of the country. Continued investment in the information technology
 1727 infrastructure, end user hardware, systems and applications, research initiatives, and
 1728 strategic public and private sector partnerships will ensure that NDSU continues to further the
 1729 mission and goals of the University System and the Higher Education Roundtable.

1730
 1731 The history of information technology at NDSU is one of cooperation, collaboration,
 1732 innovation, and success. ITS played a key role in the formation of the Higher Education
 1733 Computer Network (HECN), and continues to provide critical and innovative services. Its role
 1734 in the evolution of SENDIT Technology Services (now called EduTech IT Services) as a K-12
 1735 Internet support center is also well known and respected. NDSU's focus on extending
 1736 economic development and looking to the future is evidenced by the aggressive development
 1737 of the NDSU Research and Technology Park. Despite this successful track record, NDSU
 1738 faces the same IT challenges that other institutions do: user demands for the quantity and
 1739 diversity of services continue to escalate, while the capacity to meet these needs continues to
 1740 decline. Technology is an integral part of the day-to-day operation of NDSU.

1741

1742 ● Technology providers/users

1743

1744 HECN -- The Higher Education Computer Network provides core information technology
 1745 services to the 11 North Dakota University System campuses. (see brochure)

1746 URL: http://www.ndus.nodak.edu/NDUS_Tech_Info/

1747

1748 North Dakota is one of a very few states where all public higher education institutions share
 1749 information technology services. It has proven to be a very successful model because it
 1750 provides a significant level of computing and networking capabilities and support for students,
 1751 faculty, and staff in the North Dakota University System (NDUS) while holding down costs.

1752 The Higher Education Computer Network (HECN) also coordinates with the Information
 1753 Technology Department (ITD) of North Dakota state government in use of the state network
 1754 and works collaboratively toward a shared NDUS, state government and K-12 enterprise
 1755 resource planning initiative called ConnectND.

1756

1757 HECN services are provided by Information Technology Services staff located at North
 1758 Dakota State University (NDSU), Information Technology Systems and Services staff located
 1759 at the University of North Dakota (UND), a financial systems director located at NDSU, and a
 1760 student information systems director and staff located at UND. A number of committees
 1761 composed of NDUS staff and users meet regularly to guide HECN services and support.

1762

1763 Projects include ConnectND, the wide area network, the NDUS Help Desk, and directory
 1764 services. Other services are: domain name services, Internet2, the Legislative Bill Tracking
 1765 System, LISTSERV, maintenance of servers, technical expertise, site license software
 1766 program, and training.

1767

1768 NDSU directly benefits because HECN staff augment NDSU staff. Both work on projects and
 1769 problems, creating benefit to both.

1770

1771 a) ITS --Dr. Tom Moberg

1772 -- <http://www.ndsu.nodak.edu/its/>

1773 Information Technology Services (ITS) provides HECN and NDSU core information
 1774 technology services to the students, faculty and staff of the North Dakota University
 1775 System, serving as the South Host Site for the HECN. ITS also houses EduTech
 1776 Technology Services staff. However, ITS continues to focus on campus needs, while
 1777 providing exciting innovations, meeting challenges, and forging strong partnerships. As a

1778 result of departmental visits, completed in December of 2002, ITS has worked hard to
 1779 improve upon or respond to the nine themes identified. They are:
 1780 • Additional or ongoing communication
 1781 • Ongoing IT training
 1782 • A reliable, secure, redundant network
 1783 • A plan for IT acquisition, installation, and maintenance
 1784 • Enhanced use of web technology
 1785 • Enhanced IT support/Help Desk/Service Center support
 1786 • IT capability and support for research and advanced applications
 1787 • IT capability and support for administrative systems/applications
 1788 • IT capability and support for instructional activities

1789 ITS enables faculty, staff and students the resources and infrastructure to apply the most
 1790 advanced state-of-the-art technologies to their teaching, research and learning. Through
 1791 ITS, NDSU is an Internet2 member and a partner with the Great Plains Network. ITS is
 1792 also an active partner in STAGEnet, the statewide network that includes state
 1793 government, K-12, higher education, and political subdivisions. ITS values the many
 1794 opportunities to partner and collaborate with others in meeting the global technology
 1795 challenges and needs of our many colleagues.
 1796

1797 b) Libraries--

1798 -- <http://www.lib.ndsu.nodak.edu/>

1799 Although technology is incorporated into nearly every aspect of NDSU Libraries, an
 1800 especially striking development has been the increasing use of electronic resources, in
 1801 particular electronic journals (eJournals). At the time of our last accreditation visit, NDSU
 1802 offered users fewer than 50 eJournal titles and only one major index database
 1803 incorporating full text articles. Currently NDSU Libraries subscribe to 851 electronic
 1804 journals (out of approximately 4000 active subscriptions). However, this number is
 1805 greatly amplified through various consortial purchases, publisher packages, aggregators,
 1806 and most fruitfully, by harvesting full-text articles from our various indexing databases
 1807 such as *InfoTrac*, *ABI/INFORM*, *CINAHL*, etc. These efforts push our total to over 6,000
 1808 eJournal titles available to our users.
 1809

1810 Access to the library's many resources depends upon the users status, where they
 1811 access the material, and licensing agreements made with the various information
 1812 providers. Restricted resources, such as most databases and eJournals, are only
 1813 available to NDSU faculty, students, and staff. A "My Library" log-in capability provides
 1814 an authentication protocol for off-campus access.
 1815

1816 Students, faculty, and staff have fully embraced the shift to electronic formats. Indeed,
 1817 generally it is the preferred method because of immediacy, ease of use, and the
 1818 availability of "free" printing (paid by student's Technology Fee). Often it is the most
 1819 convenient method of accessing the journal collection because most of the pre-2000 print
 1820 journal collection is in an off-site storage area, accessible only through a "pull service".

1821 Wherever and whenever they are accessed, it is clear the libraries electronic resources
 1822 have extended the library boundaries beyond its walls and contributed to the swelling
 1823 information environment available to researchers.

1824 c) Ag. Comm. – David Saxowsky

1825 -- <http://www.ag.ndsu.nodak.edu/agcomm/agcomm.htm>

1826 d) NDSU Research and Technology Park --Kay Sizer

1827 <http://www.ndsuresearchpark.com/>

1828 Located on 40 acres just north of NDSU, the Research and Technology Park is a place
 1829 where university researchers (including faculty, staff, and students) and private industry

- 1830 can combine their talents to develop new technologies, methods and systems. Since its
1831 groundbreaking on May 19, 2001, both educational and business personnel have been
1832 excited about the possibilities for collaboration that the Park presents. The Park is in the
1833 planning stages of developing an entrepreneurial program to stimulate economic growth
1834 in the region. The goal is to turn local ideas, often generated at the university, into high-
1835 tech businesses.
- 1836 The Park's cornerstone private tenant, Phoenix International Corp., Fargo, a John Deere
1837 company, occupied the first building built in the Park. Phoenix is a company with strong
1838 technological focus and extensive engineering design capabilities.
1839
- 1840 The Research and Technology Park houses the Center for Nanoscale Science and
1841 Engineering. Begun in August 2001, it is one of the most dynamic hubs at NDSU,
1842 researching and developing state-of-the art miniaturized electronics and nanotechnology
1843 for both federal government and private enterprise. CNSE has received over \$22 million
1844 from the Department of Defense (as of 9/2003) to pursue research related to
1845 microsensors, wireless communications, spin-based electronics (or "spintronics"),
1846 coatings for military ships and aircraft, and other nanostructured protective coatings.
- 1847 In July 2003, Alien Technology Corporation, a California-based company, announced its
1848 decision to build a major high tech manufacturing plant near North Dakota State
1849 University's Research and Technology Park. The company chose NDSU because it has
1850 a strong working relationship with the university's Center for Nanoscale Science and
1851 Engineering.
- 1852 Also housed in the Research and Technology Park, the Center for Advanced Technology
1853 Transfer and Traineeships (CATTT) offers technology-based industry traineeships for
1854 undergraduate and graduate students through partnerships and linkages with regional
1855 industries and companies. In its Bridges to Advanced Technology Based Careers
1856 (BATBaC) program, launched in October 2000, undergraduate and graduate students
1857 receive training at partnering companies, which co-fund the student training projects.
- 1858 Another program, Technology Transfer Graduate Traineeships (TTGT), offers graduate
1859 traineeships to graduate students who are doing technology-based research on campus.
1860 Trainees take CATTT technology transfer short courses, establish linkages with one or
1861 more industries or companies that have an interest in their thesis research, and conduct
1862 follow-on technology transfer training activities.
- 1863 The Park is also home to the new Center for High Performance Computing, with initial
1864 funding from the General Services Administration in the amount of \$1.5 million. The
1865 CHPC is poised to meet the high performance computing needs of NDSU researchers as
1866 well those of the federal government and private sector partners.
- 1867 Research & Technology Park online newsletter =
1868 http://www.ndsuresearchpark.com/news/newsletter/2003_vol1_issue1/index.html
1869
- 1870 e) RESNET
1871 -- ResNet = Residence Hall Network Services. Website is
1872 <http://www.ndsu.nodak.edu/resnet/>
- 1873 ResNet is a program sponsored by NDSU's Residence Life Department and ITS. It
1874 allows students living in the residence halls to connect their computers directly to NDSU's
1875 high-speed network; it allows students to send and receive email and surf the web from
1876 their rooms.
- 1877 f) Extension—

- 1878 <http://www.ext.nodak.edu/>
- 1879 g) Distance & Continuing Education--Nancy Olson
1880 -- news release = April 01, 2003 - 12:02 "Distance and Continuing Education
1881 conferences" planned
1882 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=946
- 1883 h) Technology Fee Advisory Committee--Sudhir Mehta
1884 -- Tech. Fee Advisory Committee website is <http://www.ndsu.edu/tfac/>
- 1885 In the fall of 1995 the ND State Board of Higher Education required all campuses to start
1886 collecting a Technology Fee, to be used to pay back a campus networking infrastructure
1887 revenue bond over a ten-year period and also to fund other needed technology items on
1888 the campus. Within constraints set by the state board, each campus determines the
1889 amount of the fee collected and the best use of the funds. The Technology Fee Advisory
1890 Committee meets periodically during the academic year to discuss and formulate
1891 recommendations about supporting projects that improve the information technology
1892 capabilities on campus through the appropriate use of the technology fee. Generally the
1893 committee seeks proposals twice yearly and solicits technology actions plans that directly
1894 benefit and improve the quality of education and campus life of the NDSU student body.
1895 After reviewing the proposals, the committee then recommends allocation of funds to
1896 Craig Schnell, Provost and Vice President for Academic Affairs.
- 1897 j) Varsity Mart equipment sales--Tom Bremer
- 1898 k) Edutech (K-12, formerly SENDIT)
- 1899 Edutech grew out of a grant written by ITS personnel. It was created to strengthen
1900 education technology services and opportunities for North Dakota administrators, school
1901 districts and teachers. Their mission is to improve student achievement by giving
1902 teachers the tools, support and training they need to effectively utilize technology in the
1903 classroom. Services include:
- 1904 • Technical support
 - 1905 • Quality software and hardware training
 - 1906 • Free email and web sites
 - 1907 • Share theme-based curriculum that incorporates multiple technologies
 - 1908 • Technology assessment, planning and network services
 - 1909 • PowerSchool, a web-based student information system
 - 1910 • Professional development programs
 - 1911 • Support for TrtraData which assists schools analyze and report student progress
 - 1912 • Videoconferencing support
 - 1913 • Cisco Networking Academy
 - 1914 • Virus protection, junk email filtering and Internet filtering
 - 1915 • A Help Desk
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● **Technology-related projects**

a) ConnectND:

www.nodak.edu/connectnd

The Connect ND project is the implementation of *PeopleSoft's* ERP (Enterprise Resource Planning) system that will replace North Dakota's current administrative computing systems. The ERP system will serve as the administrative systems for the entire enterprise from students to employees to financial management.

All of North Dakota State Government, including the North Dakota University System (thus, including NDSU), is involved in this project. The project has been organized by module (functional area) into three groups (Financial, Human Resources Management System, and Student Administration).

ConnectND allows campus administrators, faculty and students to conduct business online with applications such as financial management, purchasing, budgeting, human resources, payroll, asset management and student information.

As ConnectND reaches out to all campuses, students will be able to register for classes online at their own convenience, apply for financial aid over the Internet, enjoy faster application processing times, and reduce paper waste at the same time. Campuses will be able to recruit students and collect fees online through streamlined resources.

ConnectND development requires agencies and governments to work together to minimize duplication efforts, increase the sharing of common business practices, and foster innovations in the application and deployment of information technology.

The entire statewide implementation is scheduled to be complete by the third quarter of 2004. At NDSU, implementation is scheduled to take place July 2004.

The 2003 Legislature authorized the Industrial Commission to sell bonds for ConnectND project costs in the amount of \$20 million, as recommended in the Governor's 2003-05 budget. This is in addition to the \$7.5 million appropriated by the 2001 Legislature from the state's general fund. The North Dakota Student Association (NDSA) approved a student fee for the 2002-03 academic year of \$3.50 per credit hour, up to 12 credit hours (\$42) a semester. The State Board of Higher Education has reduced that student fee to \$36 a semester for 2003-2004.

b) Telepharmacy—Dr. Charles Peterson, Dean of Pharmacy

In its second year of funding by a grant supported by HRSA/Office for the Advancement of Telehealth of HHS, the North Dakota Telepharmacy project is a collaborative and coordinated effort between the NDSU College of Pharmacy, the North Dakota State Board of Pharmacy, and the North Dakota Pharmaceutical Association to implement a state-wide telepharmacy program to restore pharmacy services to small rural communities in North Dakota who have either lost or are about to lose their pharmacy services. There are eighteen rural communities in North Dakota currently involved in this project involving seventeen counties geographically located in western, northcentral, and southeastern regions of the state with a total population of 20,203 rural citizens being positively impacted by this project. Through the use of state-of-the-art technology, smaller rural communities are benefiting through this project by: restoring access to health care to many medically underserved areas of the state; improving economic development in smaller rural communities in North Dakota by building new businesses and added new

- 1973 jobs to the community; improving the chances of recruiting and retaining pharmacists in
 1974 North Dakota to practice pharmacy in rural communities; and providing exciting new
 1975 clinical training experiences and sites for NDSU pharmacy students in teaching them how
 1976 to deliver pharmacy services to smaller rural communities in a unique and innovative way
 1977 utilizing the latest advances in technology. Thus far, this North Dakota Telepharmacy
 1978 Project has brought an estimated \$4.5 million in new annual revenue into these smaller
 1979 rural communities and has added an estimated 25-30 new jobs to the rural North Dakota
 1980 job marketplace. Future plans are to expand North Dakota's statewide telepharmacy
 1981 program to restore pharmacy services to other medically underserved areas of the state
 1982 and to share our knowledge, expertise, and experiences with other states to assist them
 1983 in implementing a similar program to help address the growing rural health care crisis all
 1984 across America.
- 1985
- 1986 -- news release - "Telepharmacy program receives additional federal funding"
 1987 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=1009
- 1988 -- news release - January 07, 2003 - 13:16 "Peterson is scheduled presenter at national
 1989 telehealth meeting"
 1990 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=804
- 1991 -- news release - January 08, 2002 - 15:03 NDSU to develop national model for
 1992 'telepharmacy' services to rural areas
 1993 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=309
- 1994
- 1995 c) REC videoconferencing project--Dave Saxowsky
 1996 -- Video-conferencing - Teaching Through Technology
 1997 <http://www.ag.ndsu.nodak.edu/agcomm/agcomm.htm>
 1998 North Dakota's Video-Conferencing Program NDSU Agriculture, various K-12 schools
 1999 and the higher education system have been using various types of video-conferencing for
 2000 more than 10 years. But most of these systems relied on "dedicated phone lines." This
 2001 website describes a newer, Internet-based video-conferencing system which is less
 2002 expensive and more accessible than alternative technologies. Internet-based video-
 2003 conferencing will not replace existing systems, but complement others in helping North
 2004 Dakotans use information technology in their professional and personal activities.
 2005
- 2006 d) Center for Nanoscale Science & Engineering (CNSE)—Dr. Greg McCarthy, Director
 2007 -- <http://www.ndsu.edu/cnse/>
 2008 -- news release - September 24, 2002 - 11:58 "Center for Nanoscale Science and
 2009 Engineering groundbreaking held"
 2010 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=669
 2011
- 2012 See story above, NDSU Research and Technology Park
- 2013
- 2014 e) Virtual Ed. project (virtual cells, virtual field trips, virtual museums)--Brian Slator, Jeff Clark
 2015 Dr. Brian Slator, North Dakota Sate University Computer Science Professor, received a
 2016 ND EPSCoR Seed Grant to help launch his interactive, educational software-
 2017 development career. Slator uses a field-trip approach in his software programs that
 2018 provide students with exciting role-based learning experiences. Game titles include
 2019 Virtual Cell World, Dollar Bay, and Geology Explorer. With Geology Explorer, students
 2020 collect virtual data and perform virtual experiments. Given his success with seed grant
 2021 funds, Dr. Slator and his colleagues successfully competed for a \$1.94M grant from the
 2022 National Science Foundation to continue instructional software development.
 2023
- 2024 f) Internet2--Sandy Sprafka
 2025 -- <http://www.internet2.edu/>
 2026 NDSU is a member of Internet2 and, with UND, has sponsored the other 9 NDUS
 2027 institutions through the Sponsored Education Group Participant (SEGP) program.
 2028

- 2029 -- Some of the projects are at http://segp.nodak.edu/nd_projects.htm
- 2030
- 2031 -- NDSU provides Internet2 seminars for the NDUS, has been active in several projects
- 2032 (The Megaconference, Virtual Cell, ...), has several on the SEGP Steering
- 2033 Committee, and Bonnie Neas on the SEGP Executive Committee.
- 2034
- 2035 -- Internet 2 University Members <http://members.internet2.edu/university/universities.cfm>
- 2036
- 2037 -- Example of project using Internet 2 - "NDSU researchers collaborae with 'The
- 2038 Archaeology Channel' " =
- 2039 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=786
- 2040 -- news release - December 10, 2002 - 11:49 "NDSU featured on Internet2 site"
- 2041 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=794
- 2042
- 2043 g) SEGP--Sandy Sprafka
- 2044 K-12 networks, community college networks, and similar groups of educational
- 2045 organizations who need stable, high-bandwidth capabilities for educational projects
- 2046 should consider using Internet2. To obtain access to Internet2, the group needs to find a
- 2047 University Primary Participant to sponsor them. The Internet2 project that sponsors K-20
- 2048 groups is called SEGP (Sponsored Education Group Participant).The project encourages
- 2049 and facilitates collaboration among Internet2 members, Sponsored Individual Institutions
- 2050 (SIIs) and other SEGPs. For SEGP goals, a list of the SEGP participants, Frequently
- 2051 Asked Questions (an FAQ) , and an application form, go to:
- 2052 www.internet2.edu/k20/abouttheinitiative/.
- 2053
- 2054 The SEGP Primer is at <http://segp.nodak.edu>.
- 2055
- 2056 h) Megaconference--Sandy Sprafka
- 2057 <http://www.mega-net.net>
- 2058 NDSU has been a key player in all the Megaconferences. By year, the activities were:
- 2059
- 2060 -- 1999: made a presentation
- 2061
- 2062 -- 2000: Sandy Sprafka presented with Rick Walker, MSUM on the Virtual Classroom
- 2063
- 2064 -- 2001: Sandy was Master of Ceremonies, participated on the planning committee,
- 2065 arranged for presenters, and hosted the tenor for the Virtual Barbershop Quartet
- 2066
- 2067 -- 2002: Sandy shared Master of Ceremonies duties.
- 2068
- 2069 i) Access grid--Jim Senechal
- 2070 -- <http://www.ndsu.nodak.edu/accessgrid/>
- 2071 The Access Grid is research technology to allow groups to collaborate at a distance using
- 2072 rich audio, multiple video streams, and presentation resources (e.g. distributed Power
- 2073 Point, high quality display sharing, etc.). The Access Grid Node at NDSU, in IACC 422,
- 2074 was developed with the assistance of an NSF EPSCoR grant.
- 2075
- 2076 j) Red River Watershed Project--Joe Courneya
- 2077 -- <http://www.ndsu.nodak.edu/tricollege/watershed/>
- 2078 The Red River Watershed project is part of an overall group : Red River Basin Institute
- 2079 (RRBI) is housed on the NDSU campus in Tri-College University and the Center for 4-H
- 2080 Youth Development. The RRBI has brought more than \$800,000 in resources to the
- 2081 campus through a Bremer grant (written by Ted May college of Human Development
- 2082 Education) and a congressional appropriation from Senator Byron Dorgan. Former
- 2083 Governor George Sinner is currently chairing the RRBI Board. The RRBI is in the process
- 2084 of developing a Proposed "Center of Excellence" which will be housed at NDSU and

2085 serve as the hub for all research and Education activities in the red river basin. The RRBI
 2086 is funding several research projects being done by NDSU faculty, is hosting a 3 credit
 2087 teacher training in partnership with Continuing Education at NDSU and UND, and is
 2088 sponsoring a faculty consulting team from institutions in the basin (ND, MN and
 2089 Manitoba).

2090

2091 k) Sen. Dorgan Technology Conferences--Sandy Sprafka

2092 Annual Upper Great Plains Technology Conference & Trade Show

2093 -- <http://www.uppergreatplains technology.com/index.htm>

2094 The Upper Great Plains Technology Conference & Trade Show is sponsored by Senator
 2095 Byron Dorgan and features keynote presentations by leaders in technology, breakout
 2096 workshops, a student track, and a trade show. NDSU has been very involved with the
 2097 conference by providing speakers and organizing, providing and supporting the breakout
 2098 sessions. The Conference provides an excellent opportunity for business people and
 2099 students to hear and see the latest equipment and ideas in technologies, thus
 2100 encouraging economic development and outreach in the state.

2101

2102 l) Evolution—Alan White

2103 In 2001, NDSU in partnership with Prairie Public Broadcasting, wrote a successful grant
 2104 that provided four evolution initiatives:

- 2105 • A public television series
- 2106 • A web site
- 2107 • A companion book
- 2108 • A one-day symposium

2109

2110 m) STAGEnet--

2111 -- <http://www.stagenet.nd.gov/>

2112 The North Dakota Statewide Technology Access for Government and Education network
 2113 (STAGEnet) was created by the 1999 legislative session. STAGEnet provides broadband
 2114 connectivity, Internet access, video conferencing and other networking services. All state
 2115 agencies, colleges and universities, local government, and K-12 are required to
 2116 participate in STAGEnet.

2117

2118 n) Web radio--

2119 July, 2001 Dr. Tom Riley, Dean of Arts, Humanities & Social Sciences wanted to provide
 2120 an opportunity for Communications students to gain experience in broadcasting. He
 2121 contacted Jim Ross and the Web Radio project was initiated. This pilot project is
 2122 broadcasting the Women\'s Volleyball games to see if people are interested in listening to
 2123 a web-based radio station and what effect this will have on the campus network. Upon
 2124 completion, the project will be evaluated to determine satisfaction of the listeners,
 2125 reliability and quality of the product, and extensibility of the radio station concept.

2126

2127 The Web Radio project has two goals: 1) To broadcast the Women\'s home Volleyball
 2128 games over the Internet using streaming audio. 2) To analyze the data collected to
 2129 determine how to plan forand manage streaming requests from across campus.

2130

2131 A team was assembled consisting of people with varying expertise: volleyball, streaming
 2132 audio, networking, broadcasting, and the web. The project team consists of:

- 2133 Zaundra Bina, Women's Volleyball Coach
- 2134 Clark Coffman, ITS UNIX Administrator
- 2135 Bruce Curtis, ITS Network Consultant
- 2136 Felix Guerrero, Multimedia Technologist
- 2137 Chris Harnack, Student Broadcaster
- 2138 Doug Hindman, Communications Professor
- 2139 Marty Hoag, ITS Technical Support
- 2140 Nancy Lilleberg, ITS Multimedia Coordinator

2141 Eric Parsons, ITS WWW Development Specialist
 2142 Tom Riley, Dean Arts, Humanities & Social Sciences
 2143 Jim Ross, Associate Director Learning Technologies
 2144 Jeff Schwartz, Women's Sports Information Director
 2145 Don Simon, SENDIT/Information Specialist
 2146 Sandy Sprafka, Digital Conferencing Administrator
 2147 Joel Writer, Digital Conferencing Specialist
 2148

2149 o) Virtual Conference--Bill Perrizo

2150 -- Virtual Seminars on Genomics and Bioinformatics =

2151 http://www.ndsu.nodak.edu/virtual-genomics/conference_2003.htm

2152 -- news release - September 21, 2002 - 10:15 NDSU to host second 'virtual conference'

2153 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=632

2154 Advances in sequence analysis, transcriptional profiling, protein structural elucidation and
 2155 other genomic techniques are producing an overwhelming accumulation of data and the
 2156 shift in the way biological research is conducted. As new disciplines are integrated, the
 2157 "Virtual Conferences on Genomics and Bioinformatics" provides an advanced
 2158 collaborative environment for the exchange and discussion of information related to
 2159 innovations of the post-genomic era. Since 2001 the Virtual Conferences are featuring
 2160 high profile researchers working actively in the development of new applications to
 2161 understand complex biological systems. Without registration fees, and using the Access
 2162 Grid technology and live video streaming the 2002 Virtual Conference was broadcast
 2163 simultaneously to more 2000 researchers in 40 countries. The Goals of the Virtual
 2164 Conferences on Genomics and Bioinformatics are:

- 2165 • Transcend geographical and economical barriers for the exchange of ideas that
 2166 facilitates the interaction and collaboration among scientists and educators
 2167 around the world.
- 2168 • Address the benefits and limitations of the newest developments in post-genomic
 2169 technologies.
- 2170 • Explore the social and ethical implications of genomic and bioinformatic
 2171 research.
- 2172 • Establish new ways to introduce the high school community to today's
 2173 multidisciplinary science.

2174
 2175 p) BRIN--Don Schwert

2176 North Dakota Biomedical Research Infrastructure Network (BRIN)

2177 <http://www.med.und.nodak.edu/brin/>
 2178

2179 ● **Technologies**

2180
 2181 a) Web--Ludvik Herrera

2182 -- Web Advisory Board website is <http://www.ndsu.nodak.edu/wab/>

2183 -- http://www.ndsu.edu/wwwdev/web_team/home.shtml
 2184

2185 b) Data mining--Bill Perrizo

2186
 2187 c) Supercomputing--Greg Wettstein, Bonnie Neas ,

2188 Center for High Performance Computing

2189 -- <http://www.ndsu.nodak.edu/chpc/>
 2190

2191 The new Center for High Performance Computing is initially housed in the Research 1
 2192 building of the NDSU Research and Technology Park but will relocate to the Research 2
 2193 building when construction of that building is completed. With initial funding from the
 2194 General Services Administration in the amount of \$1.5 million, the CHPC is poised to
 2195 meet the high performance computing needs of NDSU researchers as well those of the
 2196 federal government and private sector partners.

- 2197 d) GIS/GPS--Jon Nowatski
 2198
 2199 e) Blackboard--Elizabeth Smith
 2200 -- <http://blackboard.ndsu.nodak.edu>
 2201 -- <http://www.ndsu.nodak.edu/its/blackboard/faculty.shtml>
 2202 -- <http://www.ndsu.nodak.edu/its/blackboard/students.shtml>
 2203 The current version of Blackboard (5.5) will be used for Fall 2003. A plan for upgrading to
 2204 Blackboard 6 will be developed during Summer/Fall 2003.
 2205
 2206 f) Streaming--Brian Jambor/Bruce Sundeen
 2207
 2208 g) E-mail
 2209 -- <http://enroll.ndsu.nodak.edu/>
 2210 -- <http://webmail.ndsu.nodak.edu/>
 2211 -- <http://listserv.ndsu.nodak.edu/>
 2212
 2213
 2214 • **Technology issues**
 2215
 2216 b) Online security (HIPAA,)--Dick Jacobson/Denis Isrow
 2217 <http://www.ndsu.nodak.edu/itsrmg/index.html>
 2218
 2219 c) Bandwidth --Bruce Curtis/John Grosen
 2220 <http://www.ndsu.edu/resnet/bandwidth.php>. Also, see email by Rosi Kloberdanz, ITS
 2221 Director, sent to NDSU-Staff listserv on 5/7/03 regarding illegal trafficking of copyrighted
 2222 music, movies, software and other files on campus (based on letter to Pres. Chapman)
 2223 -- <http://www.ndsu.nodak.edu/its/bandwidth/>
 2224 -- Letter to President Chapman
 2225 http://www.ndsu.nodak.edu/its/about/pubs_policies/riaa-letter.pdf
 2226 -- Open letter from the North Dakota University System IT Security Officer
 2227 http://www.ndsu.nodak.edu/its/about/pubs_policies/riaa-info.htm
 2228
 2229 d) Intellectual property--Valery Kettner/Dale Zetocha/Rick Johnson
 2230 -- Research Foundation
 2231 http://www.ndsu.nodak.edu/ndsu/research_foundation/resfdn.html
 2232 -- Intellectual property policy =
 2233 http://www.ndsu.nodak.edu/ndsu/research_foundation/patent_pol.html
 2234 -- Also see NDSU Policy Manual Section 341: Patents
 2235 <http://www.ndsu.edu/policy/341.htm> and
 2236 -- Section 340: Copyrights
 2237 <http://www.ndsu.edu/policy/340.htm>
 2238 -- New intellectual property policy is currently being drafted by Dale Zetocha (Tech
 2239 Transfer), Val Kettner (Asst. VP for Research), and Rick Johnson (Univ. Attorney).
 2240 Reference: SBHE Policy Manual, Section 611.2 (SBHE policy is overarching;
 2241 NDSU's policy must meet SBHE's); NDSU's new policy will be in Policy Manual
 2242 Section 190.
 2243
 2244 e) Identify authentication--John Grosen/Nem Schlecht
 2245
 2246 f) SPAM filters--John Grosen
 2247
 2248 g) Recycling of equipment--Brian Abraham
 2249 -- http://www.ndsu.nodak.edu/its/depts/clusters/recycling_equipment.shtml
 2250
 2251 h) Hardware/software standards--CITPG
 2252 -- Computer & Information Technologies Planning & Goals (CITPG) Committee

- 2253 -- <http://www.ndsu.nodak.edu/ndsu/cpg/>
 2254 -- <http://www.ndsu.nodak.edu/ndsu/latimer/desktop/index.html>

2255

2256 i) Legal issues--Rick Johnson

2257

2258 ● **Technology strategic plans**

2259

2260 a) System IT plan/policies--NDUS

2261 --ND University System IT Plan

2262 <http://www.state.nd.us/itd/planning/doc/2002-plans/215.pdf>

2263 -- ND Statewide Technology Plan

2264 <http://www.state.nd.us/itd/planning/doc/2002/fullplan.pdf>

2265

2266 b) Campus IT plan/policies--Sandy Sprafka

2267 -- http://www.ndsu.nodak.edu/its/about/projects_plans.shtml

2268 --NDSU Information Technology Visions NDSU IT Plan

2269 http://www.ndsu.edu/its/about/documents/Information_Technology_Plan.doc

2270

2271 c) Campus IT survey--Sandy Sprafka

2272 -- Overview: http://www.ndsu.nodak.edu/its/about/department_visits/overview.shtml2273 -- Detail: http://www.ndsu.nodak.edu/its/about/department_visits/dept_visits.shtml

2274

2275 d) Department/unit technology plans--Tom Bremer

2276 -- ITS Department Visits

2277 http://www.ndsu.nodak.edu/its/about/department_visits/dept_visits.shtml

2278

2279 e) NDSU policy development--CITPG/TEL

2280

2281 f) "45 mile goal" for North Dakota--Legislative Roundtable/Nancy Olson

2282

2283 ● **Technology professional development/training**

2284

2285 a) ITS Training Group.

2286 The training group provides training on various end user software packages. The
 2287 software includes, but is not limited to: PageMaker, PhotoShop, Elements, Word, Excel,
 2288 Access, PowerPoint, DreamWeaver, Contribute, PageCenter, Eudora, Corporate Time,
 2289 Web Graphics, File Management, Acrobat, and other requested software training. The
 2290 schedule and descriptions of training offered, along with the ability to sign up for a
 2291 session, is posted on the ITS web page each semester at:

2292 <http://www.ndsu.nodak.edu/its/training/training.shtml>

2293

2294 b) Help Desk--John Underwood

2295 -- http://www.ndsu.edu/its/help/who_can_help.shtml

2296

2297 c) Staff training/workshops--CJ Johnson/Lorna Olsen

2298 -- http://www.ndsu.edu/its/help/who_can_help.shtml

2299

2300 d) Blackboard--Elizabeth Smith

2301 -- <http://www.ndsu.nodak.edu/its/blackboard/training.shtml>

2302

2303 e) Ag. computing classes--Dave Saxowsky

2304 -- http://www.ndsu.edu/its/help/who_can_help.shtml

2305

2306 f) Formative assessment--Sudhir Mehta

2307 Bush grant proposal of 1999 addresses development of faculty in a variety of teaching
 2308 methodologies, including technological. Support documents already in Office of

- 2309 Accreditation and Assessment
2310 <http://www.ndsu.edu/ndsu/accreditation/assessment/bushgrant/index.shtml>
2311
- 2312 g) Clusters/ACM support--Brian Abraham
2313 -- http://www.ndsu.edu/its/help/who_can_help.shtml
2314
- 2315 ● **Technology tools/services**
2316
- 2317 a) Personal response devices--Nancy Lilleberg
2318 -- <http://www.ndsu.edu/prs>
2319 A Personal Response System (PRS) is a tool for active learning in the classroom through
2320 100% student participation in question-and-answer sessions. By fall 2003, 39
2321 instrumented classrooms have PRS capability, eleven have the PRS receivers, and there
2322 are 20 receivers that can be checked out from the ITS Service Center.
2323
- 2324 b) Blackboard--Elizabeth Smith
2325 -- <http://blackboard.ndsu.nodak.edu>
2326 -- <http://www.ndsu.nodak.edu/its/blackboard/faculty.shtml>
2327 -- <http://www.ndsu.nodak.edu/its/blackboard/students.shtml>
2328
- 2329 c) IVN--Cheryl Thompson/Tammy Cummings
2330 -- <http://www.ndsu.nodak.edu/ivn/>
2331
- 2332 d) Center for High Performance Computing--Bonnie Neas
2333 -- <http://www.ndsu.nodak.edu/chpc/>
2334 The new Center for High Performance Computing is initially housed in the Research 1
2335 building of the NDSU Research and Technology Park but will relocate to the Research 2
2336 building when construction of that building is completed. With initial funding from the
2337 General Services Administration in the amount of \$1.5 million, the CHPC is poised to
2338 meet the high performance computing needs of NDSU researchers as well those of the
2339 federal government and private sector partners.
2340
- 2341 e) Group Decision Center--Sharon Cobb
2342 -- <http://www.ndsu.nodak.edu/gdc/>
2343
- 2344 f) E-card (Bison Card) services--Tom Bremer
2345 -- http://www.ndsu.nodak.edu/physical_plant/telecommunications/bisonlines/
2346
- 2347 g) Network infrastructure--John Grosen
2348 ITS has been a leader in networking for many years and strives to provide a reliable,
2349 secure and redundant network to NDSU. In Sept. 2003 Network Services is completing a
2350 project that provides 10/100 Mbps access to each data jack on campus. ITS actively
2351 participates in STAGEnet, Internet2, and the GPN. Other initiatives include upgrading
2352 the RerNet core switch to provide additional functionality to residence hall students, and
2353 creating a plan to provide wireless networking for campus. ITS also implemented email
2354 spam filtering to help eliminate some of the "unwanted" email being generated, installed
2355 virus software detection software on the server to "catch" infected mail before it is
2356 delivered, manages bandwidth use at NDSU and assists campuses in the NDUS with
2357 their bandwidth management, and informs users of the consequences of sharing
2358 copyrighted material.
2359
- 2360 h) Distance Education--Nancy Olson
2361 -- <http://www.ndsu.nodak.edu/DCE/>
2362 -- news release = "Distance and Continuing Education conferences planned"
2363 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=946

2364 -- August 19, 2002 - 14:47 "Distance and continuing education sponsors stepfamilies
2365 conference"
2366 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=599
2367

2368 i) TLC

2369 -- <http://www.ndsu.edu/tlc>
2370 The purpose of the Technology Learning Center is to meet academic and personal
2371 technology learning needs and goals of NDSU students while promoting autonomous
2372 learning. To fulfill this mission, the TLC staff consisting of a coordinator and student
2373 trainers:
2374
2375

- 2376 ▪ provide one-on-one and small group assistance with technology-related
- 2377 ▪ course work and class projects on a walk-in or by-appointment basis.
- 2378 ▪ assist students with personal projects and learning goals.
- 2379 ▪ provide classes on College-standard topics including Microsoft, Adobe, and
- 2380 ▪ Macromedia software programs as well as non-software specific topics like computer
- 2381 ▪ hardware, networking, scanning, etc.
- 2382 ▪ provide students with opportunities for self-paced learning by providing
- 2383 ▪ books, training manuals, and special software in the lab and also online resources.
- 2384 ▪ assist faculty members who assign technology-intensive projects, like Web
- 2385 ▪ sites, PowerPoint presentations, electronic portfolios, and videos, by providing help
- 2386 ▪ with project planning, identifying best methods, in-class student training, and
- 2387 ▪ coordinating support services for students.

2388 j) Service Center

2389 -- <http://its.ndsu.nodak.edu/about/people/servicecenter.shtml>
2390 The Service Center is housed in the main student cluster area and provides the following
2391 services:
2392

- 2393 • Equipment to check out
- 2394 • Digital cameras
- 2395 • Video cameras*
- 2396 • Digital (DV)
- 2397 • Analog (VHS-C)
- 2398 • Zip drives
- 2399 • Color printing and plotting
- 2400 • Cluster and multimedia help

2401 Service Center consultants can assist you with:

2402

- 2403 • General software questions
- 2404 • Multimedia software
- 2405 • Printing to the color printer
- 2406 • Printing to the plotter
- 2407 • Web site design
- 2408 • Graphics
- 2409 • Video and audio capture
- 2410 • Flatbed and slide scanning

2411 k) SPONGE

2412 -<http://www.ndsu.edu/sponge>
2413 Sponge is a site for step-by-step information on how to complete technology tasks and
2414 projects. It offers instructions on common software and hardware available to students,
2415 faculty, and staff in the TLC and the Service Center.
2416

2417 l) The Web and Technology Center (WTEC)

2418 WTEC services include technology education and training, departmental and instructional
2419 web support, and instructional technology support. Facilities include a technology
2420 resource lab and a training room.

2421

2422 An example of classroom technology: News release January 08, 2002 - 16:20

2423 "Laser, optics teaching lab established."

2424 http://www.ndsu.edu/university_relations/news/wmview.php?ArtID=324

2425

2426 A new interdisciplinary laser and optics teaching laboratory has been established at North
2427 Dakota State University through a \$74,000 National Science Foundation grant.

2428