

The Status of Online Learning in West Virginia Institutions
Including Recommendations for Further Expansion.

A Report Prepared for the West Virginia
Higher Education Policy Commission

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I. Charge, Scope of Work, Process

In October 2002, the West Virginia Higher Education Policy Commission contracted with the Southern Regional Education Board to conduct a study to “review and assess levels of online instruction and provide recommendations for policy changes and other specific actions that would expand access for West Virginians to high quality learning opportunities...” SREB agreed to undertake this study through the staff of the Distance Learning Policy Laboratory (DLPL). James R. Mingle, director of DLPL, and Bruce N. Chaloux, director of SREB’s *Electronic Campus* are the authors of the report.

The commission study is in response to two of the goals outlined by the Legislative Oversight Commission on Education Accountability in its request to the commission of May 21, 2002. Goal #5 calls upon the Commission to expand the use of technology for instructional delivery and distance learning. Goal #7 requests that the Commission develop “an effective and efficient plan to foster greater use of online instruction.”

Other studies called upon by the Legislative Oversight Commission which are relevant to this work include #13 (examination of current and projected capacity relative to demand) and #14 (measures to align capacity with demand). These studies were not reviewed by the authors of this report and thus may not be adequately reflected in this work regarding online learning.

The SREB staff has conducted this study through data collection from the West Virginia Higher Education Policy Commission and selected colleges and universities; through personal interviews with Commission staff and institutional representatives at a meeting held in Charleston on October 30, 2002; and with subsequent follow-up communications. The recommendations also reflect the recently completed study by the Distance Learning Policy Laboratory sponsored by the U.S. Department of Education (see www.electroniccampus.org).

The report reviews not only online learning but also the broader category of “distance learning” through a variety of technology delivery modes.

The views expressed in this report are those of the authors, and not necessarily those of the Southern Regional Education Board and its officers.

II. West Virginia Goals and the Relevance of Technology-based Instruction

Technology enhanced instructional delivery is not an end in itself, but a means for students to achieve their personal and professional goals. For West Virginia, information and communications technologies can make important contributions to the economic and social well-being of the state. In 2002, the Commission established the “Compact for the Future of West Virginia” which delineated six specific goals for higher education and a number of benchmarks against which progress could be measured. The goals include: 1) preparation; 2) participation; 3) affordability;

4) competitive workforce; 5) economic development; and 6) accountability. Within each of these six areas, ambitious benchmarks are set for improvement.

In reviewing these goals, we find that technology-based instruction and distance learning can make important contributions in each area. Indeed, the goals may not be achievable without greater utilization of technology.

1. *Preparation:* The resources now available via the Internet can make important contributions in improving the quality of preparation, particularly among high school students. The ability for high school students, especially in rural areas, to enroll in distance learning programs offered by West Virginia higher education institutions and virtual high schools in other states (e.g. Florida) will significantly enhance the quality of curriculum. Outreach efforts by institutions aimed at improving the skills of teachers will also make a significant contribution to this goal.
2. *Participation:* The Commission has established ambitious goals for increasing both the participation rate of recent high school graduates and adults in higher education. Technology provides the opportunity to deliver high quality interactive instruction in convenient and flexible ways, whether to the desktop at the office or at home. Further, by utilizing other outlets, including public libraries, schools, and hospitals and community centers, technology will make it possible to reach many more West Virginians and will be an important component of the Commissions strategy.
3. *Affordability:* The Commission has defined affordability in terms of “net tuition and fees as a percent of personal disposable income.” However, students incur other, even more substantial costs – most notably “foregone income.” Further, with the increasing number of older students entering higher education many face the cost of child-care and transportation to attend traditional campus-based programs. Costs to institutions and communities can include increased need for transportation infrastructure, parking, and subsequent environmental factors. Distance learning reduces or eliminates many of these costs, even if tuition and fees rise.
4. *Competitive Workforce:* A competitive workforce will “learn as they work” and that means within a rich technological environment. No field of human endeavor is exempt from the global impact of information storage, dissemination, and knowledge creation. Every student will need to be “technologically literate” in order to be prepared for entrance into the workforce of the future. Moreover, they will need to continue to learn throughout their lives to remain competitive in the changing workplace. Establishing a model of “lifelong learning” will require greater technology utilization.
5. *Economic Development:* The Commission’s report emphasizes job creation and retention of graduates in the state. The state’s ability to retain its graduates is critical to increasing the quality of the workforce and to sustained economic development. Economic development in the “information age” means access to information. An important component is a well-developed, easily accessible library information system available to citizens and businesses.
6. *Accountability:* High quality distance learning can add to the success of students by providing access, convenience and a satisfying learning experience. Technology-based

instruction and related online services can help to ensure that educational activities are effective and student achievement, against defined standards, is achieved. Students, for example often find the level of interaction with faculty *greater* than in traditional courses and numerous studies have indicated that learning via technology equates with that in the traditional classroom.

In 2002 the Southern Regional Education Board also adopted an ambitious set of goals for the coming years, noting that providing affordable access both for traditional-age college students and adults seeking retraining has become an economic necessity. Indeed, *SREB's Goals for Education: Challenge to Lead* complements the Commission's goals and have been integrated into a broader effort by the state to ensure the development of both elementary/secondary and higher education (see <http://www.sreb.org/main/Goals/2002GoalsReport.asp>).

"It is hard to imagine that we can reach our education goals without more fully utilizing technology" concluded Mark Musick, president of SREB, at the national meeting where the results of an extensive study of policy challenges in distance learning were presented. (The summary report of can be found at <http://www.electroniccampus.org/policylab/index.asp>.)

III. Progress to Date in Distance Learning

The most recent assessment of West Virginia's distance learning capacity was conducted in July, 2000 by Hezel Associates. The review, which follows, provides an update on that report based on data provided by the Commission staff and institutional representatives.

An Important Caveat on Data: The West Virginia Higher Education Policy Commission has yet to establish consistent reporting standards for distance learning. In large part, this reflects the rapidly changing standards of practice at the institutional level. The data that follows attempts to count unique courses (not sections), offered in the various modalities discussed. If the figures provided in the text and tables appear to be low when compared to other data collections, it may reflect the difference between counting unique "courses" rather than separate sections of the same course. It may also omit courses not listed on web sites. In short, the figures provided should be considered rough estimates, not precise counts.

Satellite Delivery: Located at the West Virginia State College Campus, the Satellite Network of West Virginia (SATNET) provides uplinks servicing over 300 downlink sites across the state. Initiated in the late 1980's, SATNET enrollments and course offerings have been stagnant for a number of years, with average class sizes dropping significantly.

These courses are delivered live to cohort groups of students located at higher education institutions and other public facilities around the state. The one-way video and two-way audio format provides opportunities for faculty-to-student and student-to-student interaction. Downlink or receive sites require physical facilities, maintenance, and personnel support and because they are site-based, offer no flexibility for students, who must attend on-site at specific times. Further, the system uses analog technology, which is being phased out and replaced with digital technology. The future availability, at reasonable rates, for analog satellite time is in question and the cost of replacing existing equipment prohibitive. The Hezel Report noted this need to significantly upgrade to digital

capacity in the near future and estimated the cost of that upgrade at \$1 million in 2000. Current estimates would likely be higher.

In Fall 2002, the Commission signaled its intent to phase out this delivery mode, using the appropriated dollars to fund a statewide WebCT contract aimed at increasing Internet courses. Only West Virginia University will remain on the satellite with its special education program. This program also will be phased out during the coming academic year.

Public Broadcast: The West Virginia Higher Education Instructional Television Consortium (HEITV) started operations in 1976 and serves as the distributor of Public Broadcasting Service (PBS) telecourses to public television stations in the state. Most courses also have a live “face-to-face” component, which requires students to meet professors on campus. Typically, West Virginia public institutions offer 16-20 telecourses per year. Currently about 1,400 students are enrolled in these programs. Similar to SATNET, course offerings and enrollments were in decline in the 90’s from its peak in 1983-84. In 2002, however, enrollments turned up again as PBS began broadcasting more academic programming.

Interactive Video (IVIN): This delivery-mode uses compressed video over landlines to deliver synchronous instruction to off-campus sites. (In some cases, these “live” classes may be video taped and replayed). West Virginia institutions will offer 173 courses in this format in Spring 2003. (See Table 1).

Online (Internet-based) Instruction: Hezel estimated that in calendar year 1999, 106 courses were offered online by five different institutions with approximately 1,100 students enrolled.

Our best estimate is that the current number of online courses offered in Spring 2003 by West Virginia Institutions is approximately 343, a dramatic increase over three years ago. Assuming an average enrollment of 10 students over two semesters ($10 \times 343 \times 2$) this would put annual enrollments at about 6,800 students, or more than a six-fold increase since 1999-2000.

Mixed Mode Delivery (T-Courses): Increasingly institutions are developing a mixed mode of delivery of Internet instruction, with some asynchronous component and some face-to-face. The Commission has established an 80% threshold for these courses to be categorized in this modality.

We have no statewide estimate of courses or numbers in this modality; however Marshall University, the largest developer of such courses reported that 62 Internet courses with an average class size of 15 were offered in Spring 2002.

Imported Programs from Other States: In 2002, the Commission took an important step in expanding access to distance learning programs available to West Virginians by creating formal arrangements to import offerings by institutions outside the state. The most important of these agreements is with Kentucky Virtual University (KYVU) and the Kentucky Community and Technical College System to provide opportunities for up to 400 West Virginia students to enroll in the KYVU associate degree courses and programs offered over the Internet. As of Fall 2002, 220 West Virginia students had enrolled in one or more of the courses available (KYVU offers in excess of 200 courses to West Virginia residents). Students in West Virginia pay Kentucky in-state tuition rates plus 20%, an amount that is still lower than rates at West Virginia institutions. In addition, the Commission pays KYVU \$5,000 per year for student access to the Kentucky Virtual Library

In a similar vein, West Virginia higher education officials have entered into an agreement with the Virginia Community College System to provide both interactive video and online courses. Participating institutions include Eastern West Virginia Community College and Bluefield State College's Greenbrier Community College Center. At the time this report was prepared, there were no course enrollments or activities to report from this arrangement.

Statewide Courses and Programs: Like other states, the availability of full academic programs that can be taken predominantly "at a distance" is much more limited than the availability of individual courses. Significant progress in West Virginia, however, has been made in the past year.

By our estimate, there are now 11 academic degree programs and an additional four certificates or areas of emphasis fully available statewide via distance learning. In addition, there are two programs at Marshall University, which are nearly complete or scheduled to be complete in the near future (See Table 2). Also included in this table is the partnership with Kentucky Virtual University for an associate degree curriculum described earlier.

As for total courses, an estimated 563 asynchronous Internet courses are now available in West Virginia each semester. About 40% of these will be provided through the arrangement with Kentucky Virtual University. (This may be a somewhat inflated percentage if the listings from KVVU include multiple sections from the same course.)

If the commission counts both the imported courses and those available from Kentucky institutions, we estimate that about 3.7 percent of all course offerings (15,000) are currently in an online format. If the Commission counts only those available from West Virginia institutions, the percentage drops to 2.3. (If the 15,000 figure includes multiple sections of the same course, these percentages are too low.)

The West Virginia Virtual Learning Network currently lists approximately 180 courses from seven West Virginia Institutions, with more than half of these being delivered from one institution: Marshall University. Since the criteria for listing these courses is that slots will be available to students outside the college or university, this may be a more realistic number of courses available to "distant learners" than the figures in Table 1. Without additional information however, it is impossible to know how many potential spaces may be available.

Table 1

**Distance Education Courses by Institution and Modality
Spring 2003**

Prepared December 13, 2002; revised January 16, 2003

	Interactive	Internet	SATNET	Instructional TV		Total
	Video or	Online or	or	PBS or		Course
Institution	IVIN	Web CT	Satellite	HEITV	Total	Offerings All Types
Marshall University	59	32	5	7	103	
West Virginia University	39	108	8	11	166	
Bluefield State College	20	9	1	6	36	
Concord College						
WV Northern Community College	0	18	0	2	20	
WVU Tech	42	46		4	92	
Fairmont State College	0	27	0	9	36	
SWCC		6	1		7	
WVU – P		57			57	
Potomac State College						
West Liberty State College						
EWVCC	13	31			44	
WVSC						
Glenville State College		9			9	
Shepherd College						
Total Courses by Modality	173	343	15	39	570	15,000 (est.)

Notes:

1. The numbers provided in this table are a result of reviewing college web sites, their Spring 03 schedules, distance learning pages, and catalogs. They reflect *distinct course offering, not sections*, and may vary from institutional counts for this and other reasons such as adding, dropping or updating spring schedules. In some cases, institutions may not be listing all distance-learning courses on their web site. The Dean of Extended Learning provided corrected figures for WVU. Institutions that have blank columns showed no results in the search for distance learning courses.
2. The total number of course offerings (15,000) was provided by Commission staff and may include multiple sections of some courses. If so, the number may be inflated when compared to the distinct course offerings by modality.

Table 2
Distance Learning Degree Programs Available to
West Virginia Citizens
2002-03

Name or Type of Program	Certificate or Degree	Participating Institutions
Information Technology(WVEXcITE)	A.A.S	13 Two-year institutions
General Education	A.A. & A.S.	Kentucky Virtual University
PBS "Going the Distance"	A.A. & A.S.	4 State Institutions
Special Education	M.A.	WVU
Physical Education (Teacher Education)	M.A.	WVU
Software Engineering	M.S.	WVU
Integrated Marketing Communication	Certificate	WVU
Software Engineering	Certificate	WVU
Nursing	R.N/BSN &M.S.N	WVU
Rehabilitation Counseling	M.S.	WVU
Foreign Languages	Teaching Endorsement	WVU
Professional Writing	Area of Emphasis	WVU
Occupational Therapy	B.S. Completion	WVU
Education Leadership Studies*	M.A.	MU
University Regents BA	B.A.	MU
General Studies **	A.A.	MU

Notes:

1. Some WVU programs require onsite component. All are majority distance learning.
2. *Available in T Courses (at least 80% online).
3. ** Expected to be fully online in Fall 2004.

WV Participation in SREB Initiatives: West Virginia has been an active participant in a number of SREB's distance learning initiatives. Representatives from West Virginia initially helped SREB staff and other state representatives frame the policies and procedures for participation in the program. Subsequently they have promoted participation in the SREB's *Electronic Campus* (EC), have reviewed, and approved current programs and courses for inclusion in the EC. Nearly 100 courses and three degree programs are currently listed in the *Electronic Campus*.

When SREB launched its Academic Common Market/*Electronic Campus* (ACM/EC) initiative, West Virginia selected five online programs from other SREB states, making those online programs not otherwise available from West Virginia's colleges and universities, available to West Virginia residents at in-state tuition rates. A summary of the current involvement of West Virginia institutions in the EC is included in Appendix A.

Finally, West Virginia has recently initiated an effort to expand "West Virginia Mentor" to include all public colleges and universities. WVMentor is a statewide system that makes available from one integrated site (www.wvmentor.org) information about West Virginia's colleges and universities, financial aid information, career development tools, online applications for admission and financial aid, and a variety of other services. West Virginia joins 11 other SREB states in making Mentor systems available to residents of their states. SREB is building on to Mentor systems an adult and e-learning dimension. Dubbed "Ways In™," this regional "learning network" will link, through Ways In Mentor, existing Mentor sites and provide greater access to e-learning opportunities and services.

Other Institutional Initiatives: Appendices B and C outline a number of other important technology related initiatives underway at the state's two largest institutions: West Virginia University and Marshall University. (Other institutions may have similar programs). Particularly noteworthy are the variety of externally funded programs to work with school districts and teachers by both West Virginia University and Marshall University.

Summary of Current Offerings and Capacity

Full and accurate data are not yet available in West Virginia as to the number of courses, programs, and enrollments in distance learning. (A common problem in other states as well). Given the data available however, we can draw some tentative conclusions.

- Online learning is growing rapidly as other modalities remain stagnant or decline.
- Kentucky Virtual University accounts for a significant component of online learning in the state.
- West Virginia institutions will offer an estimated 343 fully-asynchronous Internet based courses in Spring 2003.
- In Fall 2002, eleven complete degree programs and another four certificates were available in a distance learning modality.
- Online learning delivery is estimated at about 2.3 percent of all course offerings in the state; and about 3.7 percent of all offerings if imported courses from Kentucky Virtual University are included.

IV. The Role of Statewide Coordinating Boards in Technology-based Instruction

Coordinating Boards like the West Virginia Commission typically do not have direct governing or fiduciary responsibility for campuses. Nor do they often directly oversee educational activities or services in which students directly participate. Nevertheless, their powers and responsibilities are substantial. As the primary agency charged with planning and coordination, they can exercise substantial influence on the goals, objectives, and activities of the state's postsecondary system. In addition, they exercise significant control over institutional priorities through budgetary powers and regulatory authority.

Most importantly, coordinating boards like the West Virginia Commission have played a central role in developing statewide goals for extended accessed and improved quality. In this regard, they play the role of both student advocate and institutional change agent.

In the area of information technology, their role in many states is substantial and growing. Either alone, or in cooperation with other state agencies and the private sector they have been involved in the following:

- The development of statewide telecommunications networks.
- The initiation and funding of virtual libraries that provides widespread citizen access to information resources regardless of the user location.
- The organization and management of "virtual universities" whose functions can range from simple electronic catalogues, to the provision of student services (e.g. help desks and tutoring) to academic course development and marketing.
- The negotiation of statewide licensing agreements for information databases, course management software, and other technology related tools.
- The development or participation in joint purchasing cooperatives on behalf of institutions.
- The determination of critical state needs that can be met by technology-based instruction, research and service activities.
- The brokering of agreements with out-of-state systems and institutions for the importation of curriculum.
- The development of tuition and fee policies (e.g. electronic rates that are independent of the location of the learner).
- The funding of faculty and curriculum development efforts that is technology-related.
- The opening of markets to institutions outside the state, which are ready to serve the needs of state residents.

V. Issues Relevant to the Current and Future Role of the West Virginia Higher Education Policy Commission (HEPC)

In our review of documents and our personal interviews with Commission staff and institutional representatives, the following issues surfaced relative to the role of the Commission and its funding policies.

1. *Determining the Appropriate Role for Providers and Receivers of Distance Learning:* In many states there has been a rush from too many institutions to enter the distance learning market. The Commission is supporting a more limited approach, however – a strategy which we support. The ability to compete in a global market of providers will require significant resources, not only for curriculum, but also for student services and back-office operations. In setting its policies, the Commission will need to distinguish between the technological needs that *all* campuses have to support their operations, and those special needs required of institutions that are going to provide programs statewide and beyond. At the same time, financial incentives are needed to support the important role of local receiver.
2. *The Role and Functions of the West Virginia Virtual Learning Network (WVVLN):* This nascent effort is a consortium of the state's public higher education institutions whose purpose is to support the development and delivery of online courses to the state's citizens. Its activities to date have focused on the development of a web site listing available courses and programs (expected to be operational by Spring 2003). In addition, there are proposals to better define "articulated pathways" to degrees targeted at non-traditional learners and the development of a "tiered network" of learning centers across West Virginia to provide technical access.
3. *The financing of enrollment growth:* Under the current "peer institution" approach to funding, there are no explicit incentives for institutions to expand enrollments either on-campus or through distance learning – except those provided by the generation of tuition revenue. Given that nearly half of the current tuition and fees is dedicated to bond retirement, even this financial incentive is relatively weak. While it is beyond the scope of this study to offer recommendations for changing the overall funding system, we do believe that the current system should be reexamined in light of the aggressive goals for increasing participation.
4. *Local Support of Distance Learning Students:* Community colleges participating in the contract program with the Kentucky Virtual University believe that students participating in these programs are in need of local support. This may take the form of technical or academic assistance or merely "hand holding" to build student confidence in undertaking this new mode of education. Currently there is no financial support either from the state or through tuition to pay for these costs. Some institutions have dedicated operational funds to this purpose; others have not.
5. *Statewide Student Services:* Services provided distant learners are primarily an institutional responsibility in West Virginia. However, in November 2002, the Commission took an important step in collaborating with West Virginia Mentor a service that will provide information and admissions applications for West Virginia's degree-granting public and

independent colleges and universities. From this “portal” students will be able to explore learning opportunities, visit (virtually) colleges and universities, make application online via *WVApply*, and apply for financial aid. Access to the *WVMentor* system is provided free of charge. The service is supported by Xap, a California based corporation and is underwritten by American Education Services, a division of the Pennsylvania Higher Education Assistance Authority, a student loan guarantor agency.

6. *Relationship with other state agencies and entities:* One of the most important functions of statewide coordinating boards relates to the “border” functions with other entities. In other states, this function has led to important collaborative efforts with state departments of education, state and local library systems, and state economic development efforts. In the section that follows and in our recommendations we suggest some specific cooperative initiatives for the Commission.
7. *Accountability measures:* The Commission has established a number of concrete benchmarks against which the state plans to measure its progress. Distance learning should be expected to make its contribution toward the achievement of these goals. In addition the Commission has established an “informal” goal of having 25% of its course offerings statewide available online.
8. *Statewide Coordination:* The Commission has moved to secure important infrastructure needed for distance learning by negotiating a statewide licensing agreement with a vendor for a course management system. In addition, the Commission is playing an active role in the coordination of statewide course offerings and the negotiation of payment and revenue sharing policies. We believe these are important steps in the development of a statewide distance learning effort.

VI. Programmatic Needs

In the course of our interviews, a number of critical statewide needs were identified and discussed. Others may emerge from parallel studies in response to the May 2002 legislative mandates.

Teacher Education: The legislative mandate calling for a study of online education explicitly mentions the field of teacher education. According to institutional representatives there is a widespread belief among legislators and policymakers that a shortage of qualified teachers exists in the state. This is not supported however by the data provided on teacher education graduates and employed teachers from the State Department of Education. This agency reports that only 1,240 teachers out of a workforce of 24,253 in the 2000-2001 school year did not have certifications in their field.

Commission staff note, however, that future demands are likely to change this picture as high school graduation requirements are increased in the years ahead. And current shortages already exist in such sub-specialties as special education, math, science, and foreign languages.

We would also note that the full impact of recent federal legislation (No Child Left Behind) is likely to put considerable pressure on school districts, particularly rural ones, to upgrade their staffs. For

example, by 2006, all teacher aides in Title I schools are expected to have an associate degree or its equivalent.

Workforce Development Programs: While the shortage of information technology (IT) workers has been largely alleviated because of overcapacity in the telecommunications sector, this demand will likely return over the long term and is already being stimulated by government contracts related to homeland security. Other fields, including many in the public sector (e.g. criminal justice and health care fields such as nursing) may well emerge in the Commission's studies. Many of the "applied" programs are notably short in online learning resources, although a number of new nursing programs have emerged in other states during the past year.

Adult Literacy: West Virginia has set ambitious goals for increasing adult literacy. We believe that technology can play an important role in achieving these goals. As in most states, the primary responsibility for adult education and ESL instruction rests with the state department of education and is supported primarily by federal funds. The Commission may want to examine strategies undertaken in Kentucky. Joint efforts between higher education, the K-12 sector, and the state economic development office have been aimed at using technology to increase the number of literacy tutors and the sophistication of learning tools.

VII. Recommendations

The recommendations below are offered with full understanding of the current fiscal situation in West Virginia. It is unlikely, that some of the more expansive initiatives recommended can be undertaken in the near future. But we believe the intent of the legislative mandate to the Commission was to develop a *long-range plan* to better utilize technology. Thus we have offered both recommendations that can be undertaken immediately and those that may need to wait for an up-turn in state revenues. We congratulate policymakers and institutional leaders, faculty, and staff on the commitments already demonstrated.

Our recommendations are as follows:

1. *The Commission should terminate its support of SATNET.* We support the recent decision of the Chancellor to phase out support of SATNET. A number of reasons can be cited for this action: a) the emergence of asynchronous delivery to the desktop as the primary mode of delivery for distance learning courses; b) the declining enrollment and high cost of delivery of the current system; c) the necessity for upgrading the current system; and d) the need for reallocation, given the current fiscal climate.
2. *The Commission should continue its strategy of importing curriculum from out-of-state providers.* We find this to be an all-to-rare occurrence in state policy and applaud the Commission's vision and leadership for undertaking the contract with Kentucky Virtual University. This arrangement is good for Kentucky and good for the citizens of West Virginia. Further, it reduces development costs and utilizes existing, high quality resources. We encourage exploration of similar opportunities for contracting for courses, particularly in those fields identified as critical shortage areas.

3. *The Commission should initiate its proposal for a West Virginia Virtual Learning Network to carry out important statewide functions including a) a public portal of distance learning offerings; b) negotiation of statewide contracts with vendors (including providers of courses and curriculum); and better articulation of degree-credit among institutions.*

In the long term, whether under this structure or another, we urge the Commission to consider an even broader set of services aimed at improving the quantity and quality of offerings and to gain economies of scale. These should include:

- Promoting the statewide development and utilization of technology in teaching and learning on college and university campuses;
 - Building upon the current West Virginia Mentor™ program to include online applications, access to online library resources and services, financial aid information and access, and career development tools;
 - Encouraging faculty development efforts in technology use;
 - Developing collaborative degree programs;
 - Ensuring the quality of e-learning programs, courses and services delivered by West Virginia colleges and universities;
 - Encouraging strategic initiatives and partnerships to provide a breadth and depth of services for West Virginians; and
 - Promoting lifelong learning opportunities for West Virginians.
4. *The Commission, in cooperation with the State Department of Education, should initiate a significant new effort aimed at adult literacy. This effort is too important to be left to a single agency. It will take a cooperative effort to meet the goals of the state and expand the program. Technology can play a role in training teachers and improving the effectiveness of student learning.*
 5. *The Commission, the State Librarian, and other appropriate groups, initiate a comprehensive “virtual library” initiative. This can be done initially within a statewide portal (suggested above) by providing access to existing collections. Over time, such a statewide initiative could realize real savings by negotiating contacts for access to online collections. The goal should be widespread free or low cost access to the information resources of the state’s libraries to all citizens regardless of their location.*
 6. *The Commission, in cooperation with the State Department of Education and local school districts, identify the needs for continuing education of teachers and staff, particularly in response to the requirement of the new federal legislation on schools found in “No Child Left Behind” (NCLB). This initiative can build upon the already substantial efforts of West Virginia institutions. As noted earlier we expect the continuing education needs of employed teachers to grow.*
 7. *The Commission should provide special funding through appropriations and/or student fees for the provision of local tutoring support for distance learners, particularly those served by imported programs. Both as an incentive for institutions to participate and as a way of meeting the real needs of students for local support, we recommend the Commission examines its current contractual relationship with KYVU and its tuition and fee policy. The goal*

should be to adequately fund the costs of student support at any state receive site or location where services are provided.

8. *The Commission should establish accountability measures for monitoring progress in online education, which recognizes the role of both provider and receiver roles.* The first task will be to establish definitions and reporting standards that are more consistent and understandable so that progress can be accurately measured. Secondly, given that we estimate that only about 2 percent of existing class offerings are online, the current goal of providing up to 25 percent in this category may need to be adjusted. A more appropriate goal may be to establish numerical benchmarks for year-to-year growth in enrollments and offerings, making sure to include “imported” courses.
9. *The Commission should expand its participation in a number of SREB initiatives, specifically the Electronic Campus, the Academic Common Market/Electronic Campus (ACM/EC) initiative, and the new regional “Ways In Mentor.”* The ACM/EC program could make additional online degree programs available at in-state rates and, by doing so; expand opportunities for West Virginians significantly. West Virginia’s commitment to establishing its own statewide Mentor™ system can be expanded dramatically by linking to and coordinating efforts and services through the regional Ways In Mentor system currently being developed.

Appendix A
West Virginia Participation in the *Electronic Campus* and the Academic Common Market/*Electronic Campus* for Academic Year 2002-2003

Distance Learning Courses in the <i>Electronic Campus</i>			
2	Bluefield State College	2 Undergraduate	1 Internet, 1 Videotape
42	Marshall University	40 Undergraduate 2 Graduate	42 Internet
2	Southern West Virginia Community and Technical College	2 Undergraduate	2 Internet
10	West Virginia Northern Community College	10 Undergraduate	10 Internet
1	West Virginia State College	Undergraduate	1 Satellite
35	West Virginia University	22 Graduate 13 Undergraduate	27 Internet, 8 Satellite, 1 Audio
6	West Virginia University Institute of Technology	6 Undergraduate	3 Internet, 3 CD-Rom
98			
Distance Learning Programs in the <i>Electronic Campus</i>			
	West Virginia University	Master of Science in Education – Special Education	Satellite
	West Virginia University	Master of Science in Software Engineering	Internet
	West Virginia University	Master of Science in Physical Education Teacher Education	Internet
Programs Available to West Virginia Residents through the ACM/EC			
AL	Jacksonville State University	Bachelor of Science in Emergency Management	Internet
AL	Jacksonville State University	Master of Public Administration /Emergency Management	Internet
FL	Florida State University	Master of Science in Information Science, Library and Information Studies	Internet
TN	University of Tennessee – Knoxville	Master of Science in Information Science	Internet
VA	Virginia Commonwealth University	PhD in Health Related Science	Internet

Appendix B

Marshall University

Distributed Delivery of Professional Development Special Project

ARSI: <http://www.arsi.org/>

The Appalachian Rural Systemic Initiative is a program designed to improve the performance of K-12 students in mathematics and science by strengthening the knowledge and skills of teachers. During 2002, Marshall University has been and continues to be involved in several ARSI projects and initiatives. One such project is the partnership Marshall has formed with ATEC (Appalachian Technology Education Consortium), which focuses on the importance of technology and providing online technology training to teachers.

IBM Learning Village:

IBM has awarded the West Virginia Department of Education and Marshall University a \$1.5 million grant designed to drive higher-quality training for West Virginia teachers by creating a first-of-its-kind collaboration between teacher education programs and the public schools they serve. The technology-based initiative will link the West Virginia Department of Education with Marshall University, where student teachers as well as veteran teachers will learn to use IBM Learning Village -- new Web-based educational tools designed to drive higher student achievement. IBM's \$1.5 million commitment to West Virginia is part of a \$15 million Reinventing Education grant program will pave the way for teachers at more than 20 leading schools of education in nine states to receive new levels of quality training and professional development that help meet the requirements of the President's No Child Left Behind Act.

The West Virginia Department of Education was awarded one of the first IBM school reform grants, where its success in raising student achievement in grades 7 through 11 is documented by independent evaluation. This latest IBM grant will build on the success of Reinventing Education in West Virginia. "With the No Child Left Behind Act in full swing this fall, this grant comes at a perfect time to assist us in meeting some of the new mandates," said Brenda Williams, Executive Director for the Office of Instructional Technology. "Based on the historical positive partnerships with IBM and Marshall University, this experience will allow us to provide our educators a powerful form of professional development."

For pre-service teachers, IBM Learning Village tools will be integrated into Marshall University's methods classes and field experiences. For in-service teachers, the project plans to create IBM Learning Village training modules that will include lesson plan development, assessment activities, portfolio development and mentoring. The project also will provide teacher-training tools for all state teachers through the eight Regional Educational Service Agencies.

Infinity Project:

The Infinity Project is a nationally recognized partnership between leading research universities, industry, government, and K-12 educators to help school districts incorporate modern engineering and technology into their high school curricula. CITE (College of Information Technology and Engineering) at Marshall University has committed to help Kanawha County Schools (KCS) in its adoption of the Infinity Project. In July 2002, CITE conducted a professional development workshop for math, science, and technology teachers who are responsible for delivering the Infinity

Project courses in KCS during the year. CITE will follow-up with several more online professional development sessions for the KCS teachers throughout the remainder of this year.

June Harless Center for Rural Educational Research and Development:

Two components of the June Harless Center for Rural Educational Research and Development at Marshall University, the June Harless Center for Reading Excellence and the Center for Innovative Learning Strategies, are currently working together to provide online professional development for public school teachers. On December 18, a pilot program begins which focuses on Writing Across the Curriculum for the staff at four Wayne County middle schools. In January, an online professional development program will begin at five Wayne County elementary schools and one Mingo County elementary school, which will focus upon best reading practices and strategies for elementary teachers. <http://www.marshall.edu/coe/june.harless/>

Project ACCLAIM: <http://www.marshall.edu/acclaim/>

The Appalachian Collaborative Center for Learning, Assessment, and Instruction in Mathematics (ACCLAIM) is a collaboration among Marshall University, the University of Tennessee, the University of Kentucky, the University of Ohio, the University of Louisville, and the Appalachian Rural Systemic Initiative. The Center was funded in 2002 for five years by a \$5 million grant from the National Science Foundation. Marshall University is responsible for ACCLAIM's teacher education initiative. This initiative includes delivering professional development for postsecondary faculty, which can be delivered via online learning.

Project MERIT: <http://webpages.marshall.edu/~blevins/merit.htm> & <http://wvde.state.wv.us/projectmerit/>

Project MERIT: Mathematics Education Reform Initiative for Teachers," a five-year Teacher Enhancement project, continues and expands a prior NSF-supported planning project to address the established need of middle school mathematics teachers to improve knowledge of the content of mathematics and how students learn mathematics. MERIT builds capacity for change through professional development by nurturing a mathematics leadership team (MLTs) and 125 mentor teachers (MMTs), one or more from each of the 55 county school systems in West Virginia. Using the NSF-supported MathScape instructional materials as the vehicle for change, MERIT provides for the systematic delivery of instruction in the pedagogical content knowledge of mathematics to more than 950 middle grades mathematics teachers. Over the life of the project, the 35-member mathematics leadership team (MLTs) participates in 36 days of formal professional development; the 125 mentor teachers (MMTs), 45 days; the approximately 950 middle grades mathematics teachers, 18 days; school/county administrators, 9 days; and higher education faculty and administrators, 10 days.

Project evaluation includes both student and teacher components. Evaluation of student achievement is made using the Stanford Achievement Test-9 (SAT-9) and ACT Explore. The teacher component assesses growth in teacher content knowledge, pedagogical skills, and classroom implementation strategies. The project is a collaborative effort among the W. Va. Department of Education, the University and State College Systems of W. Va., the W. Va. Council of Teachers of Mathematics, and the W. Va. Mathematics and Science Coalition.

Marshall is involved with several online algebra projects:

1. Evelyn Pupplo-Cody chairs the Mathematics Electronic Course Committee on the Marshall campus. The committee is currently developing four online courses: College Algebra (MTH 130E),

College Algebra with Business Applications (MTH 123E), Math for Liberal Arts Majors (MTH 121E), Statistics (MTH 225E). Those are the generic names; MU course titles differ slightly. These courses are also being developed as dual-credit high school offerings. The MTH 130E course is ready, and is being piloted this fall at St. Joseph High School by Francie Martin.

2. Marshall is also involved with Project MERIT, a statewide effort to update the mathematics skills of middle school teachers. This project is headed by Dr. Elizabeth (Libby) Frye at Fairmont State College. The courses are developed by a partnership between WVU & MU and are distance learning courses with a few face-to-face meetings. The Algebra course began last year and is being offered again this year. Lead on that course is Bob Mayes (WVU). The Geometry course is offered this fall for the first time. Lead on that course is Karen Mitchell (MU). Statistics & Calculus courses will follow next year under the leadership of Nancy Wilson (MUGC) & Bob Mayes. I chair the Marshall group that is working on this, and we have five other faculty members.

Accomplished Teachers Project:

The West Virginia/Marshall University Accomplished Teacher Project (ATP) is designed to build upon the successes of the past and create new initiatives to recruit and support National Board Certified Teachers (NBCT) on a statewide and regional basis. This effort is technology based and will emphasize recruiting and supporting NBCT candidates from every county (school system) in the state. A special emphasis will be placed on recruiting and supporting candidates in school systems with no NBCTs, low achieving schools and low achieving school systems. The project will also seek to develop partnerships and coordinate NBCT candidate recruitment and support initiatives with other states and agencies throughout the Appalachian region.

In 2000-01, there were 20,845 classroom teachers employed in West Virginia schools. The number of teachers per school district ranged from 80 in Clay County to more than 2,000 in Kanawha County. The number of National Board Certified Teachers grew from one in 1997 to two in 1999 to 23 in 2000 (19 from the same school district) and, finally, to 54 National Board Certified Teachers in West Virginia in 2001. During the 2001 cycle, the Marshall University Accomplished Teacher Project enrolled 16 participants from 11 different school districts.

The West Virginia Accomplished Teacher Project is now in its third year of operation. The project has been small but successful. Thirteen of the 16 candidates completing the program in 2000-01 achieved national certification. Resources currently available and committed to the project include:

- Full candidate fee support currently provided by the West Virginia Legislature upon completion of the NBCT process; (legislation passed in 1999 and is retroactive to 1998);
- Candidates who are banking have funds available to pay for retakes (2001);
- Candidates who certify currently are reimbursed up to \$600 for materials and expenses;
- Marshall University's technology capacity and infrastructure are in place to continue to support the online components of the initiative;
- Facilities and equipment for training have been provided by RESA III and Marshall University;
- Marshall University is committed to housing and facilitating statewide and regional coordination for the project; and
- A successful track record with the current candidate support program (ATP).

Major Project Activities

The major activities for each of the three project components are described below:

Candidate Recruitment Component

Major recruitment activities include:

- Conduct three-day summer institutes at selected sites throughout the state; these institutes are designed to immerse candidates in the National Board process;
- Recruit and disseminate National Board information at statewide professional conferences (math, science, middle level, superintendents, PTA, etc.); district staff development sessions; faculty senates and Boards of Education; and
- Conduct statewide public information initiatives such as newspaper advertising, statewide web site, recruitment brochure distribution, and development/distribution of candidate information packets.

Candidate Support Component

Because of the demonstrated success of the Accomplished Teaching Project (ATP) through Marshall University to both recruit and support candidates in rural districts, this proposal is focused on providing support for the continuation and expansion of the ATP model. The major components of this model are online support using WebCT as the instructional platform, monthly face-to-face candidate meetings, mentor support, and a graduate credit coursework option for portfolio development. Since all of West Virginia is included in the Appalachian region, the goal is to expand the ATP to develop regional site locations (RESA based cohorts). During 2002-2003 the goal is to make four sites operational (based on geographic distribution of 2002-03 candidates). In 2003-04, the goal is to make all eight sites operational.

Outreach Projects at Marshall University

Marshall University has numerous ongoing outreach projects and programs. The following table shows the number of approximate people in the community, which are served by some of Marshall's outreach projects. Check back to watch the "Total Population Served" number grow as more and more outreach projects at Marshall are included in the below listing. Development projects that are distributed are highlighted in yellow.

<i>Outreach Project/Program</i>	<i>Population Served</i>
ACCLAIM	TBD
AROPCNC—Appalachian Rural Outreach Primary Care Nursing Center	600
ARSI--Appalachian Rural Systemic Initiative	17,874
Autism Training Center	600
Careers in Coal	7
CBER—Center for Business and Economic Research	10,000
Child Care Academy	406
Children's & Teens' College	500
Circle of Friends Preschool	15
Cisco Networking Academy	80
CITE--Center	684
Computer Learning Center	800
Deckhand Training	36
Discover Program	TBD
Drop-In Workshop Series (Drinko Library)	6200
Dual Credit	950
Ebenezer Outreach Clinic	1900
EMI--Environmental Management Incubator	540
Enterprise Project	TBD
EntrePREP	24
HOSTS Program	TBD
IMPACT--Implementing Model Practices to Assure Competent Teachers	35
International Brotherhood of Painters and Allied Trades	400
ITCAP--Information Technology Career Advancement Program	60
June Harless Center	2100
June Harless Distance Learning Program	47
K-12 Summer Enrichment Program	300
Larry Joe Harless Community Center	TBD
LIP--Leadership Intern Program	12
Lego Camp	160
Library Associates	300

Marshall University Leadership Academy	30
Military Program (SEE)	TBD
Mini-Society	25
Marshall University Forensic Science Center	3,000+
Marshall University Psychology Clinic	100
MUGC Community Clinical Services Center	5,000+
Performing Arts Program	11,000
Project MUST	TBD
RTI--Rahall Transportation Institute	3,733
Robert C. Byrd Institute for Flexible Manufacturing	37,000+
Read Aloud Project	42
RuralNet	6,200
S.C.O.R.E.S.	3,000
School of Extended Education	4,000
Small Business Development Center	315
Speech and Hearing Center	920
TLP--Teacher Lecture Program	200
Toyota's Science on Wheels	3000
Upward Bound	70
WebCT Conference	100
Westmoreland School Project	90
WV Prevention Resource Center	1,000+
WVEDucation2	TBD
Total Population Served	123,455

Appendix C
WEST VIRGINIA UNIVERSITY
Technology-Enhanced Outreach Efforts

Distance Education Degree Programs and Special Projects

Libraries

WVU Libraries offers services to distance education students and off-campus WVU employees via their web site at www.libraries.wvu.edu/distance. Distant students have access to the same databases and research sources as on-campus students and librarians will e-mail articles or mail books to students via the U.S. Postal Service. Campus lectures are also available online. The library staff has just completed digitizing the videotapes of the Benedum Scholar Lectures and they will be available on the web site. The library also has other initiatives to help scholars and historians. WVU and Carnegie Mellon are participating in a National Science Foundation-funded digital information project. WVU will contribute digitized materials from an archive of coal miners and mining including speeches of John L. Lewis and other oral history of labor organizing in West Virginia. Other digitization projects of unique West Virginia materials are planned. WVU regularly posts online exhibits from varied collections at www.libraries.wvu.edu/exhibits/. WVU Libraries web site, including the MountainLynx online catalog, is also available to anyone with an Internet connection.

The Health Sciences Library is the state provider for the National Network for Libraries of Medicine. It also provides extensive electronic document delivery services to rural healthcare providers statewide.

West Virginia Legal Education <http://www.wvu.edu/~law/cle/>

West Virginia Continuing Legal Education serves the legal profession by providing the highest quality and most innovative programs, publications and services to enable West Virginia attorneys to practice law competently, professionally and ethically. West Virginia Continuing Legal Education is a cooperative effort of the West Virginia University College of Law and the West Virginia State Bar, and is the most respected and most often relied upon source of continuing professional education for West Virginia attorneys, providing live seminars, distance learning and online education opportunities, and self-study resources through videotapes, audiocassettes, and compact discs. In fiscal year 2001-2002, WVCLE enrolled 2,932 lawyers for its seminars, audio/visual and online courses.

In order to provide members of the West Virginia Bar with an efficient, easy manner in which to satisfy their mandatory continuing legal education requirements, West Virginia Continuing Legal Education office began offering online CLE courses beginning in May 2002. Several programs from recent seminars are available online through streaming video technology on the West Virginia Continuing Legal Education web site. In the last six months, our online courses have been accessed 472 times for credit by attorneys licensed to practice law in West Virginia.

West Virginia Continuing Legal Education has taken advantage of advancements in distance learning technology and extended its outreach through utilization of the statewide IViN distance learning system. The IViN, (Interactive Video Network) network is an interactive video and audio network, which utilizes numerous communication technologies to connect West Virginia University with other campuses throughout the state. In 2002, WVCLE presented five continuing legal education seminars using distance learning technology to reach attorneys in Charleston, Beckley, Keyser, Morgantown,

Parkersburg, Shepherdstown, and Wheeling, enrolling 661 West Virginia attorneys for courses addressing legal ethics, statutes of limitation, family law, and a general update on West Virginia law. Additional programs planned for 2003 include damages and social security issues.

West Virginia Continuing Legal Education is the primary provider of current legal audio-visual materials addressing West Virginia legal issues, and maintains the only lending library of continuing legal education video courses in the country. In FY 2001-2002, West Virginia Continuing Legal Education produced 15 new continuing legal education courses available on audio or video cassettes and edited, duplicated, and shipped 782 copies of our audio and video course offerings. Additionally, audiocassette courses were shipped to 62 attorneys who registered for courses but were unable to attend in FY 2001-2002.

West Virginia Continuing Legal Education maintains a web site dedicated to Public Education Legal Resources (<http://www.wvu.edu/~law/cle/edlaw/edlawresources2.html>). This web site, which emphasizes resources pertaining to the delivery of special education services, provides attorneys and parents throughout the state with a wealth of information including various state policies and operations manuals, selected county policies and procedures, and an archive of administrative investigations, including letters of findings and compliance monitoring reports issued to West Virginia county schools by the West Virginia Department of Education Office of Special Education. Links to federal resources provide access to detailed information on the Individuals with Disabilities Education Act (IDEA) and the Americans with Disabilities Act (ADA).

Physical Education

The School of Physical Education offers the Master of Science degree in Physical Education Teacher Education. The program is a 36-credit hour program with both on-site and distance education components. Participants spend two weeks each summer on campus completing coursework and return home for the school year and take courses via the Internet.

Human Resources and Education

The College of Human Resources and Education has offered the Master of Arts in Special Education since 1989 using technology. The technologies have migrated from satellite delivery broadcasts to a blended program incorporating web and streaming video technologies. This program is listed at resident tuition and outreach through EC and hosts students from across the globe serving approximately 150 students per course.

In January 2003, the College will offer a new **online Master of Science degree in Rehabilitation Counseling**. WVU's program is fully accredited by the Council on Rehabilitation Education (CORE) and ranked as one of the top in the country. The Master of Science degree program of study in rehabilitation counseling consists of 51 credit hours of study with a practicum and internship. Graduates find employment in state vocational rehabilitation agencies, non-profit and private rehabilitation agencies, rehabilitation centers, community or institutional mental health settings, corrections, schools, hospitals and related areas that emphasize rehabilitation. The E-Campus initiative will afford us the exciting opportunity to demonstrate the capacity of distributed learning in the delivery of a graduate program in rehabilitation counseling. The coursework will be composed of both distance education and face-to-face classes, which minimizes students' time away from employment and home, as well as cutting travel expenses. During e-campus sessions, students study and participate in classes at their home/work site, using a carefully planned array of innovative

learning technologies. The Internet, via the World Wide Web, will be the primary mode for communicating during e-campus class sessions.

The **E-Resource Center** was established by faculty and staff of the Rehabilitation Counselor Education Program at West Virginia University. It supports our commitment to education and information dissemination that will enhance the lives of people with disabilities, in West Virginia and throughout the country. The effort has expanded to address the need for A Healthier Future for All. We specialize in communication and information services; training and technical assistance; and graduate education.

The West Virginia Division of Rehabilitation Services **New Counselor E-Training Project** is part of this site. It was developed to provide a consistent foundation for the orientation and training of new rehabilitation counselors. The task is to provide training modules that will address specific competency needs. The intent of this project is to provide this training in a more systematic approach to adult learning, using multimedia design to enhance the training efforts.

The Department of Educational Theory and Practice is pressed to meet the demand for teachers interested in pursuing an **M.A. degree in Elementary Education**. In addition, Senate Bill 653 obligated the College of Human Resources and Education (HR&E) to collaborate in the delivery of graduate programs with other state colleges. With the passing of Senate Bill 653, demands for courses in the M.A. Degree in Elementary Education program could easily exceed 100 students. Due to the distances involved, traditional means of course delivery can no longer be the only option. The College of Human Resources and Education has developed four online “core” courses as a foundation of the Elementary Education Master of Arts degree.

The Appalachian Collaborative Center for Learning, Assessment, and Instruction in Mathematics (ACCLAIM) is a collaboration among Marshall University, the University of Tennessee, the University of Kentucky, the University of Ohio, and the University of Louisville, and the Appalachian Rural Systemic Initiative. The Center was funded in 2002 for five years by a \$5 million grant from the National Science Foundation. WVU has been invited to become a full partner in this collaboration to further the research capacity initiative in the year 2003-2004 and is an active participant in ACCLAIM in 2002-2003.

Project MERIT: Mathematics Education Reform Initiative for Teachers, a five-year Teacher Enhancement project, continues and expands a prior NSF-supported planning project to address the established need of middle school mathematics teachers to improve knowledge of the content of mathematics and how students learn mathematics. MERIT builds capacity for change through professional development by nurturing a mathematics leadership team (MLTs) and 125 mentor teachers (MMTs) one or more from each of the 55 county school systems in West Virginia. The Institute for Math Learning has significant responsibilities for this effort (See Arts and Sciences).

Other special technology enhanced projects include **RuralNet and Trek 21** which established a “Technology Integration Center” that provides a central location for the knowledge base and capacity building structures for integration of technology into teacher education curriculum, clinical teacher education and teaching.

Arts & Sciences

The Eberly College of Arts and Sciences has a myriad of classes and programs designed to meet the off-campus demand for liberal arts education.

Due to state requirements that foreign language instruction be offered in the middle and high school years, the **Foreign Language** Department has developed a series of online courses leading to a teaching endorsement in a foreign language. These courses focus primarily on teaching methods and culture and require previous credits or expertise in French or Spanish. Some state colleges are also interested in using these courses to supplement their own language offerings. The final plan will likely include summer courses on campus, summer courses abroad, evening courses at branches in the state. Technology is in place for an online placement test procedure. By Spring 2003, we hope to offer online language placement testing in high schools across the state. Students in French, German and Spanish classes will be able to take the test, place appropriately and upon completing the appropriate WVU course receive up to 15 hours of course-work for advanced language placement. A second element of this project is to allow the possibility for teachers seeking new language certification to use high school courses already in place around the state to develop skills that we teach on campus in our elementary and intermediate courses. This opens up new doors to our online courses that are at the more advanced level.

The English Department also offers an Area of Emphasis for Regents Bachelor of Arts candidates in **Professional Writing**. This online program is targeted for adult learners working on an undergraduate degree. The Center for Writing Excellence supports faculty, students, and staff in the improvement of writing and the teaching of writing. To provide resources to students and teachers beyond WVU, the Center is beginning to compile online resource pages for designing and responding to writing assignments, and for links to national teaching and writing resources. These can be found at www.as.wvu.edu/english/cwe/. Within the next two years, an online tutorial service for writers around the state will be offered.

The Writing Heritage Project, supported by a W.K. Kellogg-WVU Expanding Community Partnership Program Grant, used technology to begin recording the Scott's Run community's history and cultural heritage. Faculty and students from the English Department's Center for Writing Excellence, Center for Literary Computing, and the West Virginia Dialect Project helped citizens of the community assemble a rich set of materials about Scott's Run and put those materials on the web. People ranging from local residents to international scholars now have web access to new resources that help recognize and value Appalachian culture.

The Blue Ribbon **Mathematics** Partnership Committee is committed to organize and implement projects targeted to improve mathematics education in Doddridge, Harrison, Hampshire, Marion, Mineral, Monongalia, Preston, Randolph, Ritchie, Taylor, Upshur and Wood counties. The Blue Ribbon web site provides professional development information and curriculum resources for mathematics educators. For more information see: www.blueribbon.ws (curriculum materials are located under the meetings selection).

WvEB **Algebra** is a college level mathematics course for high school students. The goal of the course is to allow students a smooth transition into entry level college mathematics. Students enrolled in a section hosted by WVU receive three college credits and possibly three credits of high school Algebra III - if the participating high school chooses. The project is state sponsored and in its third year with

a 2002-2003 enrollment of approximately 200. The course has a University instructor of record and high school teachers are provided professional development to act as facilitators for the course. For more information see: www.wwebmath.ws

WvEB Trigonometry is a follow-up course to WVU's State WvEB Algebra course. WvEB Trigonometry will be offered for the first time in the spring semester 2003 to a projected 70-80 students. Most of the students taking the trigonometry course will have completed the WvEB Algebra course the semester before. High school teachers serve as trained facilitators, with students completing units of video and power point presentations, java based computer laboratories, and on line tests and laboratory reports using WebCT under the facilitators' direction. Students in the course will receive a CD with course materials, and will be expected to have web access for testing and laboratories. Material is coordinated with the on-campus trigonometry course, so students use the same book, have to meet the same standard on tests, and complete the same course material to receive academic credit. Course material for WvEB Trig is archived online at <http://jacobi.math.wvu.edu/~mays/WvEB128/WvEB128.htm> and general information about the WvEB Math project is at <http://wwebmath.ws/index.shtml>

The **Institute for Mathematics Learning (IML)** at West Virginia University, in cooperation with Marshall University and the **MERIT Project**, is creating a professional development program for middle school mathematics teachers in West Virginia. This program will provide a core of 24 credit hours of MERIT courses that will be accepted by both WVU and MU as work towards a master's degree in Mathematics Education for in-service teachers. In addition, the courses can be used for K-8 grade teachers in other content areas to earn a mathematics teaching endorsement. The goal for 2002 and 2003 is to develop the third cadre of courses in this degree. These courses will be offered via distance education, allowing teachers in their home RESA to participate in professional development with mathematics content and pedagogical content knowledge focus. Such professional development is essential in supporting improvement of learning and teaching in the critical middle school years. The IML at West Virginia University took the lead in developing and offering the first cadre of courses, MERIT Number and Algebra (4 hours credit) and MERIT Number and Algebra Teaching (2 hours). A pilot section of this course was offered to a limited number of teachers in the spring and summer of 2002. The Number and Algebra cadre of courses was offered statewide for the first time the fall of 2002. In addition, Marshall University has taken the lead on the MERIT Geometry and MERIT Geometry Teaching cadre of courses, which will offer pilot sections this year. The development of these courses was supported by State Incentive Grants and the NSF-funded Project MERIT.

Engineering

The College of Engineering and Mineral Resources (CEMR) offers a **Master of Science in Software Engineering online**. Students may begin this degree as a 15-credit hour certificate program and move credits into a full online master's degree. This program is also listed by EC.

WVU's Information Assurance/Biometrics 5 day class is taught to groups of 20 to 25 students. We have had four course offerings, two more are scheduled, and we expect to be doing about 1 per month.

The Lane Department of Computer Science will offer a college level discrete math class to high school students in the fall semester 2003.

Extensive outreach throughout West Virginia is provided by CEMR's Extension and Outreach Department through its **Mining and Industrial Extension Programs**. Training covers mining and manufacturing personnel to improve worker skills and licensure, and to help small businesses increase productivity.

The Industrial Extension Program through its connection with the West Virginia Manufacturing Extension Partnership served approximately 225 manufacturers. Some example projects are shown with an asterisk below

* A Fairmont manufacturer of power boilers and related accessories received help in expanding its market. The company had always relied on repeat customers, but to meet growth expectations, the firm needed to expand its customer base. Assistance provided by IE will allow the company to market to coal and coal by-product fired power generation facilities throughout the United States.

* A firm in Huntington received assistance in planning and laying out a new manufacturing facility. Value adding and non-value adding processes were identified and process flow diagrams presented to determine how necessary production steps should be laid out in the most efficient manner. Employee ergonomics were improved, product quality increased, and overall productivity of the facility went up.

* A steel processing firm in Benwood, WV required ISO 9000 quality certification in order to enter new markets and meet requirements of existing customers. A quality system was designed and implemented based on ISO 9000 guidelines, leading to full ISO 9000 certification, a requirement for exporting industrial goods to many European markets.

* A manufacturer of decorative wood accent pieces based in Upper Tract needed help in improving productivity to meet large customer orders and to continue growing. Training and implementation assistance were provided in manufacturing operations, cycle time reduction, work standards, quality, process flow, and other aspects of Lean Manufacturing. After completing each training activity the plant manager had the documents, techniques, and knowledge to apply the concepts to his operation, and had been through a live demonstration of how to implement the concepts.

CEMR co-sponsored the Annual Safety Day competitions with over 150 miners participating from four states. The event included contests for mine rescue and benchmen (individuals who test mine rescue breathing apparatus).

WVU **Mining Extension** professionals revised the West Virginia Surface Apprentice Program materials in conjunction with the West Virginia Office of Miners' Health, Safety and Training. Over 100 free CD ROMs were distributed to regulatory, industrial, and private instructors. CEMR

developed an assistance program to work with mining contractors in order to improve their health, safety and regulatory compliance performance.

Petroleum and Natural Gas Engineering sponsors an annual short course on recovering methane from coal beds. This workshop gives Oil & Gas and Coal Industry professionals hands on experience in the fundamentals & applications of **Fracture Stimulation Technology** to increase production. The average attendance for the short course is 20 industry professionals.

Journalism

The School of Journalism currently has a 15-hour graduate **Certificate in Integrated Marketing Communication** that is available online. The College is seeking institutional approval for a new online Master's degree in Integrated Marketing Communication. Both programs target working professionals.

Health Sciences

The **School of Nursing** has moved the Registered Nursing (RN) to Bachelor of Science Nursing (BSN) program to an online format to address the increased demand for nurses and to better accommodate their shift schedules. The online format includes web lessons; library access; streaming video - both synchronous and asynchronous; and CDs or blended technologies. The Master of Science in Nursing (MSN) is also available in a blended format, migrating much instruction from compressed video to synchronous streaming video.

The **School of Medicine** is also preparing a Bachelor of Science degree completion program in Occupational Therapy. This program takes a blended approach with primarily online instruction and three on-campus meetings. Students must have completed an Associate's degree in Occupational Therapy or Emergency Technicians Training. The program is scheduled to begin in Summer 2003.

The School of Medicine connects with doctors daily through Mountaineer Doctor Television. Services are rendered in 23 locations in three states. WVU physicians use the network to treat patients, consult with other doctors, or provide continuing medical education through teleconferencing.

Tele-Educational Programming is offering in pharmacy, nursing, continuing medical education, grand rounds, Charleston Area Medical Center tumor conference, emergency medicine, integrative medicine, medicine, pediatric surgery.

Business

The **College of Business and Economics** offers an Executive Master of Business Administration via compressed video and web to nine cities around the state. This program is designed for working professionals and can be completed in 2.5 years.

The Bureau of Business and Economic Research enables increasing numbers of West Virginians access to our research, data and conference information via its web site at www.bber.wvu.edu.

Potomac State College of Parkersburg began offering an Associate's Degree in business and economics in Morgantown via the web.

In Development

Programs in progress from the Davis College of Agriculture, Forestry, and Consumer Science include a Master of Science in Wildlife Management & Fisheries/Natural Resource Recreation Management and National Forest Lands Management - (partnership program) and an undergraduate Area of Emphasis in Early Child Development.

WVU - Internal Instructional Technology Grant Initiatives

2000 - Distance Education Initiative –
Funding of individual course development for online delivery.

Course	College	Faculty
English 205 - Business English	Arts & Sciences	T. Miles
J--- Direct Marketing	Journalism	R. Hanson
English 122 - British Literature	Arts & Sciences	E. Junkett
Rel – American Religious History	Arts & Sciences	B. Turley
Web Simulcasts - Spec. Ed. (MA)	Human Resources & Education	B. Ludlow
Modern Physics	Arts & Sciences	C. Rotter
Corporate Finance	Business & Economics	P. Speaker
Statistics - Java Applets	Arts & Sciences	J. Harner
E-Commerce	Business & Economics	S. Smith
Gen. Methods - Biology (Teachers)	Arts & Sciences	E. Keller
Physical Education - Teacher Educ.	Physical Education	L. Housner
Engineering 101	Engineering & Mineral Resources	S. Mohaghegh
Total Investment \$378,914	\$178,457 matching funds	\$178,457 Provost's Office

**2001- Entrepreneurial Learning Initiatives –
Develop a series of courses for online delivery.**

Course	College	Faculty
English 101 & 102 Composition & Rhetoric (for adult learners)	Arts & Sciences	L. Brady
Online Integrated Marketing Communication Certificate	Journalism	C. Martin
Elem. Ed. - 4 course sequence	Human Resources & Education	R. Wiesenmayer
Software Engineering - streaming video enhancement	Engineering & Mineral Resources	C. Tanner
Mathematical Foundations for Software Systems Development	Engineering & Mineral Resources	M. Henry
Human Anatomy courses	College of Medicine	J. Altemeus
Foreign Language Distance Education Project - Teacher Endorsement	Arts & Sciences	F. Medley
Total Investment \$567,122	\$283,566 matching funds	\$ 283,561 Provost Office