The North Carolina Community College System
Report on
The NCCCS 2 + 2 E-Learning Initiative
(Session Law 2006-66, Section 9.1)

Submitted at the Request of
The North Carolina General Assembly

NC COMMUNITY COLLEGES
CREATING SUCCESS

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Pursuant to Section 9.3(d) of Session Law 2010-31, the University of North Carolina (UNC) and the North Carolina Community College System (NCCCS) shall report by April 15, 2010, and annually thereafter, to the Joint Legislative Education Oversight Committee, the State Board of Education, the Office of State Budget and Management, and the Fiscal Research Division of the General Assembly on the implementation of the UNC-NCCCS 2 + 2 E-Learning Initiative. The attached report is in fulfillment of this requirement.

(The reporting dates were amended by the General Assembly of North Carolina in the 2010 Session.)

The North Carolina Community College System (NCCCS) is dedicated to providing high-quality, easily accessible educational opportunities that encourage and support student success. In accordance with these objectives, funds provided by the 2 + 2 E-Learning Initiative have provided additional resources to create and expand online courses and programs, professional development services, and acquisition and implementation of the necessary infrastructure.

Student demand for easier access to courses and programs in the North Carolina Community College System has never been greater. In the 2013-2014 academic year, curriculum enrollments through distance learning reached 59.27% of all course enrollments according the NCCCS Data Warehouse CURFTEA100 Report, http://vlc.nccommunitycolleges.edu/about/vlc-reports/.   Online and hybrid course enrollments increase each year. Distance learning enrollment represents 56.87% of the total FTE earned by North Carolina community colleges in the 2013-2014 academic year. (Note: This college year includes Fall 2013, Spring 2014, and Summer 2014.)

Student access to courses includes the traditional synchronous face to face classroom experience, online, and hybrid delivery which includes elements of both traditional and online. Attendance is on the rise in virtual classrooms which can be managed around job and family responsibilities. Many students enjoy a combination of both traditional and distance learning formats. Regardless of a student's learning preference, the 2 + 2 E-Learning Initiative provides the community college system with resources to better equip students to meet the demands of a technologically advanced environment.

Courses and Programs within the 2 + 2 E-Learning Initiative

Background

In 2005, the General Assembly of North Carolina created the 2 + 2 E-Learning Initiative to address the critical shortage of teachers in our state. The North Carolina Community College System (NCCCS) and the University of North Carolina General Administration (UNC-GA) were the recipients of the newly created 2 + 2 E-Learning Initiative. This collaborative project focused on the development of online course content as a means to educate additional teachers in North Carolina.

NCCCS creates online course content through the Virtual Learning Community (VLC), http://vlc.nccommunitycolleges.edu, which provides quality online courses to the 58 community colleges.   Online courses and degrees provide access to students who may not be able to attend college in a traditional face to face method. Access to college is difficult for many students as funds for education have decreased, fuel and childcare prices have increased, and job and family responsibilities often prohibit students from attending college. Funds from the 2 + 2 E-Learning Initiative provide both higher educational systems with resources to meet the daily challenges facing students. In 2005, the first order of business for the two systems was to identify five pre-education programs under the North Carolina Comprehensive Articulation Agreement (CAA) which allows for students to begin their education at a community college with an associate degree and then transfer to a university to complete a bachelor's degree.

The five identified associate degree programs were completed by NCCCS in June 2009 through the efforts of VLC course development centers. All 58 community colleges may access the courses for the following online degrees: Associate in Arts/Elementary Education (*online June 2008*), Associate in Arts/Middle Grades Education and Special Education (*online June 2008*), Associate in Science/Chemistry and Chemistry Education *(online June 2009),* Associate in Science/Biology and Biology Education *(online June 2009),* and Associate in Science/Mathematics Education *(online June 2009).*

With the successful completion of the pre-education degrees in 2009, the North Carolina Community College System expanded the focus of course and program development to include majors in science, technology, engineering and mathematics (STEM) education, nursing and allied health programs, developmental math, and career and technical programs.

In 2008-2009, the State Board of Community Colleges approved the funds for a Virtual Learning Community course development center focused on STEM course development. The center developed seven (7) courses and the corresponding labs. In 2009-2010, nine (9) additional courses with labs were developed. The VLC STEM Center also developed three developmental math courses and one developmental chemistry course providing the necessary prerequisite knowledge to ensure the success of students as they entered programs of study in STEM related majors.   The online Associate in Science/Engineering degree was completed in 2009-2010, with the successful completion of these courses.

In 2010-2011, the North Carolina Community College System combined state appropriated VLC funds and 2 + 2 E-Learning Initiative funds to fund one VLC course development center that developed 11 math and science courses.   Previously, two centers would have produced the same

number of courses. By reducing the administrative costs of multiple centers, resources were used for additional course development. Development of these STEM courses completed six (6) additional online degrees bringing the total to 37 online degrees available in the VLC. (*See Appendix B)*

VLC courses must meet strict content reviews for curriculum goals and objectives, instructional design processes, and pass technical reviews for software applications and appropriate learning management system requirements. Subject matter experts, instructional designers, and technical editors from NCCCS institutions are hired by VLC development centers to work collaboratively on each course. In 2011 a course could be developed by the VLC for $5,000. All VLC courses are jointly owned by all 58 community colleges and available and accessible to all instructors in the system. The courses are housed on servers at the NCCC System Office where they may be downloaded by any college in the community college system. Each course may be customized by instructors with additional content to personalize the academic experience for students. These courses are available in both Blackboard and Moodle learning management systems.

It should also be noted that 2 + 2 funds support the development of online continuing education courses as well as curriculum courses. Continuing education courses support the State's teachers and the workforce as they seek to meet the requirements of state job certifications and to remain current in their fields.

On May 20, 2011, the State Board of Community Colleges approved the funding and establishment of three permanent Virtual Learning Community Centers that provide support in the areas of Professional Development, Technology, and Quality and Assessment. Permanent centers provide for consistency and continuity in development of strategic goals and objectives, and more efficient use of funds, personnel, and resources. Multi-year initiatives and projects are now possible. The Professional Development Center, is housed at Wake Technical Community College in Raleigh, NC. The Technology Center, is located at Fayetteville Technical Community College in Fayetteville, NC, and the Quality and Assessment Center is housed at Surry Community College in Dobson, NC. (*For more information and the list of projects on VLC centers,* http://vlc.nccommunitycolleges.edu/faculty)

The Virtual Learning Community Centers support online learning in the community college system with a commitment to continuous improvement and quality development of courses, programs and resources for instructors and students. High quality courses and instruction go hand in hand. In 2011-2012, the VLC centers developed three exemplary courses; CIS 110 - Introduction to Computers, ENG 111 - Expository Writing, and PSY 150 - General Psychology. In the same year, the VLC developed the first in a series of four Certified Online Instructor courses to provide NCCCS instructors with pedagogically sound professional development for the online teaching and learning experience. (The entire series was completed in 2014.)

Many community college students require at least one developmental education course before enrolling in college level courses. According to data that was generated for the Federal Race to the Top Initiative in 2011, 67% of North Carolina public high school graduates entering the community college system that year required at least one developmental course before entering their college program of study. For this reason, in collaboration with the Developmental Education Initiative the VLC redesigned and developed eight (8) one-credit hour developmental math course modules in 2011-2012. A student may now complete each module in as little as four weeks. The math modules accelerate the developmental education experience for students by

focusing on only the specific skills and knowledge a student lacks rather than requiring each student to take a full semester course covering information a student has already mastered which wastes valuable time and money. The ability to individualize a student's educational experience allows a student to adequately prepare for a desired program of study in less time and with less tuition/financial aid disbursements. Modular redesign of online developmental reading and English courses was completed in fiscal year 2013-2014.

In addition to developmental education courses, some students require an educational experience that begins with the Basic Skills Adult High School Education Program. In 2012-2013, the VLC developed three online Adult High School courses to provide students in this program with access to a path for higher education. AHS Algebra I, AHS Biology, and AHS English I are now available to NCCCS instructors and students. For the first time, students in Basic Skills Adult High School can now access course materials online.

The Virtual Learning Community celebrated 15 years of collaborative course development in 2013-2014. A national model for online course development, the VLC develops, edits, and produces content for curriculum and continuing education courses, provides professional development for NCCCS faculty and staff, and researches, vets, and trains college faculty on the latest technologies and applications.

In the spring of 2014, the UNC System and the NC Community College System collaborated to adopt new transfer credit standards and courses. In order to support this new articulation agreement, the VLC developed seven (7) new online curriculum courses and edited 11 previously developed courses. These courses were enhanced with interactive learning objects, videos, and engaging academic support resources that provided the desired quality and excellence in education. In addition, the VLC developed a College Student Success course to support student learning.

In 2013-2014, the library of VLC courses grew to 311 curriculum, 52 continuing education, three (3) basic skills adult high school courses and three (3) online seminars developed for the Small Business Center Network to provide information on how to start a new business, write a business plan, and then how to effectively market that business. The VLC developed and edited 20 additional courses to support the newly revised NCCCS-UNC Comprehensive Articulation Agreement approved in January 2014 (http://www.successnc.org/initiatives/comprehensive-articulation-agreement-revision-reverse-transfer-credit-0).

In 2013-2014, the VLC completed the development/editing of 23 curriculum and continuation education online courses; created more than 125 interactive learning objects for these courses which were contributed to the NCLOR; published a comprehensive report of the 2012-2013 e-Text Pilot Project analyzing the use of e-Text books and readers by eight community colleges in the System; launched the NC3ATLAS, a website which connects and organizes disparate teaching and learning environments into a central portal which is the culmination of two years of research and development; presented 90 professional development workshops delivered face to face as well as through webinars online; tested and vetted over 40 technologies and produced whitepapers and guides for faculty use; formed a system-wide committee to study, present, and publish information on State Authorization, a mandated compliance regulation by the U.S. Department of Education; formed a system-wide committee to study, present, and publish information on accessibility to ensure that NC community colleges meet the compliance regulations of Section 508 of the Americans with Disabilities Act; and created a Web

Accessibility Committee to test and advise colleges of compliance issues involving college websites and other online educational portals and resources. The results of these projects by the VLC benefit all colleges in the System, provide centralized cost-saving project management and administrative services, time and financial efficiencies, and a trained and informed workforce within the community colleges who can advise, respond, and assist their colleagues in the critical areas of teaching and learning as well as appropriately addressing state and federal compliance regulations.

In 2014-2015, the VLC developed 18 courses and edited five (5) existing online courses. Fourteen of the 18 courses had been previously developed by the VLC. However, content revisions and the need for additional online course enhancements necessitated a complete redevelopment of these courses. Four brand new courses were also developed which are now included in the Comprehensive Articulation Agreement. These additional courses bring the total developed by the VLC to 325 individual curriculum courses. *(See Appendix C)* The VLC course development plan has resulted in 37 associate degree programs completely online to provide educational flexibility for community colleges and students. (*See Appendix B)* The community college system efficiently provides resources to all colleges through the Virtual Learning Community.

The education tools and resources provided through 2 + 2 E-Learning Initiative funds support collaborative system-wide academic courses and programs. It is a policy of the North Carolina Community College System Office that these funds will be used for the benefit of all community colleges without regard to size or enrollment. The emphasis on collaborative projects allows the System to provide expanded educational and technology resources that few individual colleges could afford. Collaboration also provides administrative service efficiencies and opportunities for cost savings for the System as well as the state.

2014-2015 2 + 2 E-Learning Initiative Projects: Collaborative Education Projects, Tools, and Resources
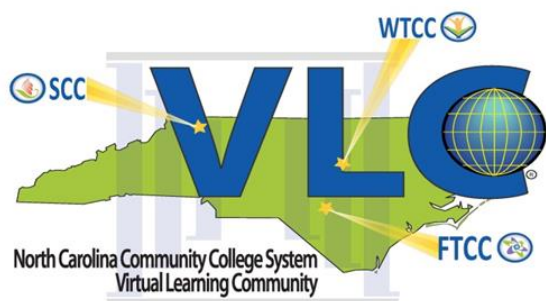
Virtual Learning Community (VLC) Course Development/Editing and Projects
http://vlc.nccommunitycolleges.edu/

Funds from the 2 + 2 E-Learning Initiative are supporting the development and editing of 23 curriculum courses. *(See Appendix A).* Along with the course development, subject matter experts, instructional designers and technical editors work collaboratively to develop interactive

learning objects that enhance the modules of each course and provide additional teaching and learning support for students. Courses are built within a structured template that provides a consistent high quality product that is robust and adheres to the federal standards of Section 508 of the Americans with Disabilities Act (ADA) requiring that all online courses be accessible for disabled students. Each course is available in both Blackboard and Moodle learning management systems which are supported by the NCCCS. All courses in the VLC library are available for download to college servers where they may be customized by instructors and colleges.

Due to permanent reductions in funding for the VLC over the past six years, editing centers have been eliminated. This has delayed the refresh cycle of courses and caused many of the 325 courses to be out of date due to changes through the Curriculum Review Committee, Transfer and Articulation Committee, Course Improvement Projects, and other content change processes. Many courses need to be updated by the VLC to keep pace with these changes. All 18 courses chosen for development in 2014-2015 appear on the Universal General Education Transfer Component List (UGETC*).* These courses were not edited since their original development and required complete redevelopment to bring them up to quality standards established by the VLC. New interactive learning objects were developed for each course along with videos and other course enhancements and contributed to the North Carolina Learning Object Repository (NCLOR) to be available to faculty throughout the System. Existing courses requiring total redevelopment are ART-111 - Art Appreciation, BIO 111 – General Biology I, BIO 112 - General Biology II, CHM 151 – General Chemistry I, CHM 152 – General Chemistry II, COM 231 – Public Speaking, ECO 251 – Principles of Microeconomics, ECO-252: Principles of Macroeconomics, ENG-112 - Writing/ Research in the Disciplines, HIS 131 - American History I, HIS-132 - American History II, PHI-240 - Introduction to Ethics, PHY 110 – Conceptual Physics, and POL-120 - American Government.   AST 111 – Descriptive Astronomy, GEL 111 – Introductory Geology, MAT 172 - Precalculus Trigonometry, PHI-215 - Philosophical Issues, and PHY 110A – Conceptual Physics Lab are courses that were developed for the first time by the VLC. ART 115 – Art History Survey II, BIO 168 – Anatomy & Physiology I, BIO 169 – Anatomy & Physiology II, MAT 263 – Brief Calculus, and SOC 210 – Introduction to Sociology were edited in 2014-2015.

The courses in this development/editing project were chosen because they meet the critical demand for quality online course content for the Associate in Arts and Associate in Science programs of study which are the two highest FTE enrollments of all degree programs. All of the courses appear on the UGETC list except for the two biology courses which are required for various nursing programs of study which are one of the critical need areas for North Carolina.

Along with the structured course development process, the VLC utilizes the collaboration of the community colleges' greatest resource; its people. All three centers depend on the skills and abilities of faculty throughout the system who participate on VLC projects each year.

Eighty-seven (87) faculty and staff from 35 community colleges are combining their knowledge and talents to produce 23 developed/edited online courses, resources, and tools through the VLC Quality and Assessment Center at Surry Community College.

In addition to online course development, the Q/A Center launched the new VLC website, http://vlc.nccommunitycolleges.edu/, on March 20, 2015. Data analytics have been added to this website as of that date. Previously, data had to be assembled manually. With the help of 2 + 2

funds, data analytics are now possible for the website. Since March 20, 2015, over 1,532 faculty, students and North Carolina citizens have accessed course materials (course search page; data summary 3/20/15-4/12/15). Fifteen (15) NCCCS distance learning administrators have downloaded 61 VLC courses and resource documents to their college servers in this short period alone.

The Q/A Center is managing a research team charged with studying available streaming media platforms to determine which one(s) offer NCCCS schools with the best functionality, pricing, and support as more and more online courses require this solution. This team will produce a whitepaper which will be distributed to NCCCS schools and posted on the VLC website. In 2014-2015, additional whitepapers were produced on Best Practices for Developing Online Courses from Existing Content, Social Media in Instruction, Browser Compatibility, BYOD Solutions, Live Chat Solutions, Survey Solutions, and Video Conferencing Solutions. These whitepapers are posted along with projects on state authorization and accessibility compliance on the Q/A pages of the VLC website, http://vlc.nccommunitycolleges.edu/faculty/quality-and-assessment-center/.

Additional college personnel collaborate with the two other VLC centers. The VLC Technology Center is housed at Fayetteville Technical Community College, http://vlc.nccommunitycolleges.edu/faculty/technology-center/, which collaborates with colleagues from around the community college system to test technologies, vet new products, and to create interactive and 3D learning objects. The Technology Showcase provides fully accessible information and professional development about the following tools and resources: Adobe Connect Professional, Assistive Technology, Avatars, Blogging, BurstPoint, Camtasia, Captivate, ClipBucket, Doodle, Google Calendar, Develop Interactivities, ITunesU, Jing, Kaltura, Lecture Capture Technologies, Microsoft Office 365, Microsoft PowerPoint, Microsoft Word, Podcasting, Poll Everywhere, Respondus, Skype, SoftChalk, Venuegen, VoiceThread, and YouTube.

The VLC Technology Center responds to requests for training and demos of additional software and tools by providing professional development to colleges in face to face sessions or through development of online tutorials accessible through the NCLOR.

The VLC Professional Development Center at Wake Technical Community College provides training materials and workshops, tutorials and webinars to faculty and staff throughout the System. In 2014-2015, the VLC Professional Development Center developed training materials on accessibility, teaching and learning with mobile devices, creating interactive PowerPoints, and online screen casting tools. Online/seated training sessions were provided on Getting Started with Moodle 2.6, Getting Started with Blackboard, LMS Flash Courses – Specific Topics in Blackboard and Moodle, Blackboard Admin Training, Moodle Admin Training, and the Certified Online Instructor Course - Levels 1-4.

Additional webinars are provided to colleges on Blackboard updates, captioning tools, iPad and mobile apps, NCLOR resources, the flipped classroom model, Late Nite Labs, V-Scope Explorer, online screen casting tools, accessibility and accessible products. Additional webinars may be requested by colleges on specific areas of need. For more information about the VLC Professional Development Center, visit the VLC website at http://vlc.nccommunitycolleges.edu/faculty/professional-development-center/.

K-20 North Carolina Learning Object Repository (NCLOR), www.explorethelor.org

Virtual Learning Community courses combine quality online course content with engaging interactive learning objects, videos and self-assessments housed in the North Carolina Learning Object Repository (NCLOR). The NCLOR contains over 57,500 learning objects, professional development tutorials, and free e-textbooks. Open educational resources and licensed collections of content in the NCLOR assist faculty by providing tutorials, research materials, and exercises for students. Professional development support for educators is available through tutorials and webinars accessible in the NCLOR as well as resources mapped to community college courses for focused digital searching capabilities.

In 2012-2013, the Department of Public Instruction (DPI) and the NCCCS collaborated on an agreement to share the platform and resources of the NCLOR. NCCCS and the NC Education Cloud representing the Department of Public Instruction (DPI) and all North Carolina Local Educational Agencies (LEA) collaborated on a perpetual license agreement that expanded the NCLOR to a K-14 repository. This collaborative effort allowed both educational systems to experience cost savings in licensing and maintenance agreements, administrative and support costs and services, and to benefit from the shared digital content available to faculty, staff, and students throughout North Carolina.

The majority of the digital content is accessible to both systems as well as to guests who visit the NCLOR. However, some NCCCS licensed collections are only accessible to the faculty and staff of the 58 community colleges where resources are mapped to age and course-specific programs. Likewise, DPI licensed collections are restricted to permissions within that statewide system. The Center for Urban Affairs and Community Services (CUACS) at NC State University created the metadata and content for the DPI demo collection in the NCLOR.

Internet access to the NCLOR is possible through computers and mobile devices. NCCCS and DPI faculty and staff may request a login to the NCLOR. A login provides the ability to contribute learning objects to the repository and to search all open content as well as licensed system collections. NCCCS faculty can also search the NCLOR content by accessing it through

their college's learning management system which provides a single sign-on authentication for the user. To login to the NCLOR as a guest or member, go to www.explorethelor.org.

There are multiple ways to search for content in the NCLOR.   Visitors may search by discipline, collections, learning resource types, and academic levels. Learning Objects (LO) are also searchable by the resource series and/or by selecting a specific VLC course. LOs are mapped to specific courses and listed on one page for easy access by instructors. NCCCS instructors may browse the Combined Course Library in the NCLOR as they search for course information.

In addition to learning objects that support courses, there are over 1000 professional development webinars and tutorials in the NCLOR. These resources are appropriate for personal viewing as well as group training sessions.   Many of these resources were created by the VLC Professional Development Center. The number of professional development webinars and tutorials expands each month as teachers and instructors share new concepts and tools in teaching and learning.

In December 2013, the NCLOR served as the delivery platform for the open content created from the Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant Program sponsored by the U.S. Department of Labor. Faculty and staff at Forsyth Technical Community College were the designated leads in the grant and developed additional resources that were contributed to the repository. The NC Department of Cultural Resources partnered with the NCLOR and contributed a collection containing 2,107 items to the repository.

New collaborative partnerships in 2014 with the NCCCS Adult Basic Skills ESL Grant under the leadership of Karen Brown in the System Office resulted in the addition of the NCCCS ELS Virtual Library Collection being added to the NCLOR. As a part of the DPI project with the NCLOR, the Rutherford County School System contributed a collection of educational material used by their local educational agency. Rutherford County Schools are one of two pilot K-12 entities onboarding to the NCLOR. The North Carolina School of Science and Math is now partnered with the NCLOR. Their collection of materials supports courses and programs at their institution.

In 2014-2015, the community college system added many newly created learning objects and assets as well as full collections of resources. From July 1–Dec. 31, 2014, over 16,274 new items were added to the NCLOR as a result of the addition of new DPI collections (14,419 items), higher education contributions (1,472 items) and new additions to open education resources and other collections (383 items).

Utilization of the NCLOR continues to grow as more educational entities join the repository. There were 11,293 unique users who visited the NCLOR from July 1 – Dec. 31, 2014. The 11,293 users visited the site a total of 21,895 times viewing 240,697 pages of content in the NCLOR. The addition of NC DPI has greatly increased the resources and overall use of the NCLOR. The total number of resources in the NCLOR has increased from 47,140 to 57,500 from the previous year during this same time period.

NC3ATLAS Website Launch – Implementation of Phase I
http://atlas.nccommunitycolleges.edu/

The Integrated Teaching and Learning Gateway (ITLG) is a three-phased multi-year project with the goal of providing centralized access to online resources, expansion of the use of these resources, and the identification of duplicative services which will provide economic efficiencies to teaching and learning in our System. The Integrated Teaching and Learning Gateway was identified as one of the Implementation Priorities of the 2012 System Office Priorities Plan. When completed, the goal will be to unite all electronic resource systems and websites providing easy access to teaching, learning, and professional development resources for NCCCS faculty and students. Currently, these websites and resources reside in numerous unrelated environments. These systems are difficult to find and many require unique logins. Without a consistent content platform, marketing, and communication strategy, needed information is unavailable to faculty and students.

The original development plan spread the costs over multiple funding years. Phase I of the project which was completed in 2014-2015, charged the leadership team with defining the resources and content to be linked; evaluating and securing a hosting vendor; analyzing and cataloging the current content; linking all content to a single hosting solution; evaluating and securing the software solution to develop the gateway; hiring a part-time project coordinator; selecting project team members for all three phases; evaluating the ability to link all of the current systems and resources; and developing a common branding proposal.

The ITLG Steering Committee includes a representative from the following areas: executive sponsor, learning technology systems, continuing education, eLearning, NCCCS project management office, library services, NCLOR, academic program services, computer information systems (CIS) training, documentation, basic skills, college tech. prep, college CIO, external project management, and the Virtual Learning Community. The committee hired an external project manager to coordinate all activities and design the NC3ATLAS website.

The beta website launch of NC3ATLAS is the product of two years of study, research, and development. To view the beta site of NC3ATLAS, see http://atlas.nccommunitycolleges.edu/. The initial benefits to be achieved by faculty are awareness of one central location to find teaching and learning resources; discovery of the abundance of existing tools and resources available to educators despite their location and/or campus assignment; and the ability for decision makers to gain understanding in which to make informed decisions regarding the development and strategy of leveraging existing systems to meet common goals within the System.

Going forward, the ITLG Steering Committee and NCCCS Executive Administrators will review the lessons learned in Phase I, evaluate the impact of NC3ATLAS on faculty and students, and develop a financial plan and business requirements in order to reach a decision point about advancing to Phase II of this project. Phases II and III will define the technology requirements,

metadata schema for all resources, implement the website to full production, and provide marketing and training strategies.

While funds from the 2 + 2 E-Learning Initiative were not utilized for NC3ATLAS in 2014-2015 to launch the website, the work of the ITLG remains on the 2 + 2 project list as the decision point for moving into Phase II has not yet been determined. Reports of the team may be found on the SuccessNC website: http://www.successnc.org/initiatives/integrated-teaching-learning-gateway.

Collaborative Resources

The North Carolina Learning Object Repository (NCLOR) fosters collaboration across the community college system and all levels of education in North Carolina as educators contribute and share digital content in the form of videos, learning objects, lectures, assignments, self-assessments, professional development webinars and tutorials, and other teaching and learning assets. The NCLOR is celebrating its first seven years of service to North Carolina educators. Collaboration occurs on the single campus as well as multi-campus levels. With the infusion of federal Race to the Top funds, the Department of Public Instruction joined NCCCS as a full partner in the NCLOR which allowed all public schools to participate in this digital warehouse as well. Collaboration by North Carolina educators allows digital content to be created, shared, and contributed to one repository which benefits the faculty, staff and students of all North Carolina K-12 public schools and all 58 community colleges. Other contributors include the Duke University School of Nursing, the North Carolina School of Science and Math, the North Carolina Alliance of Surgical Technology Educators, the NCCCS Small Business Center Network, NC BioNetwork, North Carolina State University and the NC Department of Cultural Resources. By sharing the financial and administrative tasks of the NCLOR, DPI and NCCCS educational systems have worked collaboratively to provide licensing, training, maintenance, and support for one large repository instead of many smaller repositories which could share digital resources within their one educational entity. The NCLOR has been structured so that one perpetual license covers the K-12 and community college partners. In addition, the partners benefit from the efficiencies of discounted annual maintenance and support fees, a shared Project Manager from ITS, over 57,500 learning objects, and combined training events. Without this collaboration, each entity would be responsible for all costs of the license, maintenance and support, and training.

A further example of academic collaboration and efficiency is the Virtual Computing Environment (VCE) between NCCCS and NC State University which uses blade technology in a cloud computing environment to provide software to students and college PC labs. The cloud computing environment, maintenance and support, and administrator and instructor training is provided by NC State University. Hardware purchases and planning support are shared responsibilities of NCCCS and NC State University. Participating community colleges are responsible for college administration managers, instructors, and software licensing. Without this efficient sharing of hardware, software, and people, each system would be forced to maintain duplicative cloud computing platforms at a higher cost to the State or would not have the advantage of a private cloud at all.

Undoubtedly, the Virtual Learning Community (VLC) is an example of collaboration at its finest in the community college system. All content and resources developed and purchased are jointly

owned and shared by the 58 community colleges. Faculty and staff collaborate on course development and editing projects, creation of interactive learning objects and all other VLC generated programs. The efficiencies of the VLC are best explained by the concept that a VLC online course can be created for $32,000 for the entire System of 58 colleges, as opposed to 58 colleges producing the same course for $32,000 each which would cost the State's taxpayers $18,560,000. This same concept also applies to the creation of interactive learning objects, videos, and professional development materials.

The three regional VLC Centers provide all NCCCS colleges with information and resources in the areas of quality and assessment, technology, and professional development.   The VLC Quality and Assessment Center has coordinated the Integrated Teaching and Learning Gateway and the course development/editing projects along with the topical research projects.   The Integrated Teaching and Learning Gateway, NC3ATLAS, provides a collaborative forum to share resource platforms and tools used by colleges throughout the system. With the implementation of NC3ATLAS, the NCCCS has a central access point for all teaching and learning resources and tools which provide easy access and better utilization of system assets.

The VLC Technology Center vets new technologies and tools, produces three-D learning objects, videos, and other interactive learning objects to share with instructors and students throughout the system.   The learning objects are housed in the NCLOR for easy access by NCCCS faculty members. Technology training and white papers are also provided to the colleges. The third VLC center, the Professional Development Center provides webinars, tutorials and face to face training workshops for faculty, staff, and administrators. Adequate training is often left off the list when new technologies and learning systems are acquired. By having a center dedicated to training faculty and staff at the colleges, NCCCS has provided a cost effective way for schools to stay current and ahead in this ever-changing world of online teaching and learning. As the training tutorials and webinars are produced, they are housed in the NCLOR where they are accessible to all faculty and staff in the System.

A further collaboration has not been limited to colleges and universities. Since 2012, NCCCS has collaborated with the Career and College Promise program participants (http://www.successnc.org/initiatives/career-college-promise-0) Students enrolled in community college courses through the Career and College Promise program are using NCLOR interactive learning activities and assets embedded in their online courses. In 2013, the Department of Public Instruction joined NCCCS as a licensed partner in the NCLOR. NCCCS and DPI share and contribute assets to the NCLOR for the benefit of all of their faculty and students. Both systems share in the administrative costs and services as well as training events and other professional development workshops.

In 2014, the VLC began collaborating with the NC Department of Insurance to develop online courses to prepare students to take building inspection, fire prevention inspection, and mechanical inspection certification exams. The VLC is working collaboratively with the Code Qualifications Board of the NC Department of Insurance. When the courses are completed, they will be piloted by community college faculty and students.

The School of Science and Math has contributed over 744 items to the NCLOR. These resource series includes items in the subjects of algebra, calculus, chemistry, history, physics, pre-calculus, statistics, music theory and musical performance videos which instruct students how to

play instruments. The School of Science and Math continues to contribute additional assets that benefit all K-20 users.

The North Carolina Department of Cultural Resources partnered with the NCLOR to contribute a collection of open educational resources to the repository. This collection is available for access by all educators in North Carolina. The NCLOR is the host of the open content created for the Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant Program sponsored by the U.S. Department of Labor. The NCLOR served as the delivery platform for open information created for this grant. As additional resources are developed for this program, they will be contributed and shared through the NCLOR.

In 2014, the NCLOR partnered with the NCCCS Adult Basic Skills ESL Grant under the leadership of Karen Brown in the System Office. This collaboration resulted in the addition of the NCCCS ELS Virtual Library Collection being added to the NCLOR.

The Rutherford County School System has partnered with the NCLOR through a collaboration with DPI. The Rutherford County School System has contributed a collection of educational material used by their local educational agency.

Quantitative Data

The educational goals of students attending North Carolina community colleges include both associate and baccalaureate degree objectives.   Many students in the community college system enroll in degree programs with the intent of transferring to a four-year institution. Funds from the 2 + 2 E-Learning Initiative have provided the courses, online degrees and resources to assist in educating these students. The NCCCS Data Warehouse tracks enrollment growth within the community college system. However, the Department of Public Instruction (DPI), NCCCS, UNC-GA, and the private colleges and universities do not share a uniform tracking platform that will follow a student throughout his/her educational career. For this reason, NCCCS can provide information limited to the number of students who graduate from the community college system with associate degrees in teaching, nursing, and other critically needed careers in our state, but cannot track the transfers to universities to show completion of bachelor's degrees. Many student career choices require four-year degrees from a college or university. Often students who come to the community college system to begin their higher education careers transfer before they attain an associate's degree. These students are not counted as completers even though they have completed necessary coursework to transfer to a four-year institution.   A Data Initiative is presently underway between NCCCS and SAS which will provide more in depth data collection to provide this missing information (http://www.successnc.org/initiatives/data-initiative). Additionally, the P-20W statewide longitudinal data system for North Carolina will help to achieve this goal (http://www.dpi.state.nc.us/data/ncp-20w/).

Qualitative Data

The primary role in training and retraining the workforce in our state is the North Carolina Community College System.   This role has not been limited by the economic conditions of our state as citizens look to the community college system for training and direction for equipping them with new job skills and careers. With the help of proactive programs like the 2 + 2 E-

Learning Initiative, the System is able to deliver distance learning tools, resources, and courses to the instructors who provide teaching and learning to the students who need them. The economic recession brought a sea change in direction to higher education and the workforce. Greater use of technology and the relocation of manufacturing and industry to other states and countries greatly impacted the job market in North Carolina and our nation. Many students are impacted by the economic barriers of fuel costs, providing childcare, and other accommodations in order to attend college. These barriers have contributed to a refocus in how teaching and learning is delivered to students. Higher Education can no longer be limited to an on-campus experience with an instructor standing at the front of the classroom at a specific time each week. Online and hybrid course delivery takes the classroom to the student and provides flexibility to work with the student towards his/her educational goals while maintaining family and job responsibilities.

Our System has proven itself to be both flexible and innovative in the face of these challenges. Distance learning courses were first developed by NCCCS in 1998-1999 and more courses are created each year through the Virtual Learning Community and on individual community college campuses. System-wide tools and resources are in place to respond to the growing demand for online course enhancements. The following resources and tools support NCCCS online learning: the NCLOR which houses over 57,500 learning objects, videos, tutorials, assessments, and free e-textbooks mapped to the courses; Late Nite Labs which provides online labs in biology, chemistry, physics, and microbiology; V-Scope Explorer: Basic Biology Edition and the Anatomy and Physiology Edition providing online microscopy slides and videos; Stat!Ref which includes a comprehensive database of e-text, journals and articles for nursing, dental, emergency medical services and other allied health programs, Animated Dissection of Anatomy for Medicine (A.D.A.M. Interactive Anatomy Online) which provides online medical textbooks, articles, videos and interactive assessments for allied health, nursing, and dental programs; and greater efficiencies for delivery such as the Virtual Computing Environment which utilizes cloud computing allowing our System to meet the needs of our instructors and students. (*See Appendix A*) The emphasis on technology for course delivery and in the job market is preparing our students to step into jobs and careers with the required knowledge and confidence to succeed in the workplace.

In 2015, businesses use technology to deliver the majority of their communications due to its cost and time efficiencies and the ability to reach the global marketplace with almost effortless ease. It is no wonder that distance learning enrollments continue to grow rapidly in the community college system. In 1998-1999, when NCCCS was just beginning to use online education, there were only 26,695 enrollments in courses. By 2011-2012, the enrollment numbers increased to 961,147, and for the first time out paced the traditional enrollments. Distance learning enrollments were 52.89% of the total student course enrollments of the System. In 2013-2014, distance learning enrollments rose to 59.27% representing over one million (1,040,496) course enrollments, which accounts for 56.87% of the total FTE of the System. (NCCCS Data Warehouse DL100ANN/CURFTEA100 Report http://vlc.nccommunitycolleges.edu/about/vlc-reports/) The trend towards distance learning continues as students blend their higher education goals with their job and family responsibilities.

Many students are drawn to the North Carolina Community College System for technical and business credentials, diplomas, and degree programs that offer quality attainment of higher education with affordable educational opportunities, and a wide range of programs and

accessibility to colleges throughout the state. The 2 + 2 E-Learning Initiative has provided the necessary funds to respond to changes in the workplace as the career shifts have moved from the need for more teachers to other areas of STEM (Science, Technology, Engineering and Mathematics) careers, allied health, and nursing and on to new opportunities for increased jobs in manufacturing and industry in North Carolina.

The following charts provide the dramatic and steady rise of distance learning in curriculum courses in the North Carolina Community College System. Curriculum course enrollments surpassed the 1,000,000 mark in 2013 with continued growth that promises this same upward trend for future years. *(See Figure 1)* It should be noted that the dramatic rise in distance learning occurred since 2008 when the downturn in the economy during the Great Recession sent a lot of potential students to their laptops instead of college campuses. Students found that online learning has provided a quality education at an affordable price within the limitations of their work and family lifestyles. As students became successful through distance learning, this efficient and affordable approach to education took hold. Even as the economy rebounded, the interest in distance learning continues to grow.

Distance learning in continuing education courses peaked in 2012 as North Carolina citizens returned to work as the economy began to pick up again. *(See Figure 2)* It should be noted that data in continuing education distance learning courses began in 2001 with only 7,488 enrollments. By 2014, the numbers had grown to 106,659 after reaching a height of 128,150 enrollments in 2012.

Figure 1: DL Curriculum Duplicated Enrollment 1999-2014

All DL Methods - Curriculum Enrollments 1999-2014

Data points (Total Number of Students vs College Year):
- 1999: 26,695
- 2000: 40,392
- 2001: 58,592
- 2002: 87,299
- 2003: 117,229
- 2004: 144,217
- 2005: 233,230
- 2006: 307,639
- 2007: 386,738
- 2008: 427,981
- 2009: 594,644
- 2010: 765,189
- 2011: 851,091
- 2012: 963,086
- 2013: 1,044,057
- 2014: 1,096,139
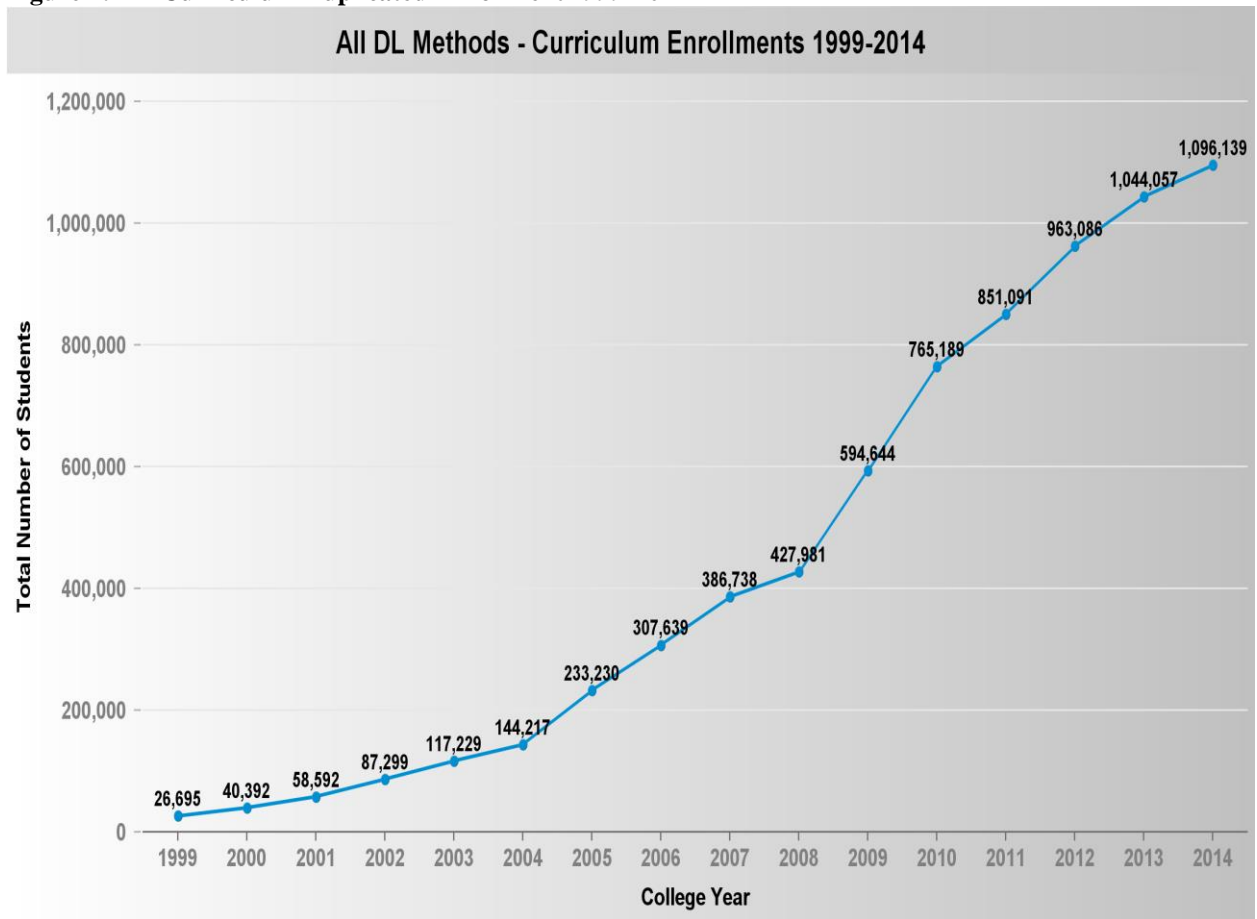
Figure 2: DL Continuing Education Duplicated Enrollment 2000-2014 (no distance enrollments recorded before 2000)

DL Methods - Continuing Education Enrollments 2001-2014

Data points (Total Number of Students vs College Year):
- 2001: 7,488
- 2002: 13,849
- 2003: 18,330
- 2004: 21,422
- 2005: 31,916
- 2006: 40,809
- 2007: 53,977
- 2008: 72,647
- 2009: 100,727
- 2010: 117,283
- 2011: 124,706
- 2012: 128,150
- 2013: 120,105
- 2014: 106,659

18
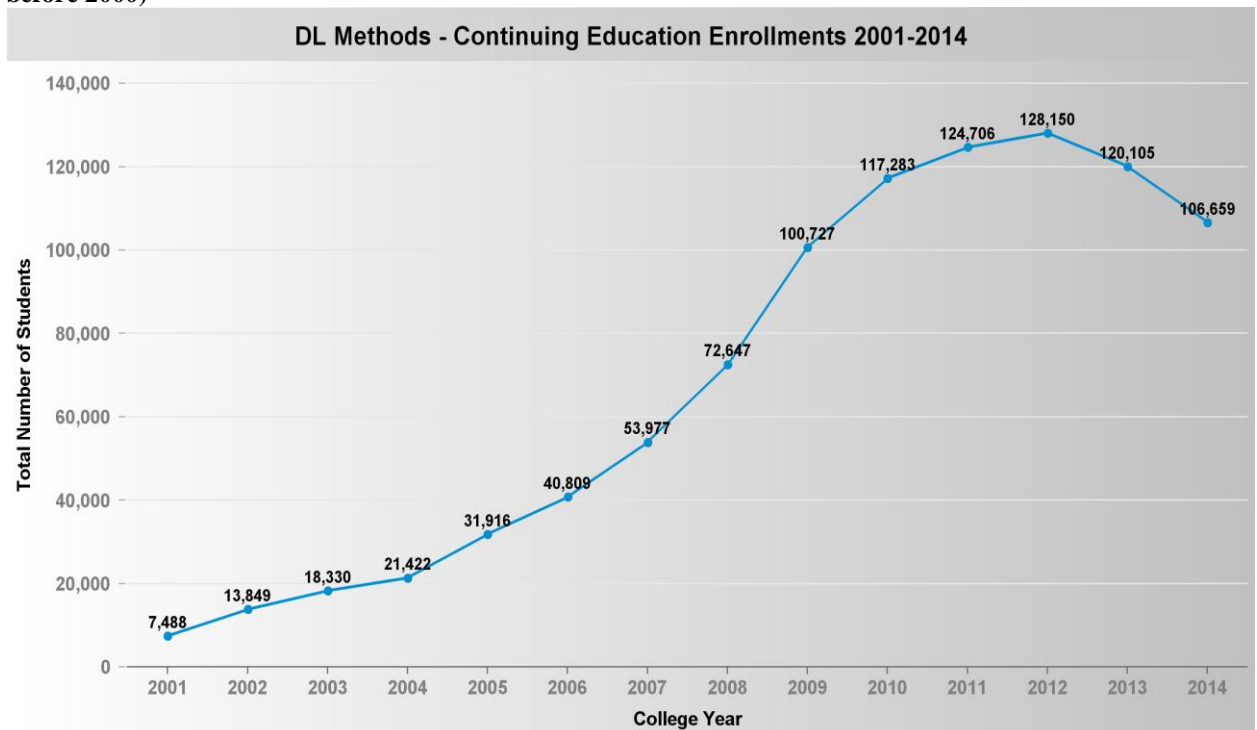
Expenditures Made Possible with 2 + 2 Funds

The expenditures from the 2 + 2 E-Learning Initiative have provided the necessary funds to support distance learning courses, resources and tools throughout the community college system. This support has provided for infrastructure, training, professional development, and system-wide cost savings as our System was able to provide tools and resources that individual colleges were unable to purchase/license. This initiative allows the same consistency and access to distance learning programs by instructors and students regardless of their location or college enrollment in our state. (*See Appendix A*)

Expenditures for Fiscal Year 2014-2015

Figure 3: 2+2 Expenditures for Fiscal Year 2014-2015

2 + 2 E-Learning Initiative	2014-2015 Budget $653,000.00
TEACHER EDUCATION RESOURCES	
Late Nite Labs Biology, Chemistry, Physics, Microbiology	$10,500.00
V-Scope Explorer: Basic Biology Edition	14,500.00
V-Scope Explorer: Anatomy & Physiology	12,500.00
Monterey Institute/NROC Learning Objects	25,000.00
Intelecom Repository Collections	30,600.00
STAT!Ref Allied Health, Nursing and Dental Database	27,857.83
A.D.A.M. Interactive Anatomy Online	19,600.00
NCLOR Maintenance and Support Fees	100,000.00
NC3ATLAS	0.00
Category Expenditures	**$240,557.83**
INFRASTRUCTURE	
NCLOR Hosting, Digital Certificate, SAN Storage	62,897.00
NCLOR ITS/Project Manager	14,703.00
Category Expenditures	**$77,600.00**
VIRTUAL LEARNING COMMUNITY (VLC) PROJECTS	
Course Development/Editing Project	310,000.00
VLC Streaming Media Study	10,000.00
VLC Website Analytics	5,000.00
Category Expenditures	**$325,000.00**
Total Expenditures	**$643,157.83**

Recommendation Review for 2014-2015 2 + 2 E-Learning Initiative

1. **Continue to create efficiencies that will be used across all 58 colleges to support instructional and student services and provide additional cost savings for the System.** The VLC and NCLOR will continue to expand its offerings of courses, content, and resources to support teaching and learning for community colleges. The most critical needs of our system, the state, and our workforce will be considered priorities for both of these NCCCS resources.

   Continued use of 2 + 2 funds for system-wide tools and resources builds in economic efficiencies and opportunities to train and support all 58 colleges. The VLC can provide courses, tools and resources for teaching and learning that can be utilized by all segments of the community college system. Online labs and other course materials are used by high school students taking courses as a part of the Career and College Promise Program. The NCLOR continues to expand to involve collaborative collections within the NCCCS, DPI, and other state agencies, colleges and universities. By partnering with DPI, NCCCS has seen maintenance and support fees for the NCLOR decrease each year.

   The Virtual Computing Environment continues to save software, hardware, and equipment dollars through a shared cloud computing environment with NC State University.

   Course development by the VLC of UGETC courses allows students to complete associate degrees as well as to transfer to schools in the NC University System for four-year degrees. Editing of existing courses on a regular basis saves develop money that can be spent on additional courses. It is hoped that additional funds can be earmarked for course editing projects.

2. **NC3ATLAS launch.** The marketing and communication plans will be implemented, and the decision point for future expansion of a fully searchable system of teaching and learning resources will be considered.

   ATLAS launched in spring 2014 as the site to visit for system-wide teaching and learning resources in the NC Community College System, http://atlas.nccommunitycolleges.edu/. This portal connects faculty and staff to the VLC (Virtual Learning Community), NCLOR (NC Learning Object Repository), CCLINC (Community College Libraries in NC), NC-NET (NC Network for Excellence in Teaching), NC LIVE (NC state-wide online library), College Tech Prep in NC, NC Advanced Manufacturing Alliance, SBCN (Small Business Center Network), CCL (NCCCS Combined Course Library), BioNetwork, and NC-ACCESS (providing professional development to student development personnel).

   The launch of the website marks the completion of Phase I in this three-phase project to integrate a searchable platform of resources. At this stage, NCCCS is introducing this platform to faculty across the system as an information portal of resources. Before moving forward on Phase II, which will involve significant time and money, NCCCS intends to devote time to increase use of the website through a planned marketing and professional development campaign to acclimate new users to this teaching and learning solution.

Webinars will be provided by the VLC and online tutorials will be contributed to the NCLOR. A decision point of moving forward or holding with the current implementation will be made in the next fiscal year.

3. **E-Text implementation plans and pursuit of exceptional pricing of e-texts for students.** The e-Text Report will be distributed to college presidents as a guide for implementation of e-Texts at the local campuses, http://vlc.nccommunitycolleges.edu/faculty/quality-and-assessment-center/resources/. The system office will pursue pricing efficiencies through available contract and procurement practices for state agencies in order to save money for our colleges and our students.

   The e-Text Report was distributed to the NCCCS Presidents and posted on the VLC website. Colleges were encouraged to pursue providing e-textbooks for students who would like this discounted option for course content by working with their local college bookstore publishers. Because the colleges have unique bookstore contracts with multiple vendors, the System was unable to issue an RFP that would satisfy requirements for all colleges. Colleges are approved for different programs of study which greatly affect the decision-making process of which publishers to use in the local campus bookstores. One size does not fit all. In addition, many faculty and students prefer the hard copy option of textbooks. However, colleges are encouraged to move towards greater use of e-text content.

4. **Continue to develop online courses and content for targeted programs that provide online access in the areas of STEM, career/technical education, and additional areas of critical need in the workplace.** To continue with these efforts, in 2014-15 the VLC plans to develop three remaining courses designated by the Code Qualifications Board for online delivery. The VLC will also develop additional core education courses that have changed due to the comprehensive articulation agreement with UNC. These courses are needed for multiple curriculum programs and create further efficiencies in the community college system.

   The VLC Quality and Assessment Center continues to work with subject matter experts to produce online certification courses for use by colleges who teach courses overseen by the Code Qualifications Board. Subject matter experts from industry are unfamiliar with the course content process. These SMEs must be videotaped and interviewed to create the necessary content for these courses. The process demands additional time and money to produce a high quality course. The three courses begun in 2014 remain in the production process. To meet ADA compliance, captioned videos, scripts, and other accommodations must also be produced. The first three courses will continue on the 2015-2016 project list.

   Courses developed and edited by the VLC in 2014-2015 were chosen for their inclusion on the UGETC list of transfer courses as well as required courses for nursing programs of study. Faculty from 35 community colleges developed and edited these courses. The UGETC courses are included in both the Associate of Arts and Associate of Science degrees which are the most popular ones in our System. *(See Figure 4).*

5. **Expand professional development opportunities for faculty and staff focused on online course certifications, tutorials, and new technology resources and tools.** The VLC will continue to research and produce resources for the 58 colleges, as well as provide training on the technology tools that are critical to online teaching and learning.

Professional development may be accessed through the VLC website, NCLOR, as well as multiple websites that are linked to the ATLAS website, **http://atlas.nccommunitycolleges.edu/.**

 The VLC Professional Development Center at Wake Technical Community College provides training materials and workshops, tutorials and webinars to faculty and staff throughout the System. In 2014-2015, the VLC Professional Development Center developed training materials on accessibility, teaching and learning with mobile devices, creating interactive PowerPoints, and online screen casting tools. Online/seated training sessions were provided on Getting Started with Moodle 2.6, Getting Started with Blackboard, LMS Flash Courses – Specific Topics in Blackboard and Moodle, Blackboard Admin Training, Moodle Admin Training, and the Certified Online Instructor Course - Levels 1-4. Faculty throughout the System are enrolled in all four levels of the Certified Online Instructor Course. It is hoped this will become a recognized certificate to endorse the quality of instruction by faculty in our system colleges.

Additional webinars are provided to colleges on Blackboard updates, captioning tools, iPad and mobile apps, NCLOR resources, the flipped classroom model, Late Nite Labs, V-Scope Explorer, online screen casting tools, accessibility and accessible products. Additional webinars may be requested by colleges on specific areas of need. For more information about the VLC Professional Development Center, visit the VLC website at http://vlc.nccommunitycolleges.edu/faculty/professional-development-center/.

In 2014-2015, greater emphasis was placed on professional development to faculty about the system-wide 2 + 2 resources like Late Nite Labs. Evidence that the additional webinars were successful is the significant increase in the number of schools and students using this resource. Since July 1, 2014, 1,878 NCCCS students from 22 community colleges have used Late Nite Labs. These numbers have increased substantially from 2013-2014 when 898 NCCCS students in 13 community colleges utilized Late Nite Labs in their courses. The 2014-2015 numbers only reflect the fall 2015 and spring 2015 students. Summer 2015 students will further increase the total for the academic year.

The VLC Technology Center provided professional development of technology tutorials, webinars and face to face sessions at colleges throughout the System. Faculty members from 24 colleges were involved in the creation of this content. The Technology Showcase is a summary of the center's current projects and provides fully accessible information and professional development about the following tools and resources: Adobe Connect Professional, Assistive Technology, Avatars, Blogging, BurstPoint, Camtasia, Captivate, ClipBucket, Doodle, Google Calendar, Develop Interactivities, ITunesU, Jing, Kaltura, Lecture Capture Technologies, Microsoft Office 365, Microsoft PowerPoint, Microsoft Word, Podcasting, Poll Everywhere, Respondus, Skype, SoftChalk, Venuegen, VoiceThread, and YouTube.

The VLC Technology Center responds to requests for additional training and demos of software and tools by providing professional development to colleges in face to face sessions or through development of online tutorials accessible through the NCLOR.

The VLC Quality and Assessment Center provides training and professional development on state authorization, online student services, website accessibility, online course accessibility checklist, and best practices for developing an online course from existing content.

The NCLOR contains over 1,000 items of professional development which include tutorials, webinars, videos, slideshows, PDF/text content and audio files. These contributions come from many sources like the VLC, community college faculty, open source content, licensed collections, and other educational entities such as DPI, colleges, and universities. Access to professional development is provided by NCCCS in face to face workshops and conferences, online tutorials and webinars, and through videoconferencing.

6. **Expand the participation of NCCCS colleges using the Virtual Computing Environment.** NCCCS and NC State will continue to collaborate on this private cloud project to achieve efficiencies in software application delivery.

   NCCCS and NC State University's Virtual Computing Environment (VCE) Team collaboratively work on expanding this resource to additional community colleges each year. In 2014-2015 two regional workshops were held at Nash and Davidson County Community Colleges where multiple colleges were invited to attend and learn about the VCE.

   This collaboration began in 2008 with the desire to provide computer lab services through cloud computing in order to achieve cost efficiencies for software and hardware. The Virtual Computing Environment is a remote access service that allows faculty and students to request or reserve a computer with a desired set of applications or licensed software accessed over the Internet. It provides a cost-effective alternative to expensive traditional computer labs. Access is 24/7/365 and can be used for synchronous classroom use as well as asynchronous individual use. Cost efficiencies are realized for the colleges by the purchase of fewer software licenses, less computer lab equipment and upgrades and fewer personnel needed to maintain and update the licenses on computers in the labs. Likewise, students do not need to purchase expensive software packages and the VCE does not require sophisticated computer equipment to work. Students and faculty simply login to the website to access their software, save their work to their personal computer accounts, and log out when they are done.

   There is capacity in the VCE for up to 30 community colleges to participate. Community colleges renew their participation each year based on their software needs. NC State provides the training and support to NCCCS admin and faculty.

Appendices

Appendix A

2013-2014 Expenditures for 2+2 E-Learning Initiative
Student, Teaching and Learning Resources Implemented by the NCCCS

Educational Resource: Virtual Learning Community (VLC) Quality & Assessment Center Project: Integrated Teaching and Learning Gateway Launches NC3ATLAS

Description: The Integrated Teaching and Learning Gateway connects all electronic resource systems and websites through the NC3ATLAS site. NC3ATLAS provides easy access to teaching, learning, and professional development resources for NCCCS faculty and students. Previously, these separate educational systems were difficult to find and many required unique logins. Without a consistent content platform and a comprehensive marketing and communication strategy, needed information is unavailable to faculty and students or they are unaware that it exists. The NC3ATLAS website provides access and efficiency to the academic and pedagogical needs of the NCCCS community.

The Integrated Teaching and Learning Gateway will be implemented in a three-phrase development plan which will spread the costs over multiple funding years. Phase I of the project, now completed, defined the resources and content to be linked; evaluated and secured a hosting vendor; analyzed and cataloged the current content; linked all content to a single hosting solution; evaluated and secured the software solution to develop the gateway; hired a part-time project coordinator; selected project team members for all three phases; evaluated the ability to link all of the current systems and resources; and developed a common branding proposal. Phases two and three will define technology requirements, metadata schema for all resources, full implementation including marketing and training, and an overall evaluation of the results. At the completion of Phase I, the project is on hold until

Audience: NCCCS faculty and students

Cost: $0.00 (Phase I design work was completed with 2013-2014 2 + 2 funds and the website was launched in 2014-2015.)

Status: Website created http://atlas.nccommunitycolleges.edu/, and linked to the NCCCS website.

Educational Resource: Virtual Learning Community (VLC) Quality & Assessment Center Project: Course Development/Enhancement Project

Description: The VLC Quality & Assessment Center is leading the course development/editing project of 23 curriculum courses. All of the courses will be enhanced with new interactive

learning objects, videos, self-assessments and additional supplemental materials. The courses will be meet accessibility compliance for Section 508 of the American with Disabilities Act (ADA). All courses will be available in Blackboard and Moodle learning management systems. Twenty-one (21) of the 23 courses being developed/edited are on the UGETC list of transfer courses *(See Figure 4)* to enable community college students to seamlessly transfer to the North Carolina University System as well as to attain core courses for associate degrees in the NCCCS.

Figure 4: VLC Course Development/Editing Project 2014-2015

Course ID	Course Name	Edit/Develop
ART 115*	Art History Survey II	Edit
AST 111*	Descriptive Astronomy	Develop
BIO 111*	General Biology I	Develop
BIO 112*	General Biology II	Develop
BIO 168	Anatomy & Physiology I	Edit
BIO 169	Anatomy & Physiology II	Edit
CHM 151*	General Chemistry I	Develop
CHM 152*	General Chemistry II	Develop
COM 231*	Public Speaking	Develop
ECO 251*	Principles of Microeconomics	Develop
ECO 252*	Principles of Macroeconomics	Develop
ENG 112*	Writing/Research in the Disciplines	Develop
GEL 111*	Introductory Geology	Develop
HIS 131*	American History I	Develop
HIS 132*	American History II	Develop
MAT 172*	Precalculus Trigonometry	Develop
MAT 263*	Brief Calculus	Edit
PHI 215*	Philosophical Issues	Develop
PHI 240*	Introduction to Ethics	Develop
PHY 110*	Conceptual Physics	Develop
PHY 110A*	Conceptual Physics Lab	Develop
POL 120*	American Government	Develop
SOC 210*	Introduction to Sociology	Edit

* **Universal General Education Transfer Component Course (UGETC)**

Audience: NCCCS faculty and students

Cost: $210,000.00

Status: Courses and interactive learning objects will be completed by June 30, 2015

Educational Resource: Late Nite Labs - Online Chemistry, Biology, Physics, and Microbiology Lab Simulations (www.latenitelabs.com)

Description: Late Nite Labs offers chemistry, biology, physics, and microbiology simulations that provide instructors with the capability to develop and customize high quality online laboratory simulations. This software allows students to complete labs anytime, anywhere.

Audience: NCCCS faculty and students

Cost: $10,500.00

Status: Online biology, chemistry, physics, and microbiology courses are developed using Late Nite Labs. These simulations are used for fully online laboratory courses, as well as pre-lab and pre-test scenarios in hybrid and traditional courses. Since July 1, 2014, 1,878 NCCCS students from 22 community colleges have used these online labs in just the fall 2014 and spring 2015 semesters. These numbers have increased substantially from 2013-2014 when 898 NCCCS students in 13 community colleges utilized Late Nite Labs in their courses. Greater interest in online STEM courses and additional professional development opportunities in 2014-2015 for faculty have resulted in this increase in student enrollments.

Savings: $84,161.00 Instructor PINS are free and do not expire for NCCCS instructors. Labs may be created and/or customized. Student PINS are provided at the reduced cost to NCCCS students of $15.00 per course compared to $59.95 for students in all other academic institutions. This is a savings of $44.95 per student per course.

In 2014-2015, 1878 student PINS were purchased by NCCCS students at the reduced rate of $15.00

Late Nite Labs regular student price: $59.95 x 1,878 students = $112,586.10
NCCCS discounted student price: 15.00 x 1,878 students =   28,170.00
                                                                Savings   **$84,161.00**

Additional savings are realized by the colleges as smaller quantities of laboratory materials and equipment are needed.

Educational Resource: Science Learning Resources, Inc.

Description: The V-Scope Explorer: Biology and Anatomy & Physiology series provide a cost effective way for students to experience state-of-the-art microscopy focused on content to support courses in biology, nursing, allied health, and higher level science programs. The programs can be accessed through the NCLOR and can be downloaded to college computers in classrooms and computer labs.

V-Scope Explorer: Biology imitates the physical functionality of a real microscope and requires students to follow traditional laboratory process and protocol. The high resolution prepared biological specimens imaged for the program illustrate fundamental biological principles.

The V-Scope Explorer: Anatomy & Physiology uses images produced from high quality specimens including selected specimens from medical school histology teaching faculty. State-of-the-art photo microscopy was used to create images for the program so students experience microscopy in a way that is typically available to scientists in well-equipped research laboratories. In addition to standard histology slides, the program contains micro videos of living organisms, including living bacteria, protozoans, plants, and algae, and invertebrate

The V-Scope Explorer series comes with a collection of lesson plans (Activity Guides) to direct students in virtual microscopy labs for both Anatomy/Physiology and Biology. Foundational content and support assignments and exercises are provided in the Activity Guides.

In addition to being a valuable component for online classes, the V-Scope Explorer allows students in traditional lab-based courses to have extended time for microscopic investigations which reinforces their traditional laboratory experience.

The programs can be accessed through the NCLOR and can be downloaded to college computers in classrooms and computer labs.

V-Scope Explorer: Basic Biology Edition

Audience: NCCCS faculty and students

Cost: $14,500.00 for maintenance and annual license renewal for unlimited system-wide use (7/1/15-6/30/16)

Status: This resource is being used in science courses and other related fields of study. NCCCS licenses the Basic Biology Edition which includes videos, study guides and frequent upgrades. Slides from this resource are in the top 25 most viewed resources in the NCLOR.

Savings: Free professional development faculty workshops and webinars are provided by Science Learning Resources. Activity guides were recently added at no additional cost to the System.

V-Scope Explorer: Anatomy and Physiology

Audience: NCCCS faculty and students

Cost: $12,500 for maintenance and annual license renewal for unlimited system-wide use (6/1/15-5/31/16)

Status: This resource is being used in upper level science, nursing, and allied health courses.

Savings: Free professional development workshops and webinars for NCCCS faculty are provided by Science Learning Resources. Study guides and supplemental materials have been added to the series for no additional cost to the System.

Educational Resource: Monterey Institute for Technology and Education/ National Repository of Online Content (NROC) Learning Objects)

Description: The NROC collection of over 3,436 multi-curriculum topics and 1,128 additional lessons are available to all NCCCS faculty, staff, and students to enhance online, hybrid, and face to face course content. Faculty may access the NROC resources through the NCLOR. This collection includes the subject areas of Algebra, Developmental Math, Biology, Environmental Science, Social Sciences, and Religions of the World.

Audience: NCCCS faculty and students

Cost: $25,000.00 (Annual Membership, 7/1/15-6/30/16)

Status: The NROC Collection is widely used by NCCCS faculty and students throughout our system.

Savings: System membership for the NCLOR allows for consortium use by colleges. Individual memberships for NCCCS institutions would total $1,450,000.00.

Educational Resource: Intelecom Repository Collections

Description: Health, Philosophy and Adult Basic Education Collections add 748 resources to the NCLOR to support courses and programs in multiple curriculum environments where additional resources were needed. Face to face, hybrid, and online course content in allied health fields, nursing, psychology, sociology, humanities, and basic skills courses are enhanced with these collections. This content may be embedded into NCCCS courses.

Audience: NCCCS faculty and students

Cost: $30,600.00 Annual license renewal (3/19/15-3/18/16)

Status: Meeting the needs of faculty and students from basic skills programs to curriculum degree programs.

Savings: NCCCS price was discounted by 10% for a multiple discipline license.

Educational Resource: STAT!Ref®

Description: The North Carolina Community College System Office annually licenses STAT!Ref® for unlimited use by all 58 colleges. This online resource is a database that includes over 35 electronic medical textbooks, in addition to journals and current articles for programs in allied health, nursing, dental, and emergency medical fields. Campus access to STAT!Ref® is through IP authentication. Each college is also provided a unique login for remote use by faculty,

staff, and students. Remote login information is provided to the Library Resource Director at each college. Students and faculty may also access this resource through a mobile app on electronic devices.

Audience: NCCCS faculty and students in nursing, allied health, emergency medical services, and related programs of study

Cost: $27,857.83

Status: In 2014, NCCCS students and faculty from 42 colleges in the System regularly accessed the STAT!Ref database. Usage minutes included all delivery devices (mobile, tablet, PC, MAC, desktop, laptop computers, etc.). This resource is available through devices via a mobile app which is quite popular with students. In the time period of July 1, 2014-April 14, 2015, faculty and students retrieved 141,936 documents (e-textbooks, journal articles) and performed 70,715 searches for research.

Educational Resource: National Library Alliance / Animated Dissection of Anatomy for Medicine (A.D.A.M. Interactive Anatomy Online)

Description: The North Carolina Community College System Office has licensed Animated Dissection of Anatomy for Medicine (A.D.A.M. Interactive Anatomy Online) through the National Library Alliance for use by all 58 colleges.

A.D.A.M. Interactive Anatomy Online is an online comprehensive interactive anatomy teaching tool. It includes detailed graphics and advanced functionality combined with a multimedia encyclopedia, a complete library of 3D images, and over 3,000 illustrations for learning clinical concepts. This resource is designed to enhance allied health, nursing, continuing medical education (CME) or other medical related courses requiring the study of clinical applications and concepts. Access to A.D.A.M. Interactive Anatomy Online is through IP authentication on campus or by using a campus-wide username and password for remote access.

Audience: NCCCS Instructors and students

Cost: $19,600.00 (1/1/15-12/31/15)

Status: Faculty and students in nursing and allied health programs of study actively use this resource. Content and videos are embedded into courses. Increase in webinars and presentations at workshops and conferences has promoted increased use.

Educational Resource: North Carolina Learning Object Repository (NCLOR) – Pearson/Equella (vendor), Hosted by ITS, NCCCS LOR Hardware

Description: The North Carolina Learning Object Repository (NCLOR) is a system-wide resource which provides the capacity to catalog and store, search, access, and utilize digitized learning/teaching content. Learning object repository technology promotes sharing of high quality resources and drastically reduces costs of duplication. The 2+2 funds were used to

establish and maintain the North Carolina Learning Object Repository. The project includes 2+2 funds to be directed for appropriate project management services required to satisfy Senate Bill 991 documentation and protocol; and contract services to assure that all testing components of the vendor Request for Proposal and contract development are properly completed and documented. In 2013, the Department of Public Instruction joined the NCCCS contract with funds from the federal Race to the Top grant which covered the purchase of a perpetual license resulting in lower maintenance costs and fees for all state partners.

Audience: Faculty and students of NCCCS, DPI, UNC System, and several North Carolina private colleges and universities.

Cost: $100,000.00   (Software License/Maintenance)
      62,897.00   (ITS Hosting, Digital Certificate, and SAN Storage)
      <u>14,703.00</u>   (ITS Project Manager: budgeted amount per Senate Bill 991)
   $177,600.00

 Status: In May 2015, the State Board of Community Colleges is scheduled to renew the annual contract agreements with (1) Pearson/Equella for software and professional services and (2) the State Information Technology Service (ITS) to provide hosting and project management services.

Savings: $24, 590 With the purchase by DPI of the perpetual license for Equella software, the license, maintenance, and training fees for NCCCS dropped from $189,000.00 in 2012-2013 to $120,000 in 2013-2014. The net savings was $60,000.00. In 2013-2014, NCCCS spent $202,190.00 on the license/ maintenance, ITS hosting and project management costs. In 2014-2015, even with the expansion to two new servers which required additional project management services and SAN storage, the total costs for the NCLOR decreased by $24,590.

Appendix B

North Carolina Community College System
Virtual Learning Community
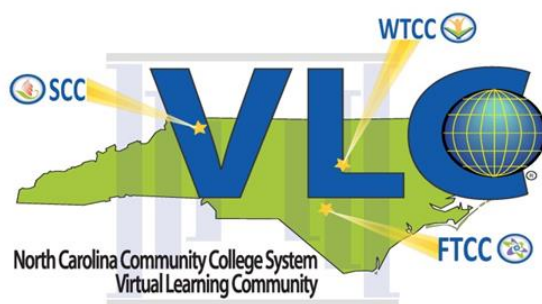
Degrees Available from the NCCCS Virtual Learning Community® (VLC)

There are currently 325 curriculum courses in the VLC Library with which colleges in the NCCCS could build programs of study to offer 37 online degrees. Those degrees include:

1. AA/Associate in Arts (A1010A)
2. AA/Business Administration, Accounting, Economics, Finance, & Marketing (A1010B)
3. AA/Business Education and Marketing Education (A1010C)
4. AA/Criminal Justice (A1010D)
5. AA/English (A1010E)
6. AA/Health Education (A1010G)
7. AA/History (A1010H)
8. AA/Nursing (A1010I)
9. AA/Physical Education (A1010J)
10. AA/Political Science (A1010K)
11. AA/Psychology (A1010L)
12. AA/Social Science Secondary Education (A1010M)
13. AA/Sociology (A1010N)
14. AA/Communication (A1010O)
15. AA/Social Work (A1010Q)
16. AA/Elementary Education (A1010R)
17. AA/Special Education (A1010S)
18. AA/Computer Science (A1010T)
19. AA/Liberal Arts (A1010U)
20. AA/Information Systems (1010V)
21. AA/Middle Grades Education (A1011A)
22. AA/General Education (A1030O)
23. AS/Biology/Biology Education (A1040A)
24. AS/ Chemistry/Chemistry Education (A1040B)
25. AS/Mathematics (A1040E)
26. AS/Associate in Science (A1040O)
27. AS/Engineering (A1040D)
28. AAS/Accounting (A25100)
29. AAS/Business Administration (A25120)
30. AAS/ Business Administration/Human Resources Management (A2512C)
31. AAS/Business Administration/International Business (A2512D)
32. AAS/Business Administration/Marketing and Retailing (A2512F)
33. AAS/ Business Administration/E-Commerce (A2512I)
34. AAS/Computer Programming (A25130)
35. AAS/ Office Systems Technology (A25360)
36. AAS/Paralegal Technology (A25380)
37. AAS/Criminal Justice Technology (A55180)

Appendix C
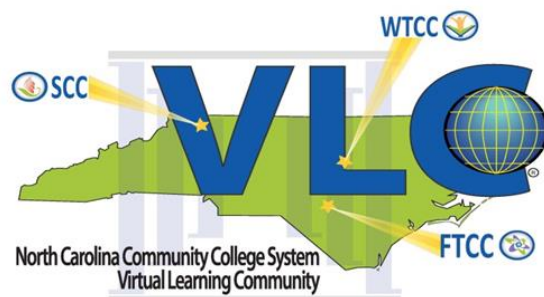
325 Curriculum Courses
52 Continuing Education Courses

Course #	*Course Name*
Curriculum Courses	*Curriculum Courses*
ACA 090	Study Skills
ACA 111	College Student Success
ACA 112	Intro. To Distance Learning
ACC 115	College Accounting
ACC 118	College Study Skills
ACC 120	Principles of Financial Accounting
ACC 121	Principles of Managerial Accounting
ACC 122	College Transfer Success
ACC 129	Individual Income Taxes
ACC 130	Business Income Taxes
ACC 140	Payroll Accounting
ACC 150	Accounting Software Applications
ACC 220	Intermediate Accounting I
ACC 225	Cost Accounting
ACC 270	International Accounting
ACM 110	Intro to Animal Care
AGR 170	Soil Science
AHR 120	HVACR Maintenance
AHR 160	Refrigerant Certification
ANS 110	Animal Science
ANS 150	Animal Health Management
ARC 131	Building Codes
ANT 210	General Anthropology
ART 111	Art Appreciation *(2014-2015) developed*
ART 114	Art History Survey I
ART 115	Art History Survey II *(2014-2015) edited*
AST 111	Descriptive Astronomy *(2014-2015) developed*
BIO 111	General Biology I *(2014-2015) developed*
BIO 112	General Biology II *(2014-2015) developed*
BIO 120	Introductory Botany
BIO 130	Introductory Zoology

BIO 140	Environmental Biology
BIO 145	Ecology
BIO 165	Anatomy & Physiology I
BIO 166	Anatomy & Physiology II
BIO 168	Anatomy & Physiology I *(2014-2015) edited*
BIO 169	Anatomy & Physiology II *(2014-2015) edited*
BIO 175	General Microbiology
BIO 275	Microbiology
BPM 110	Bioprocess Practices
BPR 111	Blueprint Reading
BUS 110	Introduction to Business
BUS 115	Business Law I
BUS 116	Business Law II
BUS 121	Business Math
BUS 135	Principles of Supervision
BUS 137	Principles of Management
BUS 153	Human Resource Management
BUS 217	Employment Law and Regulations
BUS 225	Business Finance
BUS 230	Small Business Management
BUS 234	Training and Development
BUS 238	Integrated Management
BUS 239	Business Applications Seminar
BUS 252	Labor Relations
BUS 256	Recruitment Selection & Personnel Planning
BUS 258	Compensation and Benefits
BUS 259	HRM Applications
BUS 260	Business Communications
CHM 090	Chemistry Concepts
CHM 131	Introduction to Chemistry
CHM 131A	Introduction to Chemistry Lab
CHM 132	Organic & Biochemistry
CHM 135	Survey of Chemistry I and Lab
CHM 151	General Chemistry I *(2014-2015) developed*
CHM 152	General Chemistry II *(2014-2015) developed*
CHM 251	Organic Chemistry I
CHM 252	Organic Chemistry II
CIS 070	Fundamentals of Computing
CIS 110	Introduction to Computers
CIS 111	Basic PC Literacy
CIS 113	Computer Basics
CIS 115	Introduction to Programming & Logic
CIS 165	Desktop Publishing I
CJC 111	Introduction to Criminal Justice
CJC 112	Criminology
CJC 113	Juvenile Justice
CJC 121	Law Enforcement Operations
CJC 131	Criminal Law
CJC 132	Court Procedure & Evidence
CJC 141	Corrections
CJC 212	Ethics & Community Relations
CJC 221	Investigative Principles
CJC 231	Constitutional Law
COE 111	Co-op Work Experience I
COM 110	Introduction to Communication
COM 120	Interpersonal Communication

COM 130	Nonverbal Communication
COM 231	Public Speaking *(2014-2015) developed*
CSC 120	Computing Fundamentals I
CSC 130	Computing Fundamentals II
CSC 134 &134B	C++ Programming
CSC 139	Visual Basic Programming
CSC 151	JAVA Programming
CSC 220	Machine Implementation of Algorithms
CSC 234	Advanced C++ Programming
CSC 239	Advanced Visual Basic Programming
CSC 289	Programming Capstone Project
CTS 125	Presentation Graphics
CTS 130	Spreadsheet
CTS 220	Advanced Hardware/Software Support
CTS 230	Advanced Spreadsheet
CTS 285	Systems Analysis and Design
DBA 110	Database Concepts
DBA 115	Database Applications
DFT 170	Engineering Graphics
DMA 010	Operations with Integers
DMA 020	Fractions and Decimals
DMA 030	Propor/Ratio/Rate/Percent
DMA 040	Express/Lin Equat/Inequal
DMA 050	Graphs/Equations of Lines
DMA 060	Polynomial/Quadratic Appl
DMA 070	Rational Express/Equation
DMA 080	Radical Express/Equations
ECM 168	Electronic Business
ECM 210	Introduction to Electronic Commerce
ECM 220	E-Commerce Planning & Implementation
ECO 151	Survey of Economics
ECO 251	Principles of Microeconomics *(2014-2015) developed*
ECO 252	Principles of Macroeconomics *(2014-2015) developed*
EDU 118	Teacher Assoc. Principles and Practice
EDU 119	Introduction Early Child Education
EDU 131	Child, Family, and Community
EDU 144	Child Development I
EDU 145	Child Development II
EDU 146	Child Guidance
EDU 151	Creative Activities
EDU 153	Health, Safety, & Nutrition
EDU 186	Reading & Writing Methods
EDU 216	Foundations of Education
EDU 221	Children with Exceptionalities
EDU 222	Learners with Behavior Disorders (formerly EDU 147)
EDU 223	Specific Learning Disabilities (formerly EDU 148)
EDU 235	School Age Development & Program
EDU 247	Sensory and Physical Disabilities
EDU 248	Developmental Delays
EDU 261	Early Childhood Administration I
EDU 262	Early Childhood Administration II
EDU 271	Education Technology
EDU 275	Effective Teacher Training
EDU 280	Language & Literacy Experiences
EDU 285	Internship Experience – School Age
EGR 110	Introduction to Engineering Technology

EGR 220	Engineering Statics
ELC 112	Industrial Safety
ELC 113	Basic Wiring I
ELC 115	Industrial Wiring
ELC 117	Motors and Controls
ELC 128	Introduction to PLC
ELC 131	Circuit Analysis I
ELC 133	Circuit Analysis II
ELC 228	PLC Applications
ELN 131	Analog Electronics I
ELN 132	Analog Electronics II
ELN 133	Digital Electronics
ELN 152	Fabrication Techniques
ELN 232	Intro to Microprocessors
ELN 246	Cert Elect Tech Prep
EMS 235	EMS Management
ENG 070	Basic Language Skills
ENG 080	Writing Foundations
ENG 090	Composition Strategies
ENG 111	Expository Writing
ENG 112	Writing/Research in the Disciplines *(2014-2015) developed*
ENG 113	Literature Based Research
ENG 114	Professional Research & Reporting
ENG 131	Introduction to Literature
ENG 231	American Literature I *(2014-2015) developed*
ENG 232	American Literature II *(2014-2015) developed*
ENG 233	Major American Writers
ENG 241	British Literature I
ENG 242	British Literature II
ENG 251	Western World Literature I
ENG 261	World Literature I
ENG 262	World Literature II
ENG 273	African-American Literature
ENV 110	Environmental Science
ENV 218	Environmental Health
FIP 120	Intro to Fire Protection
FIP 124	Fire Prevention & Public Education
FIP 128	Detection & Investigation
FIP 132	Building Construction
FIP 152	Fire Protection Law
FIP 220	Fire Fighting Strategies
GEL 111	Introductory Geology *(2014-2015) developed*
GEO 111	World Regional Geography
HEA 110	Personal Health & Wellness
HEA 112	First Aid and CPR
HEA 120	Community Health
HIS 111	World Civilizations I
HIS 112	World Civilizations II
HIS 121	Western Civilization I
HIS 122	Western Civilization II
HIS 131	American History I *(2014-2015) developed*
HIS 132	American History II *(2014-2015) developed*
HIS 222	African-American History I
HIS 223	African-American History II
HIT 112	Health Law & Ethics
HOR 112	Landscape Design I

HOR 160	Plant Materials I
HOR 166	Soils & Fertilizers
HSE 110	Introduction to Human Services
HSE 210	Human Services Issues
HUM 110	Technology & Society
HUM 115	Critical Thinking
HUM 122	Southern Culture
HUM 150	American Women's Studies
HUM 160	Introduction to Film
HYD 110	Hydraulic Pneumatics I
INT 110	International Business
INT 210	International Trade
INT 220	International Economics
INT 230	International Law
ISC 110	Workplace Safety
ISC 112	Industrial Safety
ITN 150	Internet Protocols
ITN 250	Implementing Internet Services
LEX 110	Introduction to Paralegal Study
LEX 120	Legal Research/Writing I
LEX 130	Civil Injuries
LEX 140	Civil Litigation I
LEX 150	Commercial Law I
LEX 210	Real Property I
LEX 240	Family Law
LEX 250	Wills, Estates, & Trusts
LOG 110	Introduction to Logistics
MAT 050	Basic Math Skills
MAT 060	Essential Mathematics
MAT 070	Introductory Algebra
MAT 080	Intermediate Algebra
MAT 090	Accelerated Algebra
MAT 110	Math Measurement & Literacy
MAT 115	Mathematical Models
MAT 121	Algebra/Trigonometry I
MAT 122	Algebra/Trigonometry II
MAT 143	Quantitative Literacy
MAT 140	Survey of Mathematics
MAT 151	Statistics I
MAT 152	Statistical Methods I
MAT 161	College Algebra
MAT 167	Discrete Mathematics
MAT 167A	Discrete Mathematics
MAT 171	Precalculus Algebra
MAT 172	Precalculus Trigonometry *(2014-2015) developed*
MAT 175	Precalculus
MAT 175A	Precalculus Lab
MAT 263	Brief Calculus *(2014-2015) edited*
MAT 271	Calculus I
MAT 272	Calculus II
MAT 273	Calculus III
MAT 280	Linear Algebra
MAT 285	Differential Equations
MEC 111	Machine Processes I
MEC 180	Engineering Materials
MED 118	Medical Law & Ethics

MED 121	Medical Terminology I
MED 122	Medical Terminology II
MKT 120	Principles of Marketing
MKT 122	Visual Merchandising
MKT 123	Fundamentals of Selling
MKT 220	Advertising & Sales Promotion
MKT 221	Consumer Behavior
MKT 223	Customer Satisfaction (OMT154)
MKT 225	Marketing Research
MKT 226	Retail Applications
MKT 230	Public Relations
MNT 110	Intro to Maintenance Procedures
MNT 111	Maintenance Practices
MUS 110	Music Appreciation
NET 110	Networking Concepts
NOS 110	Operating System Concepts
NOS 130	Windows Single User
NOS 230	Windows Administrator I
NUT 110	Nutrition
OMT 154	Customer Satisfaction
OST 122	Office Computations
OST 134	Text Entry & Formatting
OST 136	Word Processing
OST 137	Office Software Applications
OST 138	Advanced Software Applications
OST 148	Medical Coding, Billing and Insurance
OST 149	Medical Legal Issues
OST 164	Text Editing Applications
OST 184	Records Management
OST 236	Advanced Word/Information Processing
OST 289	Office Systems Management
PED 110	Fit and Well for Life
PHI 210	History of Philosophy
PHI 215	Philosophical Issues *(2014-2015) developed*
PHI 240	Introduction to Ethics *(2014-2015) developed*
PHY 110	Conceptual Physics *(2014-2015) developed*
PHY 110A	Conceptual Physics Lab *(2014-2015) developed*
PHY 151	College Physics I
PHY 152	College Physics II
PHY 251	General Physics I
PHY 252	General Physics II
POL 120	American Government *(2014-2015) developed*
PSY 150	General Psychology
PSY 241	Developmental Psychology
PSY 281	Abnormal Psychology
PTC 110	Industrial Environment
RED 070	Essential Reading Skills
RED 080	Introduction to College Reading
RED 090	Improved College Reading
REL 110	World Religions
REL 212	Intro to New Testament
SEC 110	Security Concepts
SEC 150	Secure Communications
SEC 160	Secure Administration I
SOC 210	Introduction to Sociology *(2014-2015) edited*
SOC 213	Sociology of the Family

SOC 220	Social Problems
SOC 225	Social Diversity
SPA 111	Elementary Spanish I
SST 140	Green Bldg & Design Concepts
VEN 133	Intro to Winemaking
WEB 110	Internet/Web Fundamentals
WEB 115	Web Markup and Scripting
WEB 120	Intro to Internet Multimedia
WEB 140	Web Development Tools
WEB 210	Web Design
WEB 230	Implementing Web Service
WEB 250	Database Driven Websites
WLD 110	Cutting Processes
WLD 112	Basic Welding Processes

Continuing Education Courses	*Continuing Education Courses*
ANS 3011	Veterinary Assisting
CAT 3100	Computed Tomography
CJC 3100	Law Enforcement: Explosives, Dirty Bombs, & Radiation Response
CJC 3100	Law Enforcement: Weapons of Mass Destruction
CJC 3100	Legal Aspects of Bioterrorism for Law Enforcement
COD 3105	Building Inspection Level I
COD 3120	Fire Prevention Inspection Level I
COD 3130	Mechanical Inspection Level I
COM 3729	Business Writing Skills
EDU 3000	Lateral Entry – Orientation
EDU 3002	Effective Teacher Training
EGY 2004	Green Purchasing
EGY 3000	Renewable Energy
EMS 3000	Anatomy & Physiology
EMS 3044	Emergency Medical Technician Basic Initial
EMS 3200	Biological Agents of Bioterrorism
EMS 3200	Bioterrorism Awareness for EMS
EMS 3200	Chemical Agents of Bioterrorism
EMS 3200	Decontamination & Transport of Exposed Patients
EMS 3200	Radiological Emergencies for EMS
EPT 3600	Emergency Preparedness – NC Perspective
FIP 3402	Firefighter I (Select Topics)
FIP 3610	Introduction to Fire Pumps
FIP 4728	Introduction to Bioterrorism for Firefighters
FIP 5512	R.T. Hazmat Awareness & Terrorism
FLI 3717	Conversational Spanish for Healthcare Workers
HAZ 3061	Hazardous Materials: Awareness
HEA 3002	Anatomy and Physiology
HEA 3014	Fund. Skills for Substance Abuse Counselors–Core Functions
HEA 3014	Fund. Skills for Substance Abuse Counselors – Ethics
HOS 3060	Meetings and Convention Planning Introduction
HRD 3001	Employability Skills

HSE 3264	Activity Director – Basic
ISC 3036	Principles of Industrial Safety
ISC 3400	Composite Manufacturing
ISC 3500	Tools for Technology
MED 3023	Medical Coding
MED 3025	Medical Billing
MED 3030	Healthcare Billing & Coding
MHT 3100	Mental Health/ Developmental Disabilities Worker
MKT 3438	Customer Service
MNT 3000	NC Manufacturing Certification Level I
MLA 3022	Phlebotomy Education and Clinical Experience
MLS 3808	Leadership
NUR 3235	Medical Terminology
NUR 3236	Medical Transcription
NUR 3240	Nurse Aide Level I
NUR 3241	Nurse Aide Level II
NUR 3279	Gerontology
OSC 3609	Unit Secretary (for hospital or nursing home)
OSH 3300	Bloodborne Pathogens Training
PHM 3250	Pharmacy Technician Training
	Small Business Center Seminars
SBCN-1	How to Start a Business
SBCN-2	How to Write a Business Plan
SBCN-3	Market Research and Marketing
	Adult High School Development Courses
AHS	Algebra I
AHS	Biology
AHS	English I
	Professional Development Courses
COI	Certified Online Instructor – Level I
OCT	Online Course Template (for development of 'VLC Certified Courses')
OCT 2	Online Course Template (for the development of online courses by an individual instructor for their personal use-not 'VLC Certified Courses')
PTOI	Principles and Techniques of Online Instruction

VLC courses are available for download and use, free of charge to NC Community Colleges. Visit our VLC website at http://vlc.nccommunitycolleges.edu. Contact Katherine Davis, eLearning Specialist, at davisk@nccommunitycolleges.edu, to obtain a login and password to download a VLC Course.