Appendix A - SACS 3.4.12 Technology Use Examples for Academic Programs

Bryan School of Business & Economics

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students
Accounting & Finance	Accounting, BS [Accounting, Accounting 2 Plus]	• All students in the BS in Accounting program are required to take ISM 110. In this course, the students are introduced to using the Windows operating environment, the internet and email, and computer security to better prepare the students for using information technology tools and to apply technology in later courses. Students are thoroughly prepared in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, and learn specific applications in each of these that further prepare the students for the integration of technology into the learning process in later courses. • All students in the BS program are also required to take ISM280 and MGT 309 which includes an emphasis on the use of PowerPoint and various integrations of office software to produce team-based and individual presentations. • Students are required to complete ACC 325 where they learn about accounting information systems and how technology is used in the accounting profession. • Students use Microsoft Excel in ACC 202, ECO 250, SCM 302, and the required courses in the major to enhance their understanding of managerial accounting, financial accounting, business statistics, operations management, auditing concepts and tax preparation. • Students access many on-line professional resources (AICPA, PCAOB, IRS, SEC, etc.) in their courses in order to complete assignments, analyze cases and prepare for accounting related careers. • Students are required to use Microsoft PowerPoint in MGT 309 and major courses in order to improve their communication skills.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs. ISM 110 includes extensive hands-on training and practice.
Accounting & Finance	Finance, BS [Finance, Finance 2 Plus]	• All students in the BS in Finance program are required to take ISM 110. In this course, the students are introduced to using the Windows operating environment, the internet and email, and computer security to better prepare the students for using information technology tools and applying technology in later courses. Students are thoroughly prepared in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, and learn specific applications in each of these that further prepare the students for the integration of technology into the learning process in later courses. • Students use Microsoft Excel in ACC 202, ECO 250, SCM 302, FIN 410, FIN 442, and FIN 450 to enhance their understanding of managerial accounting, business statistics, operations management, financial accounting, valuation, risk, diversification, and option pricing. • All students in the BS program are also required to take ISM280 and MGT 309 which includes an emphasis on the use of PowerPoint and various integrations of office software to produce team-based and individual presentations. Various courses	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs. ISM 110 includes extensive hands-on training and practice

		• in the major build upon these skills including FIN 450 which requires students to further participate in an online option pricing project. • All students are required to take Marketing 320 which requires students to complete complex key word searches and learn how to search for information using the Jackson Library online databases.	
Accounting & Finance	Accounting, MS [Accounting]	• All MS in Accounting students take a professional research course that requires the use of various electronic financial and tax authorities. These are all accessed on-line and include CCH IntelliConnect, RIA Checkpoint, FASB Accounting Standards Codification, International Financial Reporting Standards, and the SEC Edgar database. Students use these authorities to analyze the facts and circumstances of cases and gather support for their conclusions. These activities help develop critical decision making skills and prepare students for careers in both the public and private accounting sectors. • Students are exposed to general audit software and/or Excel spreadsheet software and use the software to sample and analyze data. This helps students develop and refine their skills with these applications. • Students use Microsoft Office (Word, Excel, PowerPoint) for projects and cases throughout the program. Proficiency with this software suite is a necessary skill in the accounting profession. • Students access many on-line professional resources throughout the program. These resources are used to analyze cases and maintain currency with emerging topics in the field of accounting. Students need to know how to access professional accounting resources (AICPA, PCAOB, SEC, etc.) and how to effectively use these resources to be prepared as accounting professionals. • All students take one or more courses where formal, technology-enhanced group presentations are required (e.g., using PowerPoint). This teaches students to make formal, professional presentations and helps them to learn how to better organize presentation material.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Bryan School of Business & Economics	Undecided on Major [Business Major Undecided]	• All students in the BS program are required to take ISM 110. In this course, the students are introduced to using the Windows operating environment, the internet and email, and computer security to better prepare the students for using information technology tools and applying technology in later courses. Students are thoroughly prepared in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, and learn specific applications in each of these that further prepare the students for the integration of technology into the learning process in later courses. • Students use Microsoft Excel in ACC 202, ECO 250, MKT 302, SCM 302 and major courses to improve their quantitative efficiency and enhance their understanding of managerial accounting, business statistics, operations	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs. ISM 110 includes extensive hands-on training and practice.

		• management, break-even analysis, and major specific concepts. • All students in the BS program are also required to take ISM280 and MGT 309 which includes an emphasis on the use of PowerPoint and various integrations of office software to produce team-based and individual presentations. Various courses in the major build upon these skills. • All students are required to take Marketing 320 which requires students to complete complex key word searches and learn how to search for information using the Jackson Library online databases. These skills are further reinforced in required research projects in the major specific courses.	
Consumer, Apparel, & Retail Studies	Consumer, Apparel, & Retail Studies, BS [Apparel Product Design, Global Apparel/Related Inds, Retail & Consumer Studies]	• All students in the Department of Consumer, Apparel, and Retail Studies (CARS) must complete a set of core courses in which Blackboard and its additional functions such as blogs, wikis, and discussion forums are used. These have become standard for all CARS classes. In addition, all students take classes in which group work is required and technology-enhanced presentations are given (e.g., PowerPoint). • As a part of a core set of courses, all students must complete APD 242- Design Principles, which covers application of the elements and principles of design to the analysis of textile products. In developing solutions to apparel problems, students must learn Adobe Illustrator and Adobe Photoshop. This supports the program's goal of applying principles of good design to the analysis of apparel products. • All students are required to use SPSS and Excel Spreadsheet for aspects of global sourcing as well as merchandise buying and planning. This supports the goal of students being able to demonstrate the ability to conduct market research and develop sourcing and buying plans. • Students in the APD concentration are required to develop skill in the use of technology employed in the design and production of apparel products. CAD systems are used to create digital presentation boards, fashion graphics, woven and print textile designs, as well as garment patterns, etc. All students use Lectra software, including Kaledo, Diamino, Modaris, and U4ia in a variety of design classes, in addition to Photoshop and Illustrator.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Consumer, Apparel, & Retail Studies	Consumer, Apparel, & Retail Studies, MS [Consumer, Ap, RetSt 9MS-Nonths), Consumer, Ap, RetSt (MS-Thesis), Integ App/Rel Ind (MS-NonThs)]	• All students within the MS thesis concentration must complete a Quantitative Methods course (CRS 605) as well as two courses in Statistical Methods as part of the plan of study. These courses require they learn to use basic statistical tests and applications commonly employed in social science research. Students learn to use the analysis tools provided by software packages such as SPSS or SAS, and are expected to be able to assess which tools are most appropriate given a particular research problem or topic. Students must then apply the selected tools to interpret results of the research problem or topic. • All students are expected to use Blackboard Learn functions to access course	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.

		content and evaluation information. Online courses also rely on Blackboard's collaborative functions, such as discussion boards, blogs, as well as Blackboard Collaborate. Such functions allow for learning and dialogue to extend beyond the classroom and to integrate other kinds of technologies, such as the internet, into the teaching and learning environment. • All students are required to learn to use technology that enhances the presentation and dissemination of their research findings. For example, students use PowerPoint to present projects and research in their classes as well as for presenting the thesis proposal and final thesis defense. By employing such technology students learn to formally present research and to further develop their organization and communication skills.	
Consumer, Apparel, & Retail Studies	Consumer, Apparel, & Retail Studies, MS (Online) [Consumer, Ap, RetSt (MS-Nonths), Integ App/Rel Ind (MS-NonThs)]	• All students within the MS online non thesis concentration must complete a Quantitative Methods course (CRS 605) as part of the plan of study. This course requires that they learn to use basic statistical tests and applications commonly employed in social science research. Students learn to use the analysis tools provided by software packages such as SPSS or SAS, and are expected to be able to assess which tools are most appropriate given a particular research problem or topic. Students must then apply the selected tools to interpret results of the research problem or topic. • Students are required to take an Advanced Buying and Planning Course (RCS 560) where they must learn to apply Excel to solve mathematically-based problems related to course content. • All students are expected to use Blackboard Learn functions to access content and evaluation information for all of their courses. These courses also rely heavily on Blackboard's collaborative functions, such as discussion boards, blogs, as well as Blackboard Collaborate for any virtual class meetings. Such functions allow for learning to take place exclusively within an online context and for integration of other kinds of technologies, such as the internet, into the teaching and learning environment. • All students are required to learn to use technology that enhances the presentation of coursework outcomes. For example, through Blackboard Collaborate, students use PowerPoint and/or WordPress to present projects and papers. By employing such technology they learn to formally present their work and to further develop their organization and communication skills.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Consumer, Apparel, & Retail Studies	Consumer, Apparel, & Retail Studies, MS/PhD [Consumer, Ap, RetSt (PhD)]	• All students within the PhD program must complete an Advanced Quantitative Methods course (CRS 714) as well as a minimum of two courses in advanced Statistical Methods (e.g., Multivariate Analysis, Structural Equation Modeling) as part of the plan of study. These courses require they learn to use advanced statistical tests and applications commonly employed in social science research. Students learn to use the advanced analysis tools provided by software packages including	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.

		SPSS, SAS, and LISREL, and are expected to be able to assess which tools are most appropriate given a particular research problem or topic. Students must then apply the selected tools to interpret research results.	
		• All students are expected to use Blackboard Learn functions to access course content and evaluation information. Online courses also rely on Blackboard's collaborative functions, such as discussion boards, blogs, as well as Blackboard Collaborate. Such functions allow for learning and dialogue to extend beyond the classroom and to integrate other kinds of technologies, such as the internet, into the teaching and learning environment.	
		• All PhD students are required to learn to use technology that enhances the presentation and dissemination of their research findings. For example, students use PowerPoint to present projects and research findings in their classes, and they are expected to use this technology in presenting the dissertation proposal as well as defending the final dissertation. By employing such technology students learn to formally present their research and to further enhance their organization and communication skills.	
Economics	Economics, BA [Economics, Economics (BA HS Teaching), Economics (BA) 2 Plus]	• All students in the BA program are required take ECO 250 where they use Microsoft Excel their quantitative efficiency and enhance their understanding of statistics. Subsequent courses in the major also use Excel to improve upon students of important concepts. • All students in the BA program must take ether ECO 518 or ECO 523 to satisfy their major writing and speaking requirements. These courses use PowerPoint and other office software to produce student presentations of course concepts. • The ECO 518 and ECO 523 courses as well as elective courses in the major require students to use technology to search library and web resources to collect economic data and complete research projects.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Economics	Economics (BS), Economics (BS) 2 Plus, Economics BS HS Teaching, Financial Economics, Financial Economics 2 Plus	• All students in the BS program are required to take ISM 110. In this course, the students are introduced to using the Windows operating environment, the internet and email, and computer security to better prepare the students for using information technology tools and applying technology in later courses. Students are thoroughly prepared in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, and learn specific applications in each of these that further prepare the students for the integration of technology into the learning process in later courses. • Students use Microsoft Excel in ACC 202, ECO 250 and require courses in the major to improve their quantitative efficiency and enhance their understanding of managerial accounting, business statistics and major concepts. • All students in the BS program take MGT 309 which includes an emphasis on the use of PowerPoint and various integrations of office software to produce team-based and individual presentations. Various courses in the major build upon these	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs. ISM 110 includes extensive hands-on training and practice.

		skills.	
Economics	Applied Economics, MA [Applied Economics, Financial Economics]	The MA program in Applied Economics was established with the goals of integrating econometrics and economic theory, developing applied research and data analysis skills and using advanced data management skills in the curriculum. • The first goal is accomplished by teaching two econometric courses in the first semester and providing significant hands-on data analysis experience through SAS computer lab assignments. • The second goal is accomplished by the emphasis on developing the critical analytical skills of the students through field courses and other required course work. Students build large scale data sets to estimate statistical models and use software e.g. SAS, STATA and MATLAB. • Student work includes the employment of high level statistical software packages, the building and merger of various data sets and the necessity to clean, merge and understand the data being employed to test for hypotheses and the reporting of the results which is usually accomplished through PowerPoint.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Economics	Economics, MA/PhD [Economics, MA/PhD]	• See Applied Economics, MA for MA-level goals and technology use. • The PhD portion of the program employs the same goals as the MA program, but at a higher level of independent research with significant use of STATA. Students are independently using the skills and technology learned in the MA program to complete their dissertations and independent research projects. In many cases the students are programming their own estimators.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Economics	Economics, PhD [Economics, PhD]	• PhD Students are expected to have all of the same skills as MA in Economics Students. The PhD program employs the same goals but at a higher level of independent research with significant use of STATA. Students are independently using the skills and technology learned in the MA program to complete their dissertations and independent research projects. In many cases the students are programming their own estimators.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Information Systems & Supply Chain Management	Information Systems & Supply Chain Management, BS [Information Systems, Information Systems 2 Plus, Supply Chain Management, Supply Chain Management 2 Plus]	• All students in the BS in Information Systems and Operations Management program are required to take ISM 110. In this course, the students are introduced to using the Windows operating environment, the internet and email, and computer security to better prepare the students for using information technology tools and applying technology in later courses. Students are thoroughly prepared in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, and learn specific applications in each of these that further prepare them for the integration of technology into the learning process in later courses. • All students in the BS in Information Systems and Operations Management program are also required to take ISM280, which involves a description and analysis of major business functions, activities, processes and information technology. The course focuses on how information technology can be used to	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs. ISM 110 includes extensive hands-on training and practice.

		improve processes and business performance. Within this course, there is an emphasis on the use of PowerPoint and various integrations of office software to produce team-based and individual presentations. Students are required to use Microsoft PowerPoint in MGT 309 and major courses in order to improve their communication skills. • Students also use Microsoft Excel and assorted MS Office Suite integrations throughout their major curriculum for both analysis and presentation purposes. • Students use Microsoft Excel in ACC 202, ECO 250, SCM 302, and the required courses in the major to enhance their understanding of managerial accounting, financial accounting, business statistics, operations management, auditing concepts and tax preparation. • Classes in this program make regular use of laptops connecting wirelessly in the classroom. In these classes, students routinely employ laptops to access textbooks' online websites, and utilize this technology to analyze different managerial problems in class and also during exams. Results are sent to the instructor via email as part of the class environment and, more importantly, as part of the testing process. This technology is used throughout the course as well as during exams.	
Information Systems & Supply Chain Management	Information Systems & Supply Chain Management, MS [Information Technology & Management]	• Students enrolled in the MS in Information Technology & Management program are required to take eight core courses that use technology extensively. To understand design and management of databases, classes use an open source relational database management system, MySQL, as a primary tool. Students learn how to query databases effectively. In addition, students use different drawing tools to develop the conceptual or logical data/system models, such as Microsoft Access, Microsoft Visio, MySQL WorkBench. Students use Dreamweaver and PhP scripting tools to develop web-based applications. SAS miner is used for the Business Analytics course where students gain a good understanding of business intelligence use in organizations and how to mine data. Microsoft Project is used to illustrate project management content. • Blackboard tools such as Collaborate, blogs, and wikis are used to enhance student engagement in classes. • Productivity software such as Microsoft Word, Excel and Powerpoint are used extensively in courses to communicate their reports and project findings.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Information Systems & Supply Chain Management	Information Systems & Supply Chain Management, MS-Online [Information Tech/Management (MS)-Online]	• See Information Systems & Supply Chain Management, MS	See Information Systems & Supply Chain Management, MS
Information Systems & Supply Chain	Information Systems, PhD [Information Systems (PhD)]	• All students in the PhD program use technology for different aspects. For statistical analysis and modeling students use one or more of the following applications: Stata, R, LISREL, SAS, Smart PLS, HLM and Matlab. Zotero or Mendeley for reference	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School

Management		management; Google Drive and Dropbox for collaboration in research, teaching and as a backup storage; MS Visio for charting; Qualtrics for survey research in multiple seminars. Dedoose or Nvivo for analyzing qualitative data. • Blackboard tools such as collaborate, blogs, and wikis are used to enhance student engagement in classes. • Productivity software such as Microsoft Word, Excel and Powerpoint are used extensively in courses to communicate their reports and project findings.	technology support staff to meet specific needs of their programs.
Information Systems & Supply Chain Management	Information Technology, PB Certificate (Online) [PB Cert: Healthcare Information Tech Management]	• All students in the HITM certificate take three required courses that use technology heavily. In the Health IT applications course, they use Practice Fusion a Health IT sandbox to better understand use and management of data in healthcare settings. • To understand design and management of databases, classes use the open source relational database management system, MySQL, as a primary tool. Students learn how to query databases effectively. In addition, students use different drawing tools to develop the conceptual or logical data models, such as Microsoft Access, Microsoft Visio, MySQL WorkBench. • Blackboard tools such as Collaborate, blogs, and wikis are used to enhance student engagement in classes. • Productivity software such as Microsoft Word, Excel and PowerPoint are used extensively in courses to communicate reports and project findings.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Information Systems & Supply Chain Management	Information Technology, PB Certificate (Online) [PB Cert SupChain, Log, Transp, PB Cert: Info Assur/Sec/Priv, PB Cert: Information Technology, PM Cert in Info Technology]	• All students in the certificate program take required courses that use technology heavily. • MS Project software is used to better understand and apply project management concepts. • See also 3rd-5th bullets under preceding Information Technology, PB Certificate (Online) [PB Cert: Healthcare Information Tech Management]	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Management	Business Administration Certificate (offered through MBA program) [PB Cert: Business Foundations, PB Cert: Entrepreneurship (moratorium until Summer 2012)]	• Students in the certificate program use Microsoft Excel to facilitate the development and presentation of financial information in the required courses and many of the elective courses. • The required courses in the certificate program require students to use a variety of software tools to create detailed reports and presentations of complex material.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Management	Business Administration, BS [Business Studies, Business Studies (Online), Business Studies (Online) 2 Plus, Business Studies 2 Plus, Human Resources, Human Resources 2 Plus]	• All students in BS program are required to take ISM 110. In this course, the students are introduced to using the Windows operating environment, the internet and email, and computer security to better prepare the students for using information technology tools and applying technology in later courses. Students are thoroughly prepared in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, and learn specific applications in each of these that further prepare the students for the integration of technology into the learning process in later courses. • Students use Microsoft Excel in ACC 202, ECO 250, MKT 302, SCM 302 and	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs. ISM 110 includes extensive hands-on training and practice.

		• major courses to improve their quantitative efficiency and enhance their understanding of managerial accounting, business statistics, operations management, break-even analysis, and major specific concepts. • All students in the BS program are also required to take ISM280 and MGT 309 where is an emphasis on the use of PowerPoint and various integrations of office software to produce team-based and individual presentations. Various courses in the major build upon these skills. • All students are required to take Marketing 320 which requires students to complete complex key word searches and learn how to search for information using the Jackson Library online databases. These skills are further reinforced in required research projects in the major specific courses. • The BUS 105 classes make extensive use of wireless technology in the classroom, where students use laptops connected wirelessly to the network to work on group projects, multimedia projects and activities from the My Student Success Lab (MSSL) database.	
Management	International Business, BS [International Business, International Business 2 Plus]	• See Business Administration, BS	See Business Administration, BS
Management	Business Administration, MBA [Business Administration, Finance (MBA), Information Technology (MBA), Marketing (MBA), Supply Chain Management (MBA)]	• In MBA 701-Quantitative Analysis for Decision Making, a required course for both the MBA and the graduate certificate programs, students are required to use a variety of software tools including Microsoft Excel to describe a set of data using histograms, scatter diagrams and summary statistics. They compute statistics from sample data to support confidence interval estimation, hypothesis testing and regression analysis; and infer the statistical precision of insights derived from confidence interval estimation, hypothesis testing and regression analysis. • Students use Microsoft Excel to do a variety of data analysis and to make optimal recommendations to managerial problems in operations, finance, marketing and human resources in several other required courses such as MBA 702 (Financial and Managerial Accounting), MBA 706 (Marketing Management), MBA 707 (Financial Management), and MBA 708 (Operations for Competitive Advantage). • The MBA 705-Process, Information Systems, and Business Value course focuses on the role of technology and information systems in different business processes and analysis of the same. The topics in the course cover technology-specific areas such as Process Enabling Technologies in businesses; Electronic Business and Virtual Organizations and Business Intelligence and Knowledge Management.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.
Management	Business Administration, MBA Daytime [Business Administration, Finance	• In MBA 741-Creating and Sustaining Competitive Advantage (also called the "Capstone Consulting Project" course), all students in the full-time MBA program are required to complete a capstone project with an external organization where	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School

	(MBA), Information Technology (MBA), Marketing (MBA), Supply Chain Management (MBA)]	they analyze real-world business problem(s) for that organizations, develop solutions and make recommendations. This project involves extensive use of technology in data collection (e.g. company-specific database(s)), data analysis (using MS-Excel or a statistical package) and presentation (using MS-PowerPoint). • See also preceding information for Business Administration, MBA	technology support staff to meet specific needs of their programs.
Marketing, Entrepreneurship, Hospitality, & Tourism	Business Administration, BS [Entrepreneurship, Entrepreneurship 2 Plus, Marketing, Marketing 2 Plus]	• All students in the BS program are required to take ISM 110. In this course, the students are introduced to using the Windows operating environment, the internet and email, and computer security to better prepare the students for using information technology tools and applying technology in later courses. Students are thoroughly prepared in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, and learn specific applications in each of these that further prepare the students for the integration of technology into the learning process in later courses. • Students use Microsoft Excel in ACC 202, ECO 250, MKT 302, SCM 302 and major courses to improve their quantitative efficiency and enhance their understanding of managerial accounting, business statistics, operations management, break-even analysis, and major specific concepts. Students in the Entrepreneurship major make extensive use of Excel to understand, forecast, and make presentations with financial statements in ENT 300, 335, and ENT 336. • All students in the BS program are also required to take ISM280 and MGT 309 which includes an emphasis on the use of PowerPoint and various integrations of office software to produce team-based and individual presentations. Various courses in the major build upon these skills especially MKT 429 and ENT 300 and ENT 336. • All students are required to take Marketing 320 which requires students to complete complex key word searches and learn how to search for information using the Jackson Library online databases. For students in marketing, these skills are further enhanced in the required marketing research (MKT 422) and advanced marketing management course (MKT 429) as student learn to complete more specialized marketing research projects.	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs. ISM 110 includes extensive hands-on training and practice.
Marketing, Entrepreneurship, Hospitality, & Tourism	Hospitality & Restaurant Management, BA [Hotel & Restaurant Management, Travel & Tourism Management]	• HTM students use technology in a variety of ways that support the achievement of desired student learning outcomes and other program goals. • Students in HTM 251 explore numerous federal government agency websites and access online training materials from the EEOC, Department of Homeland Security, and Department of State relevant to cultural competence, immigration, and diversity management. Accessing websites permits students to check their intended responses to case studies against primary sources of legal code. • Students in HTM 450 use Blackboard technology to keep an online journal of customer service encounters that are the basis for a major service analysis assignment in the course. Using Blackboard technology to house data prepares	Training is offered either in class, through workshops, or through online tutorials developed by Bryan School technology support staff to meet specific needs of their programs.

	students to optimize organization and storage of data for managerial decision-making in the future.
	• Students in HTM 351, Hotel Operations, engage in simulated hotel management decision-making using commercial case simulation software and laptops. Engaging in simulated hotel cases through real-time decision-making activities obliges students to take action and reflect upon the success or failures of those actions in ways that better prepare students to transfer learning to new situations.
	• All students take courses that use common business software products to support oral presentations and group work, such as MS PowerPoint and MS Excel. HTM 261 and HTM 354 traditionally require PowerPoint as part of graded formal projects.
	• Students in HTM 374 analyze new hotel technologies using comparison criteria. Students also examine how technology shifts in the hospitality and tourism industry benefit the industry's goals for sustainability.

College of Arts & Sciences

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students
African American Studies	African American Studies, BA [African American Studies, Afr Am Stdies: Cultural Arts]	• AFS 410-Seminar in African American Studies and AFS 374- Early African American Writers require students to use Blackboard Learn to access required essay readings. • AFS 320-The African American Athlete requires students to post responses to readings.	Training is offered either in-class or through workshops.
African American Studies	African American Studies, Certificate (Residential and Online) [PC Cert: African American Studies]	• The online certificate program consists of five courses taught using Blackboard Learn. • AFS 650-Topics in African American Gender Studies requires students to watch videos.	Training is offered either in-class or through workshops.
Anthropology	Anthropology, BA [Anthropology, BA]	• In ATY 253/253L- Introduction to Biological Anthropology, students are required to complete several web exercises that guide them through critical thinking exercises. Students in the Lab use the World Health Organization's anthropology software (WHO Anthro), which allows them to track grown and development data in human populations. • In all Archaeology, Physical Anthropology and some Socio-cultural classes students use Excel to organize and analyze data. • Archaeology students are taught to use the web-based State Archaeology records. • Students in ATY 100-Contemporary Non-Western Cultures are required to attend library sessions on how to complete web-based searches. • Students in 400+ level courses are required to develop Power Point presentations	Faculty members teaching courses that require use of technology integrate the relevant technology in their courses. Some of the commonly used software packages include SPSS, SAS, Microsoft Office, and Atlas.

		which are then critiqued by the faculty. • All students in 300+ level research courses are required to complete the web-based Protection of Human Subjects course approved by UNCG.	
Art	Art, BA [Art History (BA), Studio Art]	• Use of technology within the Art, BA program includes use of digital projectors and equipment for in-class presentations. • Students in the Studio Art program take some of the same courses and may access the same resources as students enrolled in the Art, BFA program. See Art, BFA 128 SH for more details.	Training is offered either in-class or through workshops.
Art	Art, BFA 128 SH [Art Education (K-12 Tch BFA), New Media and Design (BFA), Painting (BFA), Photography (BFA), Printmaking & Drawing (BFA), Sculpture]	• Two BFA programs in the Art Department – New Media & Design and Photography – schedule most of their courses in the Art and Interior Architecture labs. Both programs require students to complete course work and build artist-based creative portfolios. Concepts and fundamentals of art and design as learned in the Art Foundations classes are applied to photography and digital media, both branches of art which now deeply rely on the mediation of computing environments. • Students in the Art department routinely make use of digital audio-visual equipment (e.g. digital cameras, camcorders, audio recorders, scanners) as part of course assignments and requirements for their degrees. Students demonstrate their competence with the equipment while generating conceptual content in produced projects and presentations. • Students enrolled in the BFA program have access to computing labs provided by the department and loaded with software needed for their work - the Art Department's Digital Lab is located in the Gatewood Studio Arts building, and an additional lab, located in the Ferguson building, is shared between Art and Interior Architecture.	Instruction regarding the use of specialized equipment is provided in-class and through hands-on application in the department's computer labs.
Art	Studio Arts, MFA [Studio Arts (MFA only)]	• See Art, BFA 128 SH.	See Art, BFA 128 SH
Biology	Biology, BA [Biology (BA), Biology (BA-High School Teach), Biology-2 Plus (BA)]	• BIO 111 &112, lower-level General Biology classes, incorporate i-Clickers in the classroom. Labs use stereo and compound micrscopes, pH meters, balances, spectrometer, thermometers, electrophoresis equipment, pipettes, microcentrifuges, and the Microsoft Office suite. Environmental sampling equipment is used in BIO 112. Students and instructors make extensive use of Blackboard Learn. • BIO 392 & 393 (Genetics & Laboratory) is a core course. Students make extensive use of genetics technology such as restriction digests, PCR, agarose gel electrophoresis, vector cloning and analysis, bioinformatic data mining and analysis using GENBANK, low speed centrifugation, pipettes, microbiological sterile handling, bacterial and fungal growth in incubators, vector purification using Promega Wizard purification columns, DNA isolation, stereo and compound microscopy. Students make use of Microsoft Office Suite. Blackboard Learn is	Students are trained in the use of all technology by their course instructors. Students may make use of University resources for Blackboard training. Students are encouraged to make extensive use of the University Writing Center for preparing written reports, and attend University workshops for preparing oral presentations. Effective writing and oral communication is also taught by the course instructors.

		used extensively. • BIO 355 & 356 (Cell Biology & Laboratory) is a core course. Students make extensive use of technology such as restriction digests, PCR, polyacrylamide gel electrophoresis, antibody staining and visualization, vector cloning, gene expression, low speed centrifugation, pipettes, microbiological sterile handling, bacterial growth in incubators, vector purification using Promega Wizard purification columns, DNA, RNA, and Protein isolation, stereo and compound microscopy. Students make use of Microsoft Office Suite. Blackboard Learn is used extensively. • BIO 302 & 303 (Ecology & Laboratory) is a core course. Students make extensive use of environmental technology such aquatic sampling and environmental assessment using modern collection equipment, pH meters, Secchi disks, soil samplers, temperature and conductivity meters, stereo and compound microscopy. Students make use of the Microsoft Office Suite. Blackboard Learn is used extensively.	
Biology	Biology, BS [Biology (BS-A Certification), Biology-2 Plus (BS), Biotechnology (BS), Biotechnology (BS) 2Plus, Environmental Biology (BS), Human Biology]	• See Biology, BA. • BIO 494-Introduction to Biotechnology is an elective course. Students use a full suite of biotechnology technology ranging from vector cloning and gene expression analysis to DNA, RNA, and Protein purification and analysis using modern molecular biology equipment. They use stereo and compound microscopy, and are introduced to high-end microscopy in the lab. Bioinformatics is used to mine protein and DNA databases. Blackboard Learn is used extensively.	See Biology, BA.
Biology	Pre-Dental, Pre-Medical, Pre-Occupational Therapy, Pre-Physical Therapy, Pre-Veterinary	• See Biology, BA.	See Biology, BA.
Biology	Biology, MS & M Ed [Biology (MS Only), Biology (M Ed Only)]	• BIO 529 & 530 (Aquatic Ecology & Laboratory) is an elective course. Modern technological equipment is used to conduct field studies in the context of current research topics based on extensive literature review. Web of Science and other literature review tools are used to survey current topics in aquatic ecology. The Microsoft Office Suite is used for reports and presentations. • BIO 578-Hormones in Action is an elective course. Students are required to survey current topics focusing on hormonal signaling in humans and other animals. Topics are examined using developmental, physiological, behavioral, cellular, and molecular perspectives. Web of Science and other literature review tools are used to survey current topics. Students prepare presentations using PowerPoint and use reference managers such as Endnote to prepare bibliographies. • BIO 591-Population Genetics and Molecular Evolution is an elective course. Students use Web of Science and other literature tools to survey current topics in the literature. R statistical software and/or Excel are used to mathematically model	Students are trained in the use of all technology by their course instructors. Students may make use of University resources for Blackboard training. Students are encouraged to make extensive use of the University writing center for preparing written reports, and attend University workshops for preparing oral presentations. All graduate students are encouraged to attend workshops focusing on communication offered by the Graduate School. Students are also encouraged to attend Library workshops for training in literature

		evolution in progressively more complex models. DnaSP and Genepop are used to analyze data mined from GENEBANK, and PowerPoint is used for presentations. • BIO 692-Genomics is a graduate elective. Students use Web of Science and other literature tools to survey current topics. DNA and Protein analysis software such as Genscan, ORF Finder, BLAST, Restriction Mapper, Clustal, etc. are used for analysis of genetic data mined from GENEBANK.	searches and the use of reference manager software.
Biology	Environmental Health Science (PHD) [Environmental Health Science (PhD)]	• BIO 600-Introduction to Graduate Studies is a required course. Students receive training in research ethics and oral-visual communication. Students use PowerPoint for presentations and review the ethics and best practices for conducting scientific studies. Students review current literature in the field, and participate in and lead discussions. • BIO 692-Genomics is a graduate elective. Students use Web of Science and other literature tools to survey current topics. DNA and Protein analysis software such as Genscan, ORF Finder, BLAST, Restriction Mapper, Clustal, etc. are used for analysis of genetic data mined from GENEBANK. • BIO 631-Environmental Health Sciences I is a core course for PhD studies. Students study current topics in ecosystem and community function, and effects of environmental problems on species survival. Implications for environmental and human health are explored using current studies. Students study current approaches including the use of modern technology for conducting novel studies on ecosystem and community function. Blackboard Learn is used in the course, and students use the Microsoft Office Suite to analyze data and prepare papers and oral presentations. • BIO 632 -Environmental Health Sciences II is a core course for PhD studies. Students study fundamentals of toxicology with a focus on toxicological consequences of environmental perturbations on physiological and cellular processes, genome structure, and gene function. Students study current approaches including the use of modern laboratory and field methods for conducting novel studies in toxicology. Blackboard Learn is used in the course, and students use the Microsoft Office Suite to analyze data and prepare papers and oral presentations. Literature reviews are conducted using Web of Science and other literature search tools, and reference managers such as Endnote are used to compile bibliographies for papers.	See Biology, MS.

| Chemistry and Biochemistry | Biochemistry, BS [Biochemistry (BS)] | • CHE 111 & 114, lower-level General Chemistry classes, incorporate the use of iClickers in the classroom.
• CHE 112 &115, Introductory and General Chemistry laboratories, incorporate the use of Blackboard Learn and software applications such as LoggerPro, ChemSketch, and Rasmol with accompanying hardware Vernier probe systems including GoLink interfaces and sensors (spectrometer, pH, conductivity, pressure, and temperature).
• CHE 351 &352, Organic Chemistry & Laboratory, classes use IQ-Functional Groups software which was co-developed by the instructor and is free software available to help students learn organic chemistry. Classes use Sapling Learning, an online homework program. Skype is used to demonstrate instrumentation used at UNCG.
• CHE 402-Chemistry Seminar includes oral and written reports and discussion of topics from the current chemistry literature by students, staff, and guest lecturers. Students are required to complete assignments using PowerPoint and ChemDraw.
• CHE 406 & 407, Introductory Physical Chemistry & Laboratory, includes theory of methods and instrumentation and often incorporates the use of Spartan, a high performance computing (HPC) software package.
• CHE 558, Biochemistry Laboratory, requires use of software applications Bioedit and SwissPdbViewer. Bioinformatics tools for cluster analysis and blast analysis are made available at the National Center for Biotechnology Information (NCBI) and EMBL-EBL websites. Research students use ChemDraw, and some are trained in both Mass Spectrometry and Nuclear Magnetic Resonance (NMR). Instrumentation technologies include: HPLC (high pressure liquid chromatography), FPLC (fast protein liquid chromatography), UV-Vis (ultraviolet-visible spectroscopy), FT-IR (fourier transform infrared spectroscopy), and PCR (Polymerase chain reaction) thermocyclers. | Highly sophisticated instrumentation and associated software are incorporated as an integral part of instruction throughout the curriculum of the Department of Chemistry & Biochemistry's programs. Laboratory works includes hands-on instruction and practice. |
| Chemistry and Biochemistry | Chemistry, BA [Chemistry, Chemistry (BA HS Teaching)] | • See Biochemistry, BS, examples for CHE 111 & 114, CHE 112 & 115, CHE 351 & 352, and CHE 402.
• CHE 461 & 462, Physical Chemistry, uses Windows Journal to post class notes with omitted keywords to Blackboard Learn encouraging a Socratic atmosphere. Video screen capture enables lectures to be posted on Blackboard Learn. Graphics and analysis are achieved with Excel and SigmaPlot.
• CHE 463-Physical Chemistry emphasizes mathematical treatment of experimental data and communication of results in report form. Multiple software applications are required including Cassy Lab and Labview, both data acquisition software, Mathcad, Blackboard Learn and Excel. Dropbox cloud storage is used for sharing course documents. Windows Journal is used to report information on a tablet PC and uploaded to Dropbox. Students are required to submit reports to Errnet, a | Highly sophisticated instrumentation and associated software are incorporated as an integral part of instruction throughout the curriculum of the Department of Chemistry & Biochemistry's programs. Laboratory works includes hands-on instruction and practice. |

		website service for evaluating scientific writing. • CHE 464- Physical Chemistry II Laboratory covers work primarily in kinetics and determination of molecular structure. Spartan, a high performance computing (HPC) software package, is used to introduce molecular modeling and computational chemistry.	
Chemistry and Biochemistry	Chemistry, BS [Chemistry (BS HS Teaching), Chemistry (BS), Chemistry Research (BS), Pre-Pharmacy, Pre-Pharmacy, CLA]	• See Chemistry, BA.	See Chemistry, BA.
Chemistry and Biochemistry	Pre-Pharmacy [Pre-Pharmacy]	• See Chemistry, BA.	See Chemistry, BA.
Chemistry and Biochemistry	Biochemistry, MS [Biochemistry (MS)]	• The CHE 536-Computational Chemistry methods course introduces molecular mechanics, molecular dynamics simulations, conformational searching, and computational quantum mechanics. Introduction of high performance compute (HPC) applications may be incorporated, including NAMD, Modeller, NWChem, Jaguar, Conformational Memories in CHARMM, SYBYL and Spartan. • The CHE 556 & 557 Biochemistry classes require use of the software applications Bioedit and SwissPdbViewer. Bioinformatics tools for cluster analysis and blast analysis are made available at the National Center for Biotechnology Information (NCBI) and EMBL-EBL websites. • CHE 570-Study in Special Topics in Chemistry requires students to work with SciFinder and Web of Science, both literature search tools, and ChemDraw. • The CHE 601-Chemistry Seminar course includes oral and written reports, and discussion of topics from the current chemistry literature by students, staff, and guest lecturers. Students are required to complete assignments using PowerPoint and ChemDraw. • CHE 691-Introduction to Graduate Research requires PowerPoint for presentations and SciFinder for literature resource searches.	Highly sophisticated instrumentation and associated software are incorporated as an integral part of instruction throughout the curriculum of the Department of Chemistry & Biochemistry's programs. Laboratory works includes hands-on instruction and practice.
Chemistry and Biochemistry	Chemistry, MS [Chemistry (MS Only)]	• See Biochemistry, MS, example for CHE 536. • CHE 531-Instrumental Analysis places emphasis on instrumental methods exposing students to Mass Spectrometry data collection using Xcalibur and MassLynx, real time analysis software. Excel is used to analyze and export collected data. • CHE 533 & 333, Quantatative Analysis and Advanced Organic Chemistry, exposes students to multiple instruments and software interfaces: Quadrapole Time of Flight Mass Spectrometer, Triple-Quadrapole Mass Spectrometer, Gas Chromatograph-Mass Spectrometer, Ultraviolet-Visible Spectrophotometer, Circular Dichroism, Spectrophotometer, pH meters, Atomic Absorption	Highly sophisticated instrumentation and associated software are incorporated as an integral part of instruction throughout the curriculum of the Department of Chemistry & Biochemistry's programs. Laboratory works includes hands-on instruction and practice.

		Spectrophotometer, High Performance Liquid Chromatograph, Fluorescence Spectrophotometer, Coulometer, Nuclear Magnetic Resonance, Spectrometer, Spectroscopy software, and Chromatography software. • CHE 661-Advanced Physical Chemistry uses Windows Journal to post class notes with omitted keywords to Blackboard Learn encouraging a Socratic atmosphere. Video screen capture enables lectures to be posted on Blackboard Learn. Graphics and analysis are achieved with Excel and SigmaPlot.	
Chemistry and Biochemistry	Chemistry, PhD [Medicinal Biochemistry]	• See Biochemistry, MS, example for CHE 536. • CHE 553 & 652, Advanced and Synthetic Organic Chemistry, uses ChemDraw and PowerPoint for generating lab reports. • CHE 651-Advanced Medicinal Chemistry requires students to work with SciFinder and Web of Science, both literature search tools and ChemDraw. Students are introduced to Nucular Magnectic Resonance (NMR) and Mass Spectrometry (MS), interfacing with equipment via data collection software: Xcalibur, Mass Lynx, and Jeol Delta software. • CHE 660-Biochemical Pharmacology and Disease Targets incorporates selected topics in quantum chemistry, spectroscopy, statistical thermodynamics, and chemical kinetics. Instruction on use of SYBYL, a high performance compute (HPC) molecular simulation package is an integral part of this course. • CHE 663-Spectroscopy of Biomolecules covers spectroscopic and structural methods for application to molecules of biochemical relevance. Topics include fluorescence, circular dichroism, chromatography, electrophoresis, mass spectrometry, (Xcalibur, MassLynx software interfaces) FTIR, NMR (Jeol Delta software), EPR, and X-ray crystallog. Excel and SigmaPlot are used for graphics and analysis, PowerPoint for presentations, and SciFinder for literature resource searches.	
Classical Studies	Classical Studies, BA [Classical Archeology, Classical Civilization, Classical Language & Literatre, Latin (HS Teaching)]	• Instructors in the Department of Classical Studies use Blackboard Learn in all courses from the 100 to 600 levels to distribute syllabi, handouts, and links to supporting materials, and also to communicate with students. • YouTube and DropBox are also used to make short lectures available. • Instructors use either Blackboard Collaborate or Piazza to conduct online courses in real time. • For some courses students must use the L'Annee Philologique website (L'Annee is the most comprehensive bibliography of books and articles dealing with the ancient Mediterranean world).	Because Blackboard Learn is used throughout the University, students are generally familiar with its most common functions. Instructors provide training in class for less frequently used functions. Instructors provide training in class for YouTube (if necessary). Students are referred to the Digital Media Commons for information on using PowerPoint. For Windows MovieMaker and iMovie students are either referred to the Digital Media Commons, or someone

			from the DMC comes to class to train students in their use.
Classical Studies	Latin (M ED) [Latin (M Lic-MED)]	• See Classical Studies, BA.	See Classical Studies, BA.
Classical Studies	Latin, M Ed (Online) [Latin (M Lic-MED) (Online)]	• See Classical Studies, BA. • Students receiving teaching licensure in the online MEd program are required to submit a portfolio via TaskStream.	See Classical Studies, BA.
Communication Studies	Communication Studies, BA [Communication Studies (BA)]	• All Communication Studies (CST) faculty use Blackboard Learn to distribute syllabi, handouts, pertinent links to supporting materials, and for communication with students. Many use Blackboard at more sophisticated levels, up to full employment of interactive features such as discussion board and chat features, online speech and presentation evaluation, and so on. • Several CST courses are taught in "hybrid" or fully online formats (notably CST 105, 315, 341, 343, 408, and some versions of 460). In these courses, student learning is technologically enhanced and access to course materials, instructor attention, and enrichment are engaged through the active/interactive use of technology. In addition to Blackboard Learn, students in CST 105 (a required introductory course for majors, and a GEC GRD and Speaking-Intensive course taken by many students across campus) must utilize a course learning enhancement website linked to the course text (produced by the course text publisher, but enhanced by our instructors). • Many of our courses encourage or require presentations aided by Prezi or PowerPoint. Students receive specific instruction on how to employ this technology in CST 105 and CST 341. • Some online courses (e.g., CST 315 and CST 343) draw students who might not otherwise take the course, because they are attracted to the online format. • CST 105 and CST 300 require students to do online academic database searches for intensive research projects. Other research-based courses at the 300 and 400 levels also require similar assignments. • Our goal in using technology in these ways is to engage students with digital sources and resources, to enhance critical thinking, to emphasize careful textual analysis of both online and print sources, and to develop other 21st-Century skills.	Students receive training from the following sources: university-provided training on Blackboard Learn, workshops offered by the University Speaking Center, online tutorials, and in-class instruction.
Communication Studies	Communication Studies, MA [Communication Studies (MA)]	• All Communication Studies (CST) faculty use Blackboard to distribute syllabi, handouts, pertinent links to supporting materials, and for communication with students. Many use Blackboard at more sophisticated levels, up to full employment of interactive features such as discussion board and chat features, online speech and presentation evaluation, and so on. • CST 601 and CST 698 require students to perform online academic database searches for intensive research projects. Other research-based courses may also	Students receive training from the following sources: university-provided training on Blackboard, workshops offered by the University Speaking Center, online tutorials, and in-class instruction. Teaching Assistants receive training and ongoing coaching

		require similar assignments. • Students who serve as Teaching Assistants in CST 105 use technology as described in our BA program (above). • Our goal in using technology in these ways is to engage students with digital sources and resources, to enhance critical thinking, to emphasize careful textual analysis of both online and print sources, and to develop other 21st-Century skills.	from our Basic Course Director, Dr. McCall.
Computer Science	Computer Science, BS and BA [Bioinformatics-Computer Science, Computer Science]	• Because of the computationally intensive nature of the discipline, Computer Science provides a number of specialized technology resources for students enrolled in its programs, including labs specifically configured for various fields in Computer Science. These include: a Human Computer Interaction (HCI) lab, a Database Systems Lab, an Algorithmic Combinatorics Lab, and a Networks Simulations Lab. Examples of the use of such resources to promote student learning follow. • The HCI lab provides a facility where Computer Science researchers, including student researchers, can observe live subjects while testing computer user interfaces. The lab consists of three sub-rooms: a subject room, an observer room, and a lobby. A two-way mirror is employed between the subject and observer room to isolate the subject using the test computer interface, while allowing the researching faculty and students full view of the human computer interaction. VNC virtual display mirroring software is employed to monitor or record the subject's on-screen interaction. Often custom built applications are created and tested by students of the Computer Science department. • The Network Simulations Lab is specifically designed to allow students direct hands-on experience managing and configuring computer systems and network routing gear. Hadoop clustering software, VMware visualization software, and Microsoft Hyper-V are used to create cloud computing environments. Linux OS, Mac OS, Windows Servers, and a wide array of software applications may be installed on systems in this lab. The Network Simulations lab serves as a breeding ground for research software development and testing. The goal is to provide enough space, equipment, and software to the faculty and students to research virtually any concept in computer science in the lab. The lab provides a facility that can be more commonly viewed as a server machine room, including: servers, server racks, uninterruptable power supplies, routers, overhead track wiring, and lots of general computers. • The Computer Science and Mathematics & Statistics departments share a computer lab that provides access to software that cannot immediately be made available in ITS-managed labs. For example: newer versions of Magma with the latest Numerical Analysis and Abstract Algebra algorithms; Google AppInventor for programming Android mobile devices; Blender, Qt, and UnityPro graphics engines	Training on specialized technology use occurs as part of classroom and lab instruction. Specialized tutoring services are available for some topics.

		for virtual environment rendering; and any other software that might be needed for small-set testing before requesting that it be installed in the ITS lab environment. The lab provides a host to many departmental projects and events such as: sponsored computer programming contests, the Summer School in Computation Number Theory, the Game Theory and Applications REU. During the regular semester the shared lab is used by the Computer Science department as the location of the Java programming language tutoring offered for computer science courses.	

Computer Science	Computer Science, MS [Computer Science]	• MS-level students have access to the lab resources described in Computer Science, BS and BA.
		• Additional examples of specialized technology use include Ubuntu Linux severs used in courses taught by Dr. Jing Deng. Two Ubuntu Linux servers - arod and hasufel – are accessed by students extensively for research and course work.
		    ○ Arod is used primarily for research in testing and running of MATLAB programs for wireless networks.
		    ○ Students in Dr. Deng's CSC 562 and CSC 561 courses use hasufel for different programming tasks. For example, in CSC 562-Principles of Operating Systems, students log into hasufel to write/debug programs on child processes, process synchronization (e.g., semaphores), etc. using the pthread library in Ubuntu.
			Training on specialized technology use occurs as part of classroom and lab instruction.

English	English, BA [English (BA), English (HS Teaching)]	• English instructors at all levels (100-700) are encouraged to use Blackboard Learn to distribute syllabi, handouts, pertinent links to supporting materials, etc., and for communication with their classes. Some use Blackboard Learn at a much higher level, employing chat or discussion features, etc. This enhances student learning in part by increasing access to course materials and course enrichment features. Where higher level features are used, this encourages wider participation by students. Because the discussions are in writing, it also encourages more discussion of higher level concepts. • Some English classes are offered fully online, notably 105, 209, and 327. Online versions of 101 and 103 are in development. Some online courses (e.g., ENG 209-Topics in Non-western Literature) draw students who might not otherwise take the course, because they are attracted to the online format. • In Spring 2012 Prof. Moore offered a section of ENG 209, "Human Rights for Who?," as a linked course with the American University of Beruit, employing Blackboard, Skype, FaceTime, Prezi, and teleconferencing. Students from the two universities were able to work together in a variety of ways (e.g., joint projects and presentations) promoting gains in cultural awareness and global knowledge, and increasing the likelihood that they may choose to study abroad in the future. • ENG 211 instructors regularly assign use of the online Oxford English Dictionary for graded assignments. This enhances students' ability to understand literature and language in historical context.	Students make take advantage of University centrally-provided training for Blackboard Learn. Other technology training occurs as part of the course(s) as appropriate.

		• In 300 and 400 level English classes, many instructors provide instruction in digital research and require use and evaluation of online sources. This better acquaints students with digital sources, allowing them to better analyze the texts they are reading (whether online or in print), and enhancing their critical thinking skills.	
English	Creative Writing, MFA [Creative Writing]	• See the first example in English, BA.	TAs received Blackboard Learn training in ENG 747 (teaching practicum). Other students make take advantage of University centrally-provided training for Blackboard Learn. Other technology training occurs as part of the course(s) as appropriate.
English	English Certificate [PB Cert: Technical Writing]	• See the first example in English, BA.	Students make take advantage of University centrally-provided training for Blackboard Learn. Other technology training occurs as part of the course(s) as appropriate.
English	English, MA [English (MA Only)]	• See English, MA/PHD.	Students make take advantage of University centrally-provided training for Blackboard Learn. Other technology training occurs as part of the course(s) as appropriate. Faculty members provided one-on-one training to graduate students involved in NEH grant work.
English	English (MA/PHD) [English (MA/PHD)]	• See the first example in English, BA. • In ENG 701, the methods course required of all MA candidates and those PhD candidates who have not previously taken a methods course, students are instructed in the use and evaluation of primary and secondary source databases, taught about the production and interpretation of print and digital texts, and required to create an edited digital text as their final project. This provides students with the ability to create many types of digital texts, and to critically analyze and evaluate digital texts. • Through NEH grant funding for two different digital editions, graduate students have learned about and engaged in the editing process, using Dropbox, creating naming protocols, converting Word documents into TEI-encoded materials, entering megadata for the searchable edition, and collating poems through the Folger Shakespeare Library's specially designed Dromio software. This gives students an opportunity to learn about creating digital archives, and to critically analyze the relationship between print and digital media.	TAs received Blackboard Learn training in ENG 747 (teaching practicum). Students may also take advantage of University centrally-provided training for Blackboard Learn. Other technology training occurs as part of the course(s) as appropriate. Faculty members provided one-on-one training to graduate students involved in the NEH grant.

English	English, PHD [English (MA/PHD)]	• See English, MA/PHD.	See English, MA/PHD.

Geography	Geography, BA [Earth Sci/Environmental Study, Geographic Information Science, Geography, Geography (Social Stds Lic), Urban Planning]	• The Department of Geography Computer Laboratories, which are used by students at all program levels, contain equipment specific to the needs of their programs. This includes:
		  o Fully equipped laboratories in computer cartography, geographic information systems, and remote sensing.
		  o Equipment including an oversized cartographic plotter, GPS equipment, and scanners.
		  o An extensive range of specialized software (including Arc/Info, ArcView, ERDAS Imagine, ArcGIS, Surfer, AtlasGIS, MapInfo, ER Mapper, Fluke SmartView, ENVI+IDL, LP360, RADAN7 and OpenGeoDa).
		• Specialized equipment used in field activities include GPS devices, and, for students in advanced classes, GPR (ground penetrating radar) devices and magnetometers.
		• These facilities and resources enhance student learning by providing extensive hands-on training and experience on a wide-range of GIS, cartography, and remote sensing technologies, as well as a variety of other specialized locational analysis programs for both instruction and research.
			In-class training is provided by faculty for geospatial applications, as well as statistical packages. Tutorial data and exercises are also available for self-instruction by students. Additional training activities and opportunities take place outside of the classroom for interested students, including field data collection learning activities.

Geography	Geography, Certificate [PB Cert: Global/Regional Studies]	• See Geography, BA.	See Geography, BA.
Geography	Geography, MA [Applied Geography, Geosciences Ed for Teachers, Urban Planning & Econ Dev (MA)]	• See Geography, BA.	See Geography, BA.
Geography	Geography, PhD [Geography (PHD)]	• See Geography, BA.	See Geography, BA.
History	History, BA [History, History (HS Teaching)]	• Most instructors utilize Blackboard Learn in their classes. Some instructors use Blackboard Learn to distribute syllabi and other documents, while others utilize the chat and discussion functions. The use of Blackboard Learn enhances communication, as well as student engagement with course materials. • The department offers online sections of most courses at the 200-level, including surveys in U.S., European, and World History. • Some faculty teaching 200-level survey courses use i-clicker technology in their courses. • Students in HIS 391-Historical Skills and Methods receive instruction in how to access various databases useful for historical research.	Training is provided in class by individual faculty members. Students are also made aware of training providing by ITS, in areas such as the use of the Blackboard Learn system.

History	History, MA [American History (MA Only), European History (MA Only), Historic Preservation (MA), Museum Studies (MA)]	• Most instructors utilize Blackboard Learn in their classes. Some instructors use Blackboard Learn to distribute syllabi and other documents, while others utilize the chat and discussion functions. The use of Blackboard Learn enhances communication, as well as student engagement with course materials. • Students in the Museum Studies program receive training in the field of Digital Humanities. HIS 631 is designed to give students in this program instruction in the possibilities and challenges of doing history in digital spaces. Students gain hands-on training in tools and practices of digital humanities and design original digital public history projects.	Training is provided in class by individual faculty members. Students are also made aware of training providing by ITS, in areas such as the use of the Blackboard Learn system.
History	History, PHD [History (PHD)]	• Most instructors utilize Blackboard Learn in their classes. Some instructors use Blackboard Learn to distribute syllabi and other documents, while others utilize the chat and discussion functions. The use of Blackboard Learn enhances communication, as well as student engagement with course materials.	Training is provided in class by individual faculty members. Students are also made aware of training providing by ITS, in areas such as the use of the Blackboard Learn system.
Interdepartmental Studies	Special Programs (Humanities) [Humanities, Social Sciences (Online)] Special Programs (IDP) [Archaeology, Environmental Studies, Integrated Science (BA), Integrated Science/Secondary Science Tch Licensure, Student Designed Interdept.]	• Students enrolled in Special Programs are exposed to technology in a variety of courses across the College of Arts & Sciences. For example, courses in Geography (GEO 121-Introduction to GIS Science, GEO 358-Geographic Information Systems, GEO 359-Remote Sensing) meet degrees requirements for students in Archeaology and Environmental Studies. These courses make use of technology within in Department of Geography's computer labs.	Training is offered in-class or through workshops, or through direct application in computer labs.
Interior Architecture	Interior Architecture, BFA-127 [Interior Architecture, Interior Architecture 2 Plus]	• The Interior Architecture BFA and MFA Interior Architecture programs have a laptop requirement for their students. The laptops, with particular applications either installed or accessible via the internet, are considered a critical part of the students' tool set for design. Software that students are required to have includes the Adobe Design Suite, Autodesk Suite, and Rhino. • Interior Architecture's Digital Design Studio in the Gatewood Building includes specialized equipment, such as the HP DesignJet large format plotter, used by students to print design projects. Within the lab, students use industry-standard software, such as AutoDesk's CAD suite, desktop publishing design software such Adobe InDesign, and other design products to complete projects. While only a few classes in the BFA and MS Interior Architecture programs are formally scheduled in the labs, almost every class	Training on specialized software use includes in-class instruction and opportunities for hands-on application in department computing labs.

		depends on the labs, their equipment, and software tools for completing assignments and projects. • Interior Architecture students are exposed to use of CAD software that goes beyond the basic functions of AutoDesk's AutoCAD packgage. For example, students are exposed to the use of AutoDesk's Revit and max3ds studio for 3D modeling and animation work.	
Interior Architecture	Interior Architecture, Certificate [Historic Preservation (PB Cert)]	• See Interior Architecture, BFA-127.	See Interior Architecture, BFA-127.
Interior Architecture	Interior Architecture, MS [Historic Preservation (MS), Interior Architecture, Interior Product Design, Museum Studies (MS)]	• See Interior Architecture, BFA-127.	See Interior Architecture, BFA-127.
International & Global Studies	Special Programs (IGS) [Asian Studies, European Studies, Intl/Global Affairs & Devlpmnt, Intl/Globl Arts & Belief Systs, Intl/Globl Human Rights, Lat Amer/Caribbean Stds, Russian Studies]	• All students taking IGS 200-Intro to IGS (including IGS majors and minors) are required to o complete an Information Literacy Exercise provided online through the UNCG Libraries website. Results are reviewed in class by the course instructor (knowledge & skills gained are applied to case-study exercises conducted throughout the course) o regularly consult the Internet Resources folder in Blackboard (knowledge & skills gained are applied to case-study exercises conducted throughout the course) o use multiple features of Blackboard Learn throughout the semester-- consulting the many information links, accessing assignments, and participating in discussion-board activities • All IGS majors taking the required IGS 400-Capstone Seminar in IGS o participate in a technology-based Research Workshop led by staff in Jackson Library o regularly access the Internet Resources folder in Blackboard (applying knowledge and skills throughout the semester in the preparation of their capstone research project: a 20-25-page research paper examining issues related to the student's concentration in the major) o use multiple features of Blackboard Learn throughout the semester-- consulting the many information links, accessing assignments, and participating in discussion-board activities	Student technology training includes the Information Literacy Game found at http://library.uncg.edu/game/. The game is designed to help students assess the quality of information found through the use of various research engines, databases, and websites. The Internet Resources folder is consulted throughout the semester as students explore case-studies related to course topics. At the beginning of the semester, Library staff provide a 1-hour Research Workshop showing students the many research tools available to them through the "Library Guides" website at: http://uncg.libguides.com/igs. IGS 400 students follow-up with library staff and the instructor as they develop their research project during the semester.

| Languages, Literatures, & Cultures | French, BA [French, French w/Spc Sub Area Lc(K-12)] German, BA [German] Spanish, BA [Spanish, Spanish w/Spc Sub AreaLc(K-12)] French, A Licensure [French Education (A Lic Only)] Romance Languages and Literature [French Education (M Ed), Spanish Education (M Ed)] Romance Languages and Literature, PB [PB: Adv Span Lang & Hsp Ctl Std] Romance Languages and Literatures, MA [French/Francophone Studies (MA), Spanish Lang & Lit (MA Only)] | • The Department of Language, Literatures, & Cultures works with University Libraries to provide students with access to the Tell Me More language learning software. The department also works with ITS to make the software available in the ITS-managed MHRA computing lab. Tell Me More software is available for multiple languages (Chinese, Dutch, English, French, German, Italian, and Spanish), and provides students with interactive, computer-based learning experiences at the basic, intermediate and advanced levels.
• Within the Department of Languages, Literatures, & Cultures (College of Arts & Sciences) students in Dr. Cybelle H. McFadden's French Conversation and Culture (FRE 312) and Introduction to French Civilization and Culture (FRE 332) courses have the opportunity to improve their language skills through language practice with students at an engineering university outside of Paris. Students also gain a deeper understanding of French and Francophone culture through this live exchange. Dr. McFadden uses iSpartan/Google video chat and ITS lab computers equipped with webcams and headphones to pair her students with students in France for language practice and cultural awareness. Students are trained on the use of the technology within the classroom lab setting. Guylène Deasy will be participating in this exchange for her French Conversation and Phonetics (FRE 311) course in the fall.
• Courses in several languages are taught online at UNCG, including courses offered in the entirely online German Minor program. | Computing labs are used to provide in-class instruction and technology-enhanced language learning experiences. |
| Media Studies | Media Studies [Media Studies (BA)] | • All students are required to take the introductory course in video and sound recording. That class makes extensive use of image and sound recording technologies. Mastery of such technology is a necessary step toward the department's learning goal of "producing media that demonstrate technical competency."
• All students are required to take the introductory course in video and sound editing. That class makes extensive use of editing and "post-production" hardware (including Macintosh computers) and software (including the editing suite "Final Cut Pro"). Mastery of such technology is a necessary step toward the department's learning goal of "producing media that demonstrate technical competency."
• Multiple MST courses utilize appropriate software, including "Celtex" in screenwriting courses and "Aftereffects" in advanced editing classes. Training in the use of these software applications familiarizes students with industry-standard technology, facilitates the creative process, and prepares them for post-graduate employment.
• Students in on-line journalism learn HTML coding and basic web page design as they are required to build their own websites. This equips students with competence in a core form of media production and distribution. | MST courses train students for use of required and/or appropriate technologies. |

		• All MST courses that require video production utilize the departmental server, through which students turn in work, assignments are distributed, and projects screened in class. This streamlines student work flow, provides remote access to course content, and familiarizes students with industry standard practices.	
Media Studies	Media Studies, MFA [Film and Video Production]	• All graduate students are required to take courses in advanced image and sound recording, making extensive use of industry standard technologies. Advanced competence with such technology is a necessary step toward the department's learning goal that MFA students "demonstrate artistic and technical mastery." • All graduate students are required to take a course in advanced video and sound editing makes extensive use of editing and "post-production" hardware (including Macintosh computers) and software (including the editing suite "Final Cut Pro"). Advanced competence with such technology is a necessary step toward the department's learning goal that MFA students "demonstrate artistic and technical mastery." • Multiple MST courses utilize appropriate software, including "Celtex" in screenwriting courses, "Aftereffects" in postproduction courses, and "ProTools" in audio production courses. Training in the use of these applications familiarizes students with industry-standard technology, facilitates the artistic process, and prepares them for post-graduate employment. • All graduate production courses utilize the departmental server, through which students turn in work, assignments are distributed, and projects screened. This streamlines student work flow, provides remote access to course content, and familiarizes students with industry standard practices.	MST courses train students for use of required and/or appropriate technologies.

Mathematics & Statistics	Mathematics, BA [Mathematics (BA), Mathematics (BA-HS Teaching)]	• The following courses provide examples of technology use within Mathematics undergraduate programs:
		    o STA 290-Introduction to Probability and Statistical Inference is a required course for all math majors and various statistical packages are used in this course based on instructor choice. These include SAS, SPSS and MINITAB.
		    o MAT 253-Discrete Mathematical Structures is a required course for math majors and requires a programming component which introduces the students to Python language.
		    o MAT 311-Introduction to Abstract Algebra is also a required writing intensive course for math majors. Students are required to complete several writing assignments in LaTeX, this is the first introduction to Latex for most of our students.
		    o Many of the department's lower level courses (not for major credit) such as MAT 115, 120, 150 and 151 use an on-line homework system. Students in these courses do their homework/quizzes online and reinforce the course
			Faculty members teaching various courses that require technology use integrate the relevant technology in their courses. Some of the commonly used software packages include Magma, GP-Pari, SAGE, Matlab, Maple, Matlab, Mathematica, SAS, SPSS, Minitab, and R.

		materials at their own pace using interactive examples, exercises and videos provided by an online course tool such as Course Compass and Stats Portal.	
Mathematics & Statistics	Mathematics, BS [Mathematics, BS, Statistics BS]	• See Mathematics, BA	See Mathematics, BA
Mathematics & Statistics	Mathematics, Certificate [PB Cert: Statistics]	• Students in the PB Certificate in Statistics program take graduate-level statistics courses - see "Mathematics, MA/Applied Statistics" for descriptions of the type of technology presented and utilized in these courses.	Statistics faculty integrates various software packages in their courses.
Mathematics & Statistics	Mathematics, MA [Applied Statistics (MA Only), Mathematics (MA)]	• Many MA students take the department's MAT 601 course (Seminar in the Teaching of Mathematics). This course covers the use of UNCG's teaching stations, how to perform computer demonstrations for a class, how to navigate Blackboard and publishers' websites, how to keep course grades on-line, and UNCG's policy on student data and computers. • Topics in MAT 601 include the mathematical typesetting program LaTeX. The class discusses using this markup language to create course syllabi, exams and other assignments, and to create presentations that are appropriate for seminars and other research-level lectures. The course also covers the thesis, which must be submitted to the graduate school electronically. All students who write a thesis use LaTeX to typeset it. • Some MA students take the MAT 602-Seminar in Mathematics Software course, which introduces them to programming in a Computer Algebra System such as SAGE. One of the requirements for this course is a "Programming Project," which requires the students to apply their knowledge of programming to solve a computational problem or implement an algorithm. • All students in the Applied Statistics Concentration use multiple statistical packages in their courses. These include SAS, SPSS, Minitab, and R.	The faculty who teach MAT 601 and 602 provide the relevant training as part of the course; thesis supervisors work with the students to create the thesis and the thesis defense presentation in LaTeX; statistics faculty integrates various software packages in their courses.
Mathematics & Statistics	Mathematics, PhD [Computation Mathematics]	• All PhD students take our MAT 601 course (Seminar in the Teaching of Mathematics). This course covers the use of UNCG's teaching stations, how to perform computer demonstrations for a class, how to navigate Blackboard and publishers' websites, how to keep course grades on-line, and UNCG's policy on student data and computers. • MAT 601 covers the mathematical typesetting program LaTeX. The class discusses using this markup language to create course syllabi, exams and other assignments, and to create presentations that are appropriate for seminars and other research-level lectures. The course also covers the dissertation, which must be submitted to the graduate school electronically. All students use LaTeX to typeset their dissertation. • All PhD students take our the MAT 602-Seminar in Mathematics Software course, which introduces them to programming in a Computer Algebra System such as	The faculty who teaches MAT 601 and 602 provide the training; dissertation supervisors work with the students to create the thesis and the thesis defense presentation in LaTeX; they also assist the students with the computational aspects of the dissertation.

		SAGE. One of the requirements for this course is a "Programming Project," which requires the students to apply their knowledge of programming to solve a computational problem or implement an algorithm. • Each dissertation must contain a "significant computational portion." Examples of this computational portion are investigating examples, implementing algorithms, or looking for patterns in data. It is expected that each dissertation devote at least one chapter to computational aspects of the problem.	
Philosophy	Philosophy, BA [Philosophy, Philosophy Pre-Law]	• The Department of Philosophy regularly offers a large number of its courses wholly online. These courses include PHI 111 (Introduction to Philosophy), PHI 115 (Practical Reasoning), PHI 121 (Contemporary Moral Problems), PHI 220 (Medical Ethics), PHI 251 (History of Ancient Philosophy), PHI 252 (History of Modern Philosophy), PHI 310 (Introduction to Formal Logic), PHI 359 (Philosophy of Religion), Philosophy of Death & Dying (PHI 301), Philosophy of Race & Gender (PHI 301), and PHI 361 (Ethical Issues in Business). • Wade Maki's online course PHI 361-Ethical Issues in Business incorporates innovative state-of-the-art online exercises, i.e., the interactive Virtual Philosopher and Virtual Executive. These interactive exercises embody a style of teaching using the Socratic Method within an online environment. These active learning objects encourage repeated iterations and reflective analysis; they can be viewed at https://sites.google.com/site/wademaki/. While the Virtual Philosopher effectively simulates a Socratic dialogue with the instructor, the Virtual Executive places the student in a real case as an agent facing decisions among alternative courses of action having differing outcomes, with random intervening events causing complications. This online experience has proven more effective in facilitating the development of moral reasoning than the traditional, less dynamical approach of reading a case, knowing its outcome, and then discussing that case in class. These innovations have proven to be highly effective in facilitating student learning and attaining programmatic learning goals in an online setting. The course design elements in Wade Maki's online PHI 361 include 14 Virtual Executive exercises, 5 Virtual Philosopher exercises, and an impressive array of "thought question" side bars, extensive digital lecture notes, imbedded graphics, and video clips. A number of our other online philosophy courses employ similar course design elements. • Philosophy Department faculty also teach 4 wholly online courses in the BLS program that can be used to satisfy Philosophy major requirements: BLS 363 (Ethics & Technology), BLS 360 (Philosophy of Love & Friendship), PHI 366 (Life, Death, & Meaning), and BLS 363 (Vice, Crime, & American Law). • Other philosophy courses that have been taught wholly online include PHI 338 (Ethics & International Affairs) and PHI 363 (Environmental Ethics). • PHI 319 (Knowledge, Truth, & Belief) has been regularly taught as a hybrid web-	Philosophy teachers provide all of the training necessary.

		lecture course. • PHI 222 (Ethics in the Computer Age) is required for all Computer Science majors. • The electronic technology competencies of Philosophy majors in philosophical research are annually assessed in the Philosophy Senior Capstone course required of all majors.	
Physics & Astronomy	Physics, BA [Physics (BA HS Teaching), Physics (BA)]	• Many courses within the program require extensive use of computer applications to solve problems in physics. Examples include PHY 294-Introduction to Computational Physics Laboratory, and PHY 395-Computational Physics Laboratory II. PHY 395 covers advanced computational techniques, including Monte Carlo simulations. PHY 413-Microcomputer Interfacing for Scientists covers topics that facilitate use of computers as laboratory instruments. • Students enrolled in physics programs have the opportunity for field learning experiences at The Three College Observatory located in Graham, NC. This observatory, operated jointly by UNCG, NC A&T, and Guilford College, provides students with access to one of the largest reflecting telescopes in the southeastern US. • Many students enrolled in physics programs complete Undergraduate Research projects that involve hands-on work with technology. Recent examples include work to model human systems (e.g., cardiac and neural tissues) through circuit construction. The course PHY 412-Electronics for Scientists, covers electronic circuit topics including their use in measurement, signal processing, and control.	Training is provided in-class, and through hands-on laboratory and field experiences.
Physics & Astronomy	Physics, BS [Physics (BS HS Teaching), Physics (BS)]	• Physics, BA.	Physics, BA.
Physics & Astronomy	Pre-Engineering [Pre-Engineering]	• Physics, BA.	Physics, BA.
Political Science	Political Science, BA [Political Sci(Social Stds Lic), Political Science (BA), Political Science (Pre-Law)]	• All students must complete a Research Methods course in which SPSS, a widely used statistical software package in the social sciences, is used to learn about and perform statistical analyses commonly applied in the field of political science. Student understanding of statistical methods and models is enhanced by learning to select the appropriate analyses within SPSS and interpret the results. • All students take courses where formal group presentations using Powerpoint are required. This teaches students to make formal presentations using appropriate technology, and helps them to learn how to better organize presentation material. • All students take 300-level courses in which independent research projects requiring the use of digital technology are required.	Faculty members teaching courses that require technology integrate the relevant training technology in their courses. All students receive additional training in digital research technology from UNCG library specialists.
Political Science	Pre-Law [Pre-Law]	• See Political Science, BA.	See Political Science, BA.

Political Science	Political Science, Certificate [PB Cert: Urban & Economic Dev]	• Students must complete courses which provide exposure to and understanding of software used for planning and financial analysis. • Blackboard Learn collaborative functions such as blogs and discussion forums are used in many courses. Discussion forums provide opportunities for in-depth discussion of topics beyond the limited time available for in-class discussions. • All students take courses where formal, technology-enhanced group presentations are required (e.g., using Powerpoint). This teaches students to make formal presentations of research findings, and helps them to learn how to better organize presentation material.	Faculty members teaching courses that require technology integrate the relevant training technology in their courses.
Political Science	Political Science, MA [Political Science (MA Only)]	• MA students must complete courses which provide exposure to and understanding of software used for social science analysis, as appropriate to their research interests. This includes statistical programs, such as SPSS. • See also, 2nd and 3rd bullet items under Political Science, Certificate.	Faculty members teaching courses that require technology integrate the relevant training technology in their courses.
Political Science	Public Affairs (Online) [PB Cert: Nonprofit Management]	• All Nonprofit Management Certificate students must complete courses which provide exposure to and understanding of software used for planning and financial analysis. • See also, 2nd and 3rd bullet items under Political Science, Certificate.	Faculty members teaching courses that require technology integrate the relevant training technology in their courses.
Political Science	Public Affairs, MPA [Community Economic Dev (MPA), Local Govt Management (MPA), Nonprofit Management (MPA), Public Affairs (MPA)]	• All MPA students take core courses in quantitative analysis and program evaluation, and budgeting and fiscal administration that require advanced training with appropriate software applications, such as SPSS. • See also, 2nd and 3rd bullet items under Political Science, Certificate.	Faculty members teaching courses that require technology integrate the relevant training technology in their courses.
Political Science	Public Affairs, Post Bacc Cert: Nonprofit Management [PB Cert: Nonprofit Management]	• All Nonprofit Management Certificate students must complete courses which provide exposure to and understanding of software used for planning and financial analysis. • See also, 2nd and 3rd bullet items under Political Science, Certificate.	Faculty members teaching courses that require technology integrate the relevant training technology in their courses.
Psychology	Psychology, BA [Psychology, Psychology (BA Social Std Lic)]	• Clickers are used in one section of PSY 121, and in PSY 230 and PSY 310. • PSY 310 and 311 introduce students to the use of the PsycInfo database (to search the research journal literature) and SPSS for data analysis. • Several courses (PSY 121, 240, 318, 375, 444) are offered in online formats.	Faculty provide systematic instruction in class regarding the use of the course-relevant technologies.
Psychology	Psychology [Psychology(MA/PHD-Clinical), Psychology(MA/PHD-Cognitive), Psychology(MA/PHD-Developmtl),	• All students must take three statistics and research methods course: PSY 609, 610, and 624. These courses require students to utilize SPSS for data analysis. • All of seminars require students to search the research journal literature using PsycInfo.	Faculty provide systematic instruction in class in the use of the course-relevant technologies.

	Psychology(MA/PHD-Gen Expertl), Psychology(MA/PHD-Social)]	• As part of their research training, some students learn the use of software programs such as E-Prime for experiment design, implementation, and analysis.	
Psychology	Psychology, MA [Psychology (MA-Clinical), Psychology(MA-Cognitive), Psychology(MA-Developmental), Psychology(MA-Generl Exprmntl), Psychology(MA-Social)]	• See Psychololgy, MA/PHD.	See Psychololgy, MA/PHD.
Psychology	Psychology, PHD [Psychology(PHD-Clinical), Psychology(PHD-Cognitive), Psychology(PHD-Developmental), Psychology(PHD-Generl Expmntl), Psychology(PHD-Social)]	• See Psychololgy, MA/PHD.	See Psychololgy, MA/PHD.
Religious Studies	Religious Studies, BA [Religious Studies, BA]	• Virtually every course in the program has a Blackboard Learn component. • Some faculty use technologies available through Google (e.g., iSpartan Google Docs, Sites, Drive) in their courses.	Faculty members direct students to instruction and training available on Blackboard.
Sociology	Sociology, BA [Criminology, Social Probs in a Global Socty, Sociology (BA Social Std Lic), Sociology (BA)]	• All students must complete an Introduction to Data Analysis course in which SPSS, a widely used statistical software package, is used to learn about and perform statistical analyses commonly applied in the field of sociology. Student understanding of statistical methods and models is enhanced by learning to select the appropriate analyses within SPSS and interpret the results. This supports the program's Goal for Learning: "Know how to formulate research hypotheses, collect, and do basic analysis of data." • Blackboard Learn collaborative functions such as blogs and discussion forums are used in many undergraduate courses. Discussion forums provide opportunities for in-depth discussion of topics beyond the limited time available for in-class discussions. This provides students with more exposure to varying points of view, as well as more opportunities to refine and better articulate their own opinions. • All students take courses where formal, technology-enhanced group presentations are required (e.g., using Powerpoint). This teaches students to make formal presentations of research findings, and helps them to learn how to better organize presentation material.	Training is offered either in-class or through workshops.

Sociology	Sociology, MA [Sociology w/conc in Criminology, Sociology (MA Only)]	• All candidates for the MA must complete an Advanced Data Analysis course in which SPSS is used to learn about and perform statistical analyses commonly applied in the field of Sociology. Student understanding of statistical models is enhanced by learning to select the appropriate analyses within SPSS, apply those analyses to a topic of interested selected by the student, and interpret the results. This activity helps prepare students for careers that involve academic or applies research. • Students must complete a Methodology course which includes a section on qualitative research/ethnographic methods. Students select a qualitative research project and use qualitative analysis software such as NVivo or Atlas.ti for this segment of the course. Use of the software provides a better understanding of their chosen subject material, and provides exposure to and understanding of software used for this type of research in many academic disciplines. • Blackboard Learn collaborative functions such as blogs and discussion forums are used in many undergraduate courses. Discussion forums provide opportunities for in-depth discussion of topics beyond the limited time available for in-class discussions. This provides students with more exposure to varying points of view, as well as more opportunities to refine and better articulate their own opinions. • All students take courses where formal, technology-enhanced group presentations are required (e.g., using Powerpoint). This teaches students to make formal presentations of research findings, and helps them to learn how to better organize presentation material.	Training is offered either in-class or through workshops.
UNK	Undecided Major [Arts and Sciences Undecided]	N/A	N/A
Women's & Gender Studies	Women's and Gender Studies, BA [Women's & Gender Studies] Women's and Gender Studies, MA [Women's & Gender Studies] Women's and Gender Studies, Certificate [PB Cert: Women's & Gender Studies]	• Students enrolled in WGS -490, Women's and Gender Studies Senior Capstone Course, design and present a capstone project as a requirement for the major. • Students enrolled in WGS/ENT 540-Social Entrepreneurship: Justice and a Green Environment engage interdisciplinary team projects that require the creation of a blog for each group, and the production of a final group presentation. Students select a blogging tool of their choice (e.g., Blogger, available through UNCG iSpartan accounts; weebly; photoblog), and all team members are required to contribute. • In WGS/ENT 540, students are also required to use the Blackboard Learn discussion forum feature to post responses to required readings.	Training is offered either in-class or through workshops.

Division of Continual Learning

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students

| Master of Arts in Liberal Studies | Liberal Studies, MA [Liberal Studies] | All students must utilize online and offline productivity suites to complete assessments and demonstrate their understanding of course concepts. Blackboard Learn collaborative functions such as blogs and discussion forums, as well as online social media tools such as Facebook, Twitter, Google+, RSS feeds, and WordPress, are used in many courses. Discussion forums provide opportunities for in-depth discussion of topics beyond the limited time available for in-class discussions. This provides students with more exposure to varying points of view, as well as more opportunities to refine and better articulate their own opinions. All students take courses where formal, technology-enhanced group presentations are required (e.g., using PowerPoint, Google Presentation, Google Hangouts, Blackboard Collaborate, etc.). This teaches students to make formal presentations of research findings, and helps them to learn how to better organize presentation material. Where applicable, courses provide students with alternative assessment opportunities -- allowing students to use online and offline technology resources to create tangible non-traditional assessment artifacts. | Training includes asynchronous tutorials from vendors, the University, and others created by in-house staff. |
| Master of Arts in Liberal Studies | Liberal Studies-Online, MA [Liberal Studies, PB Cert: Global Studies (OMLS)] | See Liberal Studies, MA. | See Liberal Studies, MA. |

Joint School of Nanoscience and Nanoengineering (JSNN)

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students
Nanoscience (JSNN)	Nanoscience, Professional MS; Nanoscience, PhD	- Students enrolled in the JSNN's graduate-level Nanoscience programs have opportunities to use sophisticated instruments, some of which are unique within the UNC system, the State, or even the nation. One of the first Surface Plasmon Resonance Imaging (SPRi) machines by Horiba Scientific in the US resides in Nanoscience. The lab is using this technology to develop a platform that allows measurement of TBI (traumatic brain injury) biomarkers in the blood, and one graduate student is currently the main user of the SPRi. The student's project focuses on using nanotechnology to enhance the limit of detection of SPRi, so it can be sensitive enough to detect very low amount of biomarkers in the blood. The student received extensive training from faculty, and, with support from the department of Nanoscience and the Kohler Fund, was able to attend a one-week workshop at Horiba for additional training. - The Zeiss Orion Helium Ion Microscope (HIM) is an advanced charged particle	Classroom teaching about specialized nanotechnology is provided in the core Nanotechniques course, taken by all master's and PhD students. Faculty also provide instruction and hands-on lab training (lab rotations) for highly sophisticated scientific instruments. Additional training may be provided by the equipment vendor/supplier on-site, or through off-site professional development opportunities.

| | | microscope that uses a beam of charged helium ions to produce images with resolution down to 0.35 nm. It is a new technology, of which there are currently only ~25 available world-wide. The use of HIM in teaching at JSNN has provided both basic education on the operation of advanced microscopies, as well as specific training on the operation of an up-and-coming technology that will be important in the field. Students at the master's and PhD level in the Nanoscience Department have received hands-on education about charged particle microscopy components, imaging methodologies, and advanced fabrication techniques. Teaching has been provided in the context of laboratory rotation classes and through research experiences (research credit hours and internships).
• MRI technology (e.g., Siemens Magnetom Trio MRI 3T) has been used by Nanoscience students for research focused on improving the technology. For example, a recent project investigated possible improvements of MRI contrast agents, to provide increased sensitivity of detection, along with higher relaxivity, longer blood half-life, and decreased toxicity. | |

School of Education

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students
Counseling and Educational Development	Counseling, Ed D [Community Counseling, Student Development in Higher Ed]	• All doctoral students are exposed to, and trained in, using SPSS for data management and statistical analyses. This includes downloading datafiles, opening datafiles in SPSS, saving datafiles, and saving output in SPSS and other word processing documents. • All students are involved in presenting information using visual presentation software (e.g., PowerPoint). Students are trained in organizing information using this technology, and presenting information in an accessible manner. • All students utilize Blackboard for assignments, discussion boards, blogs and wiki's within course work. • All students utilize LifeSize digital recording equipment and software for recording and analyzing counseling sessions and for clinical supervision.	Training is offered either in-class or through workshops.
Counseling and Educational Development	Counseling, MS [Clinical Mental Health Cnslng (MS)], Coll Couns/Student Dvlp (MS), Couple & Family Counseling (MS), School Counseling (MS)]	• All students are involved in presenting information using visual presentation software (e.g., PowerPoint). Students are trained in organizing information using this technology, and presenting information in an accessible manner. • All students utilize Blackboard for assignments, discussion boards, blogs and wiki's within course work. • All students utilize LifeSize digital recording equipment and software for recording and analyzing counseling sessions and for clinical supervision.	Training is offered either in-class or through workshops.

Counseling and Educational Development	Counseling, MSES [Clin Ment Health Cnslng (MSES), Coll Couns/Student Dvlp (MSES), Couple And Family Cnsling (MSES), School Counseling(MSES)]	• See Counseling, MS.	See Counseling, MS.
Counseling and Educational Development	Counseling, PHD [Counseling & Counselor Ed (PhD)]	• See Counseling, EdD.	See Counseling, EdD.
Counseling and Educational Development	Counseling, Post Master's Certificate [Cert PostMstrs/AdvSchl Cnsling, PM Cert: School Counseling, PM Cert:Couple & Fam Cnsling]	• See Counseling, MS.	See Counseling, MS.
Counseling and Educational Development	Counseling-Online, PM Certificate [Cert PostMstrs/AdvSchl Cnsling]	• Students use Blackboard, UNCG's virtual learning environment and course management system, to access course content, have discussions either asynchronously or synchronously, submit assignments, obtain grades, receive announcements, and conduct group work. The Blackboard Collaborate web conferencing toolis used for synchronous class delivery and discussions. A livestreaming alternative, Ustream, is used to broadcast extra-curricular events and meetings. Twitter is used to enhance learning by offering a medium for instant sharing of information, ideas, and commentary. • VoiceThread and various blogs facilitate discussions, and enable students to create and share content. • Students are required to create a website using a variety of tools such as Dreamweaver, Wordpress, GoogleSites, or blogging software. • Students use the Microsoft Office Suite to create presentations and tutorials. Multimedia projects are produced in many classes using with digital cameras and recording equipment when needed, and tools such as Jing, CamStudio, Audacity, Voki, Glogster, Voicethread, various movie making software and Youtube, and Prezi. • Students also use social media to access and disseminate information. • Students in the School Library Media Concentration use Taskstream to archive class products. • Students taking the research methods course learn statistical software, such as SPSS. • Students learning to develop digital libraries use digital asset management systems,	Training is offered either in-class or through workshops.

		such as ContentDM and DSpace. • Students learn to search databases, such as those available through ProQuest, NCLive and Dialog. • Students learning about integrated library systems (ILS) use Koha.	
Educational Leadership and Cultural Foundations	Educational Leadership & Cultural Foundations, EDD [Ed. Leadership (EdD w/o Lic), Ed. Leadership (w/Lic)] Educational Leadership & Cultural Foundations, PM Cert [PM Cert: School Administration, PM Cert: School Administration-Special Education Focus, PM Cert: Urban School Lead & Admin]	• Students are exposed to wiki's and participate in a paperless learning environment in several courses. Wiki's are used for writing down quick ideas or longer ones, providing more time for formal writing and editing. They are used for instant collaboration without emailing documents, keeping the group in sync, and providing access from anywhere with a web connection. Archives are automatic, because every page revision is kept. Students are also exposed to a wide array of web 2.0 tools - Edmodo (Social networking tool - safe environment - similar to Facebook), Prezi and Animoto (presentation software), etc. A document containing hundreds of free online Web 2.0 tools is given to all students in the program. • All student interns explore the populations, institutions, traditions, assets, and limitations of a school community - involving the principal and school leadership team for input and suggestions into the type of school-community event/program needed for the school. Using technology, data is analyzed, synthesized and displayed identifying an area(s) of need. A MULTI-MEDIA platform is used to document the experience, including the process, plan, execution and assessment. This is placed into the licensure ePortfolio after having been shared with school members. All student interns journal, blog, video and present using Web 2.0 tools to show how they work with teachers. Students submit the artifacts to the licensure ePortfolio after having shared the experiences with school-level leaders. • Blackboard Learn collaborative functions such as blogs and discussion forums, grade center and dropbox are used. Discussion forums provide opportunities for in-depth discussion of topics beyond the limited time available for in-class discussions. This provides students with more exposure to varying points of view, as well as more opportunities to refine and better articulate their own opinions. Grade center is used to give students immediate feedback on work progress. Dropbox is used as a 21st century tool for students to deposit and retrieve work. • Students complete a 21st Century Critical Review.	Students are exposed to the many Web 2.0 tools in classes; students are assigned peer partners to assist; a lab is held outside class to provide assistance to struggling students; students are referred to university-sponsored workshops or school-level support personnel. Also, a course on technology leadership is offered yearly to help familiarize students with available technology tools.
Educational Leadership and Cultural Foundations	Educational Leadership & Cultural Foundations, EDS [Ed. Leadership (EdS w/Lic), Ed. Leadership (EdS w/o Lic)]	• See Educational Leadership & Cultural Foundations, EDD.	See Educational Leadership & Cultural Foundations, EDD.

Educational Leadership and Cultural Foundations	Educational Leadership & Cultural Foundations, MSA [School Adm-Principl(P Lic-MSA)]	• See Educational Leadership & Cultural Foundations, EDD.	See Educational Leadership & Cultural Foundations, EDD.
Educational Leadership and Cultural Foundations	Educational Leadership and Cultural Foundations [Ed Leadership (EDS/EDD w/Lic), Ed Leadership (EDS/EDD w/oLic)]	• See Educational Leadership & Cultural Foundations, EDD.	See Educational Leadership & Cultural Foundations, EDD.
Educational Leadership and Cultural Foundations	Educational Studies, PHD [Ed Leadership (EDS/EDD w/Lic), Ed Leadership (EDS/EDD w/oLic)]	• All students have the opportunity to take online and hybrid courses using Blackboard Learn, blogs, wikis, and other online tools for communications and projects. • Students participate in synchronous and asynchronous discussion using a variety of tools (such as Blackboard forums/threads, Google+ Hangouts, Blackboard Collaborate, Twitter, Facebook groups) to cultivate both large and small group in depth communication and study of class concepts, readings, and assignments. • Students use several online tools to complete course assignments such as Glogster, Prezi, Mindomo, online audio recording sites, Powerpoint, video, and use any webdesign software they are comfortable with to construct projects either individually or as a group. All of these are employed contingent on course and student fit, so professors and students have a large selection of possible choices to incorporate technology into pedagogy, question its use and study its effects, while simultaneously increasing student proficiency with technology.	All students receive in-class assistance and demonstration of tools to be used, and are also pointed to tutorials online and resources on campus, while being encouraged to help each other to build community.
Educational Research Methodology	Education Research Methodology, MS [Ed Rsrch, Measrmnt & Eval (MS)]	• All students are exposed to, and trained in, using SPSS for data management and statistical analyses. This includes downloading datafiles, opening datafiles in SPSS, saving datafiles, and saving output in SPSS and other word processing documents. • All students are exposed to and trained in using relevant measurement and item response theory software, including Winsteps and IRT-Pro. This includes importing data, converting data files between *.txt and *.dat formats, managing program output, and saving output in appropriate word processing documents. • All students are involved in presenting information using visual presentation software (e.g., PowerPoint). Students are trained in organizing information using this technology, and presenting information in an accessible manner.	All students receive formal in-class training in statistical and measurement software (SPSS, Winsteps, IRT-Pro). Professors inform students of university-sponsored technology workshops.
Educational Research Methodology	Education Research Methodology, MS/PHD [Ed Rsrch, Measrmnt/Eval (MS/PHD)]	• See Education Research Methodology, MS.	See Education Research Methodology, MS.

Educational Research Methodology	Education Research Methodology, PHD [Ed Rsrch, Measrmnt & Eval (PhD)]	• See Education Research Methodology, MS.	See Education Research Methodology, MS.
Educational Research Methodology	Educational Research Methodology, Certificate [PB Cert: Educational Assessment]	• All students are exposed to, and trained in, using SPSS for data management and statistical analyses. This includes downloading datafiles, opening datafiles in SPSS, saving datafiles, and saving output in SPSS and other word processing documents. • All students use Blackboard to access course documents, and organize assignment materials. • All students are trained in presenting the results of data analyses in word processing software (e.g., Word). This includes using word processing software to document the results of analyses and present relevant graphical representations of results.	All students receive formal in-class training in statistical software (e.g., SPSS). Professors inform students of university-sponsored technology workshops.
Library and Information Studies	Library and Information Studies, MLIS [Instructional Tech(M Lic077-MLIS), Library & Info Stds(M Lic 076), Library & Info Stds(M Lic 077), Library & Info Stds(M Lic 078), Library & Info Stds(MLic076-MLIS), Library & Info Studies (MLIS)]	• Students use Blackboard Learn & Collaborate, UNCG's virtual learning environment and course management system, to access course content and for discussion asynchronously or synchronously, submit assignments, obtain grades, receive announcements, and conduct group work. Blackboard Collaborate, Blackboard's web conferencing tool, is used for asynchronous and synchronous class delivery and discussions. A livestreaming alternative, Ustream, is used to broadcast extra-curricular events and meetings. • VoiceThread and various blogs facilitate discussions, and allow students to create and share content. • Students are required to create a website using a variety of tools such as Dreamweaver, Wordpress, GoogleSites, or blogging software. • Students use the Microsoft Office Suite to create presentations and tutorials. Multimedia projects are produced in many classes using digital cameras and recording equipment when needed, and tools such as Jing, CamStudio, Audacity, Voki, Glogster, VoiceThread, various movie making software and YouTube, and Prezi. • Students also use social media to access and disseminate information. • Students in the School Library Media Concentration use Taskstream to archive class products. • Students taking the research methods course learn statistical software, such as SPSS. • Students learning to develop digital libraries use digital asset management systems, such as ContentDM and DSpace. • Students learn to search databases, such as those available through ProQuest, NCLive and Dialog. • Students learning about integrated library systems (ILS) use Koha.	All MLIS students are expected to be familiar with using personal computers, Microsoft Office, email and the internet. Licensure-only students have an MLIS degree already, so they are familiar with information and communication technologies (ICTs). Any training needed to use technology is provided in the classes themselves, either taught by the instructor or learned through self-guided online tutorials made available by the instructor.

Library and Information Studies	Library and Information Studies, PB Certificate [PB Cert: Endorsmnt Computer Ed]	• Edmodo or Blackboard is the course management tool, in addition to either Blackboard Collaborate or Google+ Hangouts for synchronous sessions. • Numerous Web 2.0 tools are used to create learning materials for K-12 students (e.g., Prezi, Animoto, Popplet, Delicious, Bubbl.us, Symbaloo, Glogster, TarHeelReader, Book Builder, StoryBird, Little Bird Tales, Zooburst, Zunal, QuestGarden, TrackStar, Voki, Xtranormal, GoAnimate, (MakeBeliefsComix, Stripgenerator, etc.). • Students use Google Docs and Google Forms for sharing and shared work. • LiveBinder is used for organizing and storing teaching materials. • Numerous blog and wiki tools (e.g., KidBlog, Edublog, Weebly, WikiSpaces, etc.) are used to create and share content. • For video and multimedia projects, students use digital cameras, and video cameras. For editing tools, students with PCs may use PhotoStory, Pixlr or Windows Live MovieMaker; and those with Macs may use products such as iMovie and Garage Band.	All students are expected to be familiar with using personal computers, Microsoft Office, email and the internet. Any training needed to use technology is provided in the classes themselves, either taught by the instructor or learned through self-guided online tutorials made available by the instructor. Additionally, online videos are another resource for learning how to use, and finding ideas of how other teachers use, these tools.

School of Education	Education, NC Teach Alternative Licensure
	[NC Teach Alternative Licensure]
		• Examples of technology use by Licensure candidates includes the following:
		  o Blackboard Learn for course syllabi, assignments, grades, announcements, etc.
		  o Students design webquests and websites as projects for classes.
		  o Students use TaskStream to complete licensure portfolios.
		  o Students use digital tools such as LiveBinder for projects.
			Training is offered either in-class or through workshops.

Specialized Education Services	Professions in Deafness-125sh [2+ Educ of Deaf:Aud-Oral/B-K L, Auditory Oral/B-K (Ed Deaf)]	• Students use the Sign Lab for their courses in American Sign Language to do video assignments using QuickTime on the Mac computers, and they also use the lab to listen to audio files and view videos for sign language practice. • Students are also required to use the videophone. • They use Blackboard Learn for a range of courses. • Students also are required to use PowerPoints, PDF documents and use a range of websites. • Students in American Sign Language courses use webcams, headsets with microphones and video applications such as Quicktime, iMovie, YouTube, & Blackboard Collaborate for recording assignments and assessments.	Training is offered either in-class or through workshops.
Specialized Education Services	Professions in Deafness-126 sh [Advocacy/Services for Deaf, ASL Teacher Licensure]	• Students are required to use the Sign Lab for their courses in American Sign Language to do video assignments on QuickTime on the Macintosh computers, listen to audio files and watch videos for sign language practice. • Students are required to use the videophone in the Sign Lab during SES 203 to complete their Sign Language Proficiency Interview (SLPI) as part of their progression requirements in the concentration. • Several SES courses include use of Blackboard Learn to view PowerPoints in each	Training is offered either in-class or through workshops.

		class session, especially in American Sign Language, Introduction to the Deaf Community and ASL/Deaf Literature. Also on Blackboard are course information, readings, announcements, videos, PDF files and links to websites for additional readings and videos for students to do for assignments. • Students are required to do in-class PowerPoint presentations in Introduction to the Deaf Community. • Students use Blackboard Learn to access the Virtual Sign Lab (VSL) for the calendar of deaf events for their required community lab hours, to look at PDF documents and policies pertaining to their major, and to access folders containing information on deaf-related areas including links to websites for sign language practice.	
Specialized Education Services	Professions in Deafness-125 sh [Interpreter Prep Program]	• Students use the Sign Lab for their courses in American Sign Language to do video assignments using QuickTime on the Mac computers, and they also use the lab to listen to audio files and view videos for sign language practice. iPads are also sometimes used. • Students are also required to use the videophone. • Students use Blackboard Learn for a range of courses. • Students also are required to use PowerPoints, PDF documents and use a range of websites.	Training is offered either in-class or through workshops.
Specialized Education Services	Professions in Deafness-128 sh [B-K/Hard of Hearing Teacher Lic]	• See Professions in Deafness – 125 sh.	See Professions in Deafness – 125 sh.
Specialized Education Services	Spec Ed/Elem Ed (Pre Major) [Dual Mjr: Spec Educ/Elem Educ]	• Students are required to purchase a TaskStream electronic portfolio (www.taskstream.com) account by the end of the semester to upload assignments. • Blackboard Learn is used for course information, readings, assignments, and announcements.	Training is offered either in-class or through workshops.
Specialized Education Services	Spec Ed (Pre Major)-BS 127h [Special Education (general), Special Education (general) 2+]	• See Spec Ed/Elem Ed (Pre-Major).	See Spec Ed/Elem Ed (Pre-Major).
Specialized Education Services	Special Ed-BS 127h [Special Education (general), Special Education (general) 2+]	• Students use a range of technology tools through their program, including Office applications, and learn to identify high quality websites. • Students are required to purchase a TaskStream electronic portfolio (www.taskstream.com) account by the end of the semester to upload assignments. • Blackboard Learn (http://blackboard.uncg.edu) is used for course information, readings, assignments, and announcements.	Training is offered either in-class or through workshops.

Specialized Education Services	Special Education, MED [SpEd Advanced+BED (M Lic-MEd), SpEd Advanced+LD (M Lic-MEd), SpEd GenCurr+BED (A&M Lic-MEd), SpEd GenCurr+LD (A&M Lic-MEd)]	• Special Ed-BS 127h	Training is provided by faculty during class; emails are sent to students and in-class announcements are made regarding university-sponsored workshops.
Specialized Education Services	Special Education, MED-Online [B-K Intd Std Ed Dev(M Lic-MED)]	• The entire program is online and classes are taught primarily using Blackboard Collaborate, synchronous virtual classroom software. Students participate using webcams and headsets. • In these virtual classrooms students make live presentations. They create PowerPoint presentations and use them during the in-class presentations. • In SES 603, supervision of screening and assessment assignments is provided using virtual bug-in-the-ear technology.	Students are trained by program faculty on three occasions prior to beginning the program on how to use Blackboard Collaborate. Individual faculty members provided ongoing additional support and training for each course and all classes.
Specialized Education Services	Special Education, PAIL [PAIL Sp ED Gen Curric (A Lic)]	• Special Ed-BS 127h	Special Ed-BS 127h
Specialized Education Services	Special Education, PHD [Special Education (PhD)]	• SES doctoral students receive preparation in statistical and qualitative analytical software (e.g., SPSS, NVIVO). • Preparation also includes using Blackboard Learn, PowerPoint, word processing software, and Excel. Students use these tools in the preparation of a range of portfolio items. • Dissertation requirements include data management, development of tables and figures, and submitting other required materials.	Training is offered either in-class or through workshops.
	Special Education, Special Education Add-on Licensure [Beh/Emot Dsabilts (Add-on Lic), Learning Dsabilts (Add-on Lic)]	• Special Ed-BS 127h	See Special Education, MED.
Teacher Education & Higher Education	Elementary Ed (Pre Major) [Elem. Education (k-6 Lic)2Plus, Elementary Education K-6 Lic]	• Examples of technology use by Licensure candidates include the following: o Blackboard and Edmodo are used for course organization. o Google tools and TodaysMeet are used for collaboration. o Digital tools for creating instructional materials: Animoto, VoiceThread, Glogster, TarHeel Reading, Book Builder, Zooburst, Little Bird Tales, etc.	Training is offered either in-class or through workshops.
Teacher Education & Higher Education	Middle Grades Ed (Pre Major) [Middle Grades Educ. 6-9 Lic]	• Examples of technology use by Licensure candidates includes the following: o Blackboard is used to organize and manage courses. o Students design WebQuests and online graphic organizers. o Students use organizational resources such as LiveBinder for projects. o Students use mobile devices for professional development to document best	Training is offered either in-class or through workshops.

		practices, gathering evidence related to selected problems of practices, and developing a plan for strengthening a self-selected aspect of the TGAP. o Students learn to use web applets, graphing calculators, math apps on iPads, and other software as resources for the classroom.	
Teacher Education & Higher Education	Curriculum and Instruction, Certificate [PB Cert: TchEngSpkrsOthLngs]	• Students use digital devices for student observations and language sample data collection. • They use classroom technology devices, such as SMARTboards, for lesson planning and delivery. • They use web 2.0 tools (e.g. Google Docs, LiveBinder, Book Builder, VoiceThread) to share ideas and resources and enhance collaboration. • Students integrate instructional technology in lesson planning for instruction and formative assessment. • They utilize technology tools for community-engaged leadership projects (e.g. newsletter development, website building).	Training is offered either in-class or through workshops.
Teacher Education & Higher Education	Curriculum and Instruction, MED [Chemistry Ed (M Lic-MEd), Comprhnsv SciEd(M Lic-MEd), Elementary Ed (M Lic-MEd), Elementary Math Ed (M Ed), Eng2ndLng(MLic), French Ed (M Lic-MEd), Instructional Tech (M Lic-MEd), Math Ed (M Lic-MEd), Mid/Sec Eng/LangArt(Med), MiddleGradesEd (M Lic-MEd), Reading Ed (M Lic-MEd), SocialStudiesEd(M Lic-MEd), Spanish Ed (M Lic-MEd)]	• All students utilize Blackboard Learn for assignments, discussion boards, and wiki databases of applets for teaching mathematics and statistics. • Teachers utilize mathematics pedagogical software throughout the core courses: Geometery's Sketchpad, Fathom Interactive Statistics, and Tinkerplots. We use graphing calculators and data collection tools, online apps, motion detectors, etc. Students have one course dedicated to teaching with technology in mathematics. • Students use video recorders to analyze interviews with their students. • Students use social networking applications (Edmodo, Twitter). • Students review and create their own WebQuests, using Dreamweaver. Audacity, GoogleVoice and smartphones/tablets are used for recording digital sound files. Students use wikis, and incorporate technology in the classroom by projecting videos from the web (such as documentaries, films, music) and images of art exhibits, including works from the Weatherspoon after they visit it. • 2-3-Students consult digital archival collections, accessing and searching databases of digitalized materials such as old periodicals, manuscripts and photographs which allows them to access otherwise highly restricted collections of valuable literary and historical materials. On-line cultural journals, magazines and newspapers are used as resources for literature, cultural and conversation classes. Online dictionaries (e.g. Diccionario de la Real Academia, www.rae.es) are consulted. Students use many of the Microsoft Office programs, (Word, PowerPoint, Excel) to compile and complete assignments.	Training is offered either in-class or through workshops.
Teacher Education &	Education Supervision, MED [Instructional Design (Med)]	• Inactive	

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students
Higher Education			
Teacher Education & Higher Education	Education, Reading Specialist Add-on Licensure [Reading Specialist (Mlic-Addon)]	• Edmodo is used as an official course site. • Classes use various blogging sites and virtual meeting tools, such as Google+ Hangouts. • Creating online portfolios, websites, wikis, movies, digital concept maps as part of course assignments. • Working with children to develop their own projects using digital tools, such as moviemaking software, online comic strips, wikis, and websites.	Training is offered either in-class or through workshops.
Teacher Education & Higher Education	Educational Studies, PHD (HED) [Higher Education (PhD), Teacher Ed & Development (PhD)]	• Students use Blackboard Learn as a learning environment and course management system to access course content, asynchronous and synchronous discussions, assignments, grades, and course announcements. • In research courses, students are introduced to statistical and data management systems (e. g., SPSS, NVivo). • Students also use presentation software (PowerPoint, Prezi) to lead discussions or present research findings. • Throughout their coursework, students use a variety of search engines (Academic Premier, ERIC) to conduct literature reviews.	Training is offered either in-class or through workshops.
Teacher Education & Higher Education	Higher Ed Admin [Stdt Persnl Admin in Higher Ed]	• Students create online professional portfolios in WordPress. • Students create presentations in PowerPoint and Prezi. • Students use ERIC and Academic Complete search engines for papers and projects. • Classes have guest speakers through Skype.	Training is offered either in-class or through workshops.

School of Health & Human Sciences

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students

Communication Sciences & Disorders	Communication Sciences & Disorders (all program levels – BS, MA, PhD)
	
	[Speech Pathology and Audiology (BS); Speech-Language Pathology (MA); Comm Sci & Disorder (PHD)]
		• In CSD 334-Introduction to Audiology, students build a human ear wiki to help them learn the anatomy of the auditory system. The students have three assignments (models to build, photograph, post and discuss) for their wikis:
		  o Drawing of the outer ear. Each student draws and labels a right and a left ear.
		  o Construction of a middle ear box. Each student constructs a box showing the six walls of the middle ear space with all major anatomical landmarks shown and labeled
		  o Drawing of the Outer and Inner Hair Cells of the Inner ear. Each Student constructs an outer and inner ear hair cell of the human cochlea.
			Training is offered either in-class or through workshops.
			
			For the CSD 307 lab, students complete multiple labs using software programs and apps on which they are trained: WaveAspects, Audacity, Stringwave, filter app, "interactive sounds" page created specifically for the course, Jing, and the Snipping

| | | The students take pictures of their models and post the pictures on their wiki. Then they write a short paragraph on each structure and it function and physiology.

• In the lab for CSD 307- Speech and Hearing Science, students complete a technical set-up for the course that includes microphone and headphone check, download of software to be used, and troubleshooting.
   o Software downloaded for use includes WaveAspects and Audacity.
   o Online apps used include Stringwave, filter app, and "interactive sounds from pipes" page created by DCL.
   o Jing or the Snipping Tool are used to capture images from the lab software for lab reports.
   o Other technologies used include Blackboard Collaborate, discussion boards, blogs, online readings, the gradebook in Blackboard Learn, and online exams.

Examples of learning activities include:
   o Students record speech stimuli and identify characteristics of vowels and consonants on a spectrogram.
   o Students edit speech stimuli to discern the necessary elements for perception of vowels and consonants.

• Students taking CSD 556-Adult Aural Rehabilitation use the technology available through Blackboard Learn such as online readings, SafeAssign, and the gradebook. | Tool. |
| Community & Therapeutic Recreation | Community & Therapeutic Recreation (all program levels – BS, PB Cert, MS)

[Community Recreation and Event Planning, Therapeutic Recreation (BS); PB Cert: Animal Assisted Therapy, PB Cert: Geriatric Recreational Therapy; Parks & Rec Leisure Services, Parks & Rec Therapeutic Rec, Parks & Rec TravelTourismComRec (MS)] | • Students enrolled in Program Planning in Recreation and Parks (RPM 213) complete a Group Service Learning Project, a hands-on learning experience that takes place throughout the semester (*minimum* of 15 group project hours required). This project provides an opportunity for students to develop leadership and job skills related to course content while developing a sense of civic responsibility. Students are placed into groups consisting of 5-7 members, with one student leader per group. Students work together as a group, but are evaluated individually by classmates, the agency supervisor, and the course instructor. Each group develops a Google Site that consists of required materials allowing students to demonstrate, in a creative manner, their experience with the actual program planned and implemented, and application of classroom learning.

• In RPM 342- Recreation Area and Facility Development, a lab session is conducted in a computer lab to introduce students to an on-line GIS application that they may choose to use for their final class project. This technology allows students to view | Training is offered either in-class or through workshops.

In RPM 213, students receive comprehensive training in developing well-designed and ADA and copyright compliant multimedia websites for projects associated with their work with community organizations. Training includes Google Sites, Creative Commons, YouTube, dictation tools for creating closed captioning, as well as photo and video editing software. |

		aerial photography, contour lines, and soil information for their final project site. Additionally, students learn to retrieve demographic data from specific geographies (final project sites) using the interactive US Census website (Fact Finder). • In RPM 231- Introduction to Therapeutic Recreation, student groups create videos intended to explain/market therapeutic recreation to the community. Peers rank the videos and the best gets posted to the department website for marketing purposes. o Students create a video using technology such as smartphones, webcams, video recorders, computers, etc. (formatted for Windows Media Player compatibility). o Videos are turned in on USB/Flash drives. o Students must also develop a written, word-for-word script of the video to be turned in with their video. • RPM 338-Client Assessment in Therapeutic Recreation is taught totally on-line through MOODLE. Students are required to upload all of their assignments and take all quizzes on-line.	In RPM 342, a computer lab session is used to introduce students to an online GIS application. Students also learn to retrieve US Census data from using Fact Finder.
Genetic Counseling Program	Genetic Counseling, MS	• The program's **Electronic Handbook** is made available to all students. This is updated regularly and includes information such as the **Capstone Project Handbook** and clinical rotation requirements (including schedule, clinic descriptions and contacts, evaluation forms, clinical logbook database and instructions). • Each student has a password-protected electronic portfolio maintained jointly by the student, Program Director and Assistant Director. Portfolios consist of the following: o Grade Sheets, including individual project/ assignments as well as final course grading sheets. o Logbook of Clinical Cases, used by student to track cases from their supervised clinical rotations. Final Logbook Report: Students select 50 cases that meet program logbook requirements. Case Summary Sheets: Case summary sheets, signed by the clinical supervisor, for all "logbook eligible" cases. o Rotation Evaluations: Copies of specific goals for each clinical rotation; copies of all mid-rotation and final rotation evaluations. Notes from rotation evaluation meetings with Assistant Director. o Capstone Project Files: Final Report, Final Presentation Slides, IRB application and approval letters	Students learn how to use an online survey development program (Qualtrics). Students have access to the program handbook online, and receive an orientation regarding how to use the handbook. Students receive instruction on use of the electronic student portfolio system.

		o Logbook of projects and other activities: An MS Excel file in which students record course projects and other non-clinical activities (e.g. lab observations, support group meetings) and clinic observations performed in addition to supervised clinical rotations (e.g. specialty clinic observations, first year genetics clinic observations). Copies of all written reports, handouts and slides for course projects, journal club, etc. • Students complete an online-searching project in which they use online resources only to research a specific genetic condition and prepare a presentation, including critique of resources for class presentation (GEN 601). • iPads are loaned to students during clinical rotations. These are used to access online information, including tools for patient education (GEN 718/719). • Students use Qualtrics to design and administer web-based surveys for research projects as necessary (GEN 748/749).	
Gerontology	Gerontology, MS (all, excl Post-Bacc) [Dual Gerontology/Business Admin; Aging and Business, Gerontology (Interdisc MS), Gerontology:NonProfit Mgt (MS)]	• All candidates for the MS must complete a Research Methods in Gerontology course in which SAS is used to learn about and perform statistical analyses commonly applied in the field of Gerontology. Student understanding of statistical models is enhanced by learning to select the appropriate analyses within SAS, apply those analyses to a topic of interested selected by the student, and interpret the results. This activity helps prepare students for careers that involve academic or applied research. • Google functions such as blogs and email are used to encourage discussion forums for required summer readings, build solidarity with new students, and also encourage mentoring experiences with incoming graduate students. This is critical as many students are returning adults students who work fulltime and have limited time on campus; thus, this provides an early entry to socialization back to academia. • Final capstone presentations and other opportunities for presentations throughout the students' academic career provide opportunity for formal presentation experiences using PowerPoint or other media used for professional presentations.	Training is offered either in-class or through workshops. All first-year graduate students are required to take at least one 3-hour SAS workshop provided by the program for incoming students. All gerontology students are welcome to attend.
Human Development & Family Studies	Human Development & Family Studies (all programs – BS, PB Cert, M Lic, MED, MS, MS/PhD, PhD) [Birth thru Kindergarten TchLic, Birth-K TchLcg (Online 2+), Birth-Kindrgrtn Tch Lic 2Plus, Child & Adolescent Dev. in Fam, Early Care	• In HDF 455-Current Developmental Theory & Research, technology use includes the following: o narrated PowerPoints presentations and video clips o use of surveys to incorporate a slightly modified version of JiTT (Just in Time Teaching) - students respond electronically to carefully constructed web-based assignments, due shortly before class; the instructor reads the student submissions "just-in-time" to adjust the classroom lesson to suit the students' needs	Training is offered either in-class or through workshops. For HDF 455, a librarian provides a session for students on using library resources. This is followed by a set of exercises and assignments that require students to use the skills that were

| and Education, Early Care and Education (Online 2+), Early Care and Education 2+; PB Cert: Ldrshp Early Care & Ed; B-K Intd Std Ed Dev (M-Lic); Human Dev & Fam Studies (MS); Human Dev & Fam Studies (MS); Human Dev & Fam Studies (PhD)] | o students work in groups, and the instructor encourages them to use Google+ Hangouts conferencing capacities o the instructor administers tests online o Blackboard is an integral part of the course (e.g., the instructor posts readings & PowerPoint presentations, students submit assignments)
• In HDF/SES 435 examples of technology use include:
o Students visit a virtual learning area that contains videos, text, and additional materials that provide students with opportunities to gain information as well as process the information learned. To supplement the learning area, narrated PowerPoint presentations using VoiceThread are used. Finally, students are asked to apply what they have learned and respond to interactive discussion boards.
o Students use video cameras to record themselves and then use these videos for self-reflection and peer feedback.
o Students view short (10-15 minute) podcasts of content/material that is then applied and discussed in class.
• In HDF 420, students access videos via the internet that provide examples of various early childhood practices and philosophies.

• HDF 250 utilizes an asynchronous online format. All course material is accessed through Blackboard Learn, and all assignments are submitted via Blackboard Learn. Teaching methods include PowerPoint presentations that have been narrated in VoiceThread, videos, material in the online learning area, podcasts, and audio clips.

• In HDF/SES 436 class participation includes discussion board posts and responses to peers, as well as group projects. The class uses Youtube to post videos and have students provide feedback and comments. The class also uses Videatives to observe teaching strategies and interactions in classrooms.

• For HDF/SES 425 Infant/Toddler Development, Learning & Curriculum, the instructor created a lesson plan to be viewed and completed online by students. The instructor selected a documentary called BABIES, and used Digital Campus via Swank Motion Pictures to embed a lesson plan in the documentary. Using this technology, the instructor was able to write overall learning objectives for the students and disburse timeline objectives throughout the documentary at selected points. This technique enabled the instructor to focus the student's learning on the topics of importance to the course, while exposing them to another perspective on | taught.

For HDF/SES 435 an online or face-to-face orientation is provided which includes initial Blackboard Training. |

the concepts they needed to know.

- HDF 212, Families and Close Relationships, uses a Blackboard Learn site that includes a copy of the syllabus, course schedule, student grades, a discussion board for student-student communication, several on-line assignments, links to study aids including study guides for each exam, faculty contact information, information regarding the HDFS major and minor, and links to important academic and personal resource services provided by UNCG to students free of charge. In addition, students all assigned readings and the PowerPoint slides shown during lectures are posted, along with interactive practice quizzes for each reading and a variety of interactive study aides for the assigned readings (e.g., flashcards). Some students find it useful to print out copies of the slides and bring them to class for note-taking, whereas other students save the slides and take notes directly on them in class via the use of their personal laptop or other device.

- In the HDF 450 and 460 student teaching courses, students record themselves student teaching, create electronic portfolios in Taskstream, and use the web for resources and also some curriculum plan using specific software.

- HDF 470 is an online course that meets on Blackboard Collaborate. The class is speaking intensive, so all projects are in PowerPoint/voicemail format.

- In HDF 212- Families & Close Relationships, the class uses iclickers to provide the instructor with on-the-spot information about students' knowledge in regards to the readings. Additionally, discussion boards are used for students to submit information on a newsworthy item that relates to a class topic. The instructor uses the submitted information in the lecture for the day. This provides a current view of the popular media, and the class is able to decipher its use/importance based on the research for that topic. The instructor also uses online testing, which provides quick feedback to students.

- In HDF 477-Professional Development in HDFS & HDF 499-Supervised Professional Experience in HDFS, students use Google Sites to develop electronic portfolios to highlight their professional growth (HDF 477) and experiences during their internship (HDF 499).

- HDF 650 uses Blackboard Collaborate for synchronous online sessions.

| Kinesiology | Kinesiology, BS (incl BS 124-SH, BS 128 SH)

[EXSS Fitness Leadership, EXSS Sports Medicine (BS); Physical Education (K-12 Cert); Community Youth Sport Dev] | • In KIN 351 students complete a Digital Story project and present it through Youtube.
• PEHTE (Physical Education Health Teacher Education) students use Taskstream as an electronic portfolio, and also create a wiki during student teaching. They use PowerPoint and Word, videotape their teaching, and load video into YouTube.
• Special equipment used incudes pedometers and accelerometers, heart rate monitors. Students also use the Fitnessgram software.
• For KIN 388, students use Photostory, Prezi and PowerPoint for a lab assignment in which they create a multimedia presentation on teaching a psychological skill such as attention, use of imagery, and emotional control to a client or student in a Kinesiology professional setting.

• For KIN 330- Sociocultural Analyses of Physical Activity

    o online quizzes for most readings are completed in Blackboard, and then the class uses the Attempts Statistics view to discuss quiz items and link to lecture material
    o during "applied Wednesdays" the class sometimes uses Poll Everywhere to do checks for understanding, small group reporting out to whole group, etc.
    o two to three times each semester the instructor creates a narrated PowerPoint lecture, typically an intro to a new unit, and students engage this lecture on their own and complete a set of applied tasks that are then used in subsequent face-to-face meeting
    o in these online lectures, the instructor often has students view a video or review some specific data in an online, graphics-enhanced report, and the class examines those resources even further in the next class meeting
    o the instructor uses use news shows and film clips to bring concepts to life and generate more integrated conversation among students

• In KIN 376- Biomechanics of Sport and Physical Activity, Twitter is used as a learning tool to engage students in meaningful learning outside the traditional classroom. When students see a biomechanical concept outside the classroom (e.g., a person stubs his/her toe, yet regains his/her balance), they are to Tweet about how the activity they just witnessed in the real world relates to a concept taught in class (e.g., keeping the center of mass within the base of support to maintain stability) on a class specific Twitter account. | Training is offered either in-class or through workshops.
For KIN 388, students receive a presentation on the basics of Photo Story, Prezi, and narrated PowerPoint and are provided with a multitude of handouts and support by an instructional technologist. |
| Kinesiology | Kinesiology (graduate level programs – MS, EdD, MSPhD, PhD) | • KIN 641, Rehabilitation Techniques, includes use of advanced computerized diagnostic technologies of musculoskeletal ultrasound and electromyograpy to help | Training is offered either in-class or through workshops. |

	[Exer/Sport Sci (M Ed only), Sch/Community Youth Spts Stds; Kinesiology (ED D); Applied Neuromechanics, Community Youth Sport Dev MS, Exercise Physiology, Kinesiology (MS Only), Motor Behavior, Pedagogical Kinesiology MS, Sch & Commnty Youth Sprts Stds, Sport and Exercise Psychology, Sports Medicine; Applied Neuromechanics, Exercise Physiology, Kinesiology PHD, Pedagogical Kinesiology PHD, Sport and Exercise Psychology]	students better understand and directly see how rehabilitation exercise selection impacts the use of different muscles.	
Nutrition	Nutrition (all program levels – BS, PB Cert, MS, PhD) [Human Nutrition & Dietetics, Nutrition & Wellness, Nutrition Science (BS); Dietics Internships (PB Cert); Nutrition (MS); Nutrition (PhD)]	• Student enrolled in the BS program take NTR 213-Introductory Nutrition. Examples of technology use in the course include: o All faculty members use Blackboard Learn for communication. o All course sections, including distance sections, use a nutritional analysis software program, and perform an analysis of their diet and exercise habits, based on a 3-day average of each. This Personalized Nutrition Analysis Program (PNAP) has two major components—first, the nutrient analysis; and, second, a section of questions that examine risks and benefits of their nutrient intake/exercise as it relates to global concepts such as hypertension, diabetes, and obesity. o Students also use a McGraw-Hill web-based program with assignments and quizzes that provide opportunities to "apply" knowledge learned. This includes 10 assignments that are designed to apply knowledge learned from both text and lectures. The assignments cover key concepts applied to both macronutrients and micronutrients. Also covered are material on Hunger and Food Insecurity, Food Safety, and the use of the Scientific Method as it is applied to nutrition practice and policy. There are 5 web-based assignments that employ a "flash card" approach to testing applied knowledge on basic concepts. o Lectures for distance sections are loaded into the McGraw-Hill website. o Some faculty members use iclickers, as well as news feeds, to stimulate discussion in the classroom. • NTR 607-Nutrition Education is included in the plan of study for most students	Faculty and graduate assistants train students to the use of required technology in the classroom. Graduate students holding scheduled office hours are all trained to assist students with the use of technology for one-on-one tutoring. For graduate-level courses, some minor Blackboard Learn instruction may be necessary for new students who may have used a different LMS.

		enrolled in the graduate-level programs. This course makes extensive use of Blackboard Learn for assignments, discussions, and, in some semesters, online exams.	
Peace and Conflict Studies	Conflict & Peace Studies (all program levels – PB Cert, MA, MA-Online) [Parks&Rec Leisure Services, Parks&Rec Therapeutic Rec, Parks&Rec TravelTourismComRec (MA/ MA online); PB Cert: Conflict & Peace Stds]	• The Conflict & Peace Studies MA program uses Blackboard Collaborate to teach hybrid classes in which some students are located physically in a classroom, while remote students join the class through a Collaborate session. This allows the program to deliver the same instruction to students in multiple locations. Benefits include increased accessibility (core curriculum online) and diversity (sections with online and residential students together). • Students learn to collaborate using distance technology in all of their classes. • Students develop an electronic portfolio and an integrative project using Prezi, PowerPoint, or YouTube.	Training is offered either in-class or through workshops.

Public Health Education	Public Health Education, BS
	
	[Community Health Education, Community Health Education 2+, Health Studies, Health Studies 2+, Health Studies, BS (Online), Health Studies, BS (Online) 2+]
		• Students enrolled in HEA 314-Public Health Diseases completed a project in which they work in three-member "Investigative" teams to conduct their own study of a disease, its processes, and prevention/treatment/control strategies. Use of technology by the teams included:
		  o Each team reviewed the content of the course's textbook and the respective web resources that applied to the disease being investigated. Web resources were located in BlackBoard Learn.
		  o Each team created a Google Site with the findings of that team's disease investigation. Sites included diagrams, pictures, charts, media clips/videos, charts, graphs, and other material as appropriate. Each site also included a section with the references/sources used to gather the information.
		  o Each group made a three-minute team presentation about the Site and the disease/condition to the class. Teams were required to distribute a handout (.pdf or Word doc) summarizing key features and findings so that classmates could follow along with the presentation.
		
		• For the HEA207-Global Health course, students completed a World Health Day project in which they examined the dimensions and consequences of hypertension in selected world regions. Students worked in teams to create a 2 to 3 minute video depicting the hypertension situation in an assigned world region. Each team reviewed the content of the course textbook and the respective web resources that applied to the team's assigned region. As a starting point, some web resources were posted in BlackBoard Learn. After completing their research, teams created informational videos related to their findings.
			For HEA 314, the project was developed in consultation with an HHS Instructional Technology Consultant. Students received in-class training on Google Sites and were provided with online handouts and support as needed.
			
			For HEA 207, the project assignment was developed in consultation with an HHS Instructional Technology Consultant. Training was conducted in-class by the director of the Digital Media Center. The Center provided a significant amount of support for student groups.
			
			For HEA 308, the assignment was co-designed and implemented by the instructor, an HHS instructional technology consultant, and the library subject matter specialist. Technical support was provided by an HHS Instructional Technology Consultant.

		• For HEA 308-Introduction to Public Health Education, students completed an Information Literacy project to provide them with tools and experience evaluating web resources that they will likely encounter in the profession. Student groups were each assigned a web resource that was, in actuality, a hoax or inaccurate resource. The resources were in four different formats: video, infographic, Wikipedia article, or news article/blog entry. For each resource, a carefully designed worksheet was created that guided students through the evaluation of the resource and asked them to answer questions. The worksheets guided students to the websites for specific organizations (e.g., CDC) as well as Internet sites for identifying domain information and website history (e.g., whois.net, archive.org). Face-to-face course sections included a share-out and class discussion at the end of the exercise. For online sections, there was a weeklong discussion within the groups. These discussions were open to all the online students. • Laptops from the School's laptop cart(s), connected to the UNCG wirelesss network, are used for in-class activities. For example, some classes use the laptops for statistical problem-solving work using software such as SPSS. • The School of HHS's Office of Academic Outreach uses the ITS streaming media service in several departments and programs to deliver videos that enhance course materials and provide visual demonstrations on specific topics. The videos were recorded by lecturers in the field and then edited through services provided by the Office of Academic Outreach. Programs that use the videos include the BS in Public Health (Community Health Education and Health Studies).	
Public Health Education	Public Health Education (graduate level programs --MPH, DPH) [Community Public Health (MPH), Community Health (DPH)]	• In HEA 711B-Breastfeeding, Gender, & Health, the class took the lead role on a key activity for the World Alliance for Breastfeeding Action, by performing a research study to begin to conceptualize a breastfeeding/mother-baby friendly breastfeeding community. Included in this project was the development and implementation of an extensive international survey using Qualtrics. Students built, implemented, and monitored the survey in the software. • The School of HHS's Office of Academic Outreach uses the ITS streaming media service in several departments and programs to deliver videos that enhance course materials and provide visual demonstrations on specific topics. The videos were recorded by lecturers in the field and then edited through services provided by the Office of Academic Outreach. Programs that use the videos include the MPH in Community Public Health.	For HEA 711B, the class was supported in learning Qualtrics by an instructional technologist.
Social Work	Social Work, BSW	• SWK 250, Introduction to Social Work Data Analysis, is taught using the	Training is offered either in-class or

		Blackboard Assessment feature for the quizzes and final exam. These are posted on Blackboard during the class period for students to access from any computer with internet access. Once the quiz or exam is submitted via Blackboard, the items are automatically graded and posted in the Blackboard grade book. The instructor also posts several data sets on Blackboard that are used during lectures and in the computer labs during the lab application. The document projector on the teaching station is used to share examples of statistics. PowerPoint slides are used for class lectures and students have access to print them as well. • For SWK 325-Research in Social Work Practice, exams are posted on Blackboard. Examples of scholarly articles are also posted, to inform students of the required sections of research papers. PowerPoint is used for lectures. • In SWK 215-Introduction to Social Work, class exams are posted on Blackboard. The instructor also uses videos on helping professions to facilitate class discourse. Powerpoint is used as well.	through workshops. SWK 250 includes hands-on training during lab activities.
	[Social Work, Social Work (2+), Social Work (licensure)]		
Social Work	Social Work, MSW [MSW Advanced Standing, School Social Work(MSW/Lic), Social Work(MSW Only)]	• For SWK 584-Social Services for Children classes, exams are posted on Blackboard, and the instructor uses videos on child abuse and neglect to facilitate class discourse. PowerPoint is used as well. • A hybrid approach is used in teaching the SWK 621 policy course. The instructor uses Blackboard discussion tools and group tools to engage the students in exchange or responses to reading and other materials. At times this tool is used in lieu of a face-to-face class meeting. Students use group tools to engage with each other in planning an end-of-class presentation. The instructor communicates with the groups and offers feedback on plans they post.	Training is offered either in-class or through workshops.

School of Music, Theater & Dance

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students
Dance	Dance (Pre-Major) [Dance Undecided]	• Note: The Pre-Dance Major curriculum is designed to prepare intended majors who missed the mandatory entry audition in the fall or spring. As such, most prospective students do not remain Pre-Dance Majors beyond one term.	See Note.

Dance	Dance Studies (BA) [Dance Stds w/K-12 Lic (BA), Dance Studies (BA), Dance Undecided, Dance w/K-12 Lic (BFA)]	• Students in this degree program must enroll in DCE 117. Dance 117-Movement as a Medium introduces majors to an array of Dance related technology skills involved in both viewing and writing about dance, as well as using video and film technology to create dance choreography studies. • Students in this degree program seeking licensure must complete DCE 459-Dance Education Methods and Field Experience. This course prepares Licensure students to teach into today's classroom and thus employs equipment such as video and SMARTBoard technology.	In both of these required courses students are taught by full-time faculty members to use the equipment that they will be accessing in educational settings.
Dance	Dance (BFA) [Dance BFA, Dance w/K-12 Lic (BFA)]	• Students in this degree program are required to enroll in DCE/ENT 455-Entrepreneurial Career Strategies for Dance and Performing Artists or the Arts or Theatre Management courses. This course requires that students use technology to document case studies of arts enterprises. • Students in this degree program must enroll in DCE 117. Dance 117-Movement as a Medium introduces majors to an array of Dance related technology skills involved in both viewing and writing about dance, as well as using video and film technology to create dance choreography studies. • Students in this degree program seeking licensure must complete DCE 459-Dance Education Methods and Field Experience. This course prepares Licensure students to teach into today's classroom and thus employs equipment such as video and SMARTBoard Technology.	In all of these required courses students are taught by full-time faculty members to use the equipment that they will be accessing in educational settings.
Dance	Dance, A Licensure [Dance (A Licensure only)]	• Note: This degree option is not currently offered.	See Note.
Dance	Dance, MA [Dance Education (MA Only), Dance Education(MA/MA Lic), Dance Theories & Practc (MA Only)]	• MA students have 17-21 electives in the degree requirements. Many students enroll in DCE 555-Technology in the Creation and Preservation of Dance Works. This course employs video and sound technology to benefit the creation and preservation of dance choreography. • MA students also enroll in DCE581-Dance on Video. This course introduces dancers to recording and editing dance video and film footage.	Both courses are taught by faculty and instructors with expertise in video, sound and film. Students are trained in the required technology as part of their course work.
Dance	Dance, MFA [Dance-Choreography (MFA Only), Dance-Design (MFA Only)]	• MFA students must complete DCE555-Technology in the Creation and Preservation of Dance Works. This course employs video and sound technology to benefit the creation and preservation of dance choreography. • Many MFA students also enroll in DCE581-Dance on Video. This course introduces dancers to recording and editing dance video and film footage.	Both courses are taught by faculty and instructors with expertise in video, sound and film. Students are trained in the required technology as part of their course work.
Dance	Dance-Online, MA [Dance Education (MA Only)]	• As an online program students engage with technology in all of their course work, with the exception of two on-campus courses.	Faculty teaching in the online program help students having difficulty with any of the online formats of instructional delivery.

Music Studies	Music (Pre-Major) [Music (Pre-Major)]	• Pre Majors are encouraged to enroll in MUS 107, Technology for Musicians I. • Students in all levels of music programs have access to equipment such as MIDI keyboards which are used in conjunction with music-creation software.	MUS 107,Technology for Musicians I, is a course that trains students on the technology they will use during their intended degree program.
Music Studies	Music Studies [General Music, Music (Pre-Major)]	• Students in this degree program are required to take MUS 107, Technology for Musicians I, which is a course that trains them on the technology they will use during their degree program (audio and video editing, music notation, etc.). • MUS 135, 332, and 333 courses introduce students to musical bibliography techniques that encompass a range of print and electronic sources and databases. Methods and technologies for researching and writing about music, including research papers, music criticism, and other genres are included.	MUS 107, Technology for Musicians I, provides training on the technology students will use during the degree program. The Music computer lab serves as the central place for students to learn about technology needed in their classes. Faculty training and student workshops are offered in this lab on a regular basis. Student training on bibliographic and database work are coordinated with the music library staff.
Music Studies	Music, MM [Music Composition (MM Only), Music Theory (MM Only)]	• Perquisite to this degree is basic competence in music audio and music notation training necessary for all music undergraduate degrees. • All students take a number of MUS 611 Analysis courses. These 'selected topics' courses train students in the appropriate technologies for specific types of analysis (notation software, rhythm analysis software, etc.). • In MUS 644-Pedagogy of Music Theory students discuss the use of UNCG's teaching stations, how to perform computer demonstrations for a class, how to navigate Blackboard Learn and publishers' websites, how to keep course grades on-line, and UNCG's policy on student data and computers.	Faculty who teach MUS 611 and 644 provide the technological training; document supervisors work with the students to create the thesis and the thesis defense presentation, often using a combination of music notation and presentation software. They also assist the students with the computational and theoretical aspects of the document.
Music Studies	Music, Post-Baccalaureate Certificate [PB Cert: BioMusic, PB Cert: Ethnomusicology, PB Cert: Music Composition, PB Cert: Music Theory, PB Cert: Musicology (Historical)]	• MUS 602 introduces students to Musical bibliography techniques that encompass a range of print and electronic sources and databases. Methods for researching and writing about music, including research papers, music criticism, and other genres. • All students take a number of MUS 606 topics courses. These 'selected topics' courses train students in the appropriate technologies for specific types of analysis (notation software, rhythm analysis software, etc.). • In MUS 689-Practicum in Teaching Music Theory and Musicology, students discuss the use of UNCG's teaching stations, how to perform demonstrations for a class using appropriate teaching technologies, how to navigate Blackboard and publishers' websites, how to keep course grades on-line, and UNCG's policy on student data and computers.	The Music computer lab serves as the central place for students to learn about technology needed in their classes. Faculty training and student workshops are offered in this lab on a regular basis. Student training on bibliographic and database work are coordinated with the music library staff and faculty

Music Studies	Music, Post-Masters Certificate [PM Cert in Mus Theory Pedagogy]	• See Music, Post-Baccalaureate Certificate.	See Music, Post-Baccalaureate Certificate.
Music Education	Music Education [Choral/Gen Ed Music, Instrumental/Gen Ed Music]	• Students in this degree program are required to take MUS 107, Technology for Musicians I, which is a course that trains them on the technology they will use during their degree program (audio and video editing, music notation, etc.). • Students in this degree program are also required to complete MUS 108, which is a course dedicated to training on additional technology resources that are specifically geared toward Music Education. • Within the Music Education program, the undergraduate Marching Band Techniques (MUS 357) class makes use of the Music computing laboratory to access Pyware v7 software.	MUS 107, Technology for Musicians I, provides training on the technology students will use during the degree program. The MUS 108 course provides training on additional technology resources that are specifically geared toward Music Education. The Music computer lab serves as the central place for students to learn about technology needed in their classes. Faculty training and student workshops are offered in this lab on a regular basis.

Music Education	Music Education, MM [Music Educ (M Lic-MM)]	• All MM in Music Education students take MUE 692A/B-Portfolio Development in Music Education, in which they develop a Leadership Project and a Teaching & Learning Project containing a Unit Plan.
		   o For the Leadership Project, students are expected to develop a multimedia presentation (e.g., DVD and/or CD recording (s), and/or PowerPoint presentation (with audible narration or written notes, etc.).
		   o For the Teaching/Learning Project, students are asked to video-record themselves teaching two lessons of the Unit Plan. In MUE 692B, students utilize an online ePortfolio mechanism (Taskstream) to which student post their evidences and PDF reflections.
		• Throughout the MM in Music Education degree program, students are asked to interact with technology in a number of ways (produce PowerPoint presentations, digital audio and video files, Word documents, PDFs, etc.).
			The Music computer lab serves as the central place for students to learn about technology needed in their classes. Faculty training and student workshops are offered in this lab on a regular basis.

Music Education	Music Education, PhD [Music Education (PHD)]	• Throughout the degree program, students are asked to interact with technology in a number of ways (e.g., produce PowerPoint presentations, digital audio and video files, Word documents, PDFs, etc.). • Students in all levels of music programs have access to equipment such as MIDI keyboards which are used in conjunction with music-creation software.	The Music computer lab serves as the central place for students to learn about technology needed in their classes. Faculty training and student workshops are offered in this lab on a regular basis.

Music Education	Music, Post-Baccalaureate Certificate [PB Cert: Music Education]	• Students in all levels of music programs have access to equipment such as MIDI keyboards which are used in conjunction with music-creation software.	The Music computer lab serves as the central place for students to learn about technology needed in their classes. Faculty training and student workshops are offered in this lab on a regular basis.
Music Performance	Music Performance, BM [Music Performance/Jazz Studies, Band & Orchestral instruments, Keyboard, Voice]	• Students in this degree program are required to take MUS 107 (except for a one-year exception in 2012-13), Technology for Musicians I, which is a course that trains them on the technology they will use during their degree program (e.g. audio and video editing, music notation, etc.). • Jazz Ear Training (MUP 304) classes use the Music computer lab and Auralia software to assist with ear training. • Composition Students regularly use Finale, Sibelius, Logic, ProTools, etc. in the composing and recording of their music. • Many performance majors use Smart Music in daily practice. • Students in all levels of music programs have access to equipment such as MIDI keyboards which are used in conjunction with music-creation software.	MUS 107, Technology for Musicians I, provides training on the technology students will use during the degree program. The Music computer lab serves as the central place for students to learn about technology needed in their classes. Faculty training and student workshops are offered in this lab on a regular basis.
Music Performance	Music, DMA [Music Performance/Vocal (DMA), Music Perfrmnce/Condctng (DMA), Music Perfrmnce/Instrmntl (DMA)]	• All students are expected to know how to make a professional demo audio recording, and many are now expected to produce DVDs. • Students in all levels of music programs have access to equipment such as MIDI keyboards which are used in conjunction with music-creation software.	Students may receive instruction in technology electives offered by the School of Music, Theater and Dance's instructional technology consultant. They may also contact him for individual instruction. The School's audio engineer often assists students with audio recordings. Some individual faculty provide instruction.
Music Performance	Music, Post-Baccalaureate Certificate [PB Cert: Jazz Studies]	• Students use Finale in the preparation of jazz arrangements and compositions. • Students in all levels of music programs have access to equipment such as MIDI keyboards which are used in conjunction with music-creation software.	Students may receive instruction in technology electives offered by the School of Music, Theater and Dance's instructional technology consultant. They may also contact him for individual instruction. Some individual faculty provide instruction.

Music Performance	Performance, MM [Conducting (Choral), Conducting (Instrumental), Early Keyboard Instruments, Multiple Woodwinds, Music Performance/Vocal (MM), Organ, Piano, Piano Accompanying & Chamber Music, Piano Pedagogy (MM), String, Wind, Percussion, Vocal Pedagogy]	• All students are expected to know how to make a professional demo audio recording, and many are now expected to produce DVDs. • Students in all levels of music programs have access to equipment such as MIDI keyboards which are used in conjunction with music-creation software.	Students may receive instruction in technology electives offered by the School of Music, Theater and Dance's instructional technology consultant. They may also contact him for individual instruction. The School's audio engineer often assists students with audio recordings. Some individual faculty provide instruction.
Theatre	Drama, BA [Drama]	• Students majoring in Theatre and working toward a BA in Drama degree will make use of Blackboard Learn in most required classes for the retrieval of materials posted by the instructor and the submission of assignments. Instructors will provide training to students who have not been introduced to Blackboard previously. • Students majoring in Theatre and working toward a BA in Drama degree will make use of various lighting and sound technologies in classes in technical theatre and design. Training is supplied by the instructors as a central part of the class goals. • Students majoring in Theatre and working toward a BA in Drama degree will make central use of word processing and library technologies in courses emphasizing writing and theatre history, as well as in most other courses in which writing and/or research is involved.	For Blackboard Learn and lighting & sound technologies, students are provided training by the instructor of each class, as needed. For lighting & sound technologies, especially, students are provided group and one-on-one instruction in the use of equipment. For word processing and library technologies, training is provided by the class instructor and/or library personnel, as needed.
Theatre	Drama, BFA-124 SH [Acting, Design & Theatre Technology, Technical Production]	• Students majoring in Theatre and working toward a BFA in Drama degree in the specialties of Design & Theatre Technology and in Technical Production will experience, as a significant part of each course, training in the use of theatre technology, including lighting and sound equipment, power tools in the department's shops, and using such computer design programs as AutoCad and Vectorworks.	Training in the courses in Design & Theatre Technology and in Technical Production are provided not only by the class instructor, but also by professional staff working in the department's shops, design lab, and theatre spaces.

Theatre	Drama, BFA-128 SH [Theatre Education]	• Students majoring in Theatre and working toward a BFA in Theatre Education take many of the courses appropriate for the BFA in Acting, Design & Theatre Technology, and Technical Production. In those classes, they will be trained and do hands-on work with lighting and sound technology, power tools in the department's scene shops, and using such computer design programs as AutoCad and Vectorworks. • Students majoring in Theatre and working toward a BFA in Theatre Education will be introduced to and work with various K-12 classroom technologies involving computer use in the classroom, DVD and CD equipment, PowerPoint, etc.	Training in the courses designed specifically for BFA in Theatre Education students, the instructor provides training in the use and care of computer technologies in the classroom. Training in the courses in Design & Theatre Technology and in Technical Production is provided not only by the class instructor, but also by professional staff working in the department's shops, design lab, and theatre spaces.
Theatre	Drama, MFA [Acting (MFA only), Design (MFA only), Directing (MFA only), Theatre for Youth(MFA only)]	• Students working toward an MFA in Drama, particularly in the area of Design, will be trained in and make use of a range of theatre technologies, including lighting and sound equipment, power tools, AutoCad and Vectorworks, as well as other advanced specialized software for use in design and technical theatre. • Students working toward an MFA in Drama in the areas of Acting, Directing, and Theatre for Youth will make use of a range of computer technologies supporting their specific areas of interest, as well as technology used in classroom spaces, as these students will serve as TAs during their time at UNCG. Training for the use of classroom technologies will be provided by the instructor of record for each class.	Training in the technologies of design and technical theatre is provided by individual class instructors, as well as professional staff employed in each of the department's three shop spaces (Scene, Costume, and Paint/Props), as well as in sound and lighting. Training in the use of classroom technologies is provided by the teacher of record for those courses for which MFA candidates will serve as TAs.
Theatre	Drama, Theatre Education, M ED [Theatre Education(M Lic-M Ed)]	• This specialized degree concentration emphasizes advanced training in the practicalities of working in theatre production to K-12 classroom teachers working toward an M.Ed. in Theatre Education degree. The students, who will be taking these intensive courses during a summer session, will be trained in the use of a wide range of theatre technologies, as well as in the theories of acting, directing, and design.	Training in the use of theatre technologies is provided by the instructor of each required class, as appropriate. The size of each class is small, so students receive a considerable amount of hands-on work with the instructors of each course, as well as with trained professionals working in each of the department's shops (Scene, Costume, Paint/Props), as well as in lighting and sound.

School of Nursing

Department	Program & Concentrations	Use of Technology to Enhance Student Learning	Training Available to Students

Nursing	Nursing, BSN [Nursing, Nursing RN-BSN (2 Plus) ROTC, Nursing/RN 2 Plus, Nursing/RN to BSN]	• Simulators are used to enhance clinical decision making. • Turning Point classroom response systems are used to assess learning. The School of Nursing owns Turning Point 'clickers' that faculty may check out for classroom use. • Streaming video is utilized to enhance accessibility of healthcare information. The streaming videos are hosted on the ITS streaming media server. These videos were purchased by Nursing from different vendors and converted to an online format. The videos demonstrate proper procedures for a wide variety of topics. Typically they are assigned to students whenever it's relevant to the course content for that week. By offering the videos in an on-demand format, the students can view the content as many times as needed. • Blackboard Learn is used to enhance courses with electronic documents and discussion boards.	All students are oriented to Blackboard Learn, use of simulators, response systems, and streaming video applications by the Nursing Instructional Technology Consultant and/or the faculty using the technology in their classes.
Nursing	Health Management, Combined MSN & MBA [Health Management]	• Blackboard Learn is used as the electronic portal for all courses. • Blackboard Collaborate is used for occasional online synchronous classes. • Class Climate is used for course evaluations.	All masters students are oriented to Blackboard Learn and to the use of Blackboard Collaborate and Class Climate by the Nursing Instructional Technology Consultant and/or the faculty using the technology in their courses.
Nursing	Nursing, Certificate [PB Cert: Gerontological Nursing, PM Cert: Nurse Anesthesia, PM Cert: Ad/GerNurPr-PrimryCr, Post-Bacc Cert: Nur Case Mgt, Post-Bacc Cert: Nursing Admin., Post-Bacc Cert: Nursing Educ.]	• Blackboard Learn is used as the electronic portal for all courses. • Blackboard Collaborate is used for occasional online synchronous classes. • Class Climate is used for course evaluations. • Simulators are used to enhance skills and decision making for nurse practitioners and nurse anesthetists. • For the Nurse Anesthesia PM Cert program, also see Nursing, MSN program information for information regarding specialized software and equipment.	All master's students are oriented to the use of Blackboard Learn by the Instructional Technology Consultant in Nursing. The A/GNP and Anesthesia faculty instruct students on the use of the simulators. Faculty teach students about the use of Blackboard Collaborate. Instructions are provided by the Graduate Program Assistant for the use of Class Climate for course evaluations.
Nursing	Nursing, MSN [Adult & Gerontological Nur Prac, Adult Clinical Nurse Specialist, Nurse Anesthesia, Nursing, Nursing Administration (Moratorium through 2012-2013), Nursing Education (Moratorium through 2012-2013), Nursing Outreach/Only]	• Blackboard Learn is used as the electronic portal for all courses. • Blackboard Collaborate is used for occasional online synchronous classes. • Class Climate is used for course evaluations. • Specialized equipment used by MSN students in the Nurse Anesthesia Program (Raleigh School of Nurse Anesthesia) includes iStan 336 human patient simulators; airway, CVP & regional task trainers; glide scopes, fiber optic laryngoscopes, oxygen tanks, advanced airway equipment, and anesthesia delivery systems. Students also use assessment systems such as ExamSoft, Medatrax and Prodigy	The A/GNP and Anesthesia faculty instruct students on the use of the simulators. Faculty in the Outreach program instruct students on the use of Blackboard Collaborate. The Graduate Program Assistant instructs students on the use of Class Climate for evaluation of courses.

		Review.	
Nursing	Nursing, PhD [Nursing Science]	• Blackboard Learn is utilized for discussion groups and posting of documents for courses. • Various search engines are utilized through the Jackson Library site to access nursing and healthcare research. • Class Climate is utilized for online course evaluations.	The Nursing Instructional Technology Consultant instructs the students about the use of Blackboard at their orientation. The School of Nursing Library Liaison instructs the students about the Library search engines. The Graduate Program Assistant instructs the students about the use of Class Climate for the course evaluations.
Nursing	Nursing-Online, MSN [Nursing Administration, Nursing Education]	• Blackboard Learn is utilized as the portal for the online nursing education and administration courses. • Blackboard Collaborate is used to provide occasional synchronous sessions with students. • Class Climate is used for online course evaluations.	The Nursing Instructional Technology Consultant orients online students to the use of Blackboard Learn at their orientation. Faculty teach the students about the use of Blackboard Collaborate in their courses. The Graduate Program Assistant instructs students on the use of Class Climate for course evaluations.