

**The New College of Virginia: Rationale and Description**  
**Expanded Report**

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# **The New College of Virginia: Rationale and Description Expanded Report**

**Executive Summary  
December 15, 2004**

## **I. Introduction and Rationale**

Once dependent on the manufacturing jobs that sustained the American industrial economy, rural communities across the United States now grapple economically with two primary problems: 1) extreme levels of unemployment among those who relied on manufacturing for their livelihood, and 2) high levels of out-migration among young people and those with transferable skills. Subsequently, rural America has increasingly depended on both state and federal aid to ease the acute socioeconomic crises that arise from these conditions.

The New College of Virginia is being developed as the next step in evolution from a traditional university curriculum: A contemporary education that offers rural students the relevant knowledge-based skills, and individual personal and professional skills necessary to be employed in specific business and industrial sectors without sacrificing an understanding of the liberal arts and sciences.

The New College of Virginia will meet the challenge of helping redefine what is considered valuable knowledge in contemporary society and in increasingly complex and technological workplaces, and will also make a college education available to students who might not otherwise attend an institution of higher learning. The present effort will yield a unique educational institution that prepares students for a productive career and a meaningful life through enhancing the quality of instruction, educational breadth, and instruction in essential knowledge-based workplace skills. Additionally, the establishment of the New College will revitalize a once-thriving economic area and preserve the values revered in small-town and rural America.

The New College (NCV) will provide an accessible 28-month, accredited 120-credit baccalaureate degree program for the citizens of Martinsville, Henry County, the Commonwealth, and eventually, rural areas across America. Among its many distinguishing features, the New College will

- 1) Be very low-cost to students (approximately one-half the cost of other state-supported schools);
- 2) Be composed of a content-based, competency-assessed, integrated, and strategically web-enriched curriculum;
- 3) Provide an education that is distinctly tailored to match students' education with the needs of modern industry;
- 4) Employ "knowledge managers" (specially trained academic and career advisors) and faculty members who specifically design each student's comprehensive

academic program in accordance with his or her assessed skills, stated interests, and goals; and guide each student through to graduation;

5) Use technology efficiently to reduce costs and, through the worldwide web, access the best and most relevant content for each subject area; and

6) Allow students to begin coursework at the New College while in their senior year of high school as per Governor Warner's "Redesigning the American High School" initiative.

The New College residential campus will be located in Uptown Martinsville in an effort to 1) use existing infrastructure to create an academic village that will revitalize the small-town American main street, and 2) build a palpable academic presence that reinforces the importance of education among the resident population.

The New College is working to enroll its first class of 200 full-time students by July 15, 2006 with the longer-term goal of enrolling 1,000 full-time students by 2008 by accepting entering classes on January 15, 2007; July 15, 2007; January 15, 2008; and July 15, 2008.

## **II. Project Objectives**

1) To create a competitive undergraduate institution that will offer accredited 120-credit baccalaureate degrees in the information systems, health sciences and health policy, managerial economics, digital communication, and visual design;

2) To create an innovative model for an institution of higher education to serve students in Martinsville, Henry County, Southside Virginia, and other rural areas of Virginia and the U.S. that are underrepresented in higher education;

3) To provide a low-cost education to qualified students; and

4) To provide economic revitalization for Martinsville, Henry County, and Southside Virginia working in partnership with these communities.

## **III. Student Composition**

Initially, the New College of Virginia will attract 40% of its students from Martinsville, Henry County, and Southside Virginia; 35% of its students from other rural areas in Virginia; and 25% of its students from rural areas across the United States. Men and women will each compose 50% of the student population. The New College is committed to enrolling minority students, and although the majority of the students in Southside Virginia are Caucasian, African Americans make up approximately 43% of the Martinsville population and 23% of Henry County citizens. Many of the rural areas in Virginia include strong African American communities and growing Hispanic populations.

## **IV. Educational Objectives**

The New College will, for the first time, bring together the following four successfully tested educational methodologies in a "content-based" higher education curriculum:

- 1) Integrated education;
- 2) Web-enhanced and electronic educational delivery systems;
- 3) Competency-based assessment; and
- 4) Instruction in team-based and individual professional and personal skills (critical thinking, problem solving, teamwork, writing and communications, ethics, entrepreneurship, and leadership).

Our approach to content-based education provides instruction in subject matter that will allow students to become quickly effective in the workplace, while instruction in team-based and individual professional and personal skills will provide students with the self-learning skills and the discipline, motivation, and organization necessary to keep pace in rapidly advancing technological and business environments.

Specific Educational Objectives include the following:

- a) To meet the needs of an increasingly knowledge-based workplace that requires workers skilled in specific areas of science, business, and technology as well as in team-based and individual professional and personal skills;
- b) To combine the best characteristics of web-enhanced and electronic teaching methods with team-based classroom delivery methods and community internships;
- c) To use a competency-assessed curriculum to provide strategic knowledge and educational skills without instructional redundancy or instruction in unnecessary topics while still requiring ample exposure to topics in liberal education; and
- d) To provide instruction in Objectives a, b, and c above in an integrated curriculum to prepare students for negotiating the complexities of an increasingly technological and diverse workplace and society.

## **V. Courses of Study**

New College graduates receive the Bachelor of Science degree in one of the following five disciplines:

- 1) Information Systems
- 2) Health Sciences and Health Policy
- 3) Managerial Economics
- 4) Digital Communication
- 5) Visual Design

## **VI. Instructional Methodologies**

The New College will offer instruction in the skills most desired in industry and business using the following methodologies:

*Integrated Instruction* combines instruction in content- and contextually-related topics (and disciplines) to assist students in understanding and applying knowledge in interdisciplinary workplaces.

*Competency-based Assessment* is an outcome-directed and assessment-guided approach to developing content and curricula that provides students the knowledge needed to be successful in their professional and personal lives. Students are required to show (through significant testing and assessment) proficiency or competency in *knowledge or content* areas, rather than in completing a traditional curriculum that demonstrates mastery of course material.

*Web-enhanced and Electronic Methodologies* will compose an essential portion of instruction: The New College curricula will utilize appropriate Web, video, on-line, and other electronic instructional methods. In all cases, students will have significant contact with faculty members, Knowledge Managers, and peer collaborative learning group members.

*Team-based and Individual Professional and Personal Skills* include instruction in workplace-related critical thinking, problem solving, writing and communications, ethics, teamwork, leadership, entrepreneurship, and collaborative learning.

## **VII. The New College Curriculum**

In order to graduate from the New College, students will be required to complete the accredited 120-credit curriculum. The first 60 credits compose the Core Curriculum which includes instruction in the liberal arts, and team-based and individual professional and personal skills (as noted above). The remaining 60 credits will be devoted to detailed study in one of five Knowledge Sectors (“majors”). Credit will also be awarded for independent studies, internships, and team-based community service projects. Since the New College is competency-assessed, students will be able to “test out” of certain courses, but may also be required to take additional courses in instructional areas in which they test poorly. In this manner, students will not have to complete courses in areas in which they have proven competency.

The New College curriculum is organized into three tracks:

*Track One:* A residential campus in Martinsville offering B.S. degrees. Students will receive an accredited 120-credit baccalaureate degree following 28 months of study, working in classes (traditional and web-enhanced) and program-related projects with faculty, the community, and other students from 8 a.m.– 5 p.m., five days a week. Semesters begin on July 15<sup>th</sup> and January 15<sup>th</sup> each year; the New College will be in session ten months each calendar year. Two annual breaks are scheduled: A summer break from June 15<sup>th</sup>--July 15<sup>th</sup> and a winter break from December 15<sup>th</sup>--January 15<sup>th</sup>.

*Track Two:* Web-delivered classes to rural areas. Ultimately, Track Two will be designed to offer online degrees, support Track One studies, and offer degree bearing courses to those who wish to complete college degrees or enhance their career-related skills. While some of Track Two classes will be offered entirely online, others will require occasional class meetings in the evening or on weekends.

*Track Three:* Non-credit bearing classes in this track will offer career enhancement skills related to certification required by major corporations in the skills their products require (e.g., Microsoft or Oracle).

Track Two and Track Three will be fully developed following the development of Track One.

### **VIII. The New College Co-requisite Program**

The Co-requisite (Co-req) Program is the out-of-class component of a New College education. The Co-req Program is integrated into students' daily schedules and designed to provide students with substantial exposure to the benefits of experiential learning, the importance of community involvement, and the rewards associated with leading a healthy and enriched lifestyle, both while attending school and following graduation. Many activities in the Co-req Program are closely related to the instructional curriculum and are required for the graduation portfolio. In particular, the community service and entrepreneurship requirements will result in Martinsville and Henry County regularly having between 200 and 300 student volunteers participating in business, economic development, and service projects identified by city and county organizations.

### **IX. The New College Academies: Presence and Partnership in K-12 Schools**

The purpose of the NCV Academy and Junior Academy is to effect social and cultural change through educational opportunity by working with K-12 school systems and other community avenues in order to reach out to underserved students and their families. The Academy will facilitate collaboration among teachers, principals, families, community leaders, Patrick Henry Community College, and NCV to create small learning communities in public schools. The Academy will work towards the early identification of students with potential for success in a post-secondary educational setting and will foster student and family recognition of such through learning communities that will nurture positive cultural change. The Academy will engage families and students in the process of making college accessible, exciting, and affordable and will assist them in preparing for the academic and socio-cultural transition to college.

### **X. Cost-effective Education**

The New College of Virginia is remarkably cost-effective due to a lean administrative structure, limited course offerings, efficient faculty teaching loads, and low annual operating costs.

Tuition, room, and board for New College students will be low-cost through endowment scholarships from the Martinsville-based Harvest Foundation, corporate and government grants, and support from the Commonwealth of Virginia. Other New College cost-saving characteristics include the following:

- 1) *A 28-month degree.* Students will complete their B.S. degrees in a continuous period of 28 months.

Knowledge managers will work with high schools to provide the opportunity for high school seniors to enroll in New College classes before graduation and subsequent admission to the New College. This effort comes at a time when it is projected that Virginia is expected to add 60,000 prospective college students to its higher education rolls in the next six years.

- 2) *Reduced state support.* Because the New College curriculum is compressed to 28 months, less state support will be required than for traditional four-year colleges and universities.
- 3) *Course offerings will be limited.* College Core Curriculum courses are all mandatory and feature no electives. Knowledge Curriculum (upper-level “major” classes) courses in each sector offer a limited selection of electives. Such a limited offering of courses requires relatively few faculty to teach New College classes and greatly improves their teaching effectiveness and course preparation efficiency.
- 4) *Assessment and testing.* Although our assessment, tutoring, and technology expenses will be greater than in traditional programs, faculty will be teaching only what students need--with little or no instructional redundancy (assessment and teaching will be tightly coupled)--or instruction in areas not necessary for student-tailored instructional plans and goals.
- 5) *Faculty will supervise and teach a heavier load of classes than in traditional institutions.* With the assistance of an extensive support network, faculty members will each teach four courses per academic quarter (on-line and in class)--for a total of 12 classes per *calendar* year (Virginia university faculty members employed in four-year schools normally teach no more than eight classes per *academic* year).

## **XI. Transfers from Patrick Henry Community College and Other Schools**

As part of its mission to increase educational opportunities for the area, NCV will partner with Patrick Henry Community College (PHCC) in the following ways: PHCC students (and other community college students working in cooperation with NCV) will be able to transfer into NCV programs after they complete an appropriate academic Associate Degree; also, PHCC will offer in association with NCV: (1) some freshman- and sophomore-level general education courses in classroom and web-based formats; (2) industry certification training and testing services; (3) all needed developmental studies courses for NCV, and (4) all dual enrollment courses for local high school students.

## **XII. Timeline**

The timeline for hiring senior administration, faculty, knowledge managers, and staff; and enrolling students will occur as follows:

Spring 2005: Hire the senior administration and executive staff

Summer 2005: Hire the first ten (of 40) faculty; the first ten (of 30) knowledge managers, and one-third of the regular staff

January 2006: Hire the second ten (of 40) faculty; the second ten (of 30) knowledge managers, and the final two-thirds of the regular staff

July 2006: Hire the third ten (of 40) faculty  
Enroll the first 200 New College students

January 2007: Hire the final ten (of 40) faculty, the final ten (of 30) knowledge managers  
Enroll the second 200 New College students (enrollment now 400)

July 2007: Enroll the third 200 New College students (enrollment now 600)

January 2008: Enroll the fourth 200 New College students (enrollment now 800)

July 2008: Enroll the final 200 New College students (total 1000 enrollment)

January 2009: Graduate the first 200 New College students

## **XIII. Budget**

The developmental budget, budget at full enrollment, and capital expenditures estimate appear in Appendix C.

## **XIV. Conclusion**

Employing a unique approach to educational pedagogy, the New College will serve as a model for rural higher education, both in the Commonwealth and the U.S. By utilizing the successful content and educational methodologies that have characterized successful higher education programs for decades and, at the same time, taking advantage of tested and successful pedagogical innovations, the New College can provide an education that comprehensively prepares rural students for contemporary professional and personal challenges.

The goals and objectives of the New College are not in conflict with the efforts of nearby or regional institutions of higher learning, nor will it have a negative impact on the enrollment in or educational missions of these institutions. The New College of

Virginia will work in concert with these colleges to serve the diverse higher education needs of the region.

In creating a cadre of “knowledge workers,” the New College will be fulfilling a long unmet need in Martinsville, Henry County, and Southside Virginia to improve the long-term educational, economic, and social needs of its citizens, especially young people who traditionally have had little or no access to higher education and the economic benefits it brings.

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## **I. Introduction**

In the past two decades, institutions of higher education have been faced with the challenge of meeting the needs of a complex and rapidly changing workplace, where swift technological advances and the resultant need for more effective human communication and collaboration have challenged the nature of university curriculum design and methods of instruction. These events have also begun to change what is considered “valuable knowledge” in our universities and in society. Universities are increasingly called upon to respond to these changes and to educate students so that they can pursue successful careers and enjoy meaningful lives. Meeting these challenges has been a difficult task for universities steeped in instructional history. Across established campuses, anecdotal change has been successful but is increasingly outpaced by the needs of the workplace that require employees with well-developed personal, professional, and communication skills. The New College of Virginia is an evolutionary step to reforming traditional education so that the best characteristics of the traditional university are preserved while utilizing proven innovative educational content and methods for delivering a low-cost, applied, and workplace-modeled education.

Over the last decade, a number of new and innovative methodologies have been increasingly represented in university instructional programs: 1) integrated instruction and curriculum design; 2) web-enhanced and electronic instruction; 3) “content-based instruction,” 4) competency-based assessment; and 5) instruction in team-based and individual professional and personal skills. Although these methods have been proven effective, few universities have committed fully to them. Our approach to content-based education provides instruction in subject matter that will heighten our students’ effectiveness in the workplace, while our focus on team-based and individual professional and personal skills and collaborative learning will provide students the

self-learning skills and the discipline, motivation, and organization necessary to keep pace in rapidly advancing technological and business environments.

Unfortunately, the rising costs of a university education have prevented an increasing number of qualified students from receiving the benefits of post-secondary study. Many of these potential university students come from underrepresented groups, including those residing in rural areas. The *Chronicle of Higher Education* and the American Association of University Professors have both recently noted the significant rising costs of public education, the decreasing aid to under funded students, and the unfortunate results these factors have had on underrepresented students: Fewer low-income students can afford college.

The present effort will yield a unique educational institution that prepares students for productive careers and meaningful lives without sacrificing educational breadth or quality of instruction in essential knowledge-based workplace skills. Additionally, a new college in Southside Virginia will revitalize a once-thriving economic area while preserving the values revered in small-town and rural America. It is anticipated that students who typically would not seek a traditional baccalaureate degree will find the pedagogy, location, and convenience provided by the New College strong motivation to pursue higher education.

A) Institutional Objectives

1) To provide an accredited baccalaureate education to 1000 (and eventually, perhaps 3,000-5,000) underrepresented students through scholarships that require students to commit to an 8am-5pm schedule for 28 months and to matriculate 400 students per year;

2) To assess our students throughout their work at the New College and one, three, and five years into their professional careers;

3) To provide accountability through analyses of retention rate, graduation rate, job placement, job satisfaction, and career mobility;

4) To value wide-ranging diversity in the selection of students and the development of New College curricula and programs;

5) To efficiently use resources including space, student access to faculty, management standards, and regional economic growth efforts;

6) To provide underrepresented groups with a greater appreciation for learning and higher education;

7) To stimulate economic growth and revitalization in Martinsville and Henry County through the use of existing infrastructure; and

8) To stimulate economic growth in Southside Virginia.

#### B) Project Objectives

The initiative to create the New College of Virginia was formed in Spring 2004 to achieve the following objectives:

1) To create a competitive undergraduate institution that will offer bachelor's degrees in information systems, health sciences and health policy, managerial economics, digital communications, and visual design;

2) To serve underrepresented students in Southside Virginia, the Commonwealth, and the nation;

3) To provide a low-cost education to qualified students; and

4) To create a model for an institution of higher education to serve underrepresented students in other rural areas.

### C) Educational Objectives

This effort will bring together the following four successfully tested progressive educational methods in a content-based higher-education curriculum: 1) Integrated education; 2) Web-enhanced and electronic educational delivery systems; 3) Competency-based assessment; and 4) Instruction in team-based and individual professional and personal skills (critical thinking, problem solving, teamwork, writing and communications, ethics, entrepreneurship, and leadership).

Specific Educational Objectives include the following:

a) To meet the needs of an increasingly knowledge-based workplace that requires workers skilled in specific areas of science, business, and technology as well as in team-based and individual professional and personal skills;

b) To combine the best characteristics of web-enhanced and electronic teaching methods with team-based classroom delivery methods and community internships;

c) To use a competency-based curriculum and assessment strategy to provide strategic knowledge and educational skills without instructional redundancy or instruction in unnecessary topics while still requiring significant exposure to topics in liberal education;

d) To provide instruction in experiential education through college and community service projects, and entrepreneurial and leadership internships; and

e) To provide instruction in Educational Objectives a, b, c, and d in an integrated curriculum to prepare students for negotiating the complexities of an increasingly technological and diverse workplace and society.

Graduates of the New College will be able to play a central role in solving workplace-related problems in real-world contexts (with an appreciation for economic, social, and political constraints). They will also demonstrate the ability to communicate and work productively with individuals from various disciplines and backgrounds. The

use of the computer as a learning tool is a central feature of the curriculum, along with an emphasis on collaborative learning and problem solving. Instruction and learning are designed to give students hands-on experience in the discipline they study. In addition, students are given the educational foundation and skills necessary to continue learning over their lifetimes. Graduates receive the Bachelor of Science degree in one of the following disciplines:

- 1) Information Systems
- 2) Health Sciences and Health Policy
- 3) Managerial Economics
- 4) Digital Communication
- 5) Visual Design

## **II. A Rationale for Educational Reform**

Traditional forms of instruction in higher education have been partly effective in preparing students for our highly technical and diverse workplace. Complex economic, political, and social changes, and the unanticipated rapid growth of technology have made traditional teaching methods increasingly less effective for preparing students to thrive in these new environments. In addition, three other factors have slowed the progress at which higher education is keeping pace with a rapidly evolving workplace: 1) Higher education has become expensive and out-of-reach for many qualified students, especially those in underrepresented groups; indeed, rural students complete baccalaureate degrees at levels significantly lower than their non-rural counterparts, and these effects are compounded for rural persons who are an ethnic minority or whose family members have not attended college; 2) Contemporary, professionally oriented educational methods such as competency-assessed education and integrated curricula remain largely unexplored in higher education; and 3) Instruction in individual and team-based professional and interpersonal skills, and social development skills much desired by industry and business have not been comprehensively included in university curricula.

Although progressive educators and industry professionals have long known what comprises “valuable knowledge” in higher education, the pace at which universities have adapted their curricula and instructional pedagogy has fallen short of the often rapid and unpredictable changes in society and the workplace. The New College of Virginia is being established not to challenge traditional universities but to provide a next step in the evolution from a traditional university curriculum to one more attuned to contemporary professionalism, offering students relevant knowledge-based skills, individual personal and professional skills, and a broad understanding of the liberal arts and sciences.

In the recent past, efforts to address the above problems on the course- or department-level have met with only limited success. Developing an institution such as the New College has not been attempted, largely due to resistance to such large-scale

innovation and a lack of financial resources. Typically, innovative efforts in universities have failed due to three factors.

A) Traditional faculty, administrators, and boards of trustees have been reluctant to listen to the voices in business and industry, even though many progressive educators in their midst have stated clearly for over a decade the technical and professional skills necessary for a successful career and life. Additionally, shrinking educational budgets have hampered innovative university efforts.

B) Faculty and administrators have lacked the time or interest to learn more about innovative changes in higher education and the workplace. In some cases, faculty and administrators could not overcome the sheer weight of their own institutional history, their individual research and teaching interests, or their lack of interest or expertise in innovative approaches to education and teaching.

C) Industry and government have provided only very limited support for curricula and pedagogy that fall outside traditional educational boundaries. While some support has been forthcoming from both arenas, it lacks the financial commitment necessary for making significant institutional changes. The absence of enthusiasm for informed risk-taking in higher education has crippled efforts to commit to necessary educational reform and is undermining the evolution and significance of the university for many demographics.

### **III. Educational Philosophy: Developmental and Intrinsic Learning**

Underlying instruction in the New College are two philosophical approaches to learning: development learning and intrinsic learning. Both put the student at the center of the learning process and encourage them to understand and develop learning strategies and habits that will allow them to continue their education throughout their lives.

#### A) Developmental Learning

Our philosophical approach to learning is a developmental one, based in part on William Perry's classic 1968 Harvard University study, *Forms of Intellectual and Ethical Development in the College Years: A Scheme*, which states that the intellectual growth of college students is based on nine stages of cognitive development. Imbedded in these stages are four stages of intellectual identity development (intellectual maturity).

The growth of students' cognitive abilities and intellectual skills occurs concurrently with the growth in their personal development, identity formation, and interpersonal communication skills. We believe that *first* addressing students' growth in the conceptual understanding of the world and of themselves gives them an advantage in learning and understanding technical material, and lets them connect thoughts and ideas usefully at the time they are first learning this material.

In the New College Core Curriculum, students learn to conceptualize—to develop their inductive reasoning skills, allowing them to construct and link broad concepts from a body of specific facts or instances. This approach helps students solve problems and construct thoughts based on how they organize, sense, and value specific internal and external information.

Each student's work in the Knowledge Curriculum is a technical and detailed study of a discipline based on current real-world content and application. The focus of instruction in this second phase of the curriculum is based on functionality—how knowledge can be practically applied in the workplace. This functional knowledge, gained through academic study, community involvement, and workplace experience is

operationalized by students' ability to conceptualize, think critically, solve problems, communicate effectively, and learn collaboratively.

## B) Intrinsic Learning

What is the first “point of contact” for learning...the “first knowledge” most fundamental to an individual’s understanding of a subject? Much of what we know best and are able to apply effectively is that which we know through direct experience using our senses, intellect, emotions, and the events that shape our lives. That which we learn through a natural, persistent interaction with our environment is considered “intrinsic knowledge,” borrowing philosopher John Dewey’s definition of intrinsic as “belonging to a thing by its very nature.” What we learn through reading, listening, and communicating with others can be considered “extrinsic” (or external) knowledge. Extrinsic knowledge is internalized based on our existing (intrinsic) understanding of, or experience with, the particular subject matter or stimuli. In this way, intrinsic knowledge naturally forms the basis for all extrinsic learning.

What is sometimes unfortunate about how we learn is this: When we learn something extrinsically *first* (like through reading books, listening to a lecture, or in discussion), it is often less useful knowledge because we have limited intrinsic understanding of it or first hand experience with it. Regrettably, this limited understanding often forms a weak foundation for more sophisticated learning.

Intrinsic knowledge grows from understanding the world from the inside out, not from the outside in. Consider how we first experience learning about the world and ourselves as children--touching, tasting, smelling, experimenting with how things work. As children, we understand our environments intrinsically first through our senses, budding awareness, and growing intellect...and we then use this information to inform the learning of other, more sophisticated forms of knowledge...and apply this understanding to the external world (all that is “not us”). Consider how quickly children learn the absolutely vast amount of knowledge there is to know to begin to function independently.

Ultimately, intrinsic and extrinsic learning work interdependently as we access the appropriate methods to best learn the material we study. Unfortunately, traditional instructional methodologies focus predominantly on extrinsic learning while hoping that students can apply extrinsic knowledge to what they already know about the topic (which, in reality, may be very little or nothing at all). A more appropriate approach would be an early emphasis on intrinsic learning methods that can later be applied (developmentally) to external subject matter.

Unfortunately, we often marginalize intrinsic forms of developmental learning in lieu of needing (or wanting) to learn a tremendous amount of information quickly, which is why educators often wonder why students don't always effectively apply what they have learned in class. The reason, quite often, is that *they did not learn it well*; they were told about it and know how to describe it, but they may have trouble applying what they do not know intrinsically. How well we know something (intellectually or otherwise) is based largely upon how intimate our contact is with it.

One may ask: How can we teach all there is to teach (and students learn all there is to learn) if we are teaching intrinsically? Intrinsic learning offers a more useful and universal understanding of that which is external to us, and this understanding grows exponentially as we practice, in our daily lives and activities, what we have learned in this manner.

For example, if we seek to know about the society and communities in which we live, then we might best begin learning by examining the characteristics of the communities we know best intrinsically—those in which we actively participate—our families, and social and work communities, for these are microcosms of larger communities and the society in which we live. The basic knowledge of how our society works is embodied in these smaller units in which we actively participate. If we study and learn how one's family, social, and work groups operate, then we begin to understand how larger social entities function. We have a stronger foundation for learning because we have an intrinsic understanding of the subject.

Similarly, if we understand well the biology of our own body, how the systems are dependent upon and work with each other, we gain intrinsic knowledge that we can readily apply to other biological systems (like the environment and those related to other living things), and even to how economies are functionally interdependent systems of discrete units and factors. Again, in this case, intrinsic learning is used as a foundation for extrinsic learning.

New College classes are, in part, focused on intrinsic learning; that is, they address the acquisition of knowledge through a variety of more intimate experiences that afford students knowledge of subject matter through direct experience and practice...actively, intellectually, emotionally, and aesthetically. If the purpose of education is to “uncover truths” about the world in which we live, then we need to uncover the “truths” of and in our own lives first. Everything we know should start in our own hearts, minds, and experiences.

## IV. Educational and Instructional Methodologies

The New College of Virginia is unique because it brings together, for the first time, four successfully tested progressive educational methodologies in a content-based curriculum: A) Integrated education, B) Competency-based assessment, C) Web-enhanced and electronic educational delivery systems, and D) Individual and team-based professional and personal skills (critical thinking, problem solving, writing and communications, ethics, leadership, team work, entrepreneurship, and collaborative learning). Each approach is defined briefly below and followed by an explanation of its relevance to the New College curriculum.

### A) Integrated Education

In recent years, institutions of higher learning have been experimenting with combining instruction in content- and contextually-related topics (and disciplines) to assist students in understanding how to apply knowledge in complex and interdisciplinary workplaces.

Some of the first efforts involved integrating writing instruction into classes outside of English departments to enhance students' ability to communicate within and across disciplines in business and industry. Later and more serious efforts involved integrating instruction in workplace-related topics such as economics, political science, ethics, or entrepreneurship into engineering, business, science, and technology courses. Teaching these disciplines in their "real world" contexts offers practical applied skills to students *before* graduation. Currently, many universities offer instruction in integrated courses, and a few institutions offer course sequences or degrees in integrated studies. (See Appendix B)

#### *The New College Approach to Integrated Education*

The instructional programs offered by the New College provide a curriculum that integrates instructional methods and content in unique ways.

1) Instruction is integrated through the use of best practices in a) competency-based assessment, b) web-enhanced and electronic delivery, and c) strategic team-based classroom instruction.

2) Instructional content in New College degree programs is integrated with instruction in individual and team-based professional and personal skills.

Integration of the curriculum at all levels is a basic characteristic of the New College. The 120-credit degree program is composed of two divisions: the 60-credit College Core Curriculum and 60-credit Knowledge Curriculum. In order to reinforce the connections between the Core and Knowledge curricula, the two curricula will inform one another and be taught in concert throughout the 28-month degree program. This approach allows for introductory-level and advanced-level concepts in both curricula to be presented to students at the appropriate point in their intellectual development, reinforcing the idea that students' cognitive abilities and intellectual skills will be addressed concurrently with the growth in their personal development, identity formation, and interpersonal communication skills.

3) Community integration occurs as students work on college, city, and county service projects as a part of their academic and co-requisite requirements (see below). Students will interact with local, regional, and statewide business and political leaders to identify projects for improving the community and county.

4) The Co-requisite Program (Co-req) at the New College redefines what more traditional colleges refer to as "student life" activities by integrating service projects and cultural activities into the academic curriculum. Some non-credit bearing Co-req sector requirements will also satisfy academic curriculum requirements (e.g, community outreach and service, entrepreneurship, student governance and leadership, and internships). Evidence of the successful completion of required Co-req sectors is included in students' New College Graduation Portfolios.

## B) Competency-based Assessment

Competency-based (CB) assessment is closely aligned to the goals of higher education *and* the needs of society; it is an outcome-directed and assessment-guided approach to developing content and curricula that provides students the knowledge needed to be successful professionally and personally. Students are required to show (through significant testing and assessment) proficiency or competency in *knowledge or content* areas, rather than in completing a traditional curriculum that demonstrates a mastery of course material. Competency in a content-based curriculum can be demonstrated through such factors as prior learning, life experience, natural intelligence, work experience, and self-paced web-enhanced learning.

Two educational philosophies have characterized CB education and assessment:

- 1) The *behavioristic* or *functional* approach that builds curricula in terms of specifically stated and highly defined knowledge; and
- 2) The *humanistic* (or holistic) approach that develops curricula focused on individual, personal, and professional skills; culture; and society.

A competency-based curriculum includes three components: a) a specific statement of needed and desired competencies, b) a methodology for assessing the achievement of these competencies, and c) the design of a curriculum and related learning experiences that facilitate the achievement of the desired competencies. (See Appendix B)

### *The New College Approach to Competency-based Assessment*

Since education in “functional knowledge” (applied technical knowledge) ignores skills and knowledge outside of a specific occupation or job, and “humanistic-defined knowledge” (personal and societal knowledge) ignores technical knowledge needed for career proficiency, the New College approach utilizes both philosophies. At the same time, the New College will offer state-of-the-art technical instruction and an unusually

broad-based education in personal and societal workplace skills including instruction in team-based and individual professional and personal skills (see Section D below).

A competency-assessed curriculum requires significant pre- and post-testing. Such testing will be central to our efforts and will reflect the unique character of New College instructional methodologies and content. Before graduating, each New College student will demonstrate academic competencies by submitting an extensive graduation portfolio detailing specific assignments they have completed in classes, in community projects, in the Co-requisite Program, and during internships.

### C) Web-enhanced Education and Classroom Instruction

A recent study for the Oracle Corporation by the Gartner Group, a leading firm for research and analysis of the IT industry, revealed that in 2003 nearly 40% of instructional staff in higher education used e-learning technology to supplement their teaching as compared to 12% in 1999 and 30% in 2002. Additionally, the Gartner Group projects that, in the near future, there will be a merger of virtual and physical campuses and that hybrid courses in a combination of face-to-face and online will be the most common form of student learning.

Competency-based education (CB) has its roots as much in the classroom as it does in the use of web-enhanced and electronic methods of delivery. In the past decade or so, web-enhanced education, video classrooms, and electronic delivery systems have characterized CB to a great degree. This approach has met with some successes and some significant failures (at least as far as students are concerned). Little contact with faculty, poorly designed delivery systems, faculty under-educated in web-based and electronic education, instruction mis-matched to content (such as an on-line public speaking class), and a general lack of confidence in web-enhanced education have characterized efforts. Most importantly, many who promote this methodology have erroneously touted web-enhanced instruction and electronic delivery systems as an educational panacea.

Traditional classroom instruction has been the mainstay of higher education for centuries. Innovative educators have recognized, however, that much instructional material can be delivered effectively and economically in a web-enhanced format. (See Appendix B)

*The New College Approach to Web-enhanced Education and Classroom Instruction*

While web-enhanced and electronic methodologies will compose an essential component of instruction, educators understand that some instructional content cannot be delivered solely through electronic means. In addition, liberal experience outside the classroom is now essential to a successful post-secondary education. The New College curricula will employ the appropriate instructional methods (web-enhanced, classroom, community fieldwork, projects, portfolios, and internships) to deliver effective instruction. In all cases, students will have significant contact with faculty members, specially trained advisors (“Knowledge Managers”), and collaborative learning team members.

D) Team-based and Individual Professional and Personal Skills (critical thinking, problem solving, writing and communications, ethics, teamwork, leadership, and entrepreneurship)

Industry and business have made it clear that these professional and personal skills are much desired of entry-level candidates as well as of existing employees. Many businesses hire employees based more on these skills than on technical expertise, and although the knowledge and ability to apply these skills are central to one’s success in career and life, instruction in these areas is not well represented in the vast majority of colleges and universities. Where instruction is included, it is often incidental. In the past decade, a few progressive educational programs have tried to integrate one or two of these topics into a course or program. To date, however, no institutions of higher learning have integrated instruction in all these topics into a traditional or integrated curriculum. (See Appendix B)

*The New College Approach to Teaching Team-based and Individual Professional and Personal Skills (including Collaborative Learning Skills)*

The New College of Virginia will offer instruction in these topics using two methods: a) specific classes in these topics, and b) instruction integrated into classes in all New College Knowledge Sectors. Some of the topics, such as interpersonal communications and critical thinking, are best taught in a classroom setting. Other topics, such as leadership and entrepreneurship, will be offered electronically or through a combination of electronic and classroom delivery.

It is common knowledge today that most business and technical professionals need a wide variety of professional and personal skills to be effective employees. The U.S. Department of Labor, the U.S. Department of Education, the National Science Foundation, and virtually all universities and professional organizations have validated the essential role of communication and problem solving skills in educational programs. Many U.S. and Canadian business, technical, and engineering programs now include at least one (or more) required classes in writing, communications, problem solving, or team work.

In order to increase and improve students' learning and study skills, immediately upon entering the New College, all students will learn methods for collaborative learning in a class "*Collaborative Learning in the New College.*" Collaborative learning is focused on teaching students to study and learn while working in groups to achieve a common academic goal, yet few institutions of higher learning offer dedicated instruction in collaborative learning methods. In an exhaustive 1995 study comparing collaborative learning methods with traditional individual learning methods, Anurhada Gokhale found that "if the purpose of instruction is to enhance critical- thinking and problem- solving skills, then collaborative learning is more beneficial." (*Journal of Technology Education* Volume 7, Number 1, Fall 1995). These findings are widely upheld in recent university studies as well as by renowned educators Lev Vygotsky and Jerome Bruner, among others. New College students will, as a part of their daily schedule, be required to meet

and study with their collaborative learning groups. In addition, faculty will assign and support team projects in many classes in an effort to prepare students for workplace teams in which they will be required to work.

In addition to instruction in collaborative learning skills, all students will be required to complete the Core Curriculum which will teach them valuable workplace-related skills they would likely not learn in more traditional institutions.

#### E) Life-long Learning

Teaching students how to become “life-long learners” has recently become a goal for most institutions of higher learning. Through the New College Core Curriculum, students learn the personal and professional organization, motivation, and discipline skills necessary to continue to educate themselves in order to increase job mobility within their academic discipline and related disciplines.

All graduates will have a permanent connection to the New College through the opportunity to enroll in Track Two and Track Three classes free of charge, and a life-long alumni e-mail address.

#### F) Pre- and Post-assessment and Tutorial Programs

Students will be tested for competencies in all New College instructional areas prior to admission and during their studies. Significant summer instructional programs prior to New College admission and a well-staffed tutoring center will bring students up to admission standards when necessary as well as assist current students during their studies at the New College. Tutoring programs will take the form of cutting-edge on-line tutorials, small group classes, and one-on-one tutoring. Summer programs will combine web-enhanced learning and limited classroom-based instruction.

Competency assessment tests will be developed following the completion of detailed course content and syllabi, and linked directly to the course competencies detailed in the *Specialized Knowledge Sector Curriculum* section of this document.

### G) Individualized Education Plans

Knowledge Managers will assess student competencies prior to admission in order to individually tailor an *individual education plan* that will map out each student's path through the New College. As students test for competencies during their educational career, KMs will continue to monitor each student's progress towards graduation. Students will not graduate if they cannot reach the required competencies; in this manner, we can accurately predict our graduates' competencies and abilities. Additionally, Knowledge Managers will be well-connected with industry opportunities and will be able to assist graduates in matching personality, skills, and abilities to specific companies and opportunities.

## V. New College Curriculum

### A) The New College Curriculum Tracks

#### 1) *Track One*

A residential campus in Martinsville will offer B.S. degrees. Students will receive an accredited 120-credit baccalaureate degree following 28 months of study, working in classes (traditional and web-enhanced) and program-related projects with faculty, the community, and other students from 8 a.m.– 5 p.m., five days a week (this includes 16 hours per week of in-class or online instruction). Semesters begin on July 15<sup>th</sup> and January 15<sup>th</sup> each year; the New College will be in session ten months each calendar year. Two annual breaks are scheduled: A summer break from June 15<sup>th</sup>--July 15<sup>th</sup> and a winter break from December 15<sup>th</sup>--January 15<sup>th</sup>.

#### 2) *Track Two*

Track Two will offer online credit-bearing courses to those who wish to complete college degrees or enhance their career-related skills. While some Track Two classes will be offered entirely online, others will require occasional class meetings in the evening or on weekends. In addition, some courses from the Track One curriculum will be available to Track Two students. The New College will also offer Track Two classes through on-line programs at other universities.

#### 3) *Track Three*

Non-credit bearing classes in this track will offer career enhancement skills related to certification required by major corporations in the skills their products require (e.g. Microsoft and Oracle).

### B) Overview of the New College Track One Curriculum

To graduate from the New College, students must complete the accredited 120-credit curriculum. The first 60 credits compose a core curriculum which includes instruction in the liberal arts and sciences, and team-based and individual professional

and personal skills. The remaining 60 credits are devoted to study in one of five Knowledge Curriculum sectors. Credit will also be awarded for independent studies, internships, and team-based community service projects. Since the New College is competency-assessed, students can test out of certain courses but may also be required to take additional courses in instructional areas in which they test poorly. In this manner, students will not have to complete courses in areas in which they have proven competency.

The New College curriculum is composed of two major divisions: 1) The College Core Curriculum (the first five quarters of study), and 2) The Knowledge Curriculum (the second five quarters of study) within which are the Fundamentals Curriculum and the Specialized Sector Curriculum.

Curriculum Terms defined:

1) *College Core Curriculum*: Classes in the first five quarters (60 credits) of the curriculum (liberal arts and sciences, thinking and problem solving, teamwork, ethics, writing and communications, leadership, and entrepreneurship)

2) *Knowledge Curriculum*: Classes in the second five quarters (60 credits) of the curriculum that comprise a student's knowledge sector or "major." The Knowledge Curriculum is composed of two sub-sets:

*Fundamentals Curriculum*: Classes within the five quarter Knowledge Curriculum in which students take eight classes (24 credits) as determined by their course of study.

*Specialized Sector Curriculum*: Classes (36 credits) that comprise a student's major course of study in one of the five specialized sectors.

### C) College Core Curriculum Competencies

The New College of Virginia core curriculum requirements are designed as an integrated program of studies which enables students complete competencies in three areas: knowledge, skills, and experiences.

#### Knowledge

New College of Virginia students will learn to engage actively in their own education as a way of understanding the world, first through knowing themselves and understanding their own thinking processes, oral and written communications, and interactions with other individuals and institutions. Second, they will gain a global perspective through a conceptual and applied understanding of the arts, sciences, and technology. Core Curriculum knowledge competencies include the following:

- Examine one's self developmentally in a diverse society;
- Attain a broad conceptual and applied understanding of the arts and sciences;
- Understand and practice a variety of thinking and problem solving strategies;
- Understand one's values and what constitutes ethical individual, community, corporate, and societal behavior;
- Value the differences in cultures;
- Define what constitutes the effective and appropriate use of technology regarding ethical human and organizational application; and
- Understand the concept of human rights.

#### Skills

Students will apply knowledge in ways that will improve their own lives and the lives of those in the diverse communities in which they participate including understanding the benefits of developing values and exhibiting ethical behavior in all their endeavors. Students will develop lifestyles that offer them an understanding and control over their actions and how these actions affect others. Core Curriculum skill competencies include the following:

- Communicate with and among a variety of individuals and disciplines both orally and in writing;
- Practice value rich behavior in one’s family, community, and nation;
- Demonstrate discipline, motivation, and organization in academic and personal endeavors;
- Work collaboratively in diverse work and social environments;
- Use the computer in a variety of applications;
- Practice a healthy physical and mental lifestyle; and
- Develop and practice learning and responding to new ideas throughout life.

### Experiences

The New College recognizes the great value of experience in the instructional process. Students will engage in specific academic and community activities that serve as a microcosm for effective participative citizenship in a democratic society. Core Curriculum experience competencies include the following:

- Volunteer in the college and local community;
- Participate in and offer enrichment to an intellectual community;
- Work collectively with others in social and economic development projects;
- Recognize and enjoy the benefits of living in a diverse community;
- Achieve independence and democratic citizenship; and
- Appreciate culture and art in their many forms.

### D) College Core Curriculum Class Descriptions (60 credits)

#### 1) Writing and Communication Skills

##### a) *Writing Process and Style*

Introduction to writing process, analysis, and style; analytical, critical, and interpretive writing and reading; basic research skills; intensive practice in writing and revision. (3H,3C)

b) *Writing and Communications for the Workplace*

Introduction to theory and practice in professional writing in workplace settings. Instruction in developing business writing style and writing workplace documents such as memos, short proposals, reports, business letters, and abstracts. (3H,3C)

c) *Interpersonal Communications, Ethics, and Dispositional Skills*

Basics of interpersonal communications including listening and speaking skills, and analyzing contexts and audiences. Principles of ethical communication among individuals, appropriate disclosure, and effective response. The role of self-concept, self-knowledge, and identity formation in interpersonal exchanges. (3H,3C)

d) *Public Speaking*

Instruction in topic selection, degree of detail, referencing, and organizational context in public delivery. Presentation organization, effective practice, presentation style, responding to questions. Emphasis on in-class delivery of speeches. (3H,3C)

2) Critical Thinking and Problem Solving

a) *Linear and Non-linear Problem Solving*

Individual and team structured and unstructured problem solving techniques for workplace applications. Analysis of contexts in problem solving. Evaluation of outcomes. (3H,3C)

b) *Thinking Processes and Styles*

Identification, development, analysis, and practice of individual problem solving processes and individual problem solving styles. Practice in developing thinking and problem solving methods, contexts, and team processes. (3H,3C)

c) *Technology and Problem Solving*

Problem solving in scientific and technological contexts in science and technology-related jobs; understanding and applying technological concepts, practices, and tools for solving problems and generating ideas. (3H,3C)

### 3) Teamwork and Collaboration

#### a) *Collaborative Learning in the New College*

Instruction and practice in New College collaborative learning style. Principles of effective collaboration; the role of the individual working in collaborative learning groups; New College ethical standards and communication in team-based projects. (2H,2C)

#### b) *Workplace Collaboration and Teamwork*

Principles and practice in collaboration in workplace settings. Roles and responsibilities of the individual on a team; workplace standards and expectations; team communications and organization; trouble shooting team problems. (3H,3C)

### 4) Liberal Arts and Sciences

#### a) *Mathematics*

College algebra, functions, exponentials and logarithms, matrices, sequences and series. Calculus including limits, derivatives, applications of derivatives, and trigonometric functions. (3H,3C)

#### b) *Introduction to Physics (with lab)*

Conceptual exploration of the structure and content of physics; the fundamental laws of mechanics, heat, electricity, light, sound, and the atom as applied to the devices used and natural occurrences observed in daily experience. (3H,3C)

#### c) *Biological Systems (with lab)*

The study of relationships and interactions among various parts of a biological system that create an understandable model of the system. Application to human and other biological systems. (3H,3C)

#### d) *Fundamentals of Chemistry (with lab)*

Introduction to the fundamental principles, laws, and applications of chemistry. Chemical principles applied to material, environmental, and life sciences, and how chemistry affects our daily lives. (3H,3C)

#### e) *Moral Philosophy and Critical Analysis*

A critical survey of theories concerning human nature, the meaningful life, and the moral evaluation of actions, persons, and institutions. Basic concepts in logic and critical thinking. Introduction to critical analysis for analyzing and evaluating

information in everyday experience. The functions of language will be discussed. (3H,3C)

f) *Psychology of the Individual*

The study of human behavior, behavioral research methods and analysis, and theoretical interpretations. Survey of basic behavioral processes including the senses, perception, intelligence, personality types, life span development, motivation, emotion, and complex decision-making in humans. (3H,3C)

g) *Concepts in History and Culture*

Selected topics in recent social and cultural history as a means to introduce, develop, and enhance critical thinking skills and to supplement writing, oral communication, and computing skills. (3H,3C)

h) *Literature, Interpretation, and Critical Reading*

Introduction to analytical, critical, and interpretive writing, and techniques and theoretical implications of close readings. Emphasis on textual analysis, rhetorical styles, subtexts, and the construction and defense of written arguments. (3H,3C)

i) *Sociology and Society*

Social bases of human behavior and the study of problems of social value including issues in social institutions, complex organizations, human behavior in families and the workplace, social interaction, bureaucracy, diversity, technology and social change, and values (especially the balance between individual freedom and social control). (3H,3C)

5) Technology Classes

a) *Survey of New College Knowledge Sectors*

A seminar survey of New College technical sectors including study options, capstone project selection, entrepreneurship opportunities, and employment possibilities. (1H,1C)

b) *Specific Knowledge Sector Introduction*

Sector-specific general topics introduction to New College knowledge sectors. (2H,2C)

c) *Computer Literacy: Web-enhanced Learning*

Introduction to computer skills and applications. Instruction in basic computer hardware and system software including word processing, spreadsheets, databases, graphics, integration,

electronic mail, and network browsers. (3H,3C)

d) *Issues in Technology*

An overview of controversial issues related to technology and economic growth, quality of life, human communication, and science. (1H,1C)

6) Experiential Learning Electives (not required for the Core Curriculum)

Experiential Learning classes are elective credit-bearing classes but are not to be confused with Co-Requisite Program service requirements. Faculty and Knowledge Managers will help students adjust their schedules to include Experiential Learning classes.

a) *Independent Study / Independent Research*

Students, with the assistance of a faculty advisor, determine an area of independent study or research related to their major course of study. (Variable credit)

b) *Individual and Team Service Learning Project*

This course, not to be confused with Co-requisite Program service requirements, requires students to design, develop, and complete an *independent* service learning project to complete over a ten-week period. (Variable credit)

c) *Advanced Internship*

Following the completion of the Co-requisite Program internship requirement, students may elect, with the assistance of a faculty advisor, to continue an internship for academic credit. (Variable credit)

E) Fundamentals Curriculum (24 credits)

The Fundamentals Curriculum is not sector-specific and consists of 36 credits in 12 classes whose topics are critical to study in any of the five Specialized Sectors of the Knowledge Curriculum. Each Knowledge Sector requires 24 credits (eight classes) that most closely align with the content of that specific sector. Fundamentals Curriculum classes are as follows:

1) *Management and Organizational Behavior*

Basic concepts, theories, and practices important for effective management. Focus on individual, interpersonal, and group behavior in business organizations; ethics, and political considerations. (3H,3C)

Course competencies:

- Understand the differences between “leading” and “managing;”
- Describe and demonstrate basic small business management techniques including planning, organizing, marketing, and financing;
- Describe and demonstrate basic human resource management including benefits, compensation, staffing, training, and evaluation; and
- Apply accounting and business principles to the management process and activities.

2) *Marketing Principles*

Focuses on a conceptual and applied understanding of marketing as the process of planning and executing the conception, pricing, promotion, and distribution of goods and services to create exchanges that satisfy individual and organizational objectives. (3H,3C)

Course competencies:

- Understand and describe basic market research;
- Identify customer needs and wants;
- Make decisions about which markets organizations should serve;
- Design product, service, and program offerings for these markets;
- Plan and implement strategies to communicate with and sell to these markets; and
- Demonstrate an understanding of creating value through profitable relationships with customers as well as with partners and suppliers.

3) *Entrepreneurship*

Operations for starting small businesses, including market analyses, business planning, capital acquisition, financial and administrative management, marketing, and human resource and operations management. Small business taxes, insurance, and legal issues. (3H,3C)

Course competencies:

- Maintain the motivation to set and persuasively communicate a clear vision and business direction;
- Conduct market studies to understand how technology meets business needs;
- Build, lead, and work effectively within work teams;

- Demonstrate good business practices to support the organization in achieving its business goals (e.g. project management, risk assessment, decision analysis);
- Trust in others and be willing to give up some control in order to compensate for one's own limitations;
- Cultivate a network of contacts as sources of information, advice, and support; and
- Set a direction and operate within an industry or economic sector, and focus efforts on bringing value to the customer.

#### 4) *Leadership*

The study of interpersonal and team communication issues relating to effective leadership techniques in organizations including leadership process and style, conflict negotiation, decision making, and problem solving. (3H,3C)

Course competencies:

- Understand the characteristics of typical leadership styles;
- Develop basic interpersonal communication leadership skills including coaching, counseling, delegating, mentoring, selling, and work directing;
- Understand and demonstrate decision making, organizational planning, and problem solving;
- Exhibit basic skills in organizational management and supervision; and
- Demonstrate the ability to “manage one's self” effectively.

#### 5) *Introduction to Complex Systems*

Introduction to nonlinear, complex, and disordered complex systems (physical, biological, social, and engineered), emphasizing concepts, ideas, and applications. (3H,3C)

Course competencies:

- Describe the behavior of complex interacting systems using complexity theory;
- Model and simulate complexity as it applies to real systems using the computer; and
- Evaluate, assess, and manage risk in complex interacting networks using the computer.

#### 6) *Computer Programming*

Fundamental problem-solving techniques using computer software tools that support algorithm development and procedural abstraction to analyze a domain and create reusable software applications including structured data, statement sequencing, logic control, input/output, and functions. (3H,3C)

Course competencies:

- Represent and classify problems using formal logic constructs;
- Develop and use knowledge-based systems to solve problems; and
- Create procedural and object-oriented computer programs using HTML and VB.NET.

#### 7) *Applied Statistics*

Fundamental concepts and methods of statistics with emphasis on the interpretation of statistical arguments including descriptive statistics, elements of probability, discrete and continuous distributions, one and two sample tests, measures of association. An introduction to the design of experiments, data analysis, correlation and regression, concepts of probability theory, sampling errors, confidence intervals, and hypothesis tests. (3H,3C)

Course competencies:

- Apply and interpret descriptive statistics and frequency distributions;
- Apply sampling, estimation, and hypothesis testing techniques; and
- Perform regression and correlation analysis using statistical software.

#### 8) *Advanced Mathematics*

Topics from differential calculus with applications to the social, behavioral or life sciences, and business or management. (3H,3C)

Course competencies:

- Describe the behavior of dynamic systems using differential equations;
- Collect and analyze time-dependent data using differential calculus; and
- Apply differential calculus to the solution of real-world problems.

#### 9) *Database Fundamentals*

Students learn how to design and implement normalized relational databases. Emphasis is on the practical construction of an interactive database using graphical user interfaces and report generation. Topics discussed include lists, queues, stacks, trees, data storage, file system organization, and access methods. (3H,3C)

Course competencies:

- Design and construct a normalized relational database;
- Interact with databases using graphical user interfaces and report generation; and
- Create interactive database-driven software solutions using ACCESS and ASP.

10) *Simulation and Modeling*

The development and use of models to understand, analyze, build, test, and improve mental and computer-based models in several areas of science and technology. Students will use computer simulation in a variety of simulation and modeling projects. (3H,3C)

Course competencies:

- Design and implement mathematical models and simulations using EXCEL; and
- Use modeling and simulation tools to describe, analyze, and improve a system's behavior.

11) *Fundamentals of Accounting and Information Systems*

Fundamental concepts of financial and managerial accounting, and business information systems including electronic spreadsheets, word processing, and the fundamentals of computer problem solving for making business decisions. (3H,3C)

Course competencies:

- Describe the underlying accounting concepts, the elements of and the relationships among primary financial statements;
- Understand the accounting cycle;
- Analyze the types of information needed for management decision-making and how to prepare this information;
- Set up and evaluate an elementary business accounting system; and
- Apply basic computer programs to accounting practices.

12) *Advanced Communications*

Instruction related to problems in business and professional environments: analyzing communication contexts, intentions, group communications; focus on written and oral communications, conflict negotiation, small group communication, organizational communication, and non-verbal communication. (3H,3C)

Course competencies:

- Understand one's own intentions in communicating with others;
- Describe and demonstrate trust building in small groups;
- Demonstrate sensitivity to diversity in all its forms;
- Describe conflict negotiation strategies;
- Demonstrate clarity of intention in oral and written communications;
- Demonstrate a variety of team-based problem solving strategies; and
- Understand office politics.

F) Specialized Knowledge Sector Curriculum (36 credits)

The 36-credit Specialized Sector Curriculum is discipline-specific and composes each student's major course of study. Detailed descriptions of each sector appear in section VI through Section X. The follow five sectors are included in the Curriculum:

Section VI: Information Systems (pg. 33)

Section VII: Health Sciences and Health Policy (pg. 40)

Section VIII: Managerial Economics (pg. 48)

Section IX: Digital Communication (pg. 55)

Section X: Visual Design (pg. 60)

## **VI. Information Systems Sector**

The Information Systems sector prepares students to analyze and solve real-world problems in modern information system environments. Information Systems students are educated to serve as professional designers, administrators, and managers of complex computer systems, communication networks, and information databases in support of audio, video, and data transmission, storage, and analysis for a wide range of application areas (e.g., healthcare, finance, e-commerce, insurance, media arts, entertainment, energy, transportation, manufacturing, telecommunications, environmental management, bioinformatics, defense, intelligence, logistics, and government).

### **A) Sector Objectives**

Upon completion of this sector, students will be able to meet the following objectives:

- Analyze complex technological problems in modern information system environments;
- Collect and synthesize information relevant to the problems;
- Develop creative potential solutions to the problems;
- Communicate potential solutions effectively to a wide range of diverse audiences;
- Evaluate the appropriateness and effectiveness of potential solutions;
- Implement appropriate solutions using modern hardware and software tools; and
- Assess the technological, business, and social impact of the solution.

Information Systems students will also be able to describe the need for and have demonstrable skills in the following:

- Critical thinking and creative problem solving;
- Continuous improvement and lifelong learning; and
- Teambuilding, and written and oral communications.

### **B) Knowledge Foundation Courses**

All students in the Information Systems sector will complete the following eight Knowledge Foundation courses:

- Advanced Communications
- Macro-Economics (From the Managerial Economic Sector)

- Advanced Mathematics
- Applied Statistics
- Computer Programming
- Database Fundamentals
- Simulation & Modeling
- Complex Systems

### C) Information Systems Courses and Competencies

All Information Systems students are required to complete the following seven sector courses.

#### 1) *Algorithms and Data Structures*

In this course, students learn elementary data structures and computer programming algorithms as they apply to fundamental data manipulation problems such as searching, sorting, and parsing. (3H,3C)

Course Competencies:

- Implement and analyze elementary data structures;
- Identify and categorize basic complexity classes of algorithms; and
- Apply algorithm and data structure analysis to problems in searching, sorting, and parsing of data.

#### 2) *Advanced Programming*

In this course, students learn formal logic constructs and problem solving strategies to develop procedural and object-oriented computer programs. (3H,3C)

Course Competencies:

- Represent and classify problems using advanced formal logic constructs;
- Develop and use advanced knowledge-based systems to solve problems; and
- Create procedural and object-oriented computer programs using JAVA.

#### 3) *Intelligent Systems*

In this course, students learn to use intelligent agents, neural networks, and knowledge-based systems for the development of computer programming solutions. (3H,3C)

Course Competencies:

- Describe the advantages and limitations of intelligent systems in computer problem solving;

- Develop computer programs utilizing intelligent agents, neural networks, and expert systems; and
- Apply appropriate hybrid intelligent system technologies to the solution of real-world problems.

#### 4) *Software Engineering*

In this course, students learn the various stages of the software lifecycle, along with the associated responsibilities of software development professionals. (3H,3C)

Course Competencies:

- Determine the requirements and specifications of a software solution;
- Implement a complete software solution including testing, maintenance, and documentation; and
- Apply quality control and life-cycle design concepts to the development of a software solution.

#### 5) *Introduction to Networking*

In this course, students learn the basic elements of networks and network design, and the skills necessary to install, manage, and analyze simple networks. (3H,3C)

Course Competencies:

- Describe local-area network hardware, topology, design, and protocols;
- Install and manage local-area network operating systems and services; and
- Analyze the structure and performance of wide-area networks for audio, video, and data transmission.

#### 6) *Project Management*

In this course, students learn to use simple project management tools to develop and present a project management plan and manage a complex, team-based project. (3H,3C)

Course Competencies:

- Describe the steps associated with the project management and planning process;
- Collect and analyze the data required to develop a project management plan; and
- Develop and present a quantitative project management plan using MS PROJECT.

### 7) *Information Security*

In this course, students learn the policies, procedures, and technologies used in computer information security and some of the software-based solutions used to secure information. (3H,3C)

Course Competencies:

- Describe the roles of policies, procedures, and technology in protecting the confidentiality and integrity of information;
- Explain how specific threats to information systems can compromise security; and
- Use specific software-based countermeasures such as access control mechanisms, firewalls, and intrusion detection systems to minimize or eliminate specific threats.

## **Required Sector Track Courses (15 Credits)**

Information Systems students are required to complete five courses in one of the following three tracks:

### Database Management:

#### 1) *SQL*

In this course, students learn to communicate with complex databases using SQL programming in order to perform advanced data manipulations and data queries. (3H,3C)

Course Competencies:

- Write SQL code to communicate with a database system;
- Access, define, and manipulate data in database systems using SQL; and
- Perform advanced queries of database systems using SQL.

#### 2) *Database Administration and Technology Management*

In this course, students learn the policies, procedures, and technologies associated with the administration and management of databases containing personal and sensitive information. (3H,3C)

Course Competencies:

- Describe database design and management structures;
- Discuss the ethical, social, and political aspects of technology management; and
- Administer and manage database application environments.

### 3) *Distributed Databases*

In this course, students learn to communicate with distributed databases over a network using ASP programming in order to perform data queries and other database-driven transactions. (3H,3C)

#### Course Competencies:

- Describe client-server architectures and distributed system designs;
- Incorporate advanced ASP programming commands in database queries; and
- design and implement client-server database transaction solutions using ASP.

### 4) Two Application Electives

Examples of possible application electives are listed below; offerings are dependent upon faculty expertise, student interest, and synergy with other proposed sectors. (3H,3C each)

*Decision Support Systems*  
*Economic & Finance Modeling*  
*Health & Bio Informatics*  
*Logistics & Material Flow*  
*Risk Assessment & Liability*  
*Telecommunication Networks*

*E-Commerce Applications*  
*Geographic Information Systems*  
*Intelligence & Information Analysis*  
*Media Arts & Design*  
*Security Management Systems*

### Network Systems:

#### 1) *Network Analysis and Design*

In this course, students learn to design, implement and manage simple computer and telecommunications networks and analyze network performance and efficiency. (3H,3C)

#### Course Competencies:

- Design, implement, and manage simple computer and telecommunication networks;
- Analyze the performance and efficiency of networks; and
- Calculate the impact of network performance on cost, reliability, and security.

#### 2) *Wireless Networks*

In this course, students learn the unique design features of wireless networks and the differences in implementing and analyzing wireless versus wired networks. (3H,3C)

Course Competencies:

- Compare and contrast the architecture and design of wired and wireless networks;
- Design, implement, and manage simple wireless networks; and
- Measure and analyze the performance, reliability, and security of wireless networks.

3) *Network Security*

In this course, students learn the policies, procedures, and technologies used in computer network security, and some of the techniques used to secure wired and wireless networks. (3H,3C)

Course Competencies:

- Describe the roles of policies, procedures, and technology in protecting wired and wireless networks;
- Explain how specific threats to wired and wireless networks can compromise security; and
- Use specific software and hardware countermeasures to minimize or eliminate specific threats to wired and wireless networks.

4) Two Application Electives

Examples of possible application three credit electives are listed below; offerings are dependent upon faculty expertise, student interest, and synergy with other proposed sectors. (3H,3C each)

*Decision Support Systems*  
*Economic & Finance Modeling*  
*Health & Bio Informatics*  
*Logistics & Material Flow*  
*Risk Assessment & Liability*  
*Telecommunication Networks*

*E-Commerce Applications*  
*Geographic Information Systems*  
*Intelligence & Information Analysis*  
*Media Arts & Design*  
*Security Management Systems*

Simulation and Modeling:

1) *Advanced Modeling*

In this course, students learn to analyze continuous and discrete events by designing advanced mathematical models and simulations. (3H,3C)

Course Competencies:

- Design advanced mathematical modeling and simulation algorithms;
- Implement advanced discrete-event simulations to describe, analyze, and improve a complex system's behavior using PROMODEL; and

- Implement advanced continuous dynamic system models to describe, analyze, and improve a complex system's behavior using STELLA.

2) *Advanced Simulation*

In this course, students learn to design and implement simulations of highly-coupled interacting networks to simulate the behavior of complex systems. (3H,3C)

Course Competencies:

- Design and implement advanced Monte Carlo simulations;
- Design and implement game theory algorithms to simulate complex interacting networks; and
- Perform risk and reliability calculations and fault tree analyses on complex interacting networks.

3) *Linear Programming & Logistics*

In this course, students learn to solve complex network flow problems by developing and implementing linear programming simulations of model networks. (3H,3C)

Course Competencies:

- Design and develop linear programs to solve network flow problems;
- Interpret linear programming solutions and perform sensitivity analyses; and
- Solve large-scale operations management, supply chain, and materials flow logistics problems.

4) Two Application Electives

Examples of possible application three credit electives are listed below; offerings are dependent upon faculty expertise, student interest, and synergy with other proposed sectors. (3H,3C each)

*Decision Support Systems*  
*Economic & Finance Modeling*  
*Health & Bio Informatics*  
*Logistics & Material Flow*  
*Risk Assessment & Liability*  
*Telecommunication Networks*

*E-Commerce Applications*  
*Geographic Information Systems*  
*Intelligence & Information Analysis*  
*Media Arts & Design*  
*Security Management Systems*

## **VII. Health Sciences and Health Policy Sector**

The Health Science and Health Policy sector encompasses those courses and competencies necessary to educate entry-level non-clinical health care professionals. Individuals completing the health sector are trained to serve as either health care administrators or health behavior specialists, and are qualified to sit for either professional accreditation. Students graduating with a Health Science and Health Policy degree are qualified to take positions including social and human services assistants, medical and public health social workers, substance abuse counselors, managers of personal service workers, health educators, emergency management specialists, social and community service managers, and medical and health services managers.

### **A) Sector Objectives**

Upon completion of this sector, students will be able to meet the following objectives:

- Understand the Health Care environment and their place in it;
- Effectively lead individuals and organizations;
- Apply change theory to organizations and individuals;
- Interpret research;
- Communicate effectively between health care providers and consumers;
- Plan effective and efficient health care programs;
- Effectively use technology in health care;
- Understand the place of health care in public policy;
- Develop a personal code of ethics and see the value of ethics in health care; and
- Understand the disease process.

### **B) Knowledge Foundation Courses**

All students in the Health Science and Health Policy sector will complete the following eight Knowledge Foundation courses:

- Management and Organizational Behavior
- Marketing Principles
- Leadership
- Applied Statistics
- Fundamentals of Accounting and Information Systems
- Macro-economics (from the Managerial Economics sector)

- Advanced Communications
- Computer Programming

### C) Health Sector Courses and Competencies

#### 1) *Introduction to the Healthcare System*

Provides students with an overview of the U.S. health care system; reviews international systems as they apply to the U.S., and introduces students to the concept of personal responsibility in health decisions. (3H,3C)

Course competencies:

- Understand how you interact with the health care system;
- Understand the relative contributions and limitations of personal health care, public health, community health, and prevention in terms of the health of the community;
- Use an integrative perspective to understand the health care organization within the larger context including community, nation, and global environments;
- Promote the development of professional roles / values that are compatible with the improvement of populations and individual health;
- Develop processes for reporting and maintaining social accountability;
- Adapt to new languages, cultures, and attitudes about health and healing;
- Embrace a sense of community and commitment to address the health needs of diverse populations;
- Assess and respond to changing demographics and economic, political, and epidemiological needs and demands of clientele and the community; and
- Utilize national benchmarks to identify opportunities for improvement.

#### 2) *Health Communication*

Introduces students to the unique world of health communication; allows students to master various techniques of persuasive speech in health care; and permits students to develop group process skills. (3H,3C)

Course competencies:

- Effectively communicate with healthcare providers;
- Seek ideas and opinions of those who will affect or be effected by the health activity;
- Communicate the need for a health activity to those who will be involved;

- Obtain commitments from personnel and decision-makers who will be involved in the health activity;
- Lead health sector change and effectively represent health care organizations in the local community and in various levels of government;
- Use effective oral and written communication techniques;
- Employ effective group process management techniques; and
- Create and clearly communicate shared missions, visions, and values.

3 & 4) *Leadership in Health Care I & II*

Educates students in the art and science of leadership, and trains students to use quantitative and qualitative data in decision-making. (3H,3C each)

Course competencies:

- Use relevant and measurable results for improving organization efficiency and effectiveness;
- Contribute to improvement in health care to reduce medical errors;
- Promote positive health change at the local, state, and national level;
- Establish systems and processes to manage and continuously improve the quality of care;
- Establish effective structures to improve the clinical effectiveness of health care;
- Manage committees and deliberative processes efficiently through the use of organization, time management, and planning skills;
- Design a functional organizational structure, reporting procedures, and incentive strategy to fulfill missions, visions, and goals;
- Effectively use change, conflict, and resistance management tools as appropriate;
- Use political skill and power to resolve conflict, manage resistance, and improve relations among stakeholders;
- Foster the development and advancement of human capital and the organization;
- Energize commitment, involvement, and empowerment for addressing challenges and achieving goals;
- Create and clearly communicate shared missions, visions, and values; and
- Effectively articulate, champion, and implement well-conceived directions and strategies for a better future.

5) *Health Planning*

Educates students in planning processes, both operational and strategic; and trains students in techniques necessary for effective planning. (3H,3C)

Course competencies:

- Investigate physical, social, emotional, and intellectual factors influencing health behaviors;
- Identify behaviors that tend to promote or compromise health;
- Determine priority areas of need for health intervention;
- Incorporate feasible ideas and recommendations into the planning process;
- Use planning techniques to determine organizational direction;
- Understand how to plan, implement, and evaluate organizational and community-wide health programs; and
- Understand the act of grant application writing.

6) *Health Care Finance*

Educates students in the allocation of financial resources within the health care industry and teaches students about the unique funding mechanism within health care. (3H,3C)

Course competencies:

- Manage resource allocation processes effectively;
- Partner effectively with financial experts to manage all aspects of fiscal responsibility;
- Demonstrate a competency in the understanding of basic financial concepts and issues;
- Demonstrate a basic competency in the use of analytical tools that support financial analysis;
- Demonstrate a basic understanding of how those concepts, issues, and tools relate to financial decision making in health-related markets;
- Demonstrate a competency in understanding the microeconomic concepts of demand, cost, and market structure;
- Demonstrate a competency in understanding how those concepts lead to the fundamental proposition of microeconomics;
- Understand the limitations of the fundamental proposition;
- Determine the strengths and limitations of the efficiency concept when applied to health markets;
- Demonstrate competency in understanding how cost benefit analysis is used in the public sector;

- Demonstrate competency in understanding how economic factors affect health care input markets; and
- Understand how insurance affects efficiency in health care markets.

#### 7) *Health Informatics*

Introduces students to myriad uses of the computer in the health care environment; reviews the type of information that lends itself to computerization; and reviews new technologies. (3H,3C)

Course competencies:

- Understand roles of the patient and health care team as related to health informatics;
- Describe elements of the health care system (settings, types of care, reimbursement mechanisms, finances, delivery of care);
- Examine issues and challenges facing the health care system (patient rights, confidentiality, quality, access, cost, security);
- Describe categories of terminology relevant to informatics in the health care system;
- Define and delineate types of information and health information systems;
- Understand the unique challenges of applying information technology to health information;
- Describe legal, ethical, policy, and procedural issues (including privacy and security) related to the design and use of health care information systems;
- Understand how health information systems are designed, implemented, evaluated, and procured;
- Understand how health data are designed, stored, accessed, used, communicated, and archived by various members of the health care team;
- Access and assess health care information and resources on the internet;
- Examine the anatomy, physiology, and pathophysiology of information technology;
- Describe emerging trends in technology within the health care system; and
- Understand how data and data systems are used to support analysis and decision-making.

#### 8) *Health Policy and Ethics*

Introduces students to public policy as applied to health care. Introduces the various codes of ethics and assists students in personal ethics formulation. (3H,3C)

Course competencies:

- Use evidence and knowledge of best practices to improve care and services;
- Apply engineering principles to the redesign of care processes;
- Promote and adhere to high standards for personal and organizational integrity, honesty, and respect for people;
- Advocate reliance on scientific evidence, and use it effectively to evaluate and change systems of care and health sector organizations;
- Explain the environment of policy making at the federal, state, and local levels;
- Identify the influences of health policy on the delivery of health services and the administration of health service organizations;
- Define health as a societal and political concept, and delineate four determinants of health in society;
- Demonstrate an understanding of the intent of health policy – how health policy is both the same as and distinct from other public policies;
- List the four main types of health policies and how each type is created; and
- Name the three key committees in both the Senate and House of Representatives that handle health policy and differentiate the types of health policies that are assigned to each.

9) *Epidemiology*

Introduces students to the study of causation and prevention of major diseases. Major epidemiologic principles are stressed. (3H,3C)

Course competencies:

- Assess and respond to changing demographics, and economic, political, and epidemiological needs and demands of clientele and the community;
- Appreciate the role that epidemiology plays in contributing to the prevention of disease;
- Apply epidemiological principles to the investigation of the causation of disease;
- Make an unbiased application of common sense to the solution of disease problems;
- Become familiar with the vocabulary of the field of epidemiology;
- List specific methods for measuring disease frequency;
- Describe the relationship among time, person, and place in epidemiological investigations;
- Differentiate between descriptive and analytical epidemiology;

- Compare factors associated with acute and chronic diseases;
- Gain respect for the professional dedication and perseverance required to solve disease problems;
- Show the relationships between primary, secondary, and tertiary prevention;
- Study the epidemiology of certain diseases in order to see examples of the application of epidemiological principles;
- Apply epidemiological techniques to analyze data in order to measure validity and reliability;
- Differentiate between incidence and prevalence data;
- Apply specific mortality and morbidity rates to populations of interest;
- Compare rates using techniques of standardization;
- Describe the disease process;
- List sources of morbidity and mortality data; and
- Show the relationship between confounding factors and outcomes of mortality and morbidity data.

#### 10) *Interpreting Health Care Data*

Introduces students to the role of research application, interpretation, and communication as related to the decision-making processes in health care. (3H,3C)

Course competencies:

- Select valid sources of information about health needs and interests;
- Utilize computerized sources of health-related information;
- Demonstrate a knowledge in basic research methods and designs;
- Evaluate components of a research article for validity, relevance, and application;
- Demonstrate an oral and written ability to communicate health-related information;
- Use appropriate resources to conduct literature searches (print and computer-based sources); and
- Demonstrate the ability to conduct self-directed learning experiences.

#### 11) *Health Behavior Change*

Introduces students to those factors which influence health behavior within individuals and groups. (3H,3C)

Course competencies:

- Identify and discuss the factors influencing health behavior;

- Discuss philosophic, intellectual, and ethical methods for changing behavior;
- Plan behavioral change strategies for altering specific health problems; and
- Effectively utilize the techniques employed in changing unhealthy behaviors for improving or maintaining one's own health.

## 12) *Comparative Health Systems*

Introduces students to the comparison of health delivery systems in various countries. This course uses statistics to define quality of health care and examines strengths and weaknesses of various delivery systems. (3H,3C)

Course competencies:

- Delineate a general typology of health care systems;
- Identify the strengths and weaknesses of a social insurance system (Canada);
- Identify the strength and weaknesses of a mandatory private insurance system (Germany);
- Identify the strengths and weaknesses of a National Health Service (Great Britain);
- Identify the strengths and weaknesses of a regulated competition system (Japan);
- Understand the concept of socialized medicine vs. fee-for-service delivery; and
- Relate the national systems of care to the current health care system in the United States.

## VIII. Managerial Economics Sector

The Managerial Economics sector provides students with the economic education tools needed to function in a variety of business settings and gives them an understanding of successful business environments and the threats to the same. This sector of the New College offers students the content of a traditional economics curriculum with a business minor (but it is not taught in a traditional manner). Competency in this field means one has an understanding of the basic issues involved with economic questioning and reasoning—essential skills to be learned in this sector.

Students will be able to pursue graduate education, if desired, but those who seek employment immediately upon graduation will be able to compete successfully in many job markets, having taken not only economics courses but also courses in accounting, management, marketing, and finance.

### A) Sector Objectives

Upon completion of this sector, students will meet the following objectives:

- Understand theoretical economics and utilize the tools of economic analysis including decision making in a constrained environment and understanding the ramifications of such decision making in real environments; and
- Demonstrate a variety of managerial and economic skills so that the transition from the world of economic theory to the world of the workplace can occur upon graduation.

### B) Knowledge Foundation Courses

All students in the Managerial Economics sector will complete the following eight Knowledge Foundation courses:

- Advanced Mathematics
- Management and Organizational Behavior
- Leadership
- Database Fundamentals
- Entrepreneurship
- Introduction to Complex Systems

- Computer Programming
- Applied Statistics

### C) Managerial Economics Courses and Competencies

#### 1) *Principles of Micro-economic Theory*

The theory of consumer behavior, the theory of the firm, elementary market structure theory, and elementary welfare economic analysis are first introduced. (3H,3C)

Course Competencies:

- Describe what an “economy” is and what it does--what questions it answers and how it answers those questions;
- Describe the similarities between the function of an economy and the time management problem;
- Compare the technical and practical meaning of “efficiency” and “equity;”
- Explain the concept of a production possibility relationship;
- Understand what is meant by social welfare and welfare functions;
- Assess what is meant by a “demand” relationship including what arguments constitute it and what factors influence it;
- Describe what is meant by a “production function” and how it relates to technological change;
- Describe the four basic market structures; and
- Explain how a price is determined in each of the market structures and how it is modeled.

#### 2) *Principles of Macro-economic Theory*

Consumer and business investment theory in the aggregate, the nature of the role of the monetary and Federal Reserve systems, and the nature of fiscal and monetary policies are studied. (3H,3C)

Course competencies:

- Describe the macro issues dealing with consumers including consumption function, inter-temporal consumption decisions, and savings;
- Explain the macro issues dealing with producers including aggregate production functions, technological change, and capital formation;
- Articulate the macro issues relating to investors including capital markets, the role of money and Federal Reserve System, risk, and risk-aversion;
- Compare and contrast “real” and “monetary” values in creating financial statements and figures; and

- Explain the workings of a simple “IS-LM” model and what kinds of questions it can and cannot answer.

### 3) *Intermediate Micro-economic Theory*

The same topics as found in principles of Micro-economic theory are covered but with a greater degree of modeling sophistication, greater emphasis on the logical and mathematical structure of relationships, and with an introduction to classic studies supporting or testing the theories. (3H,3C)

Course competencies:

- Explain all the competencies covered in Principles of Microeconomics;
- Explain in detail the consumer choice problem—an understanding of how a demand relationship is developed from an underlying utility relationship;
- Define the basic insurance problem and explain the importance of the “utility” concept;
- Explain the “elasticity of demand” concept of what influences elasticities and how they are measured;
- Explain Edgeworth boxes as related to both consumption and production;
- Define the law of diminishing returns so that short-run cost relations are understood, and explain the concepts of “economies of scale” and “input substitution possibilities” so that the uses for long-run cost functions are also understood;
- Explain the difference between “partial” and “general” equilibrium;
- Demonstrate a sophisticated understanding of market structure issues so that prices determining policy in various markets are well understood, and explain the kinds of welfare losses that various structures can be expected to generate; and
- Demonstrate a basic understanding of the mechanics and vocabulary of game theory and Nash equilibrium.

### 4) *Intermediate Macro-economic Theory*

The same topics found in Principles of Macro-economy Theory are covered but with additional complications and issues. Simple models of the economy are replaced by more complex issues and relationships; for example, that of the rate of change in prices related to the rate of change in unemployment, the crowding out of private investment by government spending, and the notion of how rational expectations influence consumer and business decisions. (3H,3C)

Course competencies:

- Describe the major micro-economic foundations of macro-economic behavior and how those foundations are modeled;
- Explain what makes an economy grow and how that process is modeled;
- Describe what causes inflation in an economy and the problems that inflation causes;
- Apply a theory of how wages are determined in an economy and factors that affect wage levels;
- Discuss the twin stabilization tools of fiscal and monetary policy;
- Define the term “business cycle” and factors that affect it and its influence on economic performance;
- Demonstrate a knowledge of the terms “Keynesian” and “monetarist” and explain how each of those persons would deal with questions of unemployment and inflation;
- Explain how economic events in other parts of the world affect life in the United States; and
- Describe what is meant by “supply shocks” (say an oil embargo) and how various stabilization policies can be used to counteract their impact.

#### 5) *Money and Banking*

Topics include how the Federal Reserve system influences economic activity through its manipulation of the U.S. money supply; how Federal Reserve policy affects key financial markets and financial decision making in the U.S. and abroad; and how banks “create” money. (3H,3C)

Course Competencies:

- Describe the history of the use of “money” and the history of the banking system in the U.S.;
- Explain the operations of a commercial bank and how banks “create” money;
- Discuss the purpose and scope of the Federal Reserve System in the U.S. and the various ways it controls short-term interest rates;
- Assess the relationship between interest rates, economic activity, financial activity, and international exchange rates; and
- Compare at least two competing theories of the role of money in a modern economy.

#### 6) *Structure of the U.S. Economy*

Various market structures studied in earlier courses are studied in more depth and detail. Major industries in the U.S. are analyzed to assess their economic performance; the Justice Department’s role in promoting a competitive environment in all U.S. markets is considered. (3H,3C)

Course Competencies:

- Discuss market structures at both the Principle and Intermediate Micro-economics levels;
- Evaluate the structure of the U.S. economy today and at key points in the past;
- Explain the role and purpose of the Federal Trade Commission and the competing principles that guide it;
- Compare and contrast the forces that influence world trade and the position of U.S. industries in such;
- Examine and explain the four structures of industrial organization and match each structure to a current U.S. industry; and
- Determine the largest companies in the U.S. and explain the kind of industrial organizations under which they operate.

7) *International Finance*

Financial institutions in the world are studied and the role of international currencies is studied in much the same way that the role of the U.S. dollar was studied in the Money and Banking course. (3H,3C)

Course Competencies:

- Explain how economic activity in the U.S. is effected by and affects international currency movements;
- Discuss the rule of “one price” and how currencies can have different prices;
- Determine the role of international finance in the world of international trade;
- Express an appreciation for the importance of currency movements to international companies and ways to insure against adverse currency movements; and
- Analyze at least two competing theories of international currency movements.

8) *Risks and Investment*

A framework concerning how capital markets acquire and allocate funds to generate new building, construction, and technologies is developed. (3H,3C)

Course Competencies:

- Demonstrate an understanding of how to perform a “due diligence” analysis pertaining to the funding of a project;
- Explain micro issues related to investors including the concepts of net present value, discounting and the discount rate, risk, and return;
- Model “due diligence” using spreadsheets;
- Define and explain the Capital Asset Pricing Model and various inter-temporal savings-investment decision models; and

- Compare and contrast spot markets (commodity markets), futures markets, and markets for options and explain how business decision makers use those markets to avoid risk.

#### 9) *Econometrics*

Various methods of estimating economic relationships are developed. Data acquisition, statistical considerations, software usage, estimation interpretation, and basic report writing are all considered. (3H,3C)

Course competencies:

- Demonstrate the ability to enter data into a commercial data bank and perform basic inferential testing and simple regression analyses;
- Demonstrate a knowledge of at least two complications inherent in the basic regression model: autocorrelation and simultaneous equation bias, and explain simple ways to deal with each; and
- Explain managerial economics in which business applications of the principles and theory of intermediate microeconomics are presented, and how “Real” demand, cost, pricing, and market structure studies are presented and developed. (3H,3C)

#### 10) *Fundamentals of Accounting and Information Systems*

Along with the courses listed above, this course provides students with a knowledge of the role of record keeping in firms, how those records are conveyed to the government for taxation purposes, and how the information contained in such reports influences business decisions. (3H,3C)

Course competencies:

- Explain and demonstrate basic balance sheet accounting and the information such reports provide, and the decisions they affect;
- Explain key tax laws, such as those dealing with depreciation, and demonstrate how these laws influence business decisions; and
- Demonstrate how businesses can be organized under tax codes and how different organizational choices influence tax liabilities.

#### 11) *History of Economic Thought*

The timeline for the development of economic thought along with important timelines for technological and industrial developments are studied. (3H,3C)

Course Competencies:

- Demonstrate a knowledge of major economic theories and the individuals who developed them;
- Explain how knowledge is the culmination of a process of asking, answering, re-asking, and re-answering important questions. For

- example, the historical development of the questions about why people live in poverty is presented; and
- Understand how key economic ideas have influenced the world.

One of the following two courses will be taken:

12) *Health Economics*

Underlying assumptions behind the statement that “competitive economic markets in long run equilibrium are efficient” are analyzed in the context of a health care market. (3H,3C)

Course Competencies:

- Explain the limitations of the statement “competitive markets in long run equilibrium are efficient” in the health care sector;
- Assess the role of health insurance in health care decision making and how health insurance differs from other forms of insurance;
- Explain social justice issues as they pertain to health care;
- Identify alternative ways health care is provided in countries outside the U.S.;
- Explain of the workings of the two government insurance programs: Medicare and Medicaid;
- Discuss the theory of price discrimination and how it relates to international pricing of drugs and the concept of “cost-shifting” in the U.S., and
- Explain the debate surrounding the “welfare loss” calculation of health insurance in the U.S.

13) *Natural Resource Economics*

Issues of resource depletion and environmental quality are factored into the traditional analyses of how markets perform their economic functions. (3H,3C)

Course competencies:

- Discuss the breakdown of the  $MR=MC$  pricing rule in the face of a depletable resource;
- Demonstrate an understanding of various market structures and how a change in the structure of an industry, such as oil, can have profound world economic and political consequences;
- Explain current theories of threats to the world resulting from resource usage, such as the notion of global warming and its relationship to resource use;
- Explain the world’s use of fossil and non-fossil fuels, and the relationship between resource usage and economic growth; and
- Understand the role of technology in resource discovery, extraction, production, and use.

## **IX. Digital Communication Sector**

This sector introduces students to using the computer as a creative tool to communicate in different media. Students acquire the skills to pursue, plan, and develop electronic pagination projects, basic video projects, and the basic audio projects that give them the ability to incorporate and display these skills in a basic web format. Students undertake communication problems and seek solutions to those problems using communication technology. Students graduating with a Digital Communication degree are qualified for positions including desktop publishers, graphic designers, set and exhibit designers, art directors, advertising and promotion managers, and audio-visual specialists.

### **A) Sector Objectives**

Upon completion of this sector, students will be able to meet the following objectives:

- Recall good communication strategies as applied to business problems;
- Identify and define basic digital terminology associated with desktop publishing and desktop video (for example, terms such as vector-based graphics, bitmapped graphics, and resolution);
- Produce various digital communication outcomes (for example, web pages, basic video projects, and basic desktop publishing projects);
- Evaluate strengths and weaknesses of good communication design;
- Articulate what design principles are involved in basic publishing, video, and web areas;
- Create basic communication documents using effective design techniques for print and web; and
- Create basic videos using good video communication techniques.

### **B) Knowledge Foundation Courses**

All students within the Digital Communication sector will complete the following eight Knowledge Foundation courses:

- Management and Organizational Behavior
- Marketing Principles
- Micro-economics (from the Managerial Economics Curriculum)
- Advanced Communications
- Leadership
- Entrepreneurship
- Applied Statistics

- Computer Programming

### C) Digital Communication Courses and Competencies

#### 1) *Introduction to Creative Computers*

This class gives students a basic understanding of how a computer can be used to create products and images. Students learn the difference between bitmapped and vector-based images, and the purposes and uses of each. Basic image manipulation and editing techniques for visual images are included in the content of this class. (3H,3C)

Course competencies:

- Recognize and operate a basic Mac Unix OS system which includes the following: basic Unix commands, basic networking operations, basic printing options, basic Graphic User Interface (GUI) design, basic file types, compression issues, and basic internet operations (FTP, finger, grab, etc.);
- Recognize, operate, and recall the bitmapped and-vector based programs including resolution issues for printing, video, and web applications; and
- Understand and operate basic image manipulation through NTSC, web, and print issues.

#### 2) *Communication Writing Techniques*

Students learn how to write for many media applications including newspaper releases, video scripts, radio announcements, and workplace documents. (3H,3C)

Course competencies:

- Write a basic news story by acquiring the basic information such as who, what, when, why, where, and how;
- Demonstrate basic interviewing techniques;
- Write a basic video script for television production;
- Write a basic news release for release to newspapers and video; and
- Write a basic audio script for radio.

#### 3) *Basic Desktop Publishing*

Through a series of exercises, students learn the basics of communicating through print technology. Newsletters, magazines, and some newspaper concepts will be discussed and produced in this class using electronic pagination software. (3H,3C) Prerequisite: Introduction to Creative Computers

Course competencies:

- Recognize and recall the basic principles of good design including proximity, alignment, repetition, and contrast;
- Recognize and recall the principles of Gestalt, unity, composition, rule of thirds, balance, organization, positive and negative space, and scale; and
- Apply the basic design principles to print products such as newsletters, business cards, stationary, and magazines.

#### 4) *Introduction to Desktop Video*

In this class, students learn the basics of camera operation and the manipulation of those images with the computer. Students learn the acquisition, production, editing, and some special effects in basic video production. (4H,4C) Prerequisite: Introduction to Creative Computers

Course competencies:

- Recognize and understand how a television image is created and the technical issues involved in creating the image;
- Learn and apply the basis of three-point lighting and how it impacts image quality;
- Recall and recognize the basics of visual editing;
- Apply editing basics to a video product (i.e., when to use a cut, when to use a dissolve, when to use a wipe, etc.); and
- Recognize and apply how and when to use titles and proper graphics for video production.

#### 5) *Introduction to Basic Web Design*

Students learn the basics of HTML and software programs that establish web pages. Students will learn web image manipulation and the display of text with CSS, and other basic web site development techniques. (4H,4C) Prerequisite: Introduction to Creative Computers

Course competencies:

- Recognize and recall basic HTML and DHTML tag structure;
- Design web pages through remote web servers, set up firewalls, and demonstrate other skills related to web development;
- Learn and understand basic web page development through computer programs like Dreamweaver or Front Page;
- Learn and apply basic web design; and
- Learn and apply basic web animation through computer programs such as Fireworks and Flash.

#### 6) *Intermediate Desktop Publishing*

Students learn advanced theory and design techniques used in the publishing industry, how to prepare documents utilizing

pre-press techniques such as the use of color separation and spot color. (4H,4C) Prerequisite: Basic Desktop Publishing

Course competencies:

- Learn and recall how to import images and manipulate text through electronic pagination;
- Learn the process of pre-press printing techniques;
- Understand and recall the technical aspects of the three-color printing process; and
- Create color separations with computer programs, and prepare the print product for a printing press.

#### 7) *Intermediate Video Techniques*

Students learn more advanced video shooting, audio, editing, and lighting techniques. Digital projects will lead students to learn how to create video for various distribution outlets such as the internet, television, and DVD. (4H,4C) Prerequisite: Introduction to Desktop Video

Course competencies:

- Recognize and apply advanced video-editing techniques;
- Learn and apply post-production techniques to various video productions; and
- Learn and apply advanced audio techniques including equalization, looping, applying sound effects, mixing various tracks, and selecting appropriate music.

#### 8) *Intermediate Web Techniques*

Students learn the basics of web animation and how to incorporate video, pictures, and text using more complex techniques. The projects in this class will be client-based; students will work with community organizations to assist them with their web presences. (4H,4C) Prerequisite: Introduction to Basic Web Design

Course competencies:

- Learn and apply the various techniques to compress and stream video;
- Learn and apply SQL and other web-based application programs to apply to business solutions, such as the creation of web database management;
- Learn and apply advanced web techniques; and
- Apply web development techniques to satisfy client needs.

#### 9) *Communication Problem Solving*

Students learn communication problem solving skills and apply communication technology skills to solve those problems. This class functions as a capstone class for students in this sector. (3H,3C)

Prerequisites: Intermediate Web Techniques, Intermediate Video Techniques, Intermediate Desktop Publishing

Course competencies:

- Recognize and identify communication problems related to corporate or organizational situations;
- Apply technical communication solutions to the communication problems that have been identified;
- Create the communication solutions to the identified problems; and
- Survey and monitor to determine if the communication solution was effective.

10) *Internship or Co-op*

Students work with area corporations, assisting them with their communication needs. (4H,4C)

Course Competency:

- Students work in the community to help non-profit organizations or businesses in the community.

## **X. Visual Design Sector**

Visual design studies at the New College of Virginia have been crafted to prepare students for entry-level positions in three specific professions:

- Computer animation and electronic game design supporting all entertainment disciplines;
- Computer-aided design (CAD) supporting architectural and interior design disciplines; and
- Package/product design supporting manufacturing and marketing disciplines.

Visual design is fundamental to almost every human endeavor. Qualities that define excellent visual design, however, generally do not happen by accident, but are the product of individuals who, through their educational achievement and seasoned practice, have learned how best to use the specialized language of visual design.

In addition to coursework specific to the discipline, visual designers benefit most from baccalaureate degree plans that include general studies that develop communication, planning, research, and business skills. While studio studies and experiences are of prime importance for students preparing for careers as professional designers, the combined influence of visual design coursework and general studies is profound and far-reaching in establishing a foundation for artistic and intellectual development. Ideally, this foundation enables students to acquire:

- An awareness of differences and commonalities regarding work in artistic, humanistic, and scientific domains including an awareness of how these domains may be mixed in one or more of the design specializations;
- A personal artistic/intellectual mission associated with one or more fields of art and design; and
- A sense of individual responsibility for cultural development as a whole and for development in the visual arts and design in particular.

By the end of their undergraduate studies, design students will have been introduced to broadly based examples of professional accomplishment at both the national and international levels. Creative work will include, but not be limited to, the development of abilities through conceptualization, process, product, and critique. In all instances, graduating students will exhibit a significant mastery in at least one area of

design knowledge as demonstrated by a competent body of work submitted to the faculty for formal review.

The New College visual designers learn how to craft creative solutions that demonstrate computer-based technical competence, a broad knowledge of art and design history, an understanding of style and its marketing and cultural implications, critical thinking as it lends insight into the role of art and design in the life of humankind, and a heightened ability to identify and solve complex problems. These skills have always been a societal need but are also in high demand by employers across a broad spectrum of business and cultural enterprises. At present, employment opportunities for designers is very strong, and in an era where the use of mediated computer images only promises to grow exponentially, the demand by myriad fields utilizing visual designers appears to be almost unlimited. The New College of Virginia has focused its Visual Design offerings on three areas of greatest demand and need in the design field.

#### A) Sector Objectives

Upon completion of this sector, students will be able to meet the following objectives:

- Articulate an understanding of basic design principles, concepts, media, and formats as cultivated throughout the degree program;
- Demonstrate advanced skill in the use of art and design techniques, particularly as they relate to specific applications in various media;
- Exhibit the ability to solve basic design problems in one or more specific design fields;
- Reveal a working knowledge of various design methods and their relationship to the conceptualization, development, and completion of design projects;
- Be able to explain and apply the similarities, differences, and relationships among the various design specializations including the need and ability to work collaboratively when appropriate within an area of specialization;
- Cultivate an ability to work independently on a variety of design problems by combining capabilities in studio, analysis, design theory, and historical study; and
- Form and defend professional value judgments about art and design directions and outcomes.

## B) Knowledge Foundations Courses

All students within the Visual Design sector will complete the following eight

Knowledge Foundation courses:

- Management and Organizational Behavior
- Marketing Principles
- Entrepreneurship
- Leadership
- Introduction to Complex Systems
- Computer Programming
- Applied Statistics
- Advanced Communications

## C) Visual Design Courses and Competencies

All students studying Visual Design will complete twelve courses (36 credits) within the sector. The 36 credits are divided into two components: 18 credits of required prerequisite courses defined as the “Visual Design Foundation Core,” and 18 credits of Advanced Coursework. The 18 credits of Advanced Coursework will require 12 of the 18 credits to be completed within one of three areas of chosen emphasis, with 3 credits of elective coursework to be completed in each of the other two areas of emphasis.

### Visual Design Foundation Core Courses and Competencies (18 credits)

#### 1) *Visual Thinking*

This course is concerned with visual perception as a cognitive activity. Coursework will introduce readings, research, and discussion that explore how the psychology of perception is central to the development of creative thinking and involves all branches of human activity, especially as it relates to the interconnections between art and science. (3H, 3C)

Course Competencies:

- Become acquainted with the leading theories and research that describe the mechanics and psychology of human vision;
- Discern the meaning of shapes and how perception relates to cognition;
- Describe, analyze, and interpret individual works of art and design in relation to the cultures from which they originate and how

differences in perception lead to different understandings of form and meaning; and

- Understand how mental images are related to the development of an individual's creative imagination and the ultimate expansion of human knowledge and scientific inquiry.

## 2) *The Philosophy and History of Art*

This course provides a select chronological overview and discussion covering the philosophy and history of art. Material includes ancient and modern concepts of creativity, and Western and non-Western traditions and ideas. (3H,3C) Prerequisite: Visual Thinking

Course Competencies:

- Become acquainted with select major philosophies of art and art history including Western and non-Western cultures;
- Locate unfamiliar works within major style periods and cultures;
- Describe, analyze, and interpret the form and content of individual works of art in relation to the cultures from which they originate;
- Recognize major art and design media;
- Understand in detail at least three major historical periods of art;
- Become familiar with art history theory and methods of analysis and criticism; and
- Research and write about significant artists, designers, artistic events, periods, and artistic concepts.

## 3) *Design Methodology and Fundamentals*

This course introduces studio approaches to basic design problem solving and planning. Material covered includes two and three-dimensional projects, the properties and psychology of color, and the nature of visual imagery as a tool in communication through symbols. (3H,3C)

Course Competencies:

- Develop skill in the use of a visual vocabulary as part of the design problem solving process;
- Foster a deeper understanding of the formal visual relationships present in the art and design process; especially as design solutions seek to achieve unity, balance, emphasis, rhythm, and desirable proportion;
- Display the ability to plan the arrangements of visual elements with a focus on the use of line, texture, value, color, and the illusion of space and motion; and
- Enhance an aesthetic awareness of visual symbols and their meanings when used as tools and signs of human communication.

#### 4) *Drawing I*

This course introduces studio skills associated with contemporary approaches to mark-making as a way of explaining and describing the visible and imagined world. Concepts and skills associated with objective and subjective drawing will be stressed. Exercises incorporate the use of varied materials, cover gesture, contour, value, plane, and perspective. (3H,3C)

Course Competencies:

- Become acquainted with the basic approaches to drawing including gesture, continuous line, contour, value, perspective, and organizational line;
- Develop skill in utilizing value in the creation of shapes, planes, and the suggestion of volume depicting positive and negative space; and
- Recognize and learn to employ various drawing media including pen, brush, pencil, crayon, and charcoal.

#### 5) *Drawing II*

This course is a continuation of Drawing I and extends experiences introduced in that course to include figure drawing and the incorporation of thematic ideas. Personal expression and application of enhanced drawing skills to areas of individual investigation are stressed. (3H, 3C)  
Prerequisite: Drawing I

Course Competencies:

- Become acquainted with advanced approaches to drawing, especially as they are used to depict the human form or personal, thematic ideas;
- Develop advanced skill in utilizing value in the creation of shapes, planes, and texture in depicting volume, and positive and negative space using the human form; and
- Recognize and employ a combination of various drawing media as appropriate including pen, brush, pencil, crayon, and charcoal with a special focus on the use of texture and color.

#### 6) *Product Design and Development*

This course introduces interdisciplinary concepts associated with product development. Material covered includes theoretical perspectives and practical experiences associated with design, marketing, and manufacturing as they engage essential roles played by various professionals involved in the product development process. (3H,3C)  
Prerequisite: Drawing I

Course Competencies:

- Develop an overview of how various product development processes are organized;
- Learn how to identify opportunities in the product planning process, and how to evaluate and prioritize the planning process;
- Understand how to interpret raw data in terms of customer needs;
- Recognize how product specifications impact and guide the product design process; and
- Reflect on the process and results of product design testing and how it relates to the ongoing work of the industrial designer and marketing professional.

Advanced Coursework (18 credits)

After completing the Foundation Program, students majoring in Visual Design may choose among one of following three areas of emphasis:

- Animation / Game Design
- Computer-aided Design
- Package / Product Design.

Animation Emphasis

1) *Animation Studio I*

An introductory studio/lecture course focusing on 3-D computer-generated animation. Basic 3-D modeling and animation techniques will be explored in relationship to the movie, gaming, and entertainment industries. Several software packages will be used to learn the basic processes of creating and animating synthetic objects, materials, lights, and cameras. (3H,3C) Prerequisites: Foundation Core.

Course Competencies:

- Become acquainted with the fundamentals of 3-D computer modeling including Polygons, Splines, and NURBS;
- Apply beginning subdivision surface modeling methods and deformation tools;
- Introduce the preparation for skeletal structures; and
- Learn how to model simple cartoon characters.

2) *Animation Studio II*

The secondary level of 3-D modeling and animation. The emphasis of this course is to produce and animate digital characters similar to those found in popular movies and video games. Intermediate modeling

techniques, texturing, and the animation of basic human movements will be explored. (3H,3C) Prerequisite: Animation Studio I.

Course Competencies:

- Develop an advanced understanding of 3-D computer modeling, particularly as it involves the human form;
- Model heads, torsos, arms, and legs that move in relation to a scripted story line;
- Apply advanced subdivision surface modeling methods and deformation tools, especially as they relate to facial features including the mouth, eyes, and ears; and
- Learn to create animated characters without a skeletal form.

### 3) *Animation Studio III*

The study and creation of special effects similar to those found in movie and video game industries. This is a studio / lecture class in which students model and animate cinematic effects such as explosions, fire, liquids, smoke, and electricity. Dynamic rules of physics will be used to simulate natural forces in 3-D animation. (3H,3C) Prerequisite: Animation Studio II

Course Competencies:

- Develop an understanding of the process of animating computer-generated special effects using 3-D modeling;
- Model various particle effects that display color gradients, velocity, collision detection, and age;
- Learn to simulate the influence of natural, physical forces such as gravity, wind, and drag on animated objects and particle effects as they relate to object fragmentation or explosions; and
- Apply advanced subdivision surface modeling methods and deformation tools to the creation of liquids, atmospherics, fire, and electrical effects.

### 4) *Animation Studio IV*

An advanced study of the complex aspects of natural human movement and expression as they relate to the field of 3-D computer animation. This is a lecture / studio class in which complex character modeling and animation will be explored. The goal is to create original models that move and express themselves similarly to those found in the movie industry. (3H,3C) Prerequisite: Animation Studio III

Course Competencies:

- Display an advanced understanding of 3-D computer modeling, particularly as it involves the human body moving within an original script or storyline;

- Utilize advanced mapping methods to produce texture and lighting effects in combination with modeled heads, torsos, arms, and legs and special effects action;
- Employ learned principles of staging cinematic movements in animated form including follow-through, overlapping actions, exaggerations, “camera” angle composition, and Rotoscoping; and
- Complete a 3-5 minute animation as part of a graduation portfolio.

### Computer-aided Design (CAD) Emphasis

#### 1) *CAD Studio I*

Introduction to the computer-aided tools and craft of the constructed drawing. Drawing types include plan, elevation, section, axonometric and perspective, with emphasis on synthesis and understanding of volumetric space. Media explorations used to increase sensitivity to materials, craft, and precision of drawing. (3H,3C) Prerequisite: Foundation Core.

#### Course Competencies:

- Execute drawings displaying correct elevations, sections, axonometric, and perspective views of built and un-built constructions using traditional drawing tools; and
- Become familiar with various software tools and protocols employed by computer-aided drawing programs.

#### 2) *CAD Studio II*

A studio course introducing complex computer-aided design experiences. In-depth exploration of CAD protocols including terms, conventions, and drawing techniques from beginning to intermediate concepts using two- and three-dimensional tools and commands. (3H,3C) Prerequisite: CAD Studio I

#### Course Competencies:

- Execute computer-aided drawings displaying correct elevations, sections, axonometric and perspective views of built and un-built constructions using basic CAD software;
- Develop an understanding of how to best use computer-aided drawing tools and protocols in the production of working construction documents; and
- Begin to utilize lighting and textural effects to describe / enhance the virtual reality of computer-generated volumetric space.

### 3) *CAD Studio III*

An intermediate studio course utilizing computer-aided design to produce complete original design concepts. Continuation of CAD design processes building on introductory CAD experiences towards advanced three-dimensional drawing techniques, solid modeling and rendering, lighting texturing, theory, plotting, and animation. (3H,3C) Prerequisite: CAD Studio II

Course Competencies:

- Execute advanced computer-aided drawings displaying correct elevations, sections, axonometric and perspective views using CAD software to show animated and fly-through images of the construction drawing;
- Develop original construction drawings using skills, knowledge, and theory of current or historical buildings; and
- Display an in-depth ability to use computer-aided drawing tools and protocols to manipulate and simulate a “virtual reality” model of an un-built structure using advanced computer visualization techniques employing textures, color, and lighting.

### 4) *CAD Studio IV*

An advanced studio course involving in-depth exploration of the digital virtual space involving advanced concepts of the design process and communication with diverse design programs, animation, sound, and digital transformation. (3H,3C) Prerequisite: CAD Studio III

Course Competency:

- Develop an entire set of computer-aided construction drawings detailing a complex residential or commercial structure as part of a graduation portfolio.

## Package / Product Design Emphasis

### 1) *Package Design Studio I*

Strategies, conceptualization, analysis, and exploration of the design process in solving unique packaging problems. Emphasis is placed on graphic presentation of ideas and the creative process. (3H,3C)  
Prerequisites: Foundation Core

Course Competencies:

- Develop a general understanding of package and product design history;
- Describe various current practices of package and product design applications, and the relationship of package design to related professional fields such as industrial design and marketing;

- Develop basic package design and presentation skills using drawing and common materials to model three-dimensional design solutions; and
- Learn various conceptualization and design process skills used by the design professional to create new and appropriate solutions to meet client needs.

## 2) *Package Design Studio II*

Introduction to the study of letter-forms (typography) for their aesthetic and communicative value. Emphasis will be placed on the form and function of basic type including a fundamental understanding of electronic prepress. (3H,3C) Prerequisite: Package Design Studio I

Course Competencies:

- Become acquainted with the major typefaces used in design including their history and the specialized language associated with the field of typography;
- Develop a basic understanding of the computer software used by the professional design field for the creation and manipulation of letter-form based design, and its output in relationship to the printing house or packaging manufacturer; and
- Grasp and practice creating original package and product designs that reflect fundamental psychological understanding commonly associated with various typographical shapes and forms.

## 3) *Package Design Studio III*

Intermediate package design theory and practice. Demonstrations and practical application will allow students to design and produce mock-ups of original package designs in three-dimensions. Focus will be placed on aesthetics, as well as on the form and function of a product's housing. (3H,3C) Prerequisite: Package Design Studio II

Course Competencies:

- Create two and three-dimensional packages displaying an intermediate competency to manipulate form and typographical content;
- Develop rough prototypes and drawings of existing products and product packages to enhance their aesthetic appeal or solve a perceived client or marketing need; and
- Further enhance a working knowledge of material processes and procedures used by product and package design manufacturers.

## 4) *Package Design Studio IV*

Advanced package design theory and practice. Field-trips, demonstrations and practical applications addressing complex three-dimensional package designs. Focus will be placed on marketing and production concerns, as

well as on the form and function of a product's housing. (3H,3C)  
Prerequisite: Package Design Studio III

Course Competencies:

- Develop an understanding of existing package production processes and manufacturing issues through field trips and possible internships; and
- Produce a graduation portfolio that displays an advanced skill in designing original and aesthetically pleasing packaging models and prototypes that highlight the cumulative skills of the student.

## **XI. New College Graduation Portfolios**

The New College portfolio is an assessment document required of all students for graduation and reflects our desire to provide formal instruction in the skills students will need upon entering the workplace. One of the primary objectives of the New College is to educate students in writing, communications, team work, problem solving, and a variety of other team-based and personal and professional skills to above the level required for entry-level industry and business positions. New College students are required to understand well the intricacies, necessity, and importance of learning and practicing these skills as they prepare for jobs in an increasingly complex and technological workplace. Classes in the Core Curriculum provide instruction in many of these skills and, as well, instruction is integrated into the Knowledge Curriculum where students can improve and practice these skills in a discipline-specific environment. In addition, the Co-req Program provides students the opportunity to identify, develop, and practice these skills while completing New College Co-requisite Program service, entrepreneurship, internship, and leadership requirements.

The philosophy underlying the New College approach to professional skills stresses that understanding technical material is largely useless unless it can be successfully considered and communicated within and across disciplinary boundaries. We believe that instruction, coupled with regular practice over a long period of time, is a highly effective method for teaching students these skills. Ultimately, our goal is to produce well-educated students who are well-rounded by practice and experience in a variety of professional skills.

### **A) Portfolio Administration**

The 28-month portfolio process enables us to gauge students' performance longitudinally. The portfolio requirements are coordinated with required New College classes and Co-req Program requirements; there are no additional assignments necessary to complete the portfolio. Knowledge Managers and the Coordinator of the Pre-

professional Program will be responsible for helping students develop and maintain their portfolios, as well as prepare students to submit their final portfolios.

All academic work submitted for students' portfolios must be graded "C" or better; any work that does not meet this standard must be revised and re-graded (to a "C" or better) under the direction of the Coordinator of the Pre-professional Program (the new grade does not change a student's grade for the assignment or class). Students are responsible for photocopying and submitting every required portfolio document; students will use a portfolio check sheet to record their progress and to provide proof of satisfying portfolio requirements. Students must submit their portfolio documents and check sheets during their ninth academic quarter; a committee composed of Knowledge Managers and faculty will determine if the portfolio meets graduation requirements or if further work needs to be completed.

#### B) Overview of Portfolio Requirements

The procedures for assembling and evaluating the portfolio follow the guidelines described above. The following requirements comprise the New College portfolio (each requirement is described in greater detail in Section C below):

##### 1) Section I: Academic

###### Documents and Evidence of Completion:

- a) One minimum 20-page capstone team project paper;
- b) One minimum 10-page research report in major;
- c) Two minimum 3-5 page progress reports;
- d) One minimum 5-page personal statement;
- e) One employment résumé;
- f) One letter of application (cover letter);
- g) One 6-minute individual oral presentation;
- h) One 12-minute collaborative oral presentation;
- i) One graded poster presentation; and
- j) Three minimum 2-page ethics response papers on current in-major issues *and* three minimum 2-page reflective lifelong learning papers.

## 2) Section II: Experiential Learning (Co-Requisite Program)

Documents and Evidence of Completion:

- a) Community service project (10 weeks) and journal;
- b) College service project (10 weeks) and journal;
- c) Entrepreneurial internship (10 weeks) and journal;
- d) Leadership internship (10 weeks) and journal; and
- e) Health and Nutrition Program (10 weeks) and test.

### C) Portfolio Requirements

#### 1) Section I: Academic

Students are required to include the following documents (or evidence of completion of oral presentations) in their portfolio:

a) *One minimum 20-page capstone team project paper*

Students are required to work in teams during their capstone class in each sector and produce a variety of collaboratively written documented reports culminating in an extensive revised final paper.

b) *One minimum 10-page research report in major*

Classes in each Knowledge Sector require formal individually researched, documented, and revised papers; students must submit a minimum 10-page researched and documented paper.

c) *Two minimum 3-5 page progress reports*

Of the numerous reports students write, two industry-standard revised reports or technical memos must be submitted.

d) *One minimum 5-page personal statement*

Students will submit a revised personal statement (to be used for graduate school or employment) during the ninth quarter Co-req pre-professional workshops.

e) *One employment résumé*

Students will submit a revised résumé (to be used for graduate school or employment) during the ninth quarter Co-req pre-professional workshops.

f) *One letter of application (cover letter)*

Students will submit a revised letter of application (to be used for graduate school or employment) during the ninth quarter Co-req pre-professional workshops.

g) *One 6-minute individual oral presentation*

Students are required in several Core Curriculum and Knowledge Sector classes to prepare, practice, and deliver a minimum 6-minute formal individual oral presentation.

h) *One 12-minute collaborative oral presentation*

In the Knowledge Sector capstone classes, students prepare, practice, and deliver several collaborative presentations; the final presentation on their projects or research must be at least 12 minutes long.

i) *One graded poster presentation*

The public speaking Core Curriculum class requires students to design a professional poster and participate in an in-sector poster session of professional meeting quality.

j) *Three minimum 2-page ethics response papers on current in-major issues and three minimum 2-page reflective lifelong learning papers*

In sector classes, students analyze case histories of ethics-related events and submit a minimum of three ethical responses. In addition, students must submit similar reflective responses to issues related to lifelong learning.

2) Section II: Experiential Learning (Co-Requisite Program)

Successful completion of Co-Requisite Program sectors comprise the second section of the New College Graduation Portfolio. Evidence of the successful completion of service, internship, leadership, and entrepreneurship requirements and submission of journals and response papers will be recorded on each student's portfolio check sheet.

Written documentation will require a time sheet filled out by the college or community coordinator of the project. In addition, students must submit a journal that documents their progress and reflections on the particular experience. Required components of the experiential section of the portfolio follow.

- a) Community service project (10 weeks) and journal
- b) College service project (10 weeks) and journal
- c) Entrepreneurial internship (10 weeks) and journal
- d) Leadership internship (10 weeks) and journal

For each experience (a-d above), students must keep a reflective journal that will be included in the portfolio. Detailed descriptions of service, leadership, and entrepreneurial requirements appear in section XIV: *The New College Co-requisite Program*.

- e) Health and Nutrition Program (10 weeks) and test

Students must attend the 20-session Health and Nutrition Program and complete a narrative test as evidence of completion.

## **XII. Daily Schedule**

Several distinguishing features of the New College plan increase the likelihood of graduation for students. The school provides full-time students a supportive regimen that requires them to attend 8 a.m. to 5 p.m. daily, Monday through Friday, during which time they will spend 16 hours in academic classes (or in online classes). The rationale behind this schedule is that many students in traditional colleges use their down time between classes in unproductive ways. It is the philosophy of the New College that our supportive academic time management structure will teach students to use their time more efficiently and effectively without sacrificing much needed personal and social time. Some students require (or prefer) a more structured schedule in order to succeed. The New College 8-to-5 schedule requires discipline similar to that required of most professional careers.

All matriculated students will attend the New College from 8am—5pm daily, five days per week, for 28 months comprised of ten 10-week quarters. Students will study in Martinsville during the entire time they are enrolled in the College. Students will receive an accredited 120-credit baccalaureate degree following 28 months of study working in classes (traditional and web-enhanced) and program-related projects with faculty, the community, and other students. Semesters begin on January 15<sup>th</sup> and July 15<sup>th</sup> each year; the New College will be in session ten months each calendar year.

A typical weekly schedule will be composed of academic, co-requisite, and social activities in the following manner:

### Monday, Tuesday, Thursday, Friday

8am-9am: Meet with collaborative learning groups

9am-11am: Classes (on-line or in the classroom)

11am-1pm: Lunch, study time, and free time

1pm-3pm: Classes (on-line or in the classroom)

3pm-5pm: Co-requisite Program activities

Wednesday

8am-5pm: Lab work, individual study, collaborative learning groups,  
Co-requisite Program activities

Saturday / Sunday (activities all voluntary)

New College-sponsored cultural trips, outings (e.g hiking, camping,  
climbing), time with family, social activities, self-paid student travel

### **XIII. Faculty and Knowledge Managers**

#### **A) Faculty**

The New College will have 40 faculty members who will hold doctoral degrees in their field although some faculty will have master's degrees and significant industry or government experience. Salaries will be competitive with other four-year institutions.

Faculty members will be responsible for delivering the academic curriculum using web-enhanced instructional methods, classroom instruction, team-project supervision, and internship mentoring. Regular student contact with faculty members is an essential component of the New College curriculum; therefore, faculty will work with students on-line, in classes, in project teams, and individually as necessary to achieve the instructional goals of the curriculum.

Faculty members will not only teach classes in their academic discipline, but also integrate social, political, and economic issues into classes as is representative of the workplace. In addition, faculty will integrate topics from the College Core Curriculum into the entire Knowledge Curriculum and be expected to work collaboratively in reviewing integrated content and teaching methodologies.

All faculty will receive significant instruction in developmental and intrinsic learning, Core Curriculum topics, competency-based education, integrated education, web-enhanced and electronic delivery systems, and team-based and individual professional and personal skills prior to and during their employment at the New College.

Faculty members will teach (on-line or in class) three courses each ten-week academic quarter (12 classes per year) and will have an extensive support network which includes the following: 1) curriculum development and research personnel, 2) course material assistance, 3) knowledge managers, and 4) student teaching assistants.

### 1) Faculty Research Center

Faculty will engage in research into integrated and applied education and instructional pedagogy in their respective disciplines and publish in the juried literature, attend conferences, and collaborate with colleagues at other universities and in industry. A research center will be established staffed by an experienced research associate who will assist faculty with research.

### B) Knowledge Managers

Thirty (30) Knowledge Managers (KMs) will serve as a combination of 1) a college recruiter who is well-informed about all aspects of academic and curricular offerings as well as community resources, 2) a dedicated academic advisor and mentor, 3) an active professional and workplace mentor, and 4) a career and internship advisor. Prospective students will find that KMs offer more than the traditional college recruiter or academic advisor. Knowledge Managers will provide “one-stop shopping” by acting as a central resource for students throughout their studies and community work at the New College.

Knowledge Managers will be critically connected to students’ personal development and academic progress. All students will be *required* to meet with their KMs regularly for any of the following matters: a) to discuss their academic course selection and career goals; b) to discuss their academic progress towards a degree or to seek assistance in courses for which they need tutoring; c) to prepare for and discuss the results of competency testing; d) to select and negotiate community and industry collaborations and internships; and e) to discuss portfolios or any matters important to their progress towards a degree and career.

## 1) Position Description

Knowledge Managers will have a variety of student-related responsibilities including recruiting; admissions; leadership, service and entrepreneurial placement; and teaching as noted below:

### a) Recruit students for the College

Knowledge Managers will be placed in the local school systems, at the local community college(s), on the NCV campus, and at other key community locations (such as the Virginia Employment Commission, the Patriot Center, churches, and other community locations) in order to discuss NCV with prospective students and their families. Knowledge Managers will be well informed on the admissions and financial aid process, and will assist students with making the transition to college.

### b) Academic and Co-Requisite Program advising

Knowledge Managers will help students choose options that best fit their individual educational and career goals as well as their work and family responsibilities. Knowledge Managers will work in concert with faculty to support students.

### c) Career counseling

Knowledge Managers will help students explore career and educational options, understand career planning and decision-making, develop effective job search strategies, and identify specific employers and employment opportunities for permanent and summer jobs.

### d) Experiential learning placement

In conjunction with the Co-requisite Program staff, Knowledge Managers will develop and manage a list of available student internships and volunteer opportunities.

### e) Professional and on-the-job mentoring

During students' required co-requisite interactions with business and the community, KMs will assist students to insure appropriate professional performance and will assist in addressing concerns on the part of the employer / business or the student. Students will receive ongoing feedback from both KMs and business advisors.

### f) Employer and community liaison

Because Knowledge Managers will know both the students and the community intimately, they will represent the college at community events, and identify and develop new opportunities for work and volunteer experiences.

g) Graduation Portfolio supervision

While students will be responsible for creating and maintaining their own portfolios, Knowledge Managers will help students choose appropriate activities and experiences to include in the portfolio, and assist students with portfolio form and presentation prior to graduation.

h) Teaching

Knowledge Managers will have the opportunity to teach one core curriculum course each quarter

i) Student confidentiality and sensitivity

Knowledge Managers will be aware of and sensitive to various racial, ethnic, familial, generational, geographic, and socio-economic differences while working with students and faculty, and maintain appropriate confidentiality in all matters.

2) Knowledge Manager organization

Knowledge Managers will be organized into teams of three and work with both Track 1 and Track 2 students. Teams will be assigned specific middle and high school, church, community organization, and workplace “beats” and will have a presence at the local community college(s). Two lead KMs will manage the overall organization, be responsible for recruiting and training new KMs, and coordinate with faculty and administration.

## **XIV. The New College Co-requisite Program**

### **A) Introduction**

The Co-requisite (Co-req) Program at the New College is intended to provide students with substantial exposure to the benefits of experiential learning, the importance of community involvement, and the rewards associated with leading a healthy and enriched lifestyle, both while attending school and following graduation. While most universities use informal methods to encourage students to participate voluntarily in out-of-class academic, entrepreneurial, community-oriented, and athletic activities, at the New College, many of these activities will be required components of each student's daily schedule.

Students will have the opportunity to experience a broad range of college- and community-based activities through their participation in the Co-requisite Program. All activities offered through the program will be sorted into seven outcome-oriented content areas, or sectors. Together, these sectors represent the out-of-class, experiential component of a New College education. Before the beginning of each ten-week quarter, students will work with their Knowledge Managers and the Co-req staff to select a Co-req Program sector in which they will regularly participate for the quarter. Depending upon their selection, students may be assigned to specific service or semi-professional roles in the college or the community, or they may participate in a quarter-long wellness or professional preparation program. A designated portion of each student's day (approximately two hours a day, four days a week) will be devoted to participation in selected program activities. In addition, students will be encouraged to become involved in other Co-req Program and student life activities on an extracurricular basis.

The outcome-oriented structure and requirements of the Co-req Program are designed to endow New College students with a diverse and practical body of experiential knowledge, while encouraging them to maintain meaningful and lasting associations with the Martinsville / Henry County community and also with their instructors and classmates. Students will meet the requirements of each sector by demonstrating competency in a sector-specific set of experiential learning objectives.

Knowledge Managers and Co-requisite Program staff will work closely with the local and regional community, and also consult current and prospective New College students, to develop a continually evolving program of high-interest, intrinsically rewarding activities based in and around the Martinsville area. A unique feature of the New College Co-req Program will require students to participate in at least one quarter of community or regional service and one quarter of entrepreneurship apprenticing. In this way, Martinsville and Henry County will regularly have between 200 and 300 student volunteers participating in business, economic development, and service projects identified by city, county, and church organizations.

**B) Co-requisite Program Sectors and Requirements**

Students will be required to complete competencies in each of five required sectors prior to graduation (Table 1). The remaining two sectors will maintain an active role in the Co-req Program, and participation in these sectors (primarily artistic, cultural, and social events) will be encouraged but not required. Because the Co-req Program is closely related to the New College academic curriculum, students will be encouraged to participate in activities related to their major, and all suitable Co-req Program activities will be included in each student’s graduation portfolio.

Table 1: Co-Requisite Program Sectors and Requirements

Sector	Minimum Requirement
1) Service	Two quarters
2) Entrepreneurship	One quarter
3) Leadership	One quarter
4) Wellness	One quarter
5) Pre-Professional	Two quarters
6) Arts and Culture	Non-required (voluntary)
7) Entertainment and Social Events	Non-required (voluntary)

In the following section, a brief discussion of each Co-req Program sector is presented, including a rationale for inclusion the New College curriculum, a description of sector-specific activities, and the experiential learning objectives students will achieve through their involvement.

1) Service (two quarters required)

The effectiveness and intrinsic value of including service learning programs in a college curriculum has been well established. The programs and activities in this sector provide the training and active participation necessary for meaningful volunteer involvement in the college and the community. Students participating in this sector will serve in various capacities to address both college- and community-identified needs. Additionally, each student participating in a community service position will represent a critical link between the New College and the Martinsville / Henry County community. The service sector is subdivided into two areas: community service and college service. Students are required to complete at least one quarter of each. The New College will establish its own structure for linking students to service opportunities.

*Activities:*

Community service activities include the following:

- Community Volunteering (e.g, Habitat for Humanity, retirement homes, and other community identified positions);
- Community Mentoring (e.g, after school programs and Big Brothers/Big Sisters); and
- Community Tutoring (e.g, primary and secondary school tutoring, community internet and technology training, and GED preparation).

College service activities include the following:

- New College service staff positions;
- Teaching assistants for faculty and Knowledge Managers;
- Student mentoring program (upper class students mentor new students); and
- Student tutoring program (peer tutoring).

### *Experiential Learning Objectives*

- Experience the many benefits of meaningful participation in college and community service activities;
- Work collaboratively as part of a diverse team to achieve common objectives;
- Understand the social and economic benefits service work brings to both a college and a community; and
- Make participation in volunteer and community projects a part of one's post-college lifestyle.

#### 2) Entrepreneurship (one quarter required)

Well-developed entrepreneurial skills are a major determinant of professional success. Students participating in this sector will develop essential real-world skills while working in the professional community or teaming with local merchants on business development projects and other tasks related to their major. The New College will establish its own structure for linking students to internships and other entrepreneurial activities.

*Activities:* To fulfill the requirements of this sector, students will complete *either* a ten-week internship with a local business (longer internships are also encouraged, see next section) *or* an approved entrepreneurial project under the guidance of a community business advisor.

### *Experiential Learning Objectives*

- Participate effectively as part of a professional team;
- Demonstrate good business practices to support an organization in achieving its business goals;
- Maintain the motivation to set and persuasively communicate a clear vision and business direction; and
- Develop personal entrepreneurial and business development skills.

#### 3) Leadership (one quarter required)

The ability to lead effectively is among the skills most sought-after in industry. Students in this sector will develop their leadership skills by completing *either* at least one quarter of service work in an advanced, leadership-oriented capacity in the college or the community *or* by filling a leadership role in the New College student government or other approved college organization.

Most students in the leadership sector will complete the requirement by performing a second ten-week quarter of service in an existing college or community position. In other words, students will fulfill the leadership requirement by maintaining their positions from the service or entrepreneurial sectors for a second quarter. During this second, or “advanced,” quarter, students will assume more responsibility in a leadership-oriented role. Those with student government or organizational leadership positions will play a critical role in the daily affairs of the college as decision-makers and as representatives of the student body. Students from this sector will also serve on college committees, the Board of Trustees, and student/faculty advisory panels.

*Activities:*

College leadership positions include the following:

- Student government and organizational leadership positions; and
- Advanced (second quarter) student mentor, student tutor, teaching assistant, or service employee.

Community leadership positions include the following:

- Advanced (second quarter) internship with a business or organization; or
- Advanced (second quarter) community volunteer, mentor, or tutor

*Experiential Learning Objectives*

- Demonstrate the ability to “manage one’s self” effectively;
- Understand and explain the essential concepts related to professional / organizational management and supervision;
- Develop basic interpersonal communication and leadership skills including coaching, counseling, delegating, mentoring, selling, and work directing; and
- Understand and demonstrate effective decision making, organizational planning, and problem solving.

4) Wellness (one quarter required)

A balanced and healthy lifestyle leads to increased productivity, less stress and illness, and a higher quality of life. Students in this sector will attend the quarter-long New College Wellness Program, a ten-week course that combines health and nutrition education with a high-interest physical fitness component which may include intramural sports, fitness classes, weight training, or other student-identified activities. Students will participate in classes and activities that raise their health consciousness and encourage them to make intelligent health-related lifestyle decisions.

*Activities:* All students participating in this sector will be enrolled in the New College Wellness Program. Course topics will include health issues related to nutrition and physical activity, food composition and food choice, healthy cooking, media influences, components of physical health, the benefits of exercise, and personal wellness plans. Sports and physical fitness activities will include intramural sports (such as basketball, soccer, football, and tennis), weight training and aerobic fitness, yoga, self-defense, and dance classes.

*Experiential Learning Objectives*

- Understand and appreciate the value of a balanced, healthy diet;
- Understand and appreciate the value of an active lifestyle;
- Make informed decisions regarding food choices and personal health; and
- Improve one's own diet and physical health through self-motivated changes.

5) Pre-Professional (two quarters required)

The activities in this sector are dedicated exclusively to optimizing students' employment potential as they prepare to enter the work force. All students will participate in the pre-professional sector during their final two (ninth and tenth) quarters at the New College. During their ninth quarter, students will focus on finalizing their portfolio, generating a set of professional documents, and acquiring the skills necessary to obtain a desirable job. They will also begin to identify and contact potential employers. Students will use their tenth and final quarter in the Co-req Program to intensify their job search, interview, and, ideally, find employment before they graduate.

*Activities:*

Ninth quarter activities include the following:

- Attend regular seminars on professional preparation and interviewing skills;
- Develop professional documents (résumé, cover letters, and personal statement);
- Finalize New College graduation portfolios; and
- Initialize job search.

Tenth quarter activities include the following:

- Intensify job search;
- Continue seminars on professional preparation; and

- Visit and interview with potential employers.

#### 6) Arts and Cultural Events (non-required)

Frequent exposure to the arts and culturally diverse events serves to enrich students' understanding of their own and other cultures, and to demonstrate the essential role of art in society. Artistic and cultural activities will be featured regularly both on and off the New College campus in conjunction with local and regional organizations, and will also include trips to locations in the broader regional area. The New College will also organize and sponsor regular trips to culturally-oriented destinations throughout the Commonwealth and beyond.

*Activities:* Activities in this sector will expose students to many forms of cultural and artistic expression, and will include on-campus art exhibits and cultural events, as well as trips to museums, galleries, theaters, and events in the regional area.

#### *Experiential Learning Objectives*

- Attain a broad conceptual understanding of the major forms of artistic expression;
- Appreciate the valuable role of the arts in society;
- Understand one's own culture in a global context; and
- Develop a lifelong appreciation for art and culture in their many forms.

#### 7) Entertainment and Social Events (non-required)

A balanced and enriched lifestyle naturally involves a lively social component and a certain amount of "down time." Through voluntary participation in high-interest social events, New College students will have regular opportunities to relax, have fun, and enjoy each other's company.

*Activities:* The Coordinator of Cultural and Social Programs will oversee the organization of regular opportunities for students to enjoy a variety of local and regional entertainment including live music, on-campus movies, food, theatre, and dancing.

#### *Experiential Learning Objectives*

- Understand and enjoy the benefits of a social community;
- Learn that a healthy lifestyle includes leisure time and stress-free activities; and
- Expose oneself to a broad variety of social events.

C) Organization and Administration of the Co-Requisite Program

The Co-requisite Program will be administered by a director and five staff members, each with a specific set of responsibilities. Figure 1 depicts the organization of labor in the Co-req Program followed by a brief job description for each position. All five staff members report to the director.

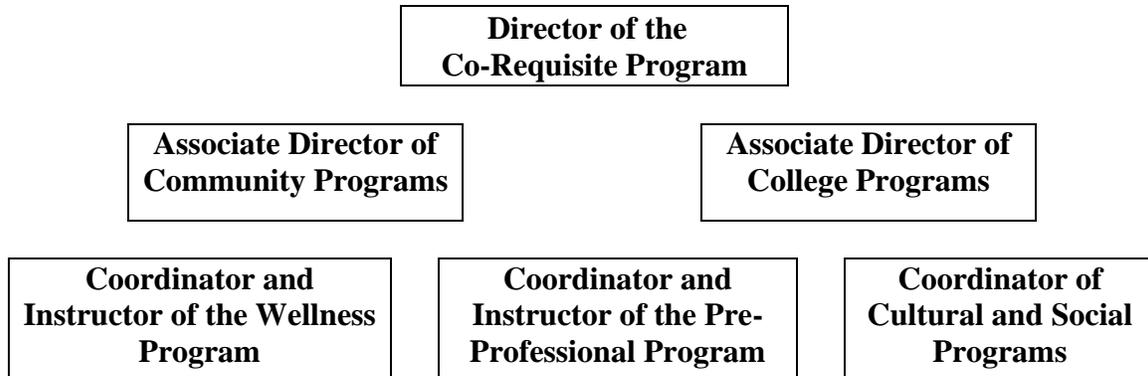


Figure 1: Co-Requisite Program Administrative Structure

1) Director of the Co-Requisite Program

The director of the Program will oversee the daily operation of all Co-req activities and supervise the two associate directors and three coordinators. He or she will also develop and implement policy, and assess Program activities. In addition, the director will be the immediate liaison between the Co-req Program and the New College upper administration.

2) Associate Director of College Programs

With the assistance of faculty, staff, and Knowledge Managers (KMs), the Associate Director of College Programs will identify and manage available College service positions, place students in service roles within the College, and oversee the daily operation of all College Co-req activities. He or she will also work closely with New College student organizations and will be the immediate liaison between the faculty and staff, and the students in College service positions.

3) Associate Director of Community Programs

The Associate Director of Community Programs will work with community organizations to identify available service positions, place students in community service roles, and oversee the daily operation of the community service sector. He or she will also work with KMs and local businesses to place students in entrepreneurial internships and will be the immediate liaison between local organizations and students with positions in the community.

4) Coordinator and Instructor of the Wellness Program

The Coordinator of the Wellness Program will be responsible for developing general Wellness Program content, organizing and administering the physical fitness programs, and teaching the required (not-for-credit) health and nutrition class.

5) Coordinator and Instructor of the Pre-professional Program

The Coordinator of the Pre-professional Program will be responsible for developing Pre-professional Program content, leading regular seminars on professional preparation, and working individually with students to generate professional documents and optimize their employment potential.

6) Coordinator of Cultural and Social Programs

The Coordinator of Cultural and Social Programs will work within the College and also with the Martinsville / Henry County community to organize frequent opportunities for students to experience artistic, cultural, and social events. He or she will also organize and lead regular student trips to a variety of culturally oriented destinations.

## **XV. College, Community, and Public School Outreach**

Integration and outreach are key foundational concepts of the New College model, not just in its curriculum, but also in its role working with area institutions of higher learning, the public schools, as well as within the surrounding community. The New College of Virginia will fully integrate itself into the community and beyond in several ways.

### **A) The New College Academies: Presence and Partnership in K-12 Schools**

The purpose of the New College of Virginia Academy and Junior Academy is to effect social and cultural change through educational opportunity by working with K-12 school systems and other community entities to reach out to underserved students and their families. The Academy will facilitate collaboration among teachers, principals, families, community leaders, Patrick Henry Community College, and NCV to create small learning communities in public schools. The Academy will identify students with potential for success at a post-secondary level and foster student and family recognition of such through learning communities that will nurture positive cultural change. The Academy will engage families and students in the process of making college accessible, exciting, and affordable and will assist them in becoming prepared for the academic and socio-cultural transition to college. Students will be encouraged to expand their general post-secondary school options but will not be pressured to enter a specific institution.

#### **1) The NCV Junior Academy (grades 6-8, depending on school structure)**

Beginning in middle school, students and families will participate in programs that increase awareness and understanding of post-secondary options. Siblings, parents, and grandparents will be invited to partake in a range of activities in the schools, factories or workplaces, and churches. In order to qualify for admission to the NCV Junior Academy, students must

- Express a desire to go to college;
- Have a creative entrepreneurial idea for their school, church, or community and be willing to work as part of a team to further develop the idea; and

- Be willing to engage in volunteerism, such as community service, baby sitting, or unpaid internships.

Once accepted into the Academy, students must maintain a reasonable grade point average (perhaps a C average) and improve upon that average in order to be accepted into the NCV Academy in high school. Incentives will be offered to students who achieve high grade point averages or who improve over previous semesters.

Activities in the New College Junior Academy will be geared to students' level of maturity and ability, and may include the following:

- Academic tutoring by Academy and NCV students;
- Courses or workshops;
- Guest speakers (on such topics as citizenship, the importance of a healthy lifestyle, or career descriptions);
- Engaging activities (such as learning about regional crafts, music, industry, or culture); and
- Career-counseling and guidance that will help them begin to decide what career and life path interests them.

Students, as part of a team, will be required to make a presentation on their entrepreneurial idea, giving them a chance to develop communication and presentation skills, and think about the broader impact of their idea.

## 2) The NCV Academy (grades 9-12, depending on school structure)

The Academy will continue programs for students in lower grades that culminate during the junior and senior years of high school as students begin to work with Knowledge Managers for college preparation. During students' junior and senior years, Knowledge Managers will assist students and families with such matters as the application process, financial aid, and dual enrollment. In order to apply for admission to the NCV Academy, students must

- Express a desire to go to college;

- Have a creative entrepreneurial idea for their school, church, or community and be willing to work as part of a team to develop the idea;
- Be willing to engage in volunteerism such as community service, baby sitting, or unpaid internships;
- Have and maintain at least a B grade point average; and
- Be willing to mentor other students.

The New College Academy will sponsor a variety of activities to support its mission and may include the following:

- Academic tutoring by NCV students;
- Interest area courses or workshops;
- Guest speakers (presentations from local civic and business leaders, and elected officials on high interest topics);
- Discussions on local topics of interest, or learning about regional crafts, music, industry, and culture;
- Career-counseling on career paths and life opportunities;
- Team presentations by students on their entrepreneurial idea or project; and
- Workshops to help students improve their academic work or prepare to attend college (ie. assistance with college applications, employment, and financial aid forms).

### 3) Family Involvement

Parents, siblings, grandparents, and others will be encouraged to participate in Academy activities in order to reinforce the importance of education both in school and at home. Tangible incentives for parents and families will encourage them to help their son or daughter remain in the Program (such as free dinners, discount store gift certificates, and tickets to the Martinsville Speedway). Some workshops will be designed for entire families; others will be presented specifically for parents or students.

#### 4) Staffing

New College Junior Academy and New College Academy Programs will likely require five staff members (Director, Assistant Director for the Junior Academy, Assistant Director for the Academy, Assistant Director for Families and Community, and an administrative assistant). These staff members will work closely with school guidance counselors, teachers, and school administrators as well as with Knowledge Managers and Co-requisite Program staff.

#### 5) Funding

Initial funding will be solicited from The Harvest Foundation; appeals for further funding will be made to national foundations as well as to individual and corporate sources.

#### B) Earning New College Credit in High School

Virginia high school students can prepare for application to the New College of Virginia late in their junior year. Based on the recommendation of high school faculty and counselors, qualified students may complete their high school degree at the same time they begin New College Core Curriculum courses either at home (via Track Two curriculum classes) or on campus in Martinsville. This New College policy is consistent with Governor Mark Warner's "Redesigning the American High School" initiative.

To qualify for this program, students will work with New College Knowledge Managers to identify high school classes they need to complete to prepare them for taking college courses during their senior year. These college-level courses could be used for application to the New College or transferred to another college.

#### C) Partnerships with Regional Academic Institutions

The New College of Virginia will seek partnerships with other academic institutions in Southside Virginia that will strengthen existing academic programs and

increase enrollment at each institution. The ultimate objective of creating partnerships with other institutions is to bring higher education to a greater number of students in Southside Virginia and to continually improve the quality of instruction and programs at each institution.

Focusing on each institution's *unique academic identity* will reduce competition among colleges, reduce existing instructional redundancy, and encourage students to seek degrees more specifically targeted to their career plans. In short, it is generally inefficient for all regional colleges to offer similar academic programs; focusing on the uniqueness of each institution's curriculum significantly broadens the total educational offerings for Southside Virginia. In order to accomplish this, the New College will initiate the following efforts among regional colleges:

- Collaborate with regional colleges to identify and recruit students who may not normally seek a college degree by establishing mutually beneficial academic policies and recruiting efforts that will increase the total number of regional students attending college. In particular, this effort can be accomplished by working with secondary schools to identify and prepare students for college-level work.
- Identify academic programs of study in each institution that are redundant with New College Programs and work to minimize this redundancy in order to reduce the competition for available students.
- The New College will collaborate with regional community colleges so that their students can complete a baccalaureate degree. The New College will accept applications from community college students who have completed an associate's degree, providing these students have successfully completed courses in the arts and sciences, leadership, and communications that will prepare them for the 60-credit New College Knowledge Curriculum. New College Knowledge Managers will work with community college faculty and counselors to facilitate this effort. (See "Transfer Students," page 99)

To facilitate the above efforts, the New College will encourage collaborations among faculty and administrators by sponsoring an annual “Southside Conference” for regional schools that will 1) unify and streamline regional higher education efforts, 2) help Southside colleges broaden their total academic offerings, and 3) strengthen instruction and research efforts at each school. This voluntary coalition of Southside colleges will provide a model for collaboration among schools in rural areas.

## **XVI. Recruiting and Admission Policies**

### **A) Recruiting Policies**

Knowledge Managers will begin working with prospective students during their junior and senior years of high school and will also work closely with teachers, guidance counselors, and New College Academy staff to identify students who may be good candidates for the New College. The *Junior Academy* and *The New College of Virginia Academy* will begin to prepare students for college, both generally and at NCV, through academic and extra-curricular activities.

Knowledge Managers will be located at the following locations:

- Patrick Henry Community College--to assist with transfer-related issues and to assist students preparing for and applying to NCV;
- New College--to assist with general inquiries and to assist students who began college at traditional schools and would like to transfer to NCV; and
- Various community locations (periodically) including churches, factories, and other designated places--to identify students with potential.

Knowledge Managers will have the primary responsibility for recruiting students and assessing their readiness for NCV through pre-admission testing and assessment, and an evaluation of the following factors:

- Discipline, motivation, and organization;
- Communication skills;
- Teamwork ability;
- Leadership and entrepreneurial activities;
- Conceptual and inductive knowledge;
- Community and school activism and service;
- Self-concept, self-knowledge, and identity formation; and
- Problem-solving ability.

## B) Admission Requirements

All applicants to The New College of Virginia must be graduates of an accredited secondary school or hold a General Educational Development (GED) certificate.

Applicants must submit the following documents before being considered for admission:

- A New College application and entrance essay;
- All official high school, GED, community college, or other college transcripts;
- Scores for the Scholastic Aptitude Test (SAT I) or American College Test (ACT);
- A résumé of all employment, service, and volunteer activities; and
- A date to take the NCV Competency Entrance Exam.

Once a student's application file is complete, the information will be reviewed, and the student will be notified of the Admission Committee's decision.

## C) Academic Eligibility: Guidelines for Admission

Preference is given to students who have successfully completed the following criteria:

- Four years of high school English;
- Three years of high school mathematics including Algebra I and II, and a third course to be chosen from geometry, advanced algebra and trigonometry, or calculus;
- Two or more years of high school science beyond general science;
- Two or more years of a high school foreign language;
- A class rank in the top half of the high school graduating class;
- An SAT I score of 900 or better or ACT of 18 or better (waived if the applicant is 25 years of age or over);
- An Advanced Studies Diploma or equivalent;
- Graduation from The NCV Academy;

- An A.A. or A.S. degree from Patrick Henry Community College or other community college; and
- Community service and leadership experience, letters of recommendation, and an admissions interview.

#### D) Financial Eligibility

The New College will provide a remarkable opportunity for students who have academic promise but limited economic resources by awarding every eligible student a tuition scholarship. The New College will establish a policy for determining each family's financial eligibility for admission using information from the Free Application for Federal Student Aid (FAFSA), which all students will be required to submit.

#### E) Transfer Students

The New College will accept students from PHCC and other community colleges and other universities provided these students have completed a minimum 60-credit academic Associate's Degree in the arts or sciences (or the equivalent), and have maintained a grade point average of at least 2.7 (on a 4.0 scale). Transfer students will need to complete two years of the New College curriculum, the courses of which will be determined by NCV Knowledge Managers and the Dean of Instruction based on the entering transfer student's prospective major. Upon successful completion of his or her NCV studies, a NCV baccalaureate degree will be awarded.

Patrick Henry Community College will offer, in association with NCV, 1) some freshman- and sophomore-level general education courses in classroom and web-based formats, 2) industry certification training and testing services, 3) all needed developmental studies courses for NCV, and 4) all dual enrollment courses for local high school students.

## **XVII. Cost-effective Education**

The New College of Virginia is remarkably cost-effective due to a lean administrative structure, very limited course offerings, efficient faculty teaching loads, and low annual operating costs.

Tuition, room, and board for New College students will remarkably low cost through endowment scholarships from the Harvest Foundation, corporate and government grants, and support from the Commonwealth of Virginia. Other New College cost-saving characteristics include the following:

A) *A 28-month degree.* Students will receive an accredited 120-credit baccalaureate degree in 28 months of study. This effort comes at a time when Virginia is expected to add 60,000 prospective college students to its higher education system in the next six years.

B) *Reduced state support.* Because the New College curriculum is compressed to 28 months, less state support will be required than for traditional four-year colleges and universities.

C) *Limited Course Offerings.* College Core Curriculum courses are all mandatory and feature no electives. Knowledge Curriculum courses in each sector offer a limited selection of electives. Such a limited offering of courses requires few faculty to teach New College classes and greatly improves their teaching and course preparation efficiency.

D) *Assessment and testing.* Although our assessment, tutoring, and technology expenses will be greater than in traditional programs, faculty will be teaching only what students need, with little or no instructional redundancy (competency testing and teaching will be tightly coupled) or instruction in areas not necessary for student-tailored instructional plans and goals.

E) *Faculty will supervise and teach a heavier load of classes than in traditional institutions.* With the assistance of an extensive support network, faculty members will teach three courses per academic quarter (on-line and in class)--for a total of 12 classes per *ten-month* academic year (Virginia faculty in four-year institutions normally teach no more than eight classes per academic year).

F) *Collaborative learning instruction* will require students work in teams in order to maximize in-class and online instruction. Dedicated instruction in collaborative learning skills (through established classes and integrated instruction) will insure students possess the study skills they need to achieve.

## **XVIII. Budget**

The budget submitted to the Commonwealth of Virginia appears in Appendix C.

## **XIX. Time Line**

The timeline for hiring senior administration, faculty, knowledge managers, and staff; and enrolling students will occur as follows:

Spring 2005: Hire the senior administration and executive staff

Summer 2005: Hire the first ten (of 40) faculty; the first ten (of 30) knowledge managers, and one-third of the regular staff

January 2006: Hire the second ten (of 40) faculty; the second ten (of 30) knowledge managers, and the final two-thirds of the regular staff

July 2006: Hire the third ten (of 40) faculty  
Enroll the first 200 New College students

January 2007: Hire the final ten (of 40) faculty, the final ten (of 30) knowledge managers  
Enroll the second 200 New College students (enrollment now 400)

July 2007: Enroll the third 200 New College students (enrollment now 600)

January 2008: Enroll the fourth 200 New College students (enrollment now 800)

July 2008: Enroll the final 200 New College students (total 1000 enrollment)

January 2009: Graduate the first 200 New College students

## **XX. Conclusion**

The New College of Virginia will be unique in higher education; the proposed structure, instructional content, and methodologies have all met with considerable success in more limited educational (and industrial) applications for well over a decade. In short, *we are combining four successful methodologies in an innovative curriculum for the first time*. This effort is an evolutionary step in designing higher education curricula that combines the most effective traditional educational practices with successful innovative educational content and methodologies for delivering a low-cost, applied, and workplace-modeled education. Using this combination of methodologies, the New College can provide an education competitive with many Virginia and national schools.

We are minimizing the risk of combining traditional philosophies and innovative methods by conducting considerable research into successful applications at other schools and in industry, and by utilizing the experience and expertise of seasoned academicians and business leaders to design and develop the New College academic curriculum and Co-requisite Program. Since there is no existing New College curriculum, we avoid the philosophical, administrative, and financial battles so characteristic of revising and rewriting long-established instructional curricula. In addition, we have ample start-up funding as well as regional and community support for this effort. It is a rare occurrence, indeed, that the design and development of an institution of higher learning have been characterized by the resources available to the New College.

The New College of Virginia is a safe experiment in higher education that will educate students in their chosen field and provide the professional and personal skills necessary to excel in the workplace. This approach empowers students with the knowledge, application skills, and community and business experience necessary to keep pace with an increasingly complex workplace and society, and the communications and problem solving skills necessary for the 21<sup>st</sup> century workplace. Because the curriculum is competency-based, we can predict through our tailored approach to instruction, and extensive pre- and post-assessment, the knowledge and abilities our graduates will possess before entering (or continuing in) the workplace. Ultimately, the New College

will educate students to become effective professionals, well-educated community members, and productive family members.

The Working Group for the Harvest Challenge, sponsored by the Harvest Foundation, notes the following in March 2004 (excerpted): Henry County and its bordering regions are part of an educationally and economically disadvantaged region. Though rich in history and culture, it is in danger of being passed by in a rapidly changing world. Across the South, the “tobacco, textile, and timber” counties are rapidly de-populating. But some regions can re-vitalize themselves, develop strategies to preserve their ways of life, attract investments that strengthen their economies, and provide incentives for young people to stay and to come. The proposed institution can become a solution to the problems facing Virginia’s de-populating rural regions. It may also set a model for addressing those needs across the nation.

The goals and objectives of the New College are not in conflict with the efforts of nearby or regional institutions of higher learning, nor will it have a negative impact on the enrollment or educational missions of these institutions. The New College of Virginia will work in concert with these colleges to serve the diverse higher education needs of the region.

In creating a cadre of “knowledge workers,” the New College will be fulfilling a long unmet need in Martinsville and Henry County that will serve to improve the long-term economic, social, and educational needs of its citizens, especially young people who traditionally have had little or no access to higher education and the economic benefits it brings.

Higher education needs to be guided by reasonable and progressive voices in universities, industry and business, and government. The desire to have a vision of and commitment to “what could be” in education--the same vision that has already made American higher education unsurpassed in the world--must continue to guide our efforts and budgets. As many of our institutions of higher learning prepare our students less and less for the challenges of the workplace and life in this century, a greater commitment is

required. We will need to look back and listen to the voices of our educational forebears as well as look ahead to build a vision for higher education that is built on the needs of workplace as well as the needs of the individual, the family, and the community.

Prepared by Drs. Eric Pappas, Ronald E. Carrier, and Ronald G. Kander  
December 15, 2004

## **Appendices**

## Appendix A: Glossary of Terms

The New College of Virginia at Martinsville is unique in the many innovative features that it proposes combining under one institution. The following glossary serves as a quick reference for many of the terms and concepts that are key to understanding the college's curriculum and program.

\* \* \* \*

**College Core Curriculum** constitutes the foundational sixty credits that all residential New College students must complete. The curriculum will focus on liberal arts, critical thinking and problem solving, written and oral communications, and teamwork and collaboration. The objective of the College Core Curriculum is to teach students to conceptualize by developing their inductive reasoning skills, allowing them to construct and link broad concepts from a body of specific facts or instances. This approach helps students solve problems and construct thoughts based on how they organize, sense, and value specific internal and external information. The remaining sixty credits required for a baccalaureate degree fall under the **Knowledge Curriculum**.

**Competency-based education** is an outcome-directed and assessment-guided approach to developing content and curricula so that it provides students the knowledge needed to be successful in their professional and personal lives. Students are required to show (through significant testing and assessment) proficiency or competency in knowledge or content areas, rather than in completing a traditional curriculum that demonstrates mastery of course material. Competency testing will be a central component of the New College of Virginia, reflecting its unique character, instructional methods, and content-based approach to education.

**Content-based education** provides instruction in subject matter that allows students to become quickly effective in the work place, and it emphasizes strategic knowledge and educational skills *without* instructional redundancy or instruction in unnecessary topics. It can also entail ample exposure to topics in liberal arts education, as it will at New College. Content-based education is the philosophical basis for **competency-based** assessment.

**Co-requisite (Co-req) Program**, the out-of-class *academic* component of a New College of Virginia education, is what often gets referred to as “student life” activities at more traditional colleges. At the New College, the Co-req Program is integrated into students' daily schedules and designed to provide students with substantial exposure to (a) the benefits of experiential learning, (b) the importance of community involvement, and (c) the rewards associated with leading a healthy and enriched lifestyle, both while attending school and following graduation. Co-req activities—such as community service, entrepreneurship projects, and internships—are required for each student's **graduation portfolio**. A designated portion of each student's day (approximately two hours) will be devoted to participation in co-req activities. A unique feature of the Co-

req Program will require students to participate in at least one quarter of community or regional service, and one quarter of entrepreneurship apprenticing.

**Fundamentals Curriculum** consists of classes within the five-quarter **Knowledge Curriculum** that all residential students in all sectors must take. Courses include the following: Management and Organizational Behavior, Marketing Principles, Entrepreneurship, Leadership, Introduction to Complex Systems, Computer Programming, Applied Statistics, Advanced Mathematics, Database Fundamentals, Simulation and Modeling, Fundamentals of Accounting and Information Systems, and Advanced Communications.

**Graduation portfolios** will be an integral part of the New College program for all residential students and play a significant role in assessing students. Before graduating, each New College student will demonstrate academic competencies by submitting an extensive portfolio detailing specific assignments they have completed in classes, community projects, internships, and activities within the **Co-requisite Program**.

**Integrated education or curriculum** combines instruction in content- and contextually-related topics (and disciplines) to assist students in learning how they will be required to understand and apply knowledge in the workplace. Some of the first efforts in this approach involved integrating writing instruction into classes outside of English departments to give students a greater ability to communicate within and across the disciplines in business and industry. Later and more serious efforts involved integrating instruction in workplace-related topics such as economics, political science, ethics, or entrepreneurship into engineering, business, science, and technology courses. Teaching these disciplines in their “real world” contexts offered practical applied skills to students *before* graduation. Currently, many universities offer instruction in integrated courses, and a few institutions offer course sequences or degrees in integrated studies. New College will be the first institution of higher learning to dedicate its entire academic program to integrating instructional methods and content.

**Knowledge Curriculum** constitutes the sixty credits that residential (Track One) students must complete (along with the sixty-credit **College Core Curriculum**) within their selected sector or “major.” Each student’s work in the Knowledge Curriculum is a technical and detailed study of a discipline based on current real-world content and application. The focus of instruction in this rubric of the curriculum is based on *functionality*—how knowledge can be practically applied in the workplace. Such knowledge is gained through academic study, community involvement, and workplace experience. There are two subsets of the Knowledge Curriculum: **Fundamentals Curriculum** and **Specialized Sector Curriculum**.

**Knowledge Managers** will be a central feature of the New College of Virginia’s program and will be critically connected to students’ personal and academic development. All students will be *required* to meet with their KMs regularly to discuss their academic course selection or progress and their career goals; any necessary tutoring; their competency testing; their required community and industry collaborations and

internships; their portfolios; or any other important matters. In addition, KMs, all of whom must hold graduate degrees, will recruit students for New College through community outreach and affiliated programs in local secondary schools. Essentially, Knowledge Managers will serve as a central resource for students throughout their studies and community work at the New College.

**Knowledge workers** are individuals who possess a substantial body of technical knowledge *and* who can conceptualize, solve problems, and successfully communicate information and ideas based on their technical knowledge across a diverse range of contexts, disciplines, and systems. Knowledge workers are the kind of employees that business and industry will demand in the future; they are more than simply people who are technically trained, as they are skilled in specific areas of science, business, and technology, and in critical thinking and problem solving. They also excel in team-based, collaborative work as well as exhibit well-developed individual and personal professional capabilities.

**Life-long learning** refers to the ability of students to continue educating themselves after graduation in order to acquire the skills and knowledge necessary to increase their job mobility and marketability within their respective fields and related disciplines.

**Specialized Sector Curriculum** consists of classes that comprise a student's major course of study in *one* of the *five* New College sectors, as follows: 1) Information Systems, 2) Health Sciences and Health Policy, 3) Managerial Economics, 4) Digital Communication, and 5) Visual Design.

**Team-based and individual professional and personal skills** are the characteristics associated with **knowledge workers**. These skills consist of critical thinking, problem solving, effective writing and oral communications, ethics, collaboration skills, and entrepreneurship. Industry and business have made it well known that these professional and personal skills are much desired of entry-level candidates as well as existing employees. Many businesses hire employees based more on these skills than on technical skills. Although the knowledge and ability to apply these skills are central to one's success in career and life, instruction in them is not well represented in the vast majority of colleges and universities. The New College of Virginia will offer instruction in these skills through (a) a dedicated curriculum of classes in these specific topics (e.g. critical thinking, problem solving, communications), and (b) instruction in these skills integrated into all classes.

**Track One** designates the New College of Virginia's degree program for *residential* students, who will live in the academic village in Martinsville and pursue B.S. degrees.

**Track Two** designates the New College's *non-residential* student program of Web-based courses. Track Two will be fully developed after the implementation of Track One at New College of Virginia.

**Track Three** at New College refers to *non-degree* professional certification classes to be offered to non-matriculated students. The college will work with corporations and

businesses in developing courses that focus on the skills required of an organization's employees.

**Web-based education and classroom instruction:** In the past decade or so, Web-based education, video classrooms, and electronic delivery systems have characterized **competency-based education** to a great degree. Educators today recognize that first-rate instructional material can be delivered effectively and economically in a Web-based or electronically enhanced format, but such delivery in and of itself is insufficient—*it must be complemented by in-class instruction and discussion*. Accordingly, at the New College, Web-based and electronic education will compose a significant part of the coursework but in tandem with classroom instruction. Moreover, it is well understood by the school's planners that some concepts and course content *cannot* be delivered effectively electronically and must be learned through classroom instruction, community fieldwork, internships, and other means.

## Appendix B: Educational Methodologies

### A) Integrated Education

Colleges and Universities employing integrated curricula in science and technology at the program-, department-, or college-level\* (selected):

James Madison University (College of Integrated Science and Technology)  
Marshall University (Integrated Science and Technology Program)  
Shizouka University, Japan (Department of Integrated Sciences and Technology)  
Southern Louisiana University (Graduate Program in Integrated Science and Technology)  
North Carolina State University (Program in Science, Technology, and Society)  
Claremont College (Science, Technology, and Society Program)  
Pennsylvania State University (Science, Technology, and Society Program)  
Massachusetts Institute of Technology (Science, Technology, and Society Program)  
Rensselaer Polytechnic Institute (Science and Technology Studies)  
Stanford University (Science, Technology, and Society Department)  
Colby College (Science, Technology, and Society Program)  
Wesleyan University (Science in Society Program)  
University of Michigan (Science, Technology, and Society Program)  
Cornell University (Science and Technology Studies)  
Princeton University (Science, Technology, and Environmental Policy)  
University of Quebec at Montreal (Science, Technology, and Society Program)

\*The vast majority of U.S. colleges and universities offer (at least) integrated course-level instruction in undergraduate science, business, and technology programs.

### B) Competency-Based Education

The following (selected) accredited colleges and universities use significant competency-based instruction in their curricula:

DePaul University School for New Learning	Western Governors University
University of Phoenix Online	Utica College
Colorado Tech	University of Cincinnati
Johns Hopkins University School of Nursing	Northface University
University of Missouri-St. Louis	Atlantic International University
Eastern Tennessee State University Radiography Program	

### C) Online Education

Virtually all colleges and universities in the U.S. offer courses online in most all disciplines. The following colleges and universities are among many that offer accredited bachelor's or master's degrees online:

Colorado Technical University Online	Boston University
Florida Metropolitan University Online	Tulane University
Central Michigan University	University of Scranton
International Institute of the Americas Online	University of Washington
University of Cincinnati	University of Florida
University of Phoenix	Western Governors University
University of Maryland University College	Westwood College Online
Florida Hospital College of Health Sciences	Ellis College
University of West Alabama	

### D) Team-based and Individual Professional and Personal Skills

Engineering and technical programs in undergraduate higher education have taken a lead in teaching professional skills. A recent study\* notes that "...50% of U.S. Schools and 80% of Canadian schools require a course in technical communication, and another 33% offer elective courses in communications." Among schools with substantive efforts to teach integrated communication skills are as follows:

Virginia Tech	University of Virginia
Stanford University	University of Michigan
Purdue University	University of California Irvine
Rice University	University of Colorado
University of Washington	Iowa State University

\*(Reave, Laura, "Technical Communication Instruction in Engineering Schools," *Journal of Business and Technical Communication*, Vol. 18 #4, October 2004)

Appendix C: Budget

## 2005 Decision Package Narrative Justification (Form NJ)

1. Agency name: The New College of Virginia 2. Agency code: N/A

3. Decision package number: 725 4. Title: Establish and Develop College Programs for Track 1 Residential Students

5. Priority of this decision package: 1

### Section 1: General Description

Fiscal year	Dollars		Positions	
	GF	NGF	GF	NGF
<b>FY 2005</b>	\$1,500,000	-	12	-
<b>FY 2006</b>	\$3,000,000	\$4,714,698	33	51
<b>FY 2007</b>	\$9,000,000	\$3,582,738	89	35
<b>FY 2008</b>	\$9,000,000	\$4,546,473	82	42
<b>FY 2009</b>	\$9,000,000	\$4,546,473	82	42
<b>FY 2010</b>	\$9,000,000	\$4,546,473	82	42

\* Due to volatility of inflation rates, costs are projected in constant dollars

#### 7. Description

The purpose of this budget request is to implement an innovative baccalaureate program located in Martinsville, Virginia, that will provide educational opportunities for students from Southside and other rural areas who have demonstrated academic strength and promise but are underrepresented in higher education. The program will be content-based (rather than course-based), with an integrated curriculum, offering Web-enhanced coursework complemented by in-class instruction, and will place great emphasis on applied instruction, community service, and developing in students a core set of leadership, entrepreneurial, and collaborative professional skills. Students will be evaluated via on-going and regular competency testing and assessments.

The New College of Virginia (NCV) will open its doors beginning in July 2006 accepting 200 students initially and enrolling an additional 200 every two quarters until reaching the goal of 1,000 FTE residential students by FY 2008. Students will be able to earn a baccalaureate degree in 28 months, attending school 8 a.m. to 5 p.m., Monday through Friday, during four 10-week quarters, running July 15 to December 15 and January 15 to June 15. This compressed degree requirement means that NCV offers a cost efficient program compared to traditional four year schools. For instance, 1,000 FTE students earning a degree in 28 months results in an annual graduation rate of 400 per year - the equivalent to a total enrollment of 1,600 at a traditional four-year school. Moreover, the traditional ratio of 50 faculty to 1,000 students at Virginia four-year institution is reduced at NCV to 40 faculty to 1,000 students because of the integration of Web-enhanced coursework into classroom instruction. In addition, NCV will provide 48 instruction hours per academic year for a full time student whereas the state average for traditional institutions is 30 credit hours per year. Programs for students in tracks 2 and 3 (non-residential students mentioned in Appendix B) will be

developed once the track 1 student (residential) curriculum and programs are established.

In-state students will comprise approximately seventy-five percent of the student body and tuition will cost \$1,546 for the academic year. Tuition charged to out-of-state students will be \$13,546. Students will be required to pursue federal and state financial aid, and a progressive financial aid staff will seek and distribute grant and scholarship monies dedicated toward financial aid.

## **8. Outcomes/results**

The mission of NCV is multi-purpose:

- (1) To provide rural Southside students a baccalaureate degree program in limited but relevant fields at a very reasonable tuition.
- (2) To improve, through its graduates, the knowledge base of the resident population in order to attract outside industry and to foster regional entrepreneurship to grow business from within the community and state.
- (3) To partner with secondary schools, community colleges, and other educational, workforce, and economic development initiatives in the region to increase graduation rates, college attendance, and job availability.
- (4) To revitalize uptown Martinsville through the creation of an academic village consisting of renovated and new construction.

NCV seeks to economically reinvigorate and transform Martinsville, Henry County, and Southside through an educational program that is integrated into the community (and in its curricula) in order to make the region less dependent on state transfer funds (for social programs such as welfare and unemployment) and low paying jobs. Moreover, in light of projected burgeoning enrollment expectations in the future, it is imperative that Southside develop a regional institution to serve an already underserved population. As future enrollment grows and admission becomes more competitive elsewhere in the state, Southside youth risk falling further behind when it comes to attaining the opportunity for higher education.

NCV has the potential to bring a \$23.5 million total impact on the Martinsville-Henry County community and 440 direct and indirect jobs per year. Even a more conservative estimate reveals \$17.1 million impact and 229 jobs per year. Indeed, this college could have the effect on Southside that many college communities enjoy: jobs, tax revenue and other economic activity, increased art, cultural and recreational activity, and an increased capacity for community and economic development.

## **9. Consequences of funding/not funding**

The Harvest Foundation of Martinsville, a nonprofit organization created using the proceeds from the sale of the community's not-for-profit hospital, will invest \$50 million in the physical plant for NCV under the stipulation that the college become a public institution receiving funds on a basis consistent with that of other public institutions in the state.

If the college is not built, there will be little hope in the foreseeable future in reversing the downward economic spiral the region is experiencing due to globalization and the exodus of traditional manufacturing jobs. Providing a baccalaureate education to both traditional age and adult learners will create the foundation for a knowledge-based community and will be attractive to business and industry seeking locations at which to establish a business.

## **10. Need for request**

NCV requires General Fund support of \$1.5 million for FY 2005 and \$3 million for FY 2006 in order to establish the college. These start-up funds will be used to hire the necessary personnel to develop the college's curriculum, train staff, recruit faculty, and recruit students from around the region through targeted outreach efforts. Additionally, work will begin in partnership with economic development initiatives.

**11. Alternatives considered**

The Harvest Foundation considered several alternatives. Its leadership consulted with state and national educators by commissioning a study in the spring of 2004. That study was reviewed by former presidents of Virginia colleges, including Dr. Ronald E. Carrier (SEE APPENDIX A). Both the authors of the study and the former presidents advised the foundation that the initial consideration for a traditional brick-and-mortar institution would unlikely be funded by the state in Southside since it would duplicate existing efforts and leave many prospective students underserved or un-served. Rather, the region and its prospective students would be better served by an alternative model to higher education that would take into account the unique characteristics of the region. Careful consideration was then given to newer, alternative models in the state such as higher education centers and fully web-based curricula. While both these approaches have merit, neither appeared fully compatible with the needs of the area’s citizens and the goals of the Harvest Foundation—to promote education in, and revitalization of, an economically depressed region.

Accordingly, in order to meet its goals while also recognizing the state’s limited available financial resources, the Harvest Foundation authorized the development of the model described herein and in the accompanying concept paper that combines liberal arts education with professional development and instruction (SEE APPENDIX B). This model also has the advantage of being more cost effective for both students and the Commonwealth. In addition, the NCV model entails broad-based educational collaboration between secondary and post-secondary schools that will in turn increase the high school graduation rate and college graduation rate of the region. This increases the numbers and types of workers needed to attract business and industry to the region, thus reducing unemployment and the attendant social stagnation in the region.

12. Are the proposed services, programs, or activities mandated? If YES, please explain:  YES  NO

13. Is legislation needed?  YES  NO If YES, please explain:

To ensure compliance with Title 23 of Virginia Code

14. Appropriation Act language needed?  YES  NO If YES, please explain:

Language is required to authorize creation of a “New College” in a manner consistent with its status as an ongoing institution of higher education in the Commonwealth of Virginia similar to other existing institutions.

**Section 2: Cost of request**

15. One-time funding?  YES  NO If YES, please explain:

FY2005 and FY2006 include one-time developmental and startup costs. FY2007 includes supplementary funding until the college achieves full student capacity. Permanent funding in future biennia is also required (see below).

16. Recurring need?  YES  NO If YES, please explain:

The funding will be allocated to serve ongoing contractual and academic support commitments required to fulfill

student obligations within the designated academic model.

17. Personal services?  YES  NO If YES, fill in table below:

General fund revenues will be allocated to support ongoing administration, faculty, advisory, and support positions necessary to properly serve the needs of students.

**FY2005**

Position (Role) Title	Expected hire date	Band	Starting salary	\$ cost of salary & fringe benefits
President	1/05	9	\$150,000	\$188,058
Vice President of Academic Affairs	1/05	N/A	\$125,000	\$157,873
Vice President of Finance and Facilities	1/05	N/A	\$125,000	\$157,873
Vice President of Development and Public Relations	1/05	N/A	\$125,000	\$157,873
Four (4) Administrative and Support Staff	1/05	3	\$40,000	\$54,648
Four (4) Co-requisite and Student Support	1/05	4	\$40,000	\$54,648

**FY 2006**

Position (Role) Title	Expected hire date	Band	Starting salary	\$ cost of salary & fringe benefits
Ten (10) Faculty Positions	7/05	N/A	\$65,000	\$85,429
Ten (10) Faculty Positions	1/06	N/A	\$65,000	\$85,429
Ten (10) Knowledge Managers (Admin.and Prof. Faculty)	7/05	N/A	\$50,000	\$67,318
Ten (10) Knowledge Managers (Admin. And Prof. Faculty)	1/06	N/A	\$50,000	\$67,318
Two (2) Co-Requisite and Student Services Staff Members	7/05	4	\$40,000	\$54,648
Co-Requisite and Student Services Staff Member	1/06	4	\$40,000	\$54,648
Two (2) Registrar/Records Staff	7/05	4	\$40,000	\$54,648
Three (3) Registrar/Records Staff	1/06	4	\$40,000	\$54,648
Two (2) Administrative Support Staff	7/05	3	\$40,000	\$54,648
Two (2) Library Support Staff	1/06	5	\$40,000	\$54,648
Two (2) Public Safety Staff	7/05	4	\$40,000	\$59,880
Public Safety Staff	1/06	4	\$40,000	\$59,880
Student Health Staff	7/05	4	\$40,000	\$54,648
Student Health Staff	1/06	4	\$40,000	\$54,648
Two (2) Financial Aid and Scholarships Staff	7/05	4	\$40,000	\$54,648
Three (3) Financial Aid and Scholarships Staff	1/06	4	\$40,000	\$54,648
Two (2) Corporate and Community Partnerships Staff	7/05	5	\$40,000	\$54,648
Three (3) Corporate and Community Partnerships Staff	1/06	5	\$40,000	\$54,648
Three (3) IT and Computer Services Staff	7/05	4	\$40,000	\$54,648
Two (2) IT and Computer Services Staff	1/06	4	\$40,000	\$54,648

***FY 2007 – FY 2010 (for informational purposes only)***

Ten (10) Faculty Positions	7/06	N/A	\$65,000	\$85,429
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Ten (10) Faculty Positions	1/07	N/A	\$65,000	\$85,429
Ten (10) Knowledge Managers (General Faculty)	1/07	N/A	\$50,000	\$67,318
Three (3) Co-Requisite and Student Services Staff Members	7/06	4	\$40,000	\$54,648
Seven(7) Administrative Support Staff	7/06	3	\$40,000	\$54,648

18. Nonpersonal services?  YES  NO If YES, fill in table below:

Expenditures	FY 2005 CHANGE		FY 2006 CHANGE	
	GF	NGF	GF	NGF
Contractual Services	\$400,000	-	\$500,000	\$560,000
Supplies & Materials	\$140,000	-	\$197,210	\$530,000
Transfer Payments	\$32,500	-	\$78,618	\$100,000
Continuous Charges	\$75,000	-	\$75,000	\$200,000
Property & Improvements	\$76,869	-	\$96,251	\$100,000
Equipment	\$200,000	-	\$174,500	\$300,000
Plant & Equipment	\$26,200	-	\$26,200	\$62,221
Obligations	-	-		-

**Explain below:**

**CONTRACTUAL SERVICES-** Expenditures for initial or start-up advice on many aspects of the new college including architectural, curriculum development, educational concept, student needs, economic impact.

**SUPPLIES AND MATERIALS**

Expenditures for administrative supplies, energy supplies (coal, gas, gasoline, oil, and steam), medical and laboratory supplies, repair and maintenance supplies, and residential supplies.

**TRANSFER PAYMENTS**

Expenditures for educational and training assistance (student loans, tuition and training assistance, tuition waivers, and undergraduate scholarships); and grants and partnerships to local governments.

**CONTINUOUS CHARGES**

Expenditures for insurance (assets and operations), asset and facility lease payments, installment purchases and electrical, refuse, and water charges.

**PROPERTY AND IMPROVEMENTS**

Expenditures for property and improvements acquisition, natural resources acquisition, and site development.

**EQUIPMENT**

Expenditures for computer, educational, cultural, electronic, photographic, medical, laboratory, motorized, office, specific use, and stationary equipment (including library books, periodicals, etc.).

**PLANT AND IMPROVEMENTS**

Expenditures for plant construction improvements.

19. Nongeneral fund sources?  YES  NO If YES, fill in table below:

Revenue Source Code	Fund/ Fund Detail Code	Fund/Fund Detail Title	FY 2005 amount	FY 2006 amount
06003	0302	Foundation	\$0	\$4,714,698

**Explain below:**

One time development funding provided by the Harvest Foundation to support the establishment of the college. In out years, the NGF funding source will be tuition revenue as described elsewhere in this narrative.

**20. Grant funds?**

YES

NO

If YES, explain below:

**21. Methodology for cost of proposal**

Due both to the volatility and uncertainty surrounding future inflation estimates, all figures have been calculated in constant dollars

**Section 1: General Description.**

General Fund and Non-General Fund Positions have been distributed proportionally in accordance with the ratio of General Fund to Non-General Fund dollars. As such, General Fund dollars in each fiscal year were divided by total budgeted dollars to obtain the ratio of General Fund to Non-General fund dollars. That percentage figure was then multiplied by the number of total positions in each fiscal year to determine the number of positions funded by General Fund dollars. The difference between the total number of positions and the number of positions funded by General Fund dollars indicated the number of Non-General Fund positions in each fiscal year.

**Section 2: Cost of Request**

**Personal Services**

Starting salaries for each position are listed as averages. Benefits were calculated by multiplying the salary for each position by the appropriate percentage fringe benefits.

Fringe benefits for full-time positions are based on the following percentage of the base salary:

- VRS Retirement 8.91%
- VRS (VALORS) 21.99%
- Teacher's Insurance Annuity 10.40%
- Social Security 7.65%
- Group Life Insurance Premiums 0.0%
- Retiree Health Insurance Credit Premiums 1.04%
- Sickness & Disability Program 1.65%
- Deferred Compensation Match \$480

Medical Insurance for all positions is calculated using \$6,468 per full-time position. These benefit calculations are based on DPB instructions for budget submission for 2005-2006.

FY2007 new hires are listed for informational purposes only.

**Nonpersonal Services**

Expenditures for nonpersonal services are listed for FY2005 and FY2006 in the provided table and are expressed as changes from FY2004 in which total nonpersonal expenditures were \$0. As a result, the expenditures listed under "FY2005 Change" and "FY2006 Change" also reflect each category's absolute annual total.

General Fund and Non-General Fund expenditures have been distributed proportionally in accordance with the ratio of General Fund to Non-General Fund dollars. As such, because there are no Non-General Fund dollars

available in FY2005, there are no Non-General Fund expenditures in 2005 and \$1.5 million in total non-personal General Fund expenditures in FY2005

In FY2006, The New College of Virginia will allocate \$3 million for contractual services, supplies and materials, transfer payments, continuous charges, property and improvements, equipment, plant and equipment, and obligations. \$1,147, 809, the amount of General Fund money left over after all General Fund positions have been filled and funded for FY2006 will be allocated for the aforementioned purposes. \$1, 852, 191 will be allocated for NGF nonpersonal expenses, according to:

$\$4,714,698$  (Personnel Cost for FY2006)/ 84 (number of FY2006 positions) =  $\$56,127$  (average FY2006 salary)

$\$56, 127 \times 33$  GF positions =  $\$1,852,191$  in FY 2006 GF Personnel Expenses

$\$56,127 \times 51$  NGF positions =  $\$2,862,477$  in FY 2006 NGF Personnel Expenses

$\$3,000,000$  (FY 2006 GF Money) –  $\$1,852,191$  =  $\$1,147,809$  in GF nonpersonal expenses, distributed across the categories in accordance with stated needs

$\$4,714,698$  (FY 2006 NGF Money) -  $\$2,862,477$  =  $\$1,852,221$  in NGF nonpersonal expenses, distributed across the given categories in accordance with stated needs

\* $\$1,147,809 + \$1,852,221 = \$3,000,30$  (difference due to rounding)

**Tuition Calculation**

Total FY2008 Personal Cost:  $\$8,846,473$

Total FY2008 Nonpersonal Cost:  $\$4,700,000$

Total:  $\$13,546,473$

Out of State Tuition = 100% of student cost

$\$13,546,473/1000$  students =  $\$13,546$

$\$13,546 \times 250$  out of state students =  $\$3,386,618$

$\$13,546,473 - \$3,386, 618 = \$10,159, 855$

$\$10,159,855 - \$9,000,000$  (General Fund) =  $\$1,159,855$

$\$1,159,855/ 750 = \$1,546$  in-state tuition

**Section 3: Measuring Results**

**22. What is the specific outcome you are expecting if this request is funded? Also indicate if this is a new activity for your agency.**

This is a new venture for the Commonwealth, with expectations to establish an innovative baccalaureate program in higher education that will transform the Martinsville and Henry County area educationally and economically by graduating knowledge workers and increasing secondary school and college graduation rates. If successful, the NCV program could prove to be a viable educational model for other rural areas in the state and the nation.

**23. Performance measure in Virginia Results?**  YES  NO

If YES, please state the measure

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