

ACADEMIC CALENDAR 2002-2003

Please access www.cnu.edu for the latest updates to the CNU Academic Calendar

Fall 2002

August 1	Intent to Graduate form due to the Office of the Registrar for December 2002 Degree Completion
August 26	Classes Begin
August 26-30	Add/Drop Period
September 2	Labor Day - Classes Meet
October 12	Fall Recess begins after last class meets
October 16	Classes resume at 8:00 a.m.
October 30	Last Day to Withdraw Without Grade Penalty
November 21	LAST DAY FOR THESIS FORMAT REVIEW
November 26	Thanksgiving Recess begins after last class meets
December 2	Classes resume at 8:00 a.m.
December 3	Thesis/Portfolio/Culminating Project FINAL COPY due by 2:00 p.m. to the Office of Graduate Studies for December 2002 Degree Completion
December 7	Classes end
December 7-13	Final Examinations
December 14	Winter Commencement

Spring 2003

January 13	Classes begin
January 13-17	Add/Drop Period
February 1	Intent to Graduate form due to the Office of the Registrar for May 2003 Degree Completion
March 1	Spring Recess begins after last class meets
March 10	Classes resume at 8:00 a.m.
March 24	Last Day to Withdraw Without Grade Penalty
April 17	LAST DAY FOR THESIS FORMAT REVIEW
April 24	Thesis/Portfolio/Culminating Project FINAL COPY due by 2:00 p.m. to the Office of Graduate Studies for May 2003 Degree Completion
April 26	Classes end
April 28- May 3	Final Examinations
May 10	Spring Commencement

Summer 2003

Dates to be determined	
July 24	LAST DAY FOR THESIS FORMAT REVIEW
July 31	Thesis/Portfolio/Culminating Project FINAL COPY due by 2:00 p.m. to the Office of Graduate Studies for August 2003 Degree Completion

GRADUATE CATALOG 2002-2003





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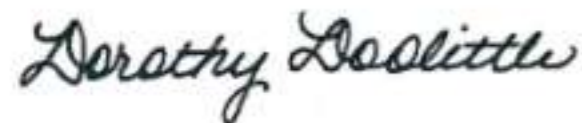
Dear Student,

The pages that follow describe our traditional Graduate Programs and the Five Year Bachelor to Master's Programs. You'll learn of the admission requirements, the program requirements and what the courses offer. We also have included the academic policies and procedures which will make your graduate student days run more smoothly.

What we cannot show you on these pages are the qualified and enthusiastic faculty who will instruct you, the excitement of discussing and comparing ideas, the sense of accomplishment you will have as you successfully complete the challenging courses, the satisfaction of reviewing the results of your first research project and the sense of community you will feel at CNU!

The Office of Graduate Studies, the academic and professional faculty and the staff are pleased that you have selected CNU to continue your professional, personal and career growth. Your education is our first priority! We expect you to do your best and you can expect the best from us.

Sincerely,



Dr. Dorothy C. Doolittle
Associate Provost for Research and Graduate Studies

Student Responsibility for Graduate Catalog Information

Graduate students are held individually responsible for the information contained in the Christopher Newport University Graduate Catalog. Failure to read and comply with University regulations will not exempt students from whatever penalties they may incur. Students beginning their programs of graduate study at Christopher Newport University should retain this catalog as a reference.

University Catalog Information

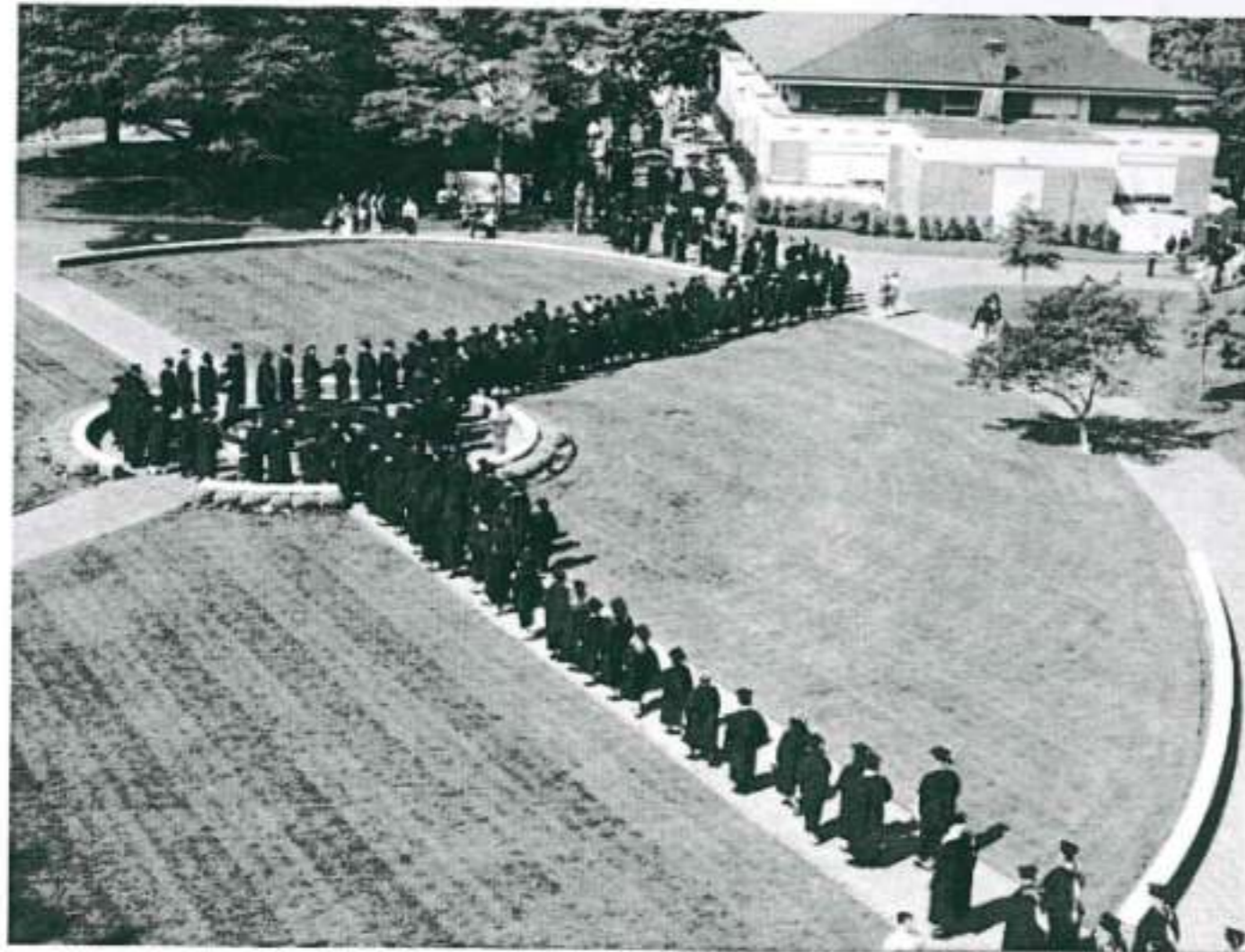
The provisions of this catalog do not constitute a contract, expressed or implied, between any applicant or student and the Rector and Board of Visitors of Christopher Newport University. The University reserves the right to change any of the provisions, schedules, programs, courses, rules, regulations, or fees whenever university authorities deem it necessary to do so.

University Affirmative Action/Equal Opportunity Policy

Christopher Newport University does not discriminate in admission, employment or any other activity, on the basis of race, gender, color, age, religion, veteran status, national origin, disability, or political affiliation. The University complies with all applicable state and federal constitutional provisions, laws and regulations concerning discrimination. Anyone having questions concerning these laws should contact the Director of Equal Opportunity.

The 2002-2003 Graduate Catalog was published by The Office of University Relations at Christopher Newport University.

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CHRISTOPHER NEWPORT UNIVERSITY

Christopher Newport University is the youngest comprehensive university in the Commonwealth of Virginia. However, it came into being as part of the oldest academic institution in the Commonwealth. For this reason, it has a great sense of history and a strong vision of the future. Christopher Newport College was established by the Virginia General Assembly in 1960 as a two-year branch of The College of William and Mary. It became a four-year baccalaureate degree-granting institution in 1971 and became totally independent of The College of William and Mary in 1977.

The university began offering graduate programs in July 1991; and in July 1992, was renamed Christopher Newport University. The university derives its name from Captain Christopher Newport, who was put "in sole charge and command" of the squadron of three ships that landed at Jamestown in 1607. He was among the most important men connected with the permanent settling of Virginia.

Mission of Christopher Newport University

The mission of Christopher Newport University is to provide educational and cultural opportunities that benefit CNU students, the residents of the Commonwealth of Virginia and the nation. CNU provides outstanding academic programs, encourages service and leadership within the community and provides opportunities for student involvement in nationally and regionally recognized research and arts programs.

Our primary focus is excellence in teaching, inspired by sound scholarship. At CNU, personal attention in small classes creates a student-centered environment that allows creativity and excellence can flourish. Our primary emphasis is to provide outstanding undergraduate education. We also serve the Commonwealth with Master's degree programs that provide intellectual and professional development for graduate-level students.

We are committed to providing a liberal arts education that stimulates intellectual inquiry and fosters social and civic values. CNU students acquire the qualities of mind and spirit that prepare them to lead lives with meaning and purpose. As a state university, we are committed to service that shapes the economic, civic and cultural life of our community and Commonwealth.

Mission of Graduate Studies

The graduate programs at Christopher Newport University offer degrees at the master's level for the educational and professional enhancement and enrichment of students and in response to the needs of the CNU community. Graduate study at CNU requires students to extend their knowledge and intellectual maturity to a level of complexity and sophistication well beyond that of undergraduate education. Graduate students are required not only to gain an understanding of the subject matter and the nature of research in their discipline but, also to engage in their own research projects. The goal of this activity is to give the master's degree recipient greater ability to practice in and contribute to a profession or field of scholarship.

Graduate faculty members are active scholars in their fields, who are recognized as productively engaged in their professions. As such, these faculty members serve as models for graduate students and provide for them an appropriate level of knowledge and research expertise. CNU's graduate programs are committed to teaching and scholarship of high quality and to the availability of faculty members to students.

Organization of the University

The academic areas of the university are organized into the College of Liberal Arts and Sciences and the School of Business, each administered by a dean. In addition to the Dean of the College of Liberal Arts and Sciences, an Associate Provost works directly with the dean. Individual faculty members are responsible to the college deans, the Associate Provost for Research and Graduate Studies and to the Provost in all matters pertaining to instruction. The graduate program is administered by the Director of Graduate Studies with instruction and research carried out by the graduate faculty.

The university derives its financial support from the Virginia General Assembly and from tuition and fees paid by students. The Christopher Newport University Board of Visitors, appointed by the governor, directs the affairs of the university. The president of the university, appointed by the board of visitors, is the delegated authority over the administration and the courses of instruction of the university.

Organization of the Academic Year

The university year is divided into two semesters, August to December (fall semester) and January to May (spring semester) and three summer sessions. Graduate students may be admitted to the university for full or part-time study beginning the fall or spring semesters or prior to any summer session.

Accreditation

Christopher Newport University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; telephone number — (404) 679-4501) to award degrees at the baccalaureate and master's degree levels.

Location

The university is located in suburban Newport News, midway between Williamsburg and Norfolk. The campus is readily accessible to residents of Hampton Roads. Air service is available at the nearby Newport News/Williamsburg International Airport and at the Norfolk International Airport.

Student Services

The university's student services and facilities are available to all students and are described fully in the 2002-2003 *Christopher Newport University Undergraduate Catalog* and at www.cnu.edu/studlife.

Services for Students with Disabilities

CNU provides reasonable accommodations to make education accessible to students with disabilities. The Academic Advising Center (AAC) assists students with disabilities by understanding the individual student's needs and providing support to help the student achieve academic goals. The aim of Services for Students with Disabilities is to provide students with disabilities equal access to the programs, opportunities and benefits of the university. Students with disabilities may consult with the Coordinator before or during their active enrollment at CNU. New students will want to contact the Coordinator well before beginning their first semester, if special services will be required. While consultation with the Coordinator is always available, students who request accommodation by the university must formally declare their disability by completing a form obtained from the AAC.

In order to determine needs and provide the best services possible, students are asked to provide recent documentation concerning their disability so we can determine needs and provide the best services possible. Such documentation should include the student's disability and suggestions for possible accommodation to enhance access and/or success in the programs and activities of the university. Documentation should be provided in writing from a qualified professional and mailed to:

Ms. Deborah Q. Witt
Academic Advising Center
Coordinator for Students with Disabilities
Christopher Newport University
1 University Place
Newport News, VA 23606-2998

Evaluation information concerning a student's disability is private. Such information will be provided to instructional or staff members only when they have a legitimate "need to know," and only then with the student's permission. Questions concerning reasonable accommodation of a student's disability or handicap should be directed to the coordinator by mail, or by calling (757) 594-8763, TDD: (757) 594-7938, or TDD: (800) 828-1120, the Virginia Relay Center, or email: dwitt@cnu.edu.



GRADUATE STUDIES

Master of Arts in Teaching

This master's program is practitioner-oriented and designed for those already holding an undergraduate degree and/or teaching certification. It also is available for those with provisional certification or no teacher education. In this program, students prepare to become master teachers in a content area and demonstrate direct application of the coursework in the classroom.

Master of Science in Applied Physics and Computer Science

The emphasis of this master's program is on experimentation, instrumentation and computer analysis. The degree, with three concentration areas, is designed to produce graduates ready to make strong contributions to their professions and, if they so desire, to continue toward a Ph.D. degree in applied physics, computer engineering or computer science.

Master of Science in Applied Psychology with a Concentration in Industrial/Organizational Psychology

A master's degree with a concentration in industrial/organizational psychology is a key to advancement in human resources and personnel, training, employee relations, organizational and human resources research, organizational development and organizational consulting.

Master of Science in Environmental Science

Designed for current and prospective employees in the new, rapidly growing field of environmental monitoring and conservation, this master's program provides a solid background in ecological and environmental conservation theory. Students also develop the skills required for employment with environmental assessment/monitoring businesses and state governmental agencies.

Master of Public Safety Leadership

This master's program uses foundation and core courses, both in campus-based classrooms and online, focusing on managerial knowledge, skills and abilities common to leadership in all public safety agencies. A 15-hour certificate program, Certificate of Public Safety Management, is also offered.



MASTER OF ARTS IN TEACHING

The Master of Arts in Teaching degree is designed for teachers and those who desire to be teachers to enhance their skills in the classroom. This program offers graduate students the latest advancements in content area teaching through hands-on activities, discussion and the reading and conducting of research.

All students study major learning theories which are congruent to instructional practices and have the opportunity to focus on concepts, methodologies and procedures of educational research. In addition, an emphasis is placed on the study of diversity in the United States and implications of that diversity for educational programming and practice.

MAT students select a concentration in content areas of language arts, mathematics, science or history. Two language arts and mathematics tracks are available, one for those who hold licensure and one for those who are seeking licensure. The mathematics concentration offers teachers a chance to explore mathematics pedagogy as recommended by the National Council of Teachers of Mathematics (NCTM). The science concentration focuses on environmental education and provides a solid background in ecological and environmental issues. The history concentration allows students to focus on targeted areas of world history and to acquire historical research methods. The language arts concentration provides advanced study in literature, language arts and writing.

Students may enroll on a part-time or a full-time basis. Teachers may wish to take advantage of the many evening and summer graduate course offerings for re-licensure or continued professional development.

Dr. Marsha Sprague
Graduate Program Coordinator
msprague@cnu.edu
143 Smith Hall
(757) 594-7973

The Master of Arts in Teaching

The Master of Arts in Teaching is a practitioner-oriented degree designed to integrate pedagogy with specific academic subject areas. In addition, the program emphasizes theory and practice related to human learning, multicultural differences among students and how to conduct and interpret educational research. The program is designed to strengthen teachers' content knowledge and to demonstrate teaching strategies appropriate to each concentration. The curriculum is based upon teacher education needs as identified by bodies such as the National Board of Professional Teaching Standards and The Holmes Group.

Admission Requirements for Degree-Seeking Students

1. A baccalaureate degree from a regionally accredited college or university with a minimum grade point average of 3.00 on a 4.00 scale;
2. An official transcript from the baccalaureate institution and official transcripts for all graduate work taken at other institutions;
3. Three letters of recommendation. These must be from professional educators who have observed the applicant's teaching or from professors who can attest that the applicant is likely to be able to be successful in graduate-level academic work;
4. Passing scores from the PRAXIS I (Reading, Writing and Mathematics) examination;
5. For the MAT-Licensure Track applicant, a one-page typed essay describing the applicant's purpose for entering the teaching profession.

Admission Requirements for Teachers Enrolling in a Non-Degree Status

Any licensed Virginia teacher who desires to enroll in a course for re-licensure or continued professional development may do so in a non-degree status and does not need to furnish an official baccalaureate transcript. To change to degree-seeking status, the non-degree student must submit the application for admission to graduate study and supply the documentation listed above.

Academic Policy for Non-Degree Students

Individual courses in the curriculum may be taken by students not pursuing an advanced degree at the university by registering as a non-degree student. Students seeking non-degree admission status must have a grade point average of at least 3.0 on a 4.0 scale. If the student intends to pursue the MAT, he or she must change to degree-seeking status within the first six hours of graduate study.

Curriculum

The MAT curriculum for those holding a teaching license consists of Introductory, Specialty and Capstone courses designed to deepen the knowledge of specific content areas for practicing teachers. A thesis, project or portfolio serves as a culminating learning experience. The MAT curriculum for those obtaining licensure includes education and content courses to provide opportunities to learn teaching methods appropriate to language arts or mathematics. A student teaching experience serves as the culminating event.

Graduation Requirements

- Successful completion of minimum hours of the MAT degree program course work
- A cumulative graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Successful defense of a culminating project, portfolio or thesis and presentation of the appropriate number of approved copies to the Graduate Studies Office by the published deadline.

Graduate Assistantships

Graduate assistants are employed to perform research, teaching and/or administrative activities as directed by the graduate faculty within the department. The position requires a weekly time commitment and is awarded on a competitive basis. To qualify, a student must be a degree-seeking student with no limits or provisions, and enrolled in six to nine graduate credit hours in the semester of the award. Refer to page 75 for specific terms, criteria and application procedures.

PROGRAMS OF STUDY

LANGUAGE ARTS

This program integrates pedagogy with the current theory and practice in reading and thinking about literature, the teaching of writing in various contexts and for differing purposes and the structure and acquisition of language skills.

Goals of the MAT Program in Language Arts

The master of arts in teaching language arts has been designed to prepare master teachers of the language arts. Program goals for this MAT are to demonstrate:

1. Familiarity with at least two literary forms and artistic innovations in literature
2. Familiarity with at least two works for young readers or two authors of such works
3. Understanding of cultural milieu (social concerns, cultures, cultural groups, geographical regions, ethnicity, gender, moral and/or religious values) through language and literature
4. Comprehension of critical writing about literature
5. Logical critical judgments about literature
6. Precise, appropriate use of the vocabulary of literary study
7. Theoretical knowledge of the processes of effective writing
8. Practical knowledge of the processes of effective speaking and writing
9. Knowledge of the English syntax and grammar or of the teaching of English as a second language
10. Ability to locate and use bibliographic and other resources appropriate to language arts teaching
11. Infusion of multicultural education into instructional design
12. Understanding of how learning theory impacts instructional design
13. Ability to consume and/or produce educational research
14. Knowledge of at least three current educational issues in the field of language arts instruction
15. Application of current and effective instructional strategies to language arts instruction
16. Ability to reflect on new learning and make connections to prior learning

The Master Portfolio Project

The master portfolio project is a culmination of the work done throughout the MAT program. The individually designed portfolios connect MAT-Language Arts program objectives to demonstrated student competencies. This is a cumulative and summative experience that requires synthesis and evaluation. The portfolio interview serves as the comprehensive final examination.

The Lesson Plan Project

For those students in the licensure program, the capstone experience is the student teaching internship. A lesson from the internship is selected and presented to a committee of MAT-Language Arts faculty for evaluation.

MAT-Language Arts Curriculum for Those With Licensure

Academic Prerequisites

Students will need to provide evidence of satisfactory completion of undergraduate courses **ENGL 308, Approaches to Literature**, and **ENGL 309, Prose Writing**, or their equivalents. **This degree is intended for, but not limited to, currently licensed teachers.**

MAT Language Arts Program of Study 36 Credits

Area I: Introductory Courses (9 credits)

EDUC 500 Learning Theory, Classroom Practice (3)
EDUC 501 Multicultural Education (3)
EDUC 502 Teachers as Researchers (3)

Area II: Specialty Courses (18 credits)

Specialty Courses (see below)

Area III: Capstone and Application Courses (9 credits)

EDUC 521 Early Literacy (3)
EDUC 522 Integrated Curriculum (3) 6 hours selected from
EDUC 523 Reading and Writing in Content Area (3) EDUC 521-649
EDUC 524 Standards-Based Curriculum (3)
EDUC 531 Strategies and Models of Gifted Education (3) OR EDUC 649 Advanced Instructional Strategies (3)

EDUC 696 Capstone Seminar (3) **REQUIRED**

TOTAL 36 credits

Specialty Courses (18 Credits Total)

	Elementary	Middle/Secondary
ENGL 501 Teaching Literature (3)		
ENGL 510 Reading Southern American Literature (3)		
ENGL 511 Reading Latin American Literature (3)		
ENGL 512 Reading Multicultural Literature (3)		
ENGL 513 Reading Native American Literature (3)		
ENGL 514 Advanced Studies in Children's Literature (3)	3 Credits required	9 Credits required
ENGL 515 Special Topics in Children's Literature (3)	from ENGL 501, 513,	from ENGL 501-519
ENGL 516 Teaching Shakespeare (3)	or 516-518	
ENGL 517 Reading African and Middle Eastern Literature (3)		
ENGL 518 Reading Asian Literature (3)		
ENGL 519 Advanced Studies in Young Adult Literature (3)		
ENGL 520 The Reading and Writing of Poetry (3)	3 Credits required	9 Credits required
ENGL 521 Teaching Composition in L.A. Classes (3)	from ENGL 520-525	from ENGL 520-532
ENGL 523 The Way of the Writer (3)		(at least 3 must be
ENGL 524 Journalism: Teaching of Reporting, Writing and Editing (3)		from 530 or 532)
ENGL 525 Technical Writing Applications (3)		
ENGL 530 Advanced Grammar and Linguistics (3)	3 Credits required	
ENGL 531 Teaching English as a Second Language (3)	from ENGL 530-532	
ENGL 532 The Study of Language (3)		
Electives from the above English courses	6 Credits	

MAT-Language Arts Curriculum for Those Obtaining Licensure

Academic Prerequisites

Students will need to provide evidence of satisfactory completion of undergraduate courses in English in Advanced Literature Analysis and Children's or Adolescent Literature. Also required is the course **EDUC 301, Perspectives in Education**, or equivalent, and a course in Human Growth and Development appropriate to the endorsement level. Requirements for specific teaching endorsement levels are indicated below.

Elementary

- Coursework in social studies, to include the study of World and US History, Government, Economics and Geography (or other evidence of competency)
- Coursework in mathematics, including number systems, algebra, geometry and statistics, (or other evidence of competency) as well as the teaching of mathematics (**MATH 308**)
- Coursework in science, including one laboratory course, to include the study of physical, earth and life sciences (or other evidence of competency) as well as the teaching of science (**NAT SCI 310**)
- Three hours in technology (**EDUC 406** or equivalent)

Middle

- 21 hours in a concentration other than English (mathematics, social studies or science—see advisor for requirements)
- Three hours in technology (**EDUC 406** or equivalent)

Secondary

- Degree in English
- Three hours in technology (**EDUC 406** or equivalent)

MAT Language Arts with Licensure Program of Study 36 Credits

Education Courses (24 Credits)

EDUC 501 Multicultural Education (3)
EDUC 510 Teaching Internship (6)
EDUC 516 Curriculum and Instruction (3)
EDUC 521 Early Literacy (3) OR EDUC 523 Reading and Writing in Content Areas (3)
EDUC 535 The Exceptional Learner (3)
EDUC 543 Classroom Management and Discipline (3)
EDUC 544 Evaluation of Learning (3)

English Courses (12 Credits)

	Elementary	Middle/Secondary
ENGL 501 Teaching Literature (3)		
ENGL 510 Reading Southern American Literature (3)		
ENGL 511 Reading Latin American Literature (3)		
ENGL 512 Reading Multicultural Literature (3)		Required
ENGL 513 Reading Native American Literature (3)		
ENGL 514 Advanced Studies in Children's Literature (3)	Required	
ENGL 515 Special Topics in Children's Literature (3)		
ENGL 516 Teaching Shakespeare (3)		
ENGL 517 Reading African and Middle Eastern Literature (3)		
ENGL 518 Reading Asian Literature (3)		
ENGL 519 Advanced Studies in Young Adult Literature (3)		
ENGL 520 The Reading and Writing of Poetry (3)		
ENGL 521 Teaching Composition in L.A. Classes (3)	Required	Required
ENGL 523 The Way of the Writer (3)		
ENGL 524 Journalism: Teaching of Reporting, Writing and Editing (3)		
ENGL 525 Technical Writing Applications (3)		
ENGL 530 Advanced Grammar and Linguistics (3)	Required	Required
ENGL 531 Teaching English as a Second Language (3)		
ENGL 532 The Study of Language (3)		
Elective from above English courses	3 Credits required	3 Credits required

TOTAL 36 credits

MATHEMATICS AND SCIENCE

Goals of the MAT Program in Mathematics and Science

As a practitioner's degree, the MAT programs in mathematics and science are designed to assist students in the development of specific qualities recognized in master teachers. This degree is intended for, but not limited to, currently licensed teachers. Successful completion of the program results in the following:

1. An increase in knowledge of specific mathematics or science content
2. An understanding of current learning theories as applied to classroom practice
3. An understanding of the need and practices for multicultural education
4. The ability to analyze and design educational research
5. The application of appropriate and varied teaching strategies in the content area
6. The production of quality research or an innovative project which adds to the field of mathematics or science teaching

Thesis or Culminating Project

As the final portion of the program, the student elects to produce either a thesis or a culminating project completed under the guidance of an advisor and committee.

The purpose of the thesis is to allow students to present an original piece of research. The thesis consists of a problem, review of related research, data collection and analysis. The final manuscript is defended before the thesis committee and submitted as a bound document to the Office of Graduate Studies.

The purpose of the culminating project is to engage the student in an intense practical experience with science or mathematics education. The project criteria are as follows:

The project must:

- clearly relate to science or mathematics issues in the public schools
- result in a written product which can be viewed and shared by colleagues
- add to the student's content and professional knowledge
- be novel and not duplicative of other activities in the school district
- clearly emphasize appropriate and current methodology in science or mathematics education
- contain evaluation elements whereby the student assesses the impact of the project

The steps in the preparation of the thesis and culminating project include:

- identification of advisor and committee
- preparation of proposal
- proposal approved by advisor and committee
- thesis or project presented and defended

The project and the thesis each require six credits which must be accrued over several semesters. The student may not proceed beyond the first credit without committee approval of the proposal.

The Lesson Plan Project

For those students in the licensure program, (mathematics only) the capstone experience is the student teaching internship. A lesson from the internship is selected and presented to a committee of MAT-Mathematics faculty for evaluation.

MATHEMATICS

This program integrates the recommendations of the National Council of Teachers of Mathematics and content from the Virginia Standards of Learning to introduce teachers to new teaching strategies and a deeper knowledge of mathematics. This practitioner degree encourages a reflective investigation of teaching practices and the direct application of coursework to the classroom.

MAT-Mathematics Curriculum

Academic Prerequisites

Students concentrating in mathematics at the elementary grade level must have at least three courses in mathematics and two courses in science. For middle school teachers, the mathematics courses must include college Algebra, Elementary Statistics and Geometry. Students concentrating in mathematics at the secondary level must have a mathematics major or its equivalent.

MAT Mathematics Program of Study 33 Credits

Area I: Introductory Courses (9 credits)

- EDUC 500 Learning Theory, Classroom Practice (3)
EDUC 501 Multicultural Education (3)
EDUC 502 Teachers as Researchers (3)

Area II: Specialty Courses (18 credits)

Specialty Courses (see below)

Area III: Capstone, Thesis or Project (6 credits)

MATH 699 OR EDUC 699 Thesis/Culminating Project

TOTAL 33 credits

Specialty Courses

Specialty Courses	Elementary	Middle/Secondary
MATH 570 Advanced Instructional Strategies in Mathematics (3)	Required	Required
MATH 573 History of Mathematics (3)		
MATH 575 Computer Software and Calculators in School Mathematics (3)		
MATH 576 Mathematical Connections (3)		
MATH 578 Elementary Geometry from an Advanced Viewpoint (3)	Required	Required
MATH 579 Modern Analysis (3)		
MATH 581 Graduate Abstract Algebra (3)		
MATH 584 Mathematics Cognition (3)	Required	Required
MATH 585 Advanced Studies of Elementary School Concepts (3)	Required	
MATH 591 Directed Research and Internship for Educators (3)		
Electives from the above Mathematics courses	6 credits	9 credits

MAT-Mathematics Curriculum for Those Obtaining Licensure

Academic Prerequisites

Students will need to provide evidence of a bachelor's degree in a liberal arts subject. Also required is the course **EDUC 301**, *Perspectives in Education*, or equivalent, and a course in human growth and development appropriate to the endorsement level. Requirements for specific teaching endorsement levels are indicated below.

Elementary

- Coursework in the required support courses. Language/Communication Arts: **ENGL 101-102** or **ENGL 103-104; ENGL 314; ENGL 430; COMM 201**
- Coursework in social studies, to include the study of world and U.S. history, government, economics and geography (or other evidence of competency)
- Coursework in three mathematics courses including number systems, statistics, geometry and algebra and a course in the teaching of mathematics (**MATH 308**)
- Coursework in two science courses, including one laboratory course, to include the study of physical earth life sciences (or other evidence of competency); and the teaching of science (**Natural Science 310**).

Middle

- Degree in mathematics, English, social studies or science
- Twenty-one hours in a concentration other than major for degree (mathematics, English, social studies, or science—see advisor for requirements)
- A course in the teaching of mathematics (**MATH 309**)

Secondary

- Degree in mathematics
- A course in the teaching of mathematics (**MATH 338**)

MAT Mathematics with Licensure Program of Study 36 Credits

Education Courses (24 credits)

EDUC 501	Multicultural Education (3)
EDUC 510	Teaching Internship (6)
EDUC 516	Curriculum and Instruction (3)
EDUC 521	Early Literacy (3) OR EDUC 523 Reading and Writing in Content Areas (3)
EDUC 535	The Exceptional Learner (3)
EDUC 543	Classroom Management and Discipline (3)
EDUC 544	Evaluation of Learning (3)

Mathematics Courses (12 credits)

	Elementary	Middle/Secondary
MATH 570	Advanced Instructional Strategies in Mathematics (3)	
MATH 573	History of Mathematics (3)	
MATH 575	Computer Software and Calculators in School Mathematics (3)	Required
MATH 576	Mathematical Connections (3)	
MATH 578	Elementary Geometry from an Advanced Viewpoint (3)	Required
MATH 584	Mathematics Cognition (3)	Required
MATH 585	Advanced Studies of Elementary School Mathematics Topics (3)	Required
Electives from above Mathematics Courses	3 Credits	3 Credits

TOTAL 36 credits

SCIENCE

This program directly addresses the Virginia State Standards of Learning which include the study of scientific resources at every level from K-6; ecosystem dynamics in grade 7; and environmental influences in earth science (grade 9) and biology (grade 10). Students in the program will conduct original research in schools or in environmental settings or prepare an original project for schools or communities.

MAT-Science Curriculum

Academic Prerequisites

Students concentrating in science must have at least four semester courses in science, one course in mathematics and one in statistics. The science courses must include at least one lecture course from each of the following areas: biology, earth science, chemistry or physics; at least two of the four science courses must include a laboratory component.

MAT Science Environmental Education Program of Study 34 Credits

Area I: Introductory Courses (9 credits)

EDUC 500	Learning Theory, Classroom Practice (3)
EDUC 501	Multicultural Education (3)
EDUC 502	Teachers as Researchers (3)

Area II: Specialty Courses (19 credits)

ENVS 530	Biogeography (3)
ENVS 584	The Environment (3)
ENVS 584L	The Environment Laboratory (1)
ENVS 585	Marine Biology (3) OR ENVS 589 Oceanography (3)
ENVS 595	Field Studies in Environmental Education (3)
ENVS 525	Environmental Regulations (3)
ENVS/CHEM	Elective (3) see page 43

Area III: Capstone, Thesis or Project (6 credits)

BIOL 699 OR EDUC 699	Science-Thesis OR Culminating Project (6)
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TOTAL 34 credits

HISTORY

This program of study is designed to provide students with an in-depth historical knowledge of at least three major regions of the world, to ensure that graduates are experienced and highly competent researchers of standard historical topics and to assist students in exploring and comprehending the latest information on learning theory, cultural diversity and methods of teaching. The program offers a choice of thesis research or further study in pedagogy of teaching history.

Goals of the MAT Program in History

As a practitioner's degree, the MAT program in history is designed to assist students in the development of specific qualities recognized in master teachers. Successful completion of the program results in the following:

1. An in-depth historical understanding of at least three of the following regions of the world: Africa, Asia, Latin American, Russia and Central-East Europe, Western Europe and the United States
2. The capacity to analyze and synthesize standard historical monographs and primary sources
3. An enhanced ability to conduct and write both educational and historical research
4. More competent teaching of history through the knowledge of learning theory and multicultural education

MAT-History Curriculum

Academic Prerequisites

Students concentrating in history must have at least nine credits of upper-level undergraduate history and an additional six hours in the social sciences at the undergraduate level. This degree is intended for currently licensed teachers or those having a strong background in teaching history or social studies.

MAT History Program of Study 36 Credits

Area I: Introductory Courses (9 credits)

EDUC 500 Learning Theory, Classroom Practice (3)
EDUC 501 Multicultural Education (3)
EDUC 502 Teachers as Researchers (3)

Area II: Specialty Courses (21 credits)

Six advanced study classes of at least three of the following regions of the world: (totaling 18 credits)

Africa
Asia
Latin America
Russia and Central-East Europe
Western Europe
United States

HIST 695 Historiography (required) (3)

Area III: Application (Thesis or Non-thesis) (6 credits)

EDUC 524 Standards-based Curriculum (3)
HIST 570 Advanced Strategies in Teaching History (3) OR
HIST 699 History-Thesis OR EDUC 699 Culminating Project

Non-thesis Option

3

3

Thesis Option

6

TOTAL 36 credits

Five-Year Program

B.A. in Mathematics/MAT in Mathematics with Licensure

This five-year program of study is designed for prospective teachers majoring in mathematics. Graduates will receive a B.A. in mathematics, a master of arts in teaching-mathematics and a Virginia license for teaching.

Admission Requirements:

1. A grade point average of 3.0
 2. Grade of B or better in Education 301, Education 305, Education 406 and satisfactory completion of MATH 308, 309 or MATH 338
 3. Three letters of recommendation
 4. Passing scores on the PRAXIS I
 5. A one-page typed essay describing the student's purpose for entering the teaching profession
- Students must apply to this program by the second semester of their junior year.**

Graduation Requirements:

1. Completion of all course requirements for undergraduate degree of at least 120 hours of study, including all required distribution courses, all education support courses, all mathematics courses for the bachelor's degree
2. Completion of all course requirements for the graduate degree of at least 33 hours of study as listed below with a cumulative graduate grade point average of 3.0
3. Successful teaching internship in a public school
4. Passing score on specialty examination as required by the Commonwealth of Virginia;
5. Lesson plan project presented to committee

Program of Study 33 Credits

Education Courses (18 Credits)

EDUC 521 Early Literacy (3) OR EDUC 523 Reading and Writing in Content Areas (3)
EDUC 535 The Exceptional Learner (3)
EDUC 543 Classroom Management and Discipline (3)
EDUC 544 Evaluation of Learning (3)
EDUC 510 Teaching Internship (6)

Specialty Courses (15 Credits approved by advisor from the following)

MATH 570 Advanced Instructional Strategies in Mathematics (3)
MATH 573 History of Mathematics (3)
MATH 575 Computer Software and Calculators in School Mathematics (3)
MATH 576 Mathematical Connections (3)
MATH 578 Elementary Geometry from an Advanced Viewpoint (3)
MATH 579 Modern Analysis (3)
MATH 581 Graduate Abstract Algebra (3)
MATH 584 Mathematics Cognition (3)
MATH 585 Advanced Studies of Elementary School Mathematics Topics (3)
MATH 591 Directed Research and Internship for Educators (3)

Five-Year Program B.A. in Biology/MAT in Science with Licensure

This five-year program of study is designed for prospective middle grades (4-8) science teachers majoring in biology or prospective high school biology teachers. At the successful conclusion of the program, students will receive a B.A. in biology, a master of arts in teaching in science and a Virginia license for teaching elementary, middle or high school.

Admission Requirements:

1. A grade point average of 3.0
 2. Grade of B or better in **Education 301, Education 305, Education 406** and satisfactory completion of two upper-level biology courses
 3. Three letters of recommendation
 4. Passing scores on the PRAXIS I
 5. A one-page typed essay describing the student's purpose for entering the teaching profession
- Students must apply to this program by the second semester of the junior year.**

Graduation Requirements:

1. Completion of all course requirements for undergraduate degree of at least 120 hours of study, including all required distribution courses, all education support courses, all courses for the bachelor's degree in biology
2. Completion of all course requirements for the graduate degree of at least 33 hours of study as listed below with a cumulative graduate grade point average of 3.0
3. Successful teaching internship in a public school
4. Passing score on specialty examination as required by the Commonwealth of Virginia
5. Lesson plan project presented to committee

Program of Study 33 Credits

Education Courses (18 credits)

EDUC 521	Early Literacy (3)	OR	EDUC 523	Reading and Writing in Content Areas (3)
EDUC 535	The Exceptional Learner (3)			
EDUC 543	Classroom Management and Discipline (3)			
EDUC 544	Evaluation of Learning (3)			
EDUC 510	Teaching Internship (6)			

Science Courses (15 credits approved by advisor from the following)

BIOL 530	Biogeography (3)
BIOL 584	The Environment (3)
BIOL 584L	The Environment Laboratory (1)
BIOL 595	Field Studies in Environmental Education (3)
BIOL 585	Marine Biology (3)
BIOL 589	Oceanography (3)
ENVS 525	Environmental Regulations (3)
BIOL/ENVS	Electives, see page 43

Five-Year Program B.A. in English/MAT in Language Arts with Licensure

This five-year program of study is designed for prospective elementary teachers majoring in English, middle school teachers majoring in English or prospective high school English teachers. At the successful conclusion of the program, students will receive a B.A. in English, a master of arts in teaching in language arts, and a Virginia license for teaching elementary, middle or high school.

Admission Requirements:

1. A grade point average of 3.0
 2. Grade of B or better in **Education 301, Education 305, Education 406, and English 308 and 309**
 3. Three letters of recommendation
 4. Passing scores on the PRAXIS I
 5. A one-page typed essay describing the student's purpose for entering the teaching profession
- Students must apply to this program by the second semester of the junior year.**

Graduation Requirements:

1. Completion of all course requirements for undergraduate degree of at least 120 hours of study, including all required distribution courses, all education support courses and all English courses for the bachelor's degree
2. Completion of all course requirements for the graduate degree of at least 33 hours of study as listed below with a cumulative graduate grade point average of 3.0
3. Successful teaching internship in a public school
4. Passing score on specialty examination as required by the Commonwealth of Virginia

Program of Study 33 Credits

Education Courses (18 Credits)

EDUC 521	Early Literacy (3)	OR	EDUC 523	Reading and Writing in Content Areas (3)
EDUC 535	The Exceptional Learner (3)			
EDUC 543	Classroom Management and Discipline (3)			
EDUC 544	Evaluation of Learning (3)			
EDUC 510	Teaching Internship (6)			

English Courses (15 credits approved by advisor from the following)

ENGL 501	Teaching Literature (3)
ENGL 510	Reading Southern American Literature (3)
ENGL 511	Reading Latin American Literature (3)
ENGL 512	Reading Multicultural Literature (3)
ENGL 513	Reading Native American Literature (3)
ENGL 514	Advanced Studies in Children's Literature (3)
ENGL 515	Special Topics in Children's Literature (3)
ENGL 516	Teaching Shakespeare (3)
ENGL 517	Reading African & Middle Eastern Literature (3)
ENGL 518	Reading Asian Literature (3)
ENGL 519	Advanced Studies in Young Adult Literature (3)
ENGL 520	The Reading and Writing of Poetry (3)
ENGL 521	Teaching Composition in L.A. Classes (3)
ENGL 523	The Way of the Writer (3)
ENGL 524	Journalism: Teaching of Reporting, Writing & Editing (3)
ENGL 525	Technical Writing Applications (3)
ENGL 530	Advanced Grammar and Linguistics (3)
ENGL 531	Teaching English as a Second Language (3)
ENGL 532	The Study of Language (3)

Five-Year Program

B.A. in History/MAT in History with Licensure

This five-year program of study is designed for prospective middle grades (4-8) history teachers majoring in history or prospective high school history teachers. At the successful conclusion of the program students will receive a B.A. in history, a master of arts in teaching in history and a Virginia license for teaching elementary, middle or high school.

Admission Requirements:

1. A grade point average of 3.0
 2. Grade of B or better in **Education 301, Education 305, Education 406** and satisfactory completion of two upper-level history courses
 3. Three letters of recommendation
 4. Passing scores on the PRAXIS I
 5. A one-page typed essay describing the student's purpose for entering the teaching profession
- Students must apply to this program by the second semester of the junior year.**

Graduation Requirements:

1. Completion of all course requirements for undergraduate degree of at least 120 hours of study, including all required distribution courses, all education support courses and all courses for the bachelor's degree in history
2. Completion of all course requirements for the graduate degree of at least 36 hours of study as listed below with a cumulative graduate grade point average of 3.0
3. Successful teaching internship in a public school
4. Passing scores on specialty examination as required by the Commonwealth of Virginia
5. Lesson plan project presented to committee

Program of Study 36 Credits

Education Courses (18 credits)

EDUC 521 Early Literacy (3) **OR** EDUC 523 Reading and Writing in Content Areas (3)
EDUC 535 The Exceptional Learner (3)
EDUC 543 Classroom Management and Discipline (3)
EDUC 544 Evaluation of Learning (3)
EDUC 510 Teaching Internship (6)

History Courses (15 credits approved by advisor from the following)

Advanced study classes of at least three of the following regions of the world:

Africa
Asia
Latin America
Russia and Central-East Europe
Western Europe
United States

And

HIST 695 Historiography (3)

MAT COURSES OF INSTRUCTION

INTRODUCTORY COURSES

EDUC 500. Learning Theory, Classroom Practice (3-3-0)

A study of major learning theories including behaviorism, cognitive information processing, developmental theories and constructivism. Each theory will be examined in the light of congruent instructional practices.

EDUC 501. Multicultural Education (3-3-0)

The study of diversity in the United States, including race, ethnicity, gender and socioeconomic class and implications for educational programming and practice.

EDUC 502. Teachers as Researchers (3-3-0)

Teachers as consumers and producers of research. Focuses on concepts, methodologies and procedures of educational research including problem identification, data collection and analysis and application to educational problems.

EDUC 505. National Board Certification Seminar (3-3-0)

This course prepares accomplished practicing teachers for certification by the National Board for Professional Teaching Standards. Emphasis is placed on National Board certification, what is expected of candidates for certification and step-by-step information about the process of becoming a National Board-certified teacher. Teachers have the opportunity to work on each of the components of their certification for application to assessment.

EDUCATION

EDUC 510. Teaching Internship (6-0-18)

A full-time, 10-week clinical teaching experience in the public schools.

EDUC 516. Curriculum and Instruction (3-3-0)

This course examines curriculum, the teaching-learning process and instructional strategies appropriate to the elementary, middle or secondary level. This course includes a field component requiring approximately three hours per week in a public school setting.

EDUC 521. Early Literacy (3-3-0)

A study of effective methods to teach beginning reading and literacy skills.

EDUC 522. Integrated Curriculum (3-3-0)

The course allows teachers to explore the rationale for integrating the curriculum, and provides models of curriculum integration, and practice in creating integrated instructional units and activities.

EDUC 523. Reading and Writing in Content Areas (3-3-0)

Focus is on the skills and strategies for teaching reading and writing through the content areas, with emphasis on reading comprehension, vocabulary development, study skills and expository writing.

EDUC 524. Standards-Based Curriculum (3-3-0)

Students learn to view curriculum development in terms of rigorous academic content. They practice calibration of curriculum design to the Virginia Standards of Learning, the national standards and higher levels of thinking and articulation.

EDUC 531. Strategies and Models of Gifted Education (3-3-0)

This course will enable teachers to identify a variety of strategies and models that are used in differentiating instruction for gifted learners. Participants will learn to adapt these techniques to the individual learning styles of gifted students so that the students will be academically and intellectually challenged to develop to their full potential.

EDUC 535. The Exceptional Learner (3-3-0)

This course examines all types of exceptionality: gifted, learning disabled, visually impaired, hearing impaired, physically handicapped, emotionally disordered and mentally challenged; and strategies for the development, implementation and evaluation of individual education programs.

EDUC 543. Classroom Management and Discipline (3-3-0)

A study of classroom organization and management for optimal student learning; practical approaches for preventing and coping with behavior problems.

EDUC 544. Evaluation of Learning (3-3-0)

An analysis and construction of evaluation instruments, including test and performance assessments; also, the interpretation and use of standardized test results.

EDUC 595. Advanced Topics in Education (Credit varies)

Course topics are selected on the basis of faculty and student interests.

EDUC 599. Independent Study (1-6 Credits)

EDUC 649. Advanced Instructional Strategies (3-3-0)

The study and research of various instructional strategies for secondary schools, from the traditional models to the new "break-the-mold" designs developed to meet the needs of a new generation of students.

EDUC 696. Capstone Seminar for Language Arts Concentration (3-3-0)

This culminating course for students in the MAT language arts degree program provides an opportunity to complete a master portfolio project developed throughout the MAT Program. The students will meet weekly to discuss research and innovations in language arts instruction, to share individually designed portfolios and to connect MAT Language Arts Program Objectives to critical issues in language arts education. Pass/fail course.

EDUC 699. Thesis or Culminating Project (six credits, taken in increments)

The student may not proceed beyond the first credit without committee approval of the proposal.

LANGUAGE ARTS CONCENTRATION

ENGL 501. Teaching Literature (3-3-0)

In this seminar, students explore methods for teaching literature. The participants read and analyze various literary works. In addition, the seminar introduces students to literary and pedagogical theories, but the emphasis is on the application of these theories to the language arts classroom.

ENGL 510. Reading Southern American Literature (3-3-0)

Prerequisite: ENGL 308 and 309 or equivalents

This course analyzes the literature of the American South from perspectives such as family, history and storytelling. The course includes a discussion of canonical literature as well as young adult literature. Students analyze literature and discuss strategies for teaching the literature of the American South.

ENGL 511. Reading Latin American Literature (3-3-0)

Prerequisite: ENGL 308 and 309 or equivalents

A study focusing on literary works (including works for young readers) from Latin America. The course provides the skills necessary to see the world from a non-Western perspective and shows how to teach others to comprehend that perspective.

ENGL 512. Reading Multicultural Literature (3-3-0)

Prerequisite: ENGL 308 and 309 or equivalents

This course offers students an opportunity to read and discuss important works written by American authors of diverse racial, religious, regional and ethnic backgrounds. Students analyze literature and discuss strategies for teaching this literature.

ENGL 513. Reading Native American Literature (3-3-0)

Students analyze major works of Native American oral and written literature and discuss teaching methods.

ENGL 514. Advanced Studies in Children's Literature (3-3-0)

This course is a theoretical inquiry into the nature of children's literature. While reading a variety of contemporary children's books as case studies, students consider what children's literature is, how (or if) it differs from literature for adults, what our cultural and personal assumptions about the nature of childhood are, and how those assumptions govern what adults think children do or ought to read.

ENGL 515. Special Topics in Children's Literature (3-3-0)

Potential foci include the picture book, fantasy, the history of children's books, children's literature, great books, censored children's books, historical fiction, multicultural children's literature, contemporary realistic fiction, the problem novel, etc. This class requires students review a number of short critical and theoretical articles on the genre or theme on which the course focuses and study a number of children's books within that genre.

ENGL 516. Teaching Shakespeare (3-3-0)

The course explores recent pedagogical approaches to teaching Shakespeare in the secondary school classroom. The course provides emphasis on designing and testing lessons for active classroom learning, incorporating technology and performance in instruction and developing language appreciation, reading skills and cultural studies and understanding.

ENGL 517. Reading African & Middle Eastern Literature (3-3-0)

Survey and study of the literatures of Sub-Saharan Africa and the Arab and Islamic literature of the Middle East and northern Africa and Israel. Course may focus on particular region or literature.

ENGL 518. Reading Asian Literature (3-3-0)

Survey and study of the literatures of Asia as developed out of the philosophical and religious systems of those cultures.

ENGL 519. Advanced Studies in Young Adult Literature (3-3-0)

This course discusses the evolution of contemporary adolescent literature from the foundations in the 1960s to the present, focusing on the reflection of contemporary social issues and current theories of adolescent psychology in literature for adolescents.

ENGL 520. The Reading and Writing of Poetry (3-3-0)

A course acquainting teachers with the nature of poetry—diction, techniques, forms and the creative process—and demonstrating means of integrating the reading, oral interpretation and writing of poetry into the language arts curriculum to (1) encourage personal expression, (2) increase awareness of literary art, (3) improve analytical thought and (4) sustain vocabulary development.

ENGL 521. Teaching Composition in Language Arts Classes (3-3-0)

This course is an introduction to the theory and practice of writing. Not only do participants explore several ways to teach writing, but they also write and present classroom assignments that exemplify these methods. Finally, each student develops a theory of composition that can be used in the classroom.

ENGL 523. The Way of the Writer (3-3-0)

A workshop course to let teachers experience the creative process. After brief study of the nature of creativity, each student will work in a type of writing—fiction, poetry, personal essay—and respond to the writing of the other students. Goal: to work effectively with student writers.

ENGL 524. Journalism: Teaching of Reporting, Writing and Editing (3-3-0)

The course develops practical approaches to the teaching of reporting, writing and editing in print journalism. Recognizing that journalistic writing often varies radically from academic writing, the course explores practical issues in education and training student journalists, focusing on teaching techniques such as "coaching" and exploring the re-emergence of "literary journalism." The course emphasizes traditional journalistic practice and explores strategies for teaching editing skills.

ENGL 525. Technical Writing Applications (3-3-0)

This course focuses on the applications of technical writing in the workplace. In addition to covering the common principles that underlie the design and development of technical communication, the course focuses on written proposals and grants.

ENGL 530. Advanced Grammar and Linguistics (3-3-0)

A study of English grammar, extending traditional terminology, to provide knowledge and vocabulary to explain sentence structure, follow conventions of usage and punctuation, and understand rhetorical effects of grammatical choices. This course will complement the study of sentence grammar with topics relevant to the language arts classroom: illustrative topics include, language acquisition, techniques to facilitate the learning of Standard English by speakers of other languages and dialects, issues of proper grammar, etc. Concepts in linguistics will be reviewed as necessary.

ENGL 531. Teaching English as a Second Language (3-3-0)

The course covers theories of how learners (both children and adults) acquire a second language, theories about how their first language interferes with learning the second, and the various practices for teaching, speaking and writing at various levels of education.

ENGL 532. The Study of Language (3-3-0)

Prerequisites: ENGL 430 or permission of the instructor
This course surveys topics relevant to the language arts classroom: illustrative topics include grammar and writing, language acquisition, techniques to facilitate the learning of Standard English by speakers of other languages and dialects, language variation, spoken versus written English, etc. Students will develop a deep awareness of the nature of language, knowledge that has immediate implications for how we engage our students in the school classroom. Concepts in linguistics

will be reviewed as necessary. All work will be relativized to the school classroom environment.

ENGL 595. Advanced Topics in English (Credit varies)

Course topics are selected on the basis of faculty and student interests.

ENGL 599. Independent Study (1-6 Credits)

MATHEMATICS CONCENTRATION

MATH 570. Advanced Instructional Strategies in Mathematics (3-3-0)

An update on the methodological background necessary for teaching school mathematics based on current understanding and insights derived from both content and pedagogy. Development of creative instructional approaches that are meaningful and mathematically correct and which instill enthusiasm and satisfaction in learning and using mathematics. Includes practice in classroom environment.

MATH 573. History of Mathematics (3-3-0)

A study of the origins, philosophy and development of mathematics from classical antiquity through the 20th century. It focuses on critical periods in the evolution of areas such as geometry, number theory, algebra and calculus. Involves problem solving and reading.

MATH 575. Computer Software & Calculators in School Mathematics (3-3-0)

A course designed to explore the use of computers and graphing calculators as tools in the teaching/learning of mathematics. An integral part of the course is the hands-on use of selected software for introducing, developing and reinforcing mathematical concepts.

MATH 576. Mathematical Connections (3-3-0)

The study of various topics from algebra, functions, number theory, geometry, probability and statistics. The course emphasizes the connections and interplay among these topics and their applications so that the student can use and value the connections among mathematical topics and use and value the connections between mathematics and other disciplines.

MATH 578. Elementary Geometry from an Advanced Viewpoint (3-3-0)

Compares and contrasts the origins, applications and basic structures of Euclidean and non-Euclidean geometry. Attention is given to ideas involved in teaching geometry.

MATH 579. Modern Analysis (3-3-0)

A study of the theoretical development of the calculus concepts. Topics include structure and properties of real number systems, functions, sequences and series, antiderivatives and Lebesgue integral.

MATH 581. Graduate Abstract Algebra (3-3-0)

A review of topics in logic, set theory and number theory; followed by a systematic study of rings, fields and vector spaces; field extensions; polynomials and constructibility.

MATH 584. Mathematics Cognition (3-3-0)

This course examines mathematics learning theories developed during the 20th-century with an emphasis on recent research on learning mathematics. The learning theories are related to each other, to mathematics teaching and instruction and to curricular decision making. Students are expected to implement instructional or curricular changes in their classroom in a unit and then evaluate the implementation.

MATH 585. Advanced Studies of Elementary School Mathematics Topics (3-3-0)

This course covers topics from mathematics courses not required for licensure but now part of the elementary mathematics curriculum. The topics include statistics, probability, geometry, patterns and functions. The course will provide an in-depth study of concepts within the topics and effective methods for teaching the concepts to elementary students.

MATH 591. Directed Research and Internship for Educators (3-3-0)

Research in applied mathematics at a national laboratory and introduction to innovative methods for teaching mathematics and science. Participants are exposed to instruction by educators and laboratory staff in theoretical and experimental foundations in problem solving. They also receive hands-on telecommunications experiences, research experiences, special presentations and tours. Post-institute follow-up activities are programmed to ensure implementation of institute strategies and to provide modeling standards among teachers for successful transfer to school systems.

MATH 595. Advanced Topics in Mathematics (Credit varies)

Course topics are selected on the basis of faculty and student interests.

MATH 599. Independent Study (1-6 Credits)**MATH 699. Thesis or Culminating Project (6 Credits, taken in increments)**

The student may not proceed beyond the first credit without committee approval of the proposal.

SCIENCE CONCENTRATION

BIOL 584. The Environment (3-3-0)

Study of the world's physical and biological resources, their interrelationships, the interactive role of man and other organisms, and the steps necessary to use resources wisely for present and future generations.

BIOL 584L. The Environment Laboratory (1-0-4)

Laboratory involves on-site visitations to resource utilization areas and methodology for implementation of hands-on experiments in the classroom.

BIOL 585. Marine Biology (3-3-0)

Taxonomic and ecological investigations of the major marine groups, pollution ecology and applied marine science.

BIOL 589. Oceanography (3-3-0)

Physical and chemical properties of the hydrosphere, application of ecological principles to the marine environment and history of oceanography.

BIOL 599. Independent Study (1-6 Credits)**BIOL 699. Thesis Research or Culminating Project (six credits, taken in increments)**

The student may not proceed beyond the first credit without committee approval of the proposal.

ENVS 525. Environmental Regulations (3-3-0)

A seminar designed to explore current environmental regulations and their impact on various constituents.

ENVS 530. Biogeography (3-3-0)

The study of the patterns of distributions of organisms, both past and present, and the abiotic and biotic factors that produced those distributions.

HISTORY CONCENTRATION

(Additional courses to be developed)

HIST 502. Roman History (3-3-0)

A history of Rome from the early history of Italy to the fall of the Roman Empire.

HIST 553. Colonial America: Revolution to 1789 (3-3-0)

An examination of the interactions among Africans, Europeans and Native Americans in English, French and Spanish North American settlements and provinces in the 18th century, concluding with the creation of the United States in the 1770's and 1780's.

HIST 565. History of Islam (3-3-0)

This course examines the fundamental tenets of Islam and its impact on the course of history over the last 14 centuries.

HIST 595. American: Gilded Age through the Jazz Age (3-3-0)

This course is an analysis of the major economic, social, cultural and political trends in America from the 1870's through the 1920's.

HIST 595. History of Virginia (3-3-0)

An overview of the major political, economic, social and cultural developments in Virginia from the colonial period to the present. The course will be divided into seven eras since 1607: Origins to 1676 Bacon's Rebellion; 1680's to 1763 End of French and Indian War; 1763 to 1814 End of War of 1812; 1815 to 1865 End of the Civil War; 1865 to 1919 End of Civil War to WWI; 1920 to 1945 Zenith of the Byrd organization; 1945 to present The Modern Service State. A profile of Virginia will be developed for each era. The profiles will facilitate comparisons and understanding of Virginia across time.

HIST 595. Major Themes in Contemporary Africa (3-3-0)

Major issues and events that affect contemporary African societies. A course designed to help students make a creative and analytical probe into the condition of human life in the Third World in general and Africa in particular beyond the year 2002.

HIST 595. Social History of Modern China (3-3-0)

This course studies the origins and dynamics of Chinese society since 1600, including China's contacts with western culture and its search for modernization. Stressed are the decline of the gentry, the status of women, mercantilism, peasant movements and Chinese social transformation in the 20th century.

HIST 595. Understanding Contemporary China (3-3-0)

The communist take over of mainland China in 1949 is a major watershed in modern China. Communist leader Mao dreamed of creating an earthly paradise through continuous revolution. But with his death, his dream was buried forever. In the post-Mao era, China has regained her vigor and hope through reform. However, to achieve her century-long goal of modernization, China still has to face many challenges and overcome many obstacles. This seminar focuses on major political, economic, social and culture developments in China during these two periods since 1949. Through reading, writing, discussions and other class activities, this seminar will offer students an in-depth study on contemporary China and a better understanding of the one-fifth of world population living on the other side of the planet.

HIST 595. Nineteenth Century Europe (3-3-0)

This course covers the political, social, economic and cultural history of Europe from 1800-1900. Topics covered will include the Napoleonic Empire, Metternich and era of reaction, the Industrial Revolution, Liberalism, Nationalism and Socialism, the Revolution of 1848, the French Second Empire, the unification of Italy and Germany, the era of Bismark, 19th century imperialism and the Germany of William II.

HIST 595. Twentieth Century World Since 1945 (3-3-0)

This course analyses of the main economic, social, cultural and political features and trends of the major regions of the world since World War II.

HIST 695. Historiography (3-3-0)

The primary goal of this course is to provide graduate students with the opportunity to think seriously and systematically about what is history and how it is written. It exposes students to the contemporary intellectual debates about historical methods. By introducing them to the different types of historical scholarship, the course encourages students to critique their own and others' conceptualizing of history and historical methodologies and to familiarize them with the debates and discourse currently going on among practitioners of history.

HIST 699. Thesis (six credits, taken in increments)

The student may not proceed beyond the first credit without committee approval of the proposal.


**M.S. IN APPLIED PHYSICS
AND COMPUTER SCIENCE**

The Master of Science in Applied Physics and Computer Science addresses the need for graduate education in applied physics and computer science. This degree is for both part-time and full-time graduate students who desire excellence in instruction, state of the art equipment and software, and a faculty with an intense involvement in the application of physics and computers to solve exciting and significant problems.

The department has amassed a strong record of research and publications in six areas: solid state (lasers, semiconductors and superconductors), nuclear physics, dynamical systems, artificial intelligence, instrumentation and advanced computer systems and new computer-based technologies for primary and secondary education. Much of this research has resulted in significant scientific collaborations with the two national laboratories here, the NASA Langley Research Center and the Thomas Jefferson National Accelerator Facility.

The department has five major teaching-research labs: the Hunter Creech Computer Lab, the Superconductivity and Data Acquisition Lab, the Photonics and Laser Lab, the Digital Systems Lab and the Information Science Lab. In addition, it has two general-purpose laboratories and a large common area for student-faculty collaborations and study.

Dr. David Hibler
Graduate Program Coordinator
dhibler@pcs.cnu.edu
139 Gosnold Hall
(757) 594-7065

The Master of Science in Applied Physics and Computer Science

The Master of Science in Applied Physics and Computer Science is built around a core of physics and computer science courses that are the foundation of the three areas of concentration: computer science, computer systems engineering and instrumentation and applied physics. Students may elect a thesis option or a non-thesis option.

The CNU master's program offers students with a bachelor's degree a significant step in their maturing as scientists. The department offers many opportunities to its graduate students because of its location in the heart of high-tech Hampton Roads and its ties with area national labs and newly developing companies. They include:

- Participation in funded research at both the Thomas Jefferson National Accelerator Facility and the NASA Langley Research Center—each within a 15-minute drive of the campus
- Research in solid state materials, digital signal processing, high speed data acquisition, artificial intelligence, the design of smart sensors, application-specific integrated circuits, modeling and simulation and pattern recognition
- Solving the problems of industry at the Applied Research Center (ARC)—a new state-of-the-art research consortium for four area universities
- Working in well-equipped laboratories both on campus and at the ARC
- Creating papers and presentations for national conferences and publications
- Team-based learning in small classes taught at the cutting edge of their disciplines

Five Year Combined BS/MS Programs

The Department also has programs leading to a BS and MS in Applied Physics and Computer Science after five years of study. For undergraduate students putting in an extra year to obtain the MS, lifetime earnings and the potential for increased opportunities and job satisfaction can increase significantly. These programs are very flexible and students will still receive the BS in their degree program once they complete the requirements, even if they don't complete the MS program. By taking a total of two to three graduate courses during the junior and senior year and one graduate course during the summer, the MS requirements can be completed in the following year. Interested students should talk to their advisor early in their program, since course sequencing is critical to success. To formally enroll in the program requires a GPA of 3.0 or better. Application to these programs should be made during the second semester of the junior year. We have detailed brochures with five-year plans for each concentration available in our departmental office and online at www.pcs.cnu.edu.

Admission Requirements for Degree-Seeking Students

1. A baccalaureate degree from a regionally accredited college or university with a minimum grade point average of 3.00 on a 4.00 scale
2. An official transcript from the baccalaureate institution and official transcripts for all graduate work taken at other institutions
3. Three letters of recommendation from people who can attest that the applicant is likely to be able to be successful in graduate level academic work
4. Scores from the Graduate Record Examination General Test taken within five years prior to the date of admission. GRE scores are used as one of several indicators of the applicant's ability to succeed in graduate studies. A GRE score of at least 1000 for verbal and quantitative combined is highly desirable. For those applicants already holding a master's degree, the GRE may be waived by permission of the director of graduate studies. A letter to the director requesting a waiver is required
5. International applicants must supply their TOEFL scores and the documentation as stated on page 62 of this catalog

The applied physics and computer science program is designed to serve students with a baccalaureate degree in applied physics, computer science, electrical and/or computer engineering or mathematics. Students with degrees in other areas are encouraged to apply. Departmental graduate advisors will establish the background courses needed for such students. This program is also designed to serve students who want advanced study in the electronic or optical properties of materials, computer science, computer systems engineering or computer controlled instrumentation.

Applicants who have completed interesting research or design projects as undergraduates or as a part of their work are invited to submit descriptions of such projects as support for their application.

Academic Policy for Non-Degree Students

Students seeking non-degree admission status must have a grade point average of at least 3.0 on a 4.0 scale. Non-degree students are limited to 12 hours of graduate study. Up to 12 credits of graduate study may be applied to the graduate degree should a non-degree student apply and be accepted to degree-seeking status. Should a non-degree student desire additional courses beyond the 12-credit limit, he or she may petition the program coordinator for a waiver of this limit. Before enrolling in any graduate course a non-degree student must obtain consent of the instructor. The instructor will determine whether the student has the academic background prerequisites for the specific course.

Academic Prerequisites

See each concentration for the specific requirements. An accelerated schedule of undergraduate prerequisites can be arranged for applicants whose qualifications do not entirely satisfy the prerequisites for graduate study. Good computer programming skills are critical to a student's success in many of the courses, especially those courses with the CPSC prefix.

Goals of the Program

- The program's overall goal is to provide its graduates with the scientific background and technical tools to:
1. Advance an experimental technique, extend the application of a theory or produce new data or observations
 2. Design, build and evaluate a system of measurement, instrumentation, computers and/or software
 3. Present logically and clearly the results of their own scientific investigation
 4. Understand and critically evaluate other scientists' work

Graduate Assistantships

Screening of applicants wishing to be considered for assistantships will begin on May 1 for the following fall semester. See page 75 of the catalog for specific terms, criteria and procedures.

The department also has a special initiative that offers assistantships to graduates of liberal arts colleges - A Partnership with Liberal Arts Colleges to Produce High -Tech Professionals. It targets students completing baccalaureate programs in computer science, mathematics and the sciences at Virginia's undergraduate liberal arts colleges. It provides graduate assistantships in computer science and features intense personal attention with nurturing faculty mentors and opportunities to engage in research beyond what they have experienced in undergraduate colleges. Assistantships during the academic year are available at two levels: 20 hours of work per week and a stipend of \$10,000 to be divided over three consecutive semesters or 10 hours of work per week and a stipend of \$5,000 to be divided over two consecutive semester. Applications are available on the department's web site: <http://www.pcs.cnu.edu>

Curriculum

The student chooses either the 30-hour program which requires four core courses, plus four concentration courses and a thesis that includes a design course or the 36-hour program which requires four core courses, four concentration courses and four electives.

The special feature of the coursework in the master's degree program is its emphasis on applications, laboratory experience and extensive use of computer software and hardware. All of the courses make extensive use of computers or require significant laboratory experimentation. The thesis preparation seminars for the concentrations, Computer Systems Design (CPSC 619), Instrumentation Systems Design (PHYS 629), Design of Solid State Systems and Sensors (PHYS 639) or Design of Integrated Modeling and Simulation Environments (PHYS 649), tie these elements securely together and are an integral part of the thesis.

A formal plan of graduate study is prepared with the student's advisor. The general requirements listed below are guides and serve as models for students' planning for each of the concentrations.

Thesis Proposal/Comprehensive Oral Examination (Thesis Option)

The culminating requirement for the design course is completion of the thesis proposal. Students not completing the thesis proposal by the end of the design course will receive a grade of **U**. Students will have two chances to pass the thesis proposal. If the student is not successful the second time, the student will receive a **F** for the design course and will be suspended from the graduate program.

Comprehensive Examination (Non-Thesis Option)

A written comprehensive examination is required, covering the concentration courses. A student failing the comprehensive examination may request a re-examination within six months of the failure. Only one additional examination is permitted after the failure of the original comprehensive examination.

Memorandum of Understanding

Christopher Newport University has a memorandum of understanding with Longwood College for a dual degree program leading to a B.S. in Physics from Longwood College and a M.S. in Applied Physics and Computer Science from CNU. Contact the program coordinator at dhibler@pcs.cnu.edu (757-594-7065) for information.

Graduate Certificate Programs

In addition to the M.S. degree, the department offers three graduate certificate programs. A student can receive a certificate in networked systems, software development and design or applied artificial intelligence. Each program consists of three courses. All courses are offered in the evening. For more information contact the Physics, Computer Science, and Engineering Department at 757-594-7065 or at phone@pcs.cnu.edu.

Graduation Requirements

Thesis Option

- Successful completion of 30 hours of the M.S. in applied physics and computer science degree program course work
- An overall graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Successful completion of the thesis proposal/comprehensive oral examination
- Successful defense of thesis and presentation of the appropriate number of approved copies to the Graduate Studies Office by the published deadline
- Presentation of an electronic copy of the thesis in a suitable format to the department for archive purposes only

Non-Thesis Option

- Successful completion of 36 hours of the M.S. in applied physics and computer science degree program course work
- An overall graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Successful completion of the comprehensive examination

For further information:

Contact the APCS Graduate Program Coordinator at (757) 594-7065 or dhibler@pcs.cnu.edu or <http://www.pcs.cnu.edu>.

COMPUTER SCIENCE CONCENTRATION

Academic Prerequisites

All applicants should have completed a three-semester sequence in mathematics including at least two semesters of calculus and programming including data structures. It is assumed that these courses are at least at the level of the following texts: Anton, *Calculus*; Headington and Riley, *Data Abstraction and Structures Using C++*; Aho, Hopcroft and Ullman, *Data Structures*; Mano, *Computer Engineering*. Students who do not have all prerequisites may, in some cases, be allowed to take a graduate independent study course to develop the necessary background for further graduate work.

Computer Science Concentration Program of Study 30-36 Credits

Core Courses (12 credits)

Select any four courses from the following list:

CPSC 501	Software System Design and Implementation (3)
CPSC 502	Communications I (3) (Computer Networks)
CPSC 510	Artificial Intelligence I (3)
CPSC 521	Computer Architecture (3)
CPSC 550	Distributed Operating Systems (3)

Concentration Courses (12 credits)

Select any four courses meeting the following requirements:

1. All courses must be from the M.S. in Applied Physics and Computer Science program.
2. At least two of the courses must be 600 level courses.
3. Completion of a second course in at least one of the following sequences.

Each sequence prepares a student for a possible thesis in a given area.

Artificial Intelligence Emphasis

CPSC 510	Artificial Intelligence I (3) (Core Course)
CPSC 642	Artificial Intelligence II (3)

Communications Emphasis

CPSC 502	Communications I (3) (Core Course)
CPSC 611	Communications II (3)

Software Engineering Emphasis

CPSC 501	Software System Design and Implementation (3) (Core Course)
CPSC 525	Object Oriented Programming and Design with C++ (3)

Design Course (Thesis Preparation) and Thesis (6 credits)

CPSC 619	Computer System Design (3) Students in the design courses are required to attend all theses proposals and defenses that occur during the course.
PCSE 699	Thesis Research (3) Can be taken only upon successful completion of CPSC 619 design course. Thesis may be taken in one-credit increments.

OR

Non-Thesis Option (12 credits)

12 credit hours of electives from the M.S. in Applied Physics and Computer program

Total 30 credits (Thesis) OR 36 credits (Non-Thesis)

COMPUTER SYSTEMS ENGINEERING AND INSTRUMENTATION CONCENTRATION

Academic Prerequisites

All applicants should have completed a two-semester sequence in physics, including mechanics and at least two labs; a five-semester sequence in mathematics including calculus, matrix methods and differential equations; programming including data structures; a course in computer organization and architecture; and a course with a lab in circuit analysis. It is assumed that these courses are at least at the level of the following texts: Serway, *Classical and Modern Physics*; Anton, *Calculus*; Williams, *Linear Algebra with Applications*; Boyce and DiPrima, *Ordinary Differential Equations*; Headington and Riley, *Data Abstraction and Structures Using C++*; Aho, Hopcroft and Ullman, *Data Structures*; Mano, *Computer Engineering*; Hayt and Kemmerly, *Circuit Theory*.

Computer Systems Engineering and Instrumentation Concentration Program of Study 30-36 Credits

Core Courses (12 credits)

PHYS 521	Computer Architecture (3)
CPSC 501	Software System Design and Implementation (3)
CPSC 502	Communications I (Computer Networks) (3)
CPSC/PHYS	Any course listed in the Applied Physics core

Concentration Courses (12 credits)

Select any four courses from the following list: (at least two must be 600 level)

PHYS 503	Data Acquisition and Instrumentation (3)
PHYS 522	Microprocessor-based Systems (3)
PHYS 621	Digital Signal Processing (3)
CPSC 525	Object Oriented Programming and Design (3)
CPSC 550	Distributed Operating Systems (3)
CPSC 611	Communications II (3)
CPSC 621	Parallel Processing (3)

Design Course (Thesis Preparation) and Thesis (6 credits)

PHYS 629	Instrumentation Systems Design (3) OR CPSC 619 Computer System Design (3)
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Students in the design courses are required to attend all theses proposals and defenses that occur during the course.

AND

PCSE 699	Thesis Research (3)
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Can be taken only upon successful completion of PHYS 629 or CPSC 619 design course. Thesis may be taken in one credit increments.

OR

Non-Thesis Option (12 credits)

12 credit hours of electives from the M.S. in Applied Physics and Computer program

Total 30 credits (Thesis) OR 36 credits (Non-thesis)

APPLIED PHYSICS CONCENTRATION

Special Features of the Concentration

The applied physics curriculum presents the foundation theories of the physical world: mechanics, electromagnetism, thermodynamics, quantum mechanics, optics and solid state. Students use these models in two computational courses and in their theses where they construct simulations of physical systems, analyze physical systems or design smart sensors, and then display the results of these efforts by using state of the art techniques in computer graphics. This emphasis on fundamental concepts and on computational techniques of modeling and simulation is complemented by the experimental procedures that undergird current practice in data acquisition. As a result, students experience the entire range of effective problem-solving practices: data acquisition and data storage, and data analysis based on the fundamental physical models and graphical display of the results of the analysis.

For students with special interests and with established backgrounds in physics or engineering, the curriculum offers a versatility that allows students, in concert with their faculty advisers, to tailor graduate programs to suit their own professional goals by combining CNU courses with the offerings at the Virginia Consortium of Engineering and Science Universities (VCES).

Academic Prerequisites

All applicants should have completed a three-semester sequence in physics including modern physics and at least two labs; a five-semester sequence in mathematics including calculus, matrix methods and differential equations; programming including data structures; and a course with a lab in circuit analysis. It is assumed that these courses are at least at the level of the following texts: Serway, *Classical and Modern Physics*; Anton, *Calculus*; Williams, *Linear Algebra with Applications*; Boyce and DiPrima, *Ordinary Differential Equations*; Headington and Riley, *Data Abstraction and Structures Using C++*; Aho, Hopcroft and Ullman, *Data Structures*; Hayt and Kemmerly, *Circuit Theory*.

Applied Physics Concentration Program of Study 30-36 Credits

Core Courses (12 credits)

PHYS 501	Models of Dynamical Systems (3)
PHYS 503	Data Acquisition and Instrumentation (3)
PHYS 504	Electromagnetic Theory (3)
PHYS 541	Modeling and Simulation (3)

Concentration Courses (12 credits)

Select any four courses from the following list:

PHYS 502	Quantum Physics (3)
PHYS 506	Thermodynamics and Statistical Physics (3)
PHYS 531	Optical Physics (3)
PHYS 634	Solid State Materials and Devices (3)
MATH 580	Advanced Numerical Analysis (3)

Design Course (Thesis Preparation) and Thesis (6 credits)

PHYS 639	Design of Solid State Systems and Sensors (3) OR
PHYS 649	Design of Integrated Modeling and Simulation Environments (3)

Students in these courses are required to attend all theses proposals and defenses that occur during the course.

AND

PCSE 699	Thesis Research (3)
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Can be taken only upon successful completion of PHYS 639 or PHYS 649 design course. Thesis may be taken in one-credit increments.

OR

Non-Thesis Option (12 credits)

12 credit hours of electives from the M.S. in Applied Physics and Computer program.

Total 30 credits (Thesis Option) 36 credits (Non Thesis Option)

M.S. IN APPLIED PHYSICS AND COMPUTER SCIENCE COURSES OF INSTRUCTION

PHYSICS

PHYS 501. Models of Dynamical Systems (3-3-0)

Prerequisites: Math through differential equations and graduate standing in the department or permission of the instructor. Fall.

The classical models of physical phenomena, the modern perspective on their analytic and qualitative solutions and the insights that numerical analysis of the models gives to expected behaviors of dynamical systems. Computer analysis and graphical representation of solutions for regular and chaotic dynamical systems.

PHYS 502. Quantum Physics (3-3-0)

Prerequisites: PHYS 501 and graduate standing within the department or permission of instructor. Odd Spring.

Study of the formulation of quantum physics and the use of computers to analyze quantum mechanical systems. Topics include the postulates of quantum physics, the Schrödinger equation, indeterminacy, the Heisenberg representation, angular momentum, internal degrees of freedom, the hydrogen atom, perturbation theory, quantization of the EM field and radiative transitions.

PHYS 503. Data Acquisition and Instrumentation (3-3-0)

Prerequisites: Graduate standing within the department or permission of instructor. Fall.

Data reduction and error analysis. Computer-controlled data acquisition systems in the laboratory. The use of a case study to develop a measurement system. Noise in electronic systems. Introduction to signal processing. Students are required to complete a project that includes an implementation of a measurement system and data reduction of the results.

PHYS 504. Electromagnetic Theory (3-3-0)

Prerequisites: PHYS 304 or MATH 350; graduate standing within the department or permission of instructor. Even Spring.

Review of electrostatics and magnetostatics. Maxwell's equations and time varying fields: wave propagation and polarization, waveguides and cavities and radiating systems. Computer programs for the solution of problems will be emphasized.

PHYS 506. Thermodynamics and Statistical Physics (3-3-0)

Prerequisites: Graduate standing within the department or permission of instructor. Spring.

Review of thermodynamics followed by advanced topics in thermodynamics: first-order phase transitions, maximum work theorem, Legendre transformations, critical phenomena and irreversible thermodynamics. Statistical mechanics: entropy representation, micro-canonical, canonical, grand canonical formalisms, quantum fluids and fluctuations. Use of the computer in the analysis and presentation of technical problems.

PHYS 521. Computer Architecture (3-3-0)

Prerequisites: Graduate standing within the department or permission of instructor. Spring.

Advanced issues and techniques in computer architecture and design. Instruction set design and performance impact. Architectural simulation using VERILOG. Pipelining. Computer arithmetic and vector processors. Advanced memory and cache design. I/O interfaces for high performance.

PHYS 522. Microprocessor-based Systems (3-3-0)

Prerequisites: Graduate standing in the department or permission of the instructor. Spring.

Focus on microprocessor-based computer architectures. Hardware topics include studies of several microprocessor architectures, memory, peripheral interfaces and buses. Software issues include I/O and interrupt handling and microprocessor development systems.

PHYS 523. Computer Architecture, Advanced Topics (1-1-0)

Prerequisites: ENGR 414 or equivalent. Spring.

A one-credit course in advanced computer architecture for students with a solid undergraduate background in the topic. Students may not take both PHYS 521 and 523.

PHYS 524. Microprocessor-based Systems, Adv. Topics (1-1-0)

Prerequisites: PHYS 422 or equivalent. Spring.

A one-credit course in advanced microprocessor-based systems for students with a solid undergraduate background in the topic. Students may not take both PHYS 522 and 524.

PHYS 531. Optical Physics (3-3-0)

Prerequisites: Graduate standing in the department or permission of the instructor. Odd Fall.

This course lays the foundation of modern optical science. It presents an overview of the properties of light and its interaction with matter and describes basic principles for control and detection of light beams. Provides an introduction to optical spectroscopy. The use of computer software for optical analysis is emphasized.

PHYS 541. Modeling Condensed (3-3-0)

Prerequisites: PHYS 501, PHYS 502, MATH 580, CPSC 501, C or FORTRAN 90. Even Fall.

The modeling and simulation of physical systems. Applying software methodologies to the solution of physical problems. Lectures typically involve a short review of a physics topic such as Keplerian motion, followed by an extensive discussion on the modeling and/or simulation of the problem. A large component of the course is a project. Students are able to "design" their own project, drawing from any area in the complete spectrum of physics curriculum. The project might entail modeling physical systems (ex: mechanics, optics, fluids, waveguides, atmospheric propagation or nonlinear system). Or, the student may choose to write a stimulation (ex: interplanetary space-flight, orbital adjustment and insertion or powered flight). **Substantive, additional work in the form of more advanced assignments and projects are required to distinguish this class from the cross-listed undergraduate class.**

PHYS 595. Advanced Topics in Physics (Credit varies)

Course topics are selected on the basis of faculty and student interests.

PHYS 599. Independent Study. 1-4 Credits.

PHYS 621. Digital Signal Processing (3-3-0)

Prerequisites: PHYS 503, PHYS 522. Even Fall

This course covers the principles of digital signal processing beginning with the sampling process on through digital filter design. Advanced topics include approximation effects, inverse filtering and hardware implementation structures. The course correlates theoretical aspects presented in the classroom with practical experimentation and design in a laboratory setting using commercial DSP hardware.

PHYS 629. Instrumentation Systems Design (3-3-0)

Prerequisites: PHYS 521, PHYS 522, completion of 12-15 hours of program requirements and have chosen a thesis advisor.

This advanced instrumentation systems course is directed at under-

standing a comprehensive systems problem and formulating a design approach based on sound computer engineering principles. This course is a precursor to the student's thesis work in computer systems engineering and instrumentation concentration. Students select computer system research areas and formulate problem solving approaches under instructor supervision. Background research, trade-off studies and alternative implementations are explored. Each student presents a thesis proposal and is examined orally on topics related to his or her proposal. During this thesis proposal/oral comprehensive exam, students must demonstrate a basic knowledge in areas related to their proposed thesis to receive a passing grade. Students in this course are required to attend all Thesis Proposal Presentations and all Thesis Defense Presentations that occur during the course.

PHYS 631. Physics of Solids (3-3-0)

Prerequisites: PHYS 502 and PHYS 506 or permission of instructor. Odd Fall.

Introduction to the physics of solids at the graduate level. Quantum ideas are emphasized to provide a better understanding of the properties of solids. Topics include crystal structure, electrons in a periodic potential, Fermi surface and band theory, lattice dynamics, phonons, semiconductors and magnetism.

PHYS 632. Lasers and Photonics (3-3-0)

Prerequisites: PHYS 631.

This course provides a survey of fundamental optical properties of matter and how they are employed in modern optical devices. The course focuses on laser physics and the varied use of lasers in meteorology. Includes a discussion of optical fibers for use in communications and sensors.

PHYS 634. Solid State Materials and Devices (3-3-0)

Introduction to theory of the solid state. Application of the theory to describe the behavior of solid state materials such as superconductors and optical elements that form the building blocks of devices. Overview of applications of these devices. Laboratory experimentation.

PHYS 639. Design of Solid State Systems and Sensors (3-3-0)

Prerequisite: Completion of 12-15 hours of program requirements and have chosen a thesis advisor.

A design course to integrate knowledge acquired in the solid state program into a research/design effort. Each student presents a thesis proposal and is examined orally on topics related to his or her proposal. During this thesis proposal/oral comprehensive exam students must demonstrate a basic knowledge in areas related to their proposed thesis to receive a passing grade. Students in this course are required to attend all theses proposals and all defenses of thesis that occur during the course.

PHYS 649. Design of Integrated Modeling and Simulation Environments (3-3-0)

Prerequisite: PHYS 631, completion of 12-15 hours of program requirements and have chosen a thesis advisor.

Conceptualize, design, develop and test an integrated computational environment suitable for the modeling and simulation of systems and the appropriate presentation of the results. Each student presents a thesis proposal and is examined orally on topics related to his or her proposal. During this Thesis Proposal Presentation students must demonstrate a basic knowledge in areas related to their proposed thesis to receive a passing grade. Students in this course are required to attend all Thesis Defense Presentations which occur during the course.

PCSE 699. Thesis Research (3 Credits)

Prerequisite: Successful completion of CPSC 619, PHYS 629, PHYS 639, or PHYS 649.

Students in this course are required to attend all thesis proposals and defenses that occur during the course.

COMPUTER SCIENCE

CPSC 501. Software System Design & Implementation (3-3-0)

Prerequisites: Graduate standing or permission of the instructor. Fall.

The management, specification, design, implementation and documentation of complex software systems. A paper or class presentation based on independent reading of research papers concerning new developments in software engineering are required. Students are expected to learn to use software systems such as CASE tools.

CPSC 502. Communications I (3-3-0)

Prerequisites: Graduate standing and ability to program in C or C++, or permission of the instructor. Summer

A comprehensive view of data communications with an emphasis on computer networks. Baseband and broadband local area networks, OSI model, logical link protocols, media with an emphasis on fiber-based interfaces, topology and routing/flow control. TCP/IP protocols and socket-based application development are emphasized.

CPSC 510. Artificial Intelligence I (3-3-0)

Prerequisites: Graduate standing within the department. Fall

The purpose of this course is to introduce students to the basic elements of artificial intelligence with an emphasis on applications such as neural nets and heuristic search.

CPSC 521. Computer Architecture (3-3-0)

Prerequisites: Graduate standing within the department or permission of instructor. Spring.

Advanced issues and techniques in computer architecture and design. Instruction set design and performance impact. Architectural simulation using VERILOG. Pipelining. Computer arithmetic and vector processors. Advanced memory and cache design. I/O interfaces for high performance.

CPSC 525. Object Oriented Programming & Design with C++ (3-3-0)

Prerequisites: Graduate standing and ability to program in C or permission of the instructor. Spring.

Basic object-oriented design and applications of C++. This course introduces the subset of C++ that is of the most practical use. It introduces object-oriented design methods and provides guidance in the effective implementation of object oriented programs using C++. Substantive, additional work in the form of more advanced assignments and projects are required to distinguish this class from the cross-listed undergraduate course.

CPSC 550. Distributed Operating Systems (3-3-0)

Prerequisites: Graduate standing within the department. Spring.

A study of operating systems with emphasis on distributed systems and intra-system communications. Substantive, additional work in the form of more advanced assignments and projects are required to distinguish this class from the cross-listed undergraduate course.

CPSC 560. Introduction to Compilers (3-3-0)

Prerequisites: CPSC 550. Spring

A study of the problems of translating procedure oriented languages; lexicographic analysis, syntax checking, code generation and optimization, error detection and diagnostics. Substantive, additional work in the form of more advanced assignments and projects are required to distinguish this class from the cross-listed undergraduate course.

CPSC 570. Theoretical Computer Science (3-3-0)

Prerequisites: Graduate standing within the department. Fall

Presentation of basic results relating to formal models of computation. Emphasis is placed on developing skills in understanding rigorous definitions in computing and in determining their logical consequences. Substantive, additional work in the form of more advanced assignments and projects are required to distinguish this class from the cross-listed undergraduate course.

CPSC 585. Principles and Applications of Multimedia (3-3-0)

Prerequisites: Graduate standing with the department. Fall

The purpose of this course is to learn the principles and techniques of multimedia, focusing on digital images and audio in print and online form. Technical topics include the nature of sound and images and their digital representation and multimedia relevant web protocols. The course will also address copyright issues, graphic design and human interface principles. A semester project is required.

CPSC 595. Advanced Topics in Computer Science (Credit varies)

Course topics are selected on the basis of faculty and student interests.

CPSC 599. Independent Study. 1-4 Credits.

CPSC 611. Communications II (3-3-0)

Prerequisite: CPSC 502. Fall

Analysis of communication systems through the application of queuing theory results and the modeling and simulation of these systems by state-of-the-art network simulation tools. Client/server network software strategies with an emphasis on RPC.

CPSC 619. Computer Systems Design (3-3-0)

Prerequisites: Completion of 12-15 hours of program requirements and have chosen a thesis advisor.

A design course to integrate knowledge acquired in the program into a research/design effort and to serve as a structure for beginning the research/design effort. Each student presents a thesis proposal and is examined orally on topics related to his or her proposal. During this thesis proposal/oral comprehensive exam, students must demonstrate a basic knowledge in areas related to their proposed thesis to receive a passing grade. **Students in this course are required to attend all Thesis Proposal Presentations and all Thesis Defense Presentations that occur during the course.**

CPSC 621. Parallel Processing (3-3-0)

Prerequisite: PHYS 521. Odd Spring

Advanced topics in concurrent processor design. Memory and I/O structures for high performance and parallel architectures. Comparison of vector processing machines, SIMD architectures and algorithms, MIMD architectural options. Centralized vs. distributed memory. Shared memory vs. message passing. Algorithms for different MIMD machines. Parallel programming.

CPSC 642. Artificial Intelligence II (3-3-0)

Prerequisites: CPSC 510, or permission of the instructor.

Even Spring

Topics in artificial intelligence. Content will vary. Possible topics include advanced neural nets, qualitative reasoning and natural language processing.

MATHEMATICS

MATH 580. Advanced Numerical Analysis (3-3-0)

The course covers a range of topics in numerical analysis concentrating on an introduction to finite elements and their applications. Use of a software package and research journal readings are required.



M.S. IN APPLIED PSYCHOLOGY IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

A Master's Degree in Industrial/Organizational Psychology is a key to advancement in career areas such as human resources and personnel, training, employee relations, organizational and human resources research, organizational development, and organizational consulting. Industrial/Organizational (I/O) psychologists are concerned with the relations among people, work, and organizations.

The graduate program curriculum follows the scientist-practitioner model in psychology. Students are given a strong foundation in psychological theory and research as well as the knowledge, skills, and abilities to apply psychological research and theory in organizational settings. The Council for Applied Masters Programs in Psychology recommends that students have a background in the more traditional areas of psychology as well as in the specialty area.

Employment opportunities include business, industry and government settings. For instance, an I/O psychology trained human resource specialist or consultant may work with an organization to develop and implement training and management development programs, selection and performance appraisal systems, organizational development and change programs, and various innovations designed to improve productivity, service quality, and employee quality of work life. The degree is also an asset for managers, business owners and others who seek to enhance knowledge, skills and/or credentials.

Dr. Shelia Greenlee
Graduate Program Coordinator
sgreenle@cnu.edu
113 Wingfield Hall
(757) 594-7929

Five Year BA or BS/MS Program in Applied Psychology

This five-year program is designed for the student who has an interest in applying psychological research and theory in work organizations. A graduate degree increases the career opportunities and rewards for psychology majors. Undergraduates with strong grade point averages apply to the five-year program in their junior years. The traditional senior undergraduate year is a mixture of undergraduate and graduate courses for the accepted student. Only graduate courses are taken in the fifth year. The student graduates with a BA or BS in psychology and an MS in Applied Psychology with a concentration in Industrial/Organizational Psychology.

Admission Requirements:

1. A grade point average of 3.00 or higher.
2. Graduate Record Examination (GRE) scores at or above 950 cumulative on the verbal and quantitative sections.
3. Three letters of recommendations (must include letters from faculty in the department).
4. A typed essay describing the student's purpose for selecting the degree program.
5. Students must apply for this program by the second semester of the junior year.

Graduation Requirements:

1. Completion of all course requirements for the undergraduate degree of 120 hours of study, including all courses outlined in the five-year program for satisfaction of the program major for the undergraduate degree and completion of all listed courses for the completion of the master's degree. The baccalaureate degree will be awarded upon completion of all undergraduate requirements.
2. A cumulative graduate grade point average of 3.00.
3. The successful completion of a thesis or practicum experience.
4. The successful completion of a comprehensive examination in the industrial/organizational concentration courses.

Class Scheduling for Five-Year Program

Freshman Year:

English 101, 102; Biology 107, 108, and 109L or other science sequence; Math 125; Psychology 210 and 211; Distribution Course: Philosophy 101 or Communication 201; Foreign Language requirement if necessary or electives (6 credit hours)

Sophomore Year:

*Psychology 300 - Fall semester; *Psychology 301 - Spring semester; *Psychology 313; History 111G, 112G; Two Humanities Distribution Courses; Two Humanities for the BA degree or another science sequence for the BS; Health or Physical Activity course; Elective course (3 credit hours)

Summer between Sophomore and Junior Year:

Three elective courses (9 credit hours)

Junior Year:

Fall: Psych 302, Psych 303, Psych 410 and 410L, Two electives (6 hours)
Spring: Psych 333, Psych 490, Psych 491/492, Psych 300 level course, Elective (4 hours)

Summer between Junior and Senior Year:

Two electives (6 hours), Psych 400 level course with lab

Senior Year:

Fall: Psych 401/501 counts in BA, Psych 503, Psych 623, Elective (3 hours), BA or BS awarded
Spring: Psych 502, Psych 504, Psych 601

Fifth Year:

Fall: Psych 506, Psych 513, Psych 699 or 691
Spring: Psych 699, Psych 633, Psych 500 level

The Master of Science in Applied Psychology with a concentration in Industrial/Organizational Psychology

The Department of Psychology offers the Master of Science in Applied Psychology with a concentration in Industrial/Organizational Psychology. The program is designed to instruct individuals to apply the concepts, methods, principles and knowledge of psychology to people at work. The program uses the scientist-practitioner model to enable the development of knowledge and skills in the application of psychological principles to enhance organizational functioning from both the organizational and human perspectives. Graduates of the program work in human resources and personnel areas such as selection, training, program evaluation, job analysis, testing, work motivation, group processes, performance appraisal, test validation, organizational development, team building, work performance enhancement, leadership development and job design.

Admission Requirements for Degree-Seeking Students

1. A baccalaureate degree from a regionally accredited college or university with a minimum grade point average of 3.00 on a 4.00 scale, and a psychology course grade point average of at least 3.00 on a 4.00 scale
2. An official transcript from the baccalaureate institution and official transcripts for all graduate work taken at other institutions
3. Three letters of recommendation written by persons qualified to judge the applicant's potential to complete the graduate program successfully. All recommendations must arrive in unopened envelopes with the reference's signature across the envelope flap
4. Combined scores of 950 or higher on the quantitative and verbal sections of the Graduate Record Examination taken within five years prior to the date of admission
5. An essay, not to exceed two-double spaced typewritten pages in length, describing the applicant's interest in I/O psychology. The essay should include a discussion of specific topic areas, research interests and/or applications that are of interest. It may include ways in which this degree fits into personal career objectives

Academic Policy for Non-degree Students

Non-degree students are limited to 12 hours of graduate study. Up to 12 credits of graduate study may be applied to the graduate degree should a non-degree student apply and be accepted to degree-seeking status. Students seeking non-degree admission status must have a grade point average of at least 3.0 on a 4.0 scale. Non-degree status is not intended to be used as a qualifying program for degree-seeking status. The department faculty reviews the request for a change in status. Applicants are not assured that such requests will be granted. Should a non-degree student desire additional courses beyond the 12-credit limit, he or she may petition the program coordinator for a waiver of this limit. Before enrolling in any graduate course a non-degree student must obtain consent of the instructor. The instructor will determine whether the student has the academic background prerequisites for the specific course.

Academic Prerequisites

Students will need to provide evidence of satisfactory completion of undergraduate courses in:

- a. Introductory Psychology **OR** Principles of Psychology
- b. Statistics
- c. Experimental Psychology **OR** Research Methodology

Goals of the Program

The program curriculum and requirements will contribute to the achievement of instructional goals in the following areas:

1. Content knowledge of the core areas within psychology:
 - a. Biological bases of behavior
 - b. Principles of behavior acquisition and change
 - c. Principles of social behavior
 - d. Individual or unique bases of behavior

2. Methodology of psychology:
 - a. Research design and skill in designing field research
 - b. Statistics
 - c. Psychometric theory
 - d. Computer analysis of research data
 - e. Use and interpretation of survey and measurement instruments
 - f. Communication of knowledge through written and oral channels
3. Design and implementation of:
 - a. Selection programs
 - b. Training programs
 - c. Job design
 - d. Performance appraisal
 - e. Survey instruments
 - f. Organizational assessment and diagnosis
 - g. Supervisory training and other organizational programs
4. Application of knowledge of the discipline to work settings

Curriculum

The student selects either the **33-hour program**, which requires 27 credit hours, plus six credit hours of thesis, or the **36-hour program** which requires 33 course hours, plus a three-credit practicum. The curriculum has been designed to expose graduate students to the core topics in psychology and concentration courses that focus on the application of psychological theory and research in organizational settings.

M.S. in Applied Psychology with a Concentration in Industrial/Organizational Psychology Program of Study 33-36 Credits

Core Courses (15 credits)

- PSYC 502 Statistics II: Multivariate Analysis* (3)
 PSYC 504 Advanced Social Psychology (3)
 PSYC 506 Professional Seminar in Psychology (3)
 PSYC 601 Advanced Research Methods (3)
 PSYC 610 Advanced Test and Measurements (3)

Concentration Courses (12 credits)

- PSYC 503 Training and Development in Organizations (3)
 PSYC 513 Group Dynamics (3)
 PSYC 623 Organizational Psychology (3)
 PSYC 633 Advanced Personnel Psychology (3)

Elective Courses

- PSYC 501 Statistics I: Design and Analysis (3)
 PSYC 595 Advanced Topics in Psychology (3)

Thesis (6 credits)

- PSYC 699 Thesis Research (6)

or

Non-Thesis Option (9 credits)

- PSYC 691 Graduate Practicum in Industrial/Organizational Psychology (3)
 PSYC Electives from the M.S. in Applied (I/O) Psychology program (6)

Total	33 credits (Thesis)	36 credits (Non-Thesis)
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*A statistics placement test is required.

Graduation Requirements

- Successful completion of minimum hours of the M.S. in Applied (I/O) Psychology degree program course work
- Passing score on the examination in general psychology by the completion of 27 hours of graduate course work
- A cumulative graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Passing score on the comprehensive examination, demonstrating knowledge and competence in the concentration area.
- Successful defense of thesis and presentation of the appropriate number of approved copies to the Graduate Studies Office by the published deadline or successful defense of practicum portfolio and presentation of approved practicum report by published deadline

Graduate Assistantships

Graduate assistants are employed to conduct research, perform administrative activities and/or teach as directed by the graduate faculty within the department. The position requires a weekly time commitment and is awarded on a competitive basis. To qualify, a student must be a degree-seeking student with no limits or provisions, and be enrolled in six to nine graduate credit hours in the semester of the award. Refer to page 75 for specific terms, criteria and application procedures.

For further information:

Contact the Graduate Program Coordinator at (757) 594-7094 or psycgrad@cnu.edu, or visit the web site at <http://www.cnu.edu/gradstudies/>

M.S. IN APPLIED (I/O) PSYCHOLOGY COURSES OF INSTRUCTION

PSYC 501. Statistics I: Design and Analysis (3-3-0)

Covers topics in the bivariate distribution; introduces the basic linear regression model. Includes basic topics in research design, data analysis and A.P.A. style; those ANOVA designs that represent a large portion of published research; the theoretical and mathematical issues that are of concern to the modern researcher. Computer examples of data analyses using SPSS or other statistical packages are used to provide practical experience with analysis problems and the interpretation of interactions.

PSYC 502. Statistics II: Multivariate Analysis (3-3-0)

Prerequisite: PSYC 501 or statistics placement test.

Topics in advanced statistics include multiple regression, factor analysis, MANOVA and discriminant analysis. The logical properties of multivariate techniques and interpretation on research results are stressed. Multiple regression analysis and factor analysis are compared and studied in detail. Data are analyzed using SPSS or other statistical packages. This course covers the various strengths and weaknesses involved in the multivariate analyses.

PSYC 503. Training and Development in Organizations (3-3-0)

The process of training in organizations is a major focus of this course and includes: training needs assessment and assessment methods, setting training objectives, choosing appropriate training methods and evaluation of the training program. Other related topics covered include learning issues in training, training particular populations and training and legal issues. Professional ethics, the delivery of services in organizations and professional identity are also addressed in this course.

PSYC 504. Advanced Social Psychology (3-3-0)

An in-depth examination of the primary theories and research methodology used in Social Psychology. Students are responsible for leading seminar discussions focusing on such topics as social cognition, attitude formation, persuasion, prejudice and discrimination, social influence, social interaction, group processes and applications of social psychology. Students are expected to apply course concepts to real-world situations and provide comprehensive analyses of the dynamics of the situations.

PSYC 505. Social Perception, Learning and Cognition: Problem Solving and Decision Making (3-3-0)

Principles of social perception, learning and cognition applied to problem solving and decision making. Students study major contemporary theorists and their models.

PSYC 506. Professional Seminar in Psychology (3-3-0)

Course provides an overview of theory and research in the core areas of psychology, including the biological bases of behavior, measurement theory, principles of social behavior and individual or unique bases of behavior. The course also focuses in greater depth on the principles of behavior acquisition and change, including social perception, cognition and learning theory.

PSYC 513. Group Dynamics (3-3-0)

An experiential course on the topics of communication, group goal structure, leadership, decision making, controversy and conflict in small groups. Students work in small groups to develop and facilitate experiential group exercises illustrating these processes. The class operates as a human relations laboratory where course topics are experienced and analyzed through action learning.

PSYC 523. Organizational Theory (3-3-0)

An in-depth study of the characteristics of organizations and the concepts of organization theory. The focus of the course stresses an open-system perspective that assesses environmental and intra-organizational dimensions, informal and formal organizational structures and processes and institutional/social and operational/technical levels of management. The course is designed to view organizations as learning environments in which participants solve real problems.

PSYC 595. Advanced Topics in Psychology (Credit varies)

Course topics are selected on the basis of faculty and student interests.

PSYC 599. Independent Study (1-6 Credits)

PSYC 601. Advanced Research Methods (3-3-0)

Prerequisite: PSYC 501.

This course covers research design and methods applicable to organizational settings. Topics include advanced techniques in experimental, quasi-experimental and correlational research designs, advanced survey methods, threats to internal and external validity and ethics in organizational research. Students read primary source material on research design and develop a thesis-quality research proposal.

PSYC 610. Advanced Tests and Measurements (3-3-0)

Prerequisite: PSYC 501.

Course topics include the nature, purposes, uses and development of various psychological tests and measurements. Measurement instruments examined in the course include intelligence tests, personality measures, measures of attitudes and interests and measures of aptitudes and special abilities.

PSYC 623. Organizational Psychology (3-3-0)

Course provides an in-depth analysis of theories and issues concerned with work attitudes, work motivation, organizational change, job design, organizational climate and culture and leadership.

PSYC 633. Advanced Personnel Psychology (3-3-0)

Prerequisite: PSYC 501.

Course presents research and theory applying psychological principles to the development and management of the personnel/human resources function in organizations. Topics include selection and selection testing, performance measurement and appraisal and equal employment opportunity and the law. Psychometric theory and statistical analysis of personnel data are emphasized.

PSYC 691. Graduate Practicum in I/O Psychology (3-3-0)

Prerequisites: Completion of the I/O concentration courses.

Students receive supervised training in an applied setting in the area of I/O psychology. The student has an on-site practicum supervisor and a faculty supervisor. Pass/fail course.

PSYC 699. Thesis Research (6 Credits, taken in increments)

The student may not proceed beyond the first credit without committee approval of the proposal.



M.S. IN ENVIRONMENTAL SCIENCE

The Master of Science in Environmental Science is an applied program designed to meet the needs of a wide variety of students, including those already working in the environmental field or those just completing their baccalaureate education. Both thesis and non-thesis options are available as well as a Five Year BS/MS Program. Evening classes are offered; some labs are available on weekends.

The Department of Biology, Chemistry, and Environmental Science is actively engaged in research and in teaching a full complement of course work. We encourage student involvement in our research and enjoy guiding students through their own study. Located in the environmentally rich coastal plain of Virginia, we have access to a variety of excellent field research sites. The department conducts research at ecological study sites in rural Gloucester County, Hoffer Creek Nature Preserve in Portsmouth, the Great Dismal Swamp, a forestry research area in New Kent County, and aquatic research at Lake Maury close to our campus.

All course offerings are taught in the modern 16,000 square foot science building containing 14 well-equipped laboratories and 23 support areas. Three walk-in controlled environment chambers, a greenhouse, and a fleet of boats complement the facilities. Additional laboratory research space is available at the nearby Applied Research Center.

Dr. Gary Whiting
Graduate Program Coordinator
gwhiting@cnu.edu
217 Science Building
(757) 594-7613

THE MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE

This degree program is flexible enough to fit the interests and needs of a wide variety of students and is designed for students planning to pursue a Ph.D., teachers wanting a M.S. in a biological science, or students interested in careers with private environmental companies or government agencies.

The core courses are those mentioned most frequently by employers, consultants and educators as those needed for employment. The remainder of the curriculum is designed to enhance the understanding of ecology and the natural history of organisms. Many of these courses involve or consist entirely of fieldwork, since the majority of the employers surveyed are seeking graduates with a first-hand knowledge of the environment and environmental assessment methods.

Admission Requirements for Degree-seeking Students

1. A baccalaureate degree from a regionally accredited college or university with a minimum grade point average of 3.00 on a 4.00 scale
2. An official transcript from the baccalaureate institution, and official transcripts for all graduate work taken at other institutions
3. Three letters of recommendation from people who can attest that the applicant is likely to be successful in graduate level academic work. All recommendations must arrive in unopened envelopes with the reference's signature across the envelope flap
4. Scores from the Graduate Record Examination General Test taken within five years prior to the date of admission. GRE scores are used as one of several indicators of the applicant's ability to succeed in graduate studies; they are not the sole criterion for admission. For applicants already holding a master degree, the GRE may be waived by permission of the Director of Graduate Studies. A letter to the Director requesting a waiver is required

Academic Policy for Non-degree Students

Students seeking non-degree admission status must have a grade point average of at least 3.0 on a 4.0 scale. Non-degree students are limited to 12 hours of graduate study. Up to 12 credits of graduate study may be applied to the graduate degree should a non-degree student apply and be accepted to degree-seeking status. Should a non-degree student desire additional courses beyond the 12-credit limit, he or she may petition the Program Coordinator for a waiver of this limit. Non-degree seeking students must meet the prerequisites before enrolling in a graduate course or obtain the consent of the instructor.

Academic Prerequisites

Students will provide evidence of satisfactory completion of the following undergraduate courses: complete sequences of general and organic chemistry, general ecology, botany, zoology, cell or molecular biology, genetics, microbiology, and statistics.

Goals of the Program

The curriculum of this program will contribute to the achievement of instructional goals in the following areas:

1. Solid background in ecological and environmental conservation theory
2. Skills required for employment with environmental assessment/monitoring businesses, and state and federal governmental agencies
3. Research and technical writing skills
4. Preparation for further graduate work

Curriculum

The Master of Science in Environmental Science is a degree program consisting of thesis or non-thesis options.

Thesis Option

The thesis option is a 33-hour program that requires 10 hours of core courses, 17 hours of concentration courses (chosen with the guidance of the student's advisor and thesis committee), and 6 hours of thesis research. An oral presentation and defense of the written thesis are required.

Non-Thesis Option

The non-thesis option is a 36 hour program which consists of 10 hours of core courses, 23 hours of concentration courses designed with the guidance of the student's advisor and committee, and 3 hours of project research. Non-thesis project research, typically limited in scope and with a reduced time demand than the thesis, will be designed under the supervision of the advisor and committee. An oral report and written report of the completed project are required.

Many courses feature a prominent laboratory or field component in order to teach analytical and practical skills, while other courses are designed to build research and technical writing skills. The remainder of the course offerings are designed to enhance the understanding of ecology and the natural history of organisms. Many of the courses involve, or consist entirely of, fieldwork since employers are seeking graduates with a first-hand knowledge of the environment and environmental assessment methods. Late afternoon and evening courses are available. Most courses beyond the core courses may be taken in any sequence.

M.S. in Environmental Science Program of Study 33-36 Credits

Core Courses (10 credits)

ENVS 505 Technical and Scientific Writing (2)
ENVS 510/510L Biometry & Biometry Laboratory (5)
ENVS 518 OR 519 Biological Conservation: Theory and Practice (3) OR Restoration Ecology (3)

Concentration Courses (17 credits for Thesis Option OR 23 credits for Non-Thesis Option)

ENVS 530 Biogeography (3)
ENVS 534 Marine Ecology (4)
ENVS 538 Limnology & Aquatic Biology (4)
CHEM 545 Instrumental Methods in Chemistry (4)
CHEM 555 Environmental Instrumental Analysis (1)
CHEM 585 Advanced Instrumental Analysis (1)
ENVS 525 Environmental Regulations (3)
ENVS 532 Wetlands Ecology (4)
ENVS 536 Terrestrial Ecology (4)
ENVS 540 Environmental Microbiology (4)
ENVS 550 Global Change (3)
ENVS 590 Topical Seminars in Environmental Science (1-4cr)

Thesis or Project (6 credits for Thesis Option OR 3 credits for Non-Thesis Option)

ENVS 699 Thesis Research (Thesis) (6)
ENVS 599 Project Research (Non-thesis) (3)

TOTAL 33 credits (Thesis) OR 36 credits (Non-Thesis)

Internships and Graduate Assistantships

Graduate assistants are employed to conduct research, perform administrative activities, and/or teach as directed by the graduate faculty within the department. The position requires a weekly time commitment and is awarded on a competitive basis. To qualify, a student must be a degree-seeking student with no limits or provisions, be enrolled in 6-9 graduate credit hours in the semester of the award. Refer to page 75 for specific terms, criteria and application procedures.

Internships with environmental departments of municipalities, resource agencies, laboratories, and engineering firms are available. The student gains practical experience in a work place environment learning detailed methods of site evaluation, environmental assessment and technical report preparation. Many of the internships offer financial support to the student.

Graduation Requirements

Thesis Option

- Successful completion of 27 hours (minimum) of the M.S. in Environmental Science degree program course work and 6 hours of thesis (ENVS 699)
- Cumulative graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Successful completion of the comprehensive examination
- Successful defense of thesis and presentation of the appropriate number of approved copies to the Graduate Studies office by the published deadline
- Presentation of an electronic copy of the thesis to the chair of the committee in an acrobat.pdf format on CD suitable for archive purposes only

Non-Thesis Option

- Successful completion of 33 hours (minimum) of the M.S. in Environmental Science degree program course work and 3 hours of non-thesis project (ENVS 599)
- Cumulative graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Successful completion of the comprehensive examination
- Oral presentation and written copy of project to advisor and committee
- Presentation of an electronic copy of project to the chair of the committee in an acrobat.pdf format on CD suitable for archive purposes only

For Further Information

Information may be obtained from the ENVS Graduate Program Coordinator or online at: <http://www.cnu.edu/bces/MSEnvironmentalScience.html> or <http://www.cnu.edu/gradstudies>.



MASTER OF ENVIRONMENTAL SCIENCE FIVE YEAR BS/MS PROGRAM

This five-year program leads to both a Bachelor of Science and a Master of Science in Environmental Science and provides a solid background in ecological and environmental conservation theory. Students also develop skills required for employment with environmental assessment/monitoring businesses and state governmental agencies.

This degree program is flexible enough to fit the interests and needs of a wide variety of students and is designed for students planning to pursue a Ph.D., teachers wanting a Master of Science in a biological science, or students interested in careers with governmental agencies.

How and When to Apply

After completion of at least 60 hours of undergraduate study, preferably by the end of the sophomore year, the student applicant should complete the *Statement of Intent* to participate in the five-year Bachelor of Science/Master of Science program. In this statement, the student and their undergraduate advisors design a tentative five-year schedule and discuss the objectives and requirements of the program. This form is distributed to the BCES Graduate Program Coordinator and the Department Chairman.

After completion of at least 75 hours of undergraduate study, preferably during the second semester of the junior year and before the pre-registration period for the following semester, the *Formal Application to the Five Year Program* is completed and submitted to the Office of Graduate Studies. Approval of your application will constitute conditional admission to the Master of Science Program.

After completion of at least 90 hours of undergraduate study, preferably during the first semester of the senior year and before the pre-registration period for the following semester, the *Formal Application for Candidacy to the Master Program* is completed. After acceptance to the graduate program for the following semester, students will be counted as graduate students and will be assigned a graduate faculty advisor. As a graduate student, the student must maintain the academic standards of the Graduate School for all courses that will be applied to the student's graduate record.

Requirements

1. A cumulative grade point average of at least 3.0 and a GPA in the major of at least 3.0 (This record must be maintained throughout the program)
2. Junior standing with completion of at least 60 hours of undergraduate study (*Statement of Intent* form submitted)
3. A signature of support from a faculty member in the major who has taught the student in a major course
4. A letter from the BCES Graduate Program Coordinator containing a tentative Program of Study that would allow the completion of the BS and MS in five years (*Program of Study Form*)
5. Completion of the Graduate Record Examination (GRE) before entering the last 30 hours of the five-year program with a preferred combined score of 950 on the Verbal and Quantitative Sections.
6. A score of at least 237 on the computer-based TOEFL or an equivalent score of at least 583 on the paper-based TOEFL for international students

Suggested Course Schedule for Five-Year Program in Environmental Science:

FRESHMAN YEAR

FALL

Chem 121/121L - General Chemistry/Lab (5)
Biol 107 - General Biology I (3)
Biol 109 - General Biology Lab (1)
English 101 (3)
Social Science (3)

Credit hours 15

SOPHOMORE YEAR

FALL

Chem 321/321L - Organic Chemistry/Lab (5)
Biol 300W - General Biology III for majors (3)
Social Science (3)
Math (3)
Humanity (3)

Credit hours 17

JUNIOR YEAR

FALL

Biol 306/306L - Environmental Conservation w/ Lab (4)
Biol 307/307L - Cell Biology w/ Lab (4)
History 111G (3)
Physics 103/103L (4)

Credit hours 15

SENIOR YEAR

FALL

Biol 301/301L - Microbiology w/ Lab (4)
Biol 491W - Biology Seminar for Majors (1)
Biol 407/407L - General Ecology w/ Lab (4)
ENVS 505 - Technical and Scientific Writing (2)
ENVS 518 or 519 - Biological Conservation
ENVS 699 - Thesis (1)

Credit hours 15

FIFTH YEAR

FALL

ENVS 510/510L - Biometry/Lab (5)
Graduate Elective (3-4)
Graduate Elective (3-4)
ENVS 699 - Thesis (1)

Credit hours 12-14

SUMMER FIFTH YEAR

ENVS 699 - Thesis (1)

SPRING

Chem 122/122L - General Chemistry/Lab (5)
Biol 108 - General Biology II (3)
LSPE (1)
English 102 (3)
Social Science (3)

Credit hours 15

SPRING

Chem 322/322L - Organic Chemistry/Lab (5)
Biol 313/313L - Genetics w/ Lab (4)
Humanity (3)
Communications 201 (3)

Credit hours 15

SPRING

Biol 302/302L - Oceanography: An Introduction to Marine Science/Lab (4)
A Botany Course/Lab (4)
History 112G (5)
Physics 104/104L (4)

Credit hours 15

SPRING

Biol 403/403L - Marine Biology/Lab (4)
Undergrad Elective (4)
Undergrad Elective (4)
ENVS 699 - Thesis (1)
or Restoration Ecology (3)

Credit hours 13

SPRING

Graduate Elective (3-4)
Graduate Elective (3-4)
Graduate Elective (3-4)
ENVS 699 - Thesis (1)

Credit hours 10-13

Comprehensive Exam, Thesis Defense

For Further Information

Forms may be obtained from the ENVS Graduate Program Coordinator or online at <http://www.cnu.edu/bces/FiveYearProgram.html>

M.S. IN ENVIRONMENTAL SCIENCE COURSES OF INSTRUCTION

ENVIRONMENTAL SCIENCE

ENVS 505. Technical and Scientific Writing (2-2-0)

This course discusses the fundamentals of technical writing with consideration of other types of scientific writing. The stylistic and mechanical problems characteristic of technical writing are considered and worked on individually and in groups. Students write and edit journal articles.

ENVS 510. Biometry (3-3-0)

Prerequisites: MATH 125, Introduction to Statistics, or equivalent course.

The application of statistical methods to biological problems. Experimental design, data acquisition, single and multiple analysis of variance, regression and correlation are covered. Test selection and modeling are also included.

ENVS 510L. Biometry Laboratory (2-0-3)

Corequisite: ENVS 510.

Develops skills in the use of statistical software packages including relational databases.

ENVS 518. Biological Conservation: Theory and Practice (3-3-0)

Prerequisites: BIOL 407-General Ecology.

Biological conservation is a relatively new, applied discipline having more ethical and sociopolitical ramifications than is typical of non-medical scientific disciplines. This course covers the development of conservation theory, biodiversity and problems of determining and evaluating biodiversity, relevant ecological principles, and ethical and economic issues. The course considers current conservation problems and the methods and strategies. The first part of the course is in lecture format and the second part is in seminar format.

ENVS 519. Restoration Ecology (3-3-0)

Prerequisites: BIOL 407-General Ecology.

This course familiarizes the student with the newly emerging science of restoration ecology, including its theoretical foundation and its application in today's world. The first part of the course concerns case studies and the second part of the course, in seminar format, concerns recently published studies found in the peer-reviewed literature.

ENVS 522. Summer Field Studies (2-0-6)

Prerequisites: ENVS 505-Technical and Scientific Writing; ENVS 510/510L-Biometry with Lab; and ENVS 518-Biological Conservation: Theory and Practice or BIOL 519-Restoration Ecology.

A one-week field camp in selected habitats emphasizing application of field data gathering and processing techniques to the solving of multifaceted environmental problems. Travel, camping and boat work required. An additional day on campus is required for student presentations.

ENVS 525. Environmental Regulations (3-3-0)

A seminar designed to explore current environmental regulations and their impact on various constituents.

ENVS 530. Biogeography (3-3-0)

The study of the patterns of distributions of organisms, both past and present and the abiotic and biotic factors that produced those distributions.

ENVS 532. Wetlands Ecology (4-3-4)

Prerequisites: BIOL 407-General Ecology, and one year of Chemistry. A study of the structure and function of wetland systems from salt to fresh and tropical to the arctic. Concepts will cover hydrology, biogeochemistry, wetland development and succession. Wetland delineation, management, creation and restoration apply these concepts. Field exercises at local wetlands are included.

ENVS 534. Marine Ecology (4-3-4)

Prerequisites: BIOL 407-General Ecology, and consent of instructor. Ecology of the disturbed and non-disturbed marine environment. Topics covered include: global distribution of marine organism and the factors influencing their distribution, plankton ecology, the benthos, salt marsh and sea grass ecology, rocky shore and coral reef ecology, human exploitation and interference in marine habitats, and sampling techniques in marine systems. Extensive field and boat work.

ENVS 536. Terrestrial Ecology (4-3-4)

Prerequisites: BIOL 407-General Ecology.

A study of the structure and function of terrestrial systems focusing on the distinctive landscapes of the mid-Atlantic coastal region. Concepts will cover population, community and ecosystem ecology of plants and animals within these systems with attention given to the processes and functions that are distinct within and common among these systems. Field exercises are included.

ENVS 538. Limnology and Aquatic Biology (4-3-4)

Prerequisites: BIOL 407-General Ecology, and one year of Chemistry. Interactions of physical, chemical and biological properties in natural and degraded freshwater ecosystems. Emphasis on application of field data gathering, processing and functional classification of organisms in aquatic communities. Extensive field and laboratory work.

ENVS 540. Environmental Microbiology (4-3-4)

Prerequisites: General Microbiology; BIOL 407-General Ecology; two semesters of organic chemistry; plus ENVS 505-Technical and Scientific Writing; and ENVS 510/510L-Biometry and Lab.

The course investigates the role microorganisms play in terrestrial, aquatic, and marine ecosystems. The course explores: the dynamics of microbial populations and communities; normal microbiota and their interactions with other organisms; and environmental pathologies in which microorganisms are the primary agent (e.g., coliforms and other fecal contaminants in water, and acidophiles in mine tailings). In the laboratory, students learn classic environmental testing procedures and novel new assessment procedures that have their roots in biochemistry and molecular biology.

ENVS 550. Global Change (3-3-0)

Prerequisites: BIOL 407-General Ecology.

An examination of the evidence for and causes of global change. The impact of changes in the global cycles of C, N, P and H₂O on ecosystem structure and function are examined. Atmosphere, terrestrial and aquatic biosphere changes are discussed along with their effect on plant and animal communities. Students present current scientific papers on various issues within this field.

ENVS 590. Topical Seminars in Environmental Science (1-4 credits)

Prerequisites: These vary depending on the topic offered.

A variety of environmental science related topics not available in the regular curriculum are offered. These courses will be designed to fill a particular need not met by the regular courses or may be designed to use the talents of an environmental scientist who is not part of the faculty.

ENVS 595. Advanced Topics in Environmental Science (Credit varies)

Course topics are selected on the basis of faculty and student interests.

ENVS 599. Project Research for Non-Thesis (1-3 Credits)**ENVS 699. Thesis Research (1-6 Credits, taken in increments)**

The student may not proceed beyond the first credit without thesis committee approval of the proposal.

CHEMISTRY

CHEM 545. Instrumental Methods in Chemistry (4-2-5)

Prerequisites: General Physics 201-202; and Organic Chemistry 321/321L-322/322L.

Application of chemical principles to instrumentation. Instruction in operation of a variety of modern instruments.

CHEM 555. Environmental Instrumental Analysis (4-2-5)

Prerequisite: CHEM 445 or 545-Instrumental Methods in Chemistry. Analytical methods for the analysis of environmentally significant substances in both trace and macroscopic abundances using modern instrumental methods. Analyses include both desirable and objectional impurities in air and water, such as oxygen in water samples and heavy metal in water; and trace gases and other atmospheric impurities. Emphases in AA and GC-MS with other instruments used as needed.

CHEM 585. Advanced Instrumental Analysis (4-2-5)

Prerequisite: Chemistry 445 or 545- Instrumental Methods in Chemistry.

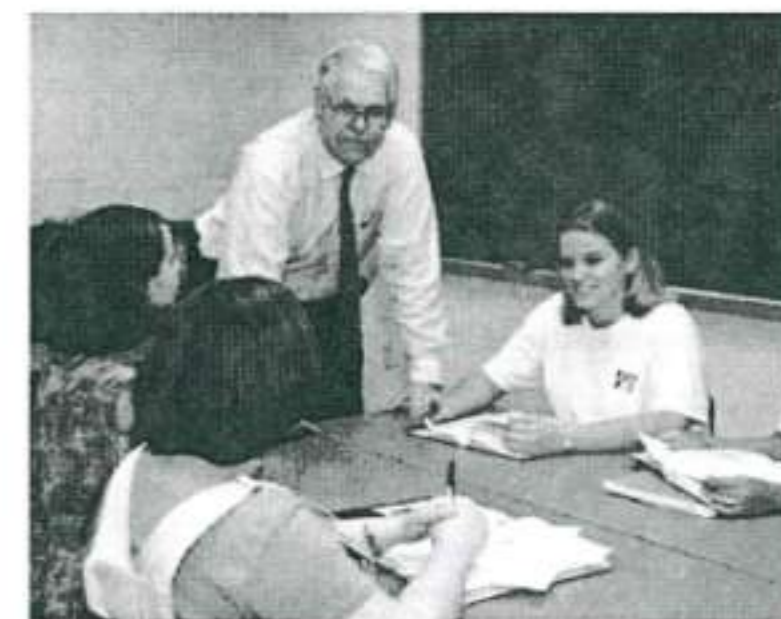
An independent study project, particularly arranged for those working in an analytical testing laboratory. Student and instructor select a problem to be solved, either in the laboratory at the University or at the place of employment (or jointly). Emphasis is on utilizing instruments available to the student in the workplace.

MASTER OF PUBLIC SAFETY LEADERSHIP

The master of public safety leadership degree is unique in its orientation to the challenge of promoting and ensuring the future safety of the public. This program is designed to link public safety leaders into a functioning network of practitioners.

Courses are offered through a combination of classroom seminars and CNU ONLINE, an Internet-based asynchronous system, which allows course flexibility for mid-career students.

The program prepares supervisors and future organizational leaders for the demands of protecting the public efficiently and effectively in the twenty-first century. In-service graduates are prepared to assume supervisory or executive leadership roles within their employment organizations. Pre-service graduates are prepared for entry-level and first-line supervisory positions in public safety and city/county management.



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The Master of Public Safety Leadership

The Department of Government and Public Affairs offers two graduate-level programs, the Master of Public Safety Leadership (MPSL) and the Certificate in Public Safety Management (CPSM). Both programs offer graduate-level leadership and management skill development and a systems approach to coordinate the work of public safety agencies. The master of public safety leadership is unique and the only program of its kind in the Commonwealth.

The curriculum of both programs emphasize leadership development through an integrated approach to public safety. This is based on the critical need for all public safety agencies to work closely together as they provide for the needs of citizens in emergency situations as well as in day-to-day life. The program is focused on developing personnel in law enforcement, corrections, fire safety and related emergency management areas.

These two graduate programs are offered on an intensive semester basis. *This innovative strategy allows students to pursue their full-time careers while they seek post-graduate educational advancement.* Students meet in the classroom one evening every three weeks for each course with the remainder of the communication done through CNU ONLINE, the university's asynchronous, Internet-based teaching medium.

Admission Requirements for Degree-Seeking Students

1. A baccalaureate degree from a regionally accredited college or university with a minimum grade point average of 3.00 on a 4.00 scale
2. An official transcript from the baccalaureate institution and official transcripts for all graduate work taken at other institutions
3. Three letters of recommendation written by persons qualified to judge the applicant's potential to complete the graduate program successfully. All recommendations must arrive in unopened envelopes with the reference's signature across the envelope flap
4. Scores from the Graduate Record Examination General Test taken within five years prior to the date of admission. GRE scores are used as one of several indicators of the applicant's ability to succeed in graduate studies. For those applicants already holding a master's degree the GRE may be waived by permission of the director of graduate studies. A letter to the director requesting a waiver is required

Academic Policy for Non-degree Students

Students seeking non-degree admission status must have a grade point average of at least 3.0 on a 4.0 scale. Non-degree students are limited to 15 hours of graduate study. Up to 15 credits of graduate study may be applied to the graduate degree should a non-degree student apply and be accepted to degree-seeking status. Should a non-degree student desire additional courses beyond the 15-credit limit, he or she may petition the program coordinator for a waiver of this limit. Before enrolling in any graduate course a non-degree student must obtain consent of the instructor. The instructor will determine whether the student has the academic background for the specific course.

Goals of the Program

The curriculum of this program will contribute to the growth in the following desirable leader qualities:

1. Knowledge of leadership theories and practices
2. Understanding of the public safety system to achieve public objectives
3. Understanding how citizens and employees learn and change
4. Technical skills in telecommunications: presentation, spreadsheet, database and statistical analysis software and political analytic/decision-making approaches
5. Professional identification with a commitment to systems approach to services delivery, ethical standards, leadership role in the public safety and political systems and the mission of public safety
6. Willingness to assist colleagues and new professionals in the field

Curriculum

The focus of the program is on leadership and interagency coordination. The curriculum begins with the area I foundation course, issues in public safety leadership. Students analyze critical issues in public safety which create the need for integration and systems perspective. Area II is grounded upon translating an organization's mandate into effective strategies to create value in the public sector. The specialty courses in area III are designed

to allow students to particularize their studies to specific professions. The capstone courses of area IV permit students to select directed readings/internships or directed readings/professional paper. Area IV also includes directed readings/comprehensive exam and the capstone leadership course.

Master of Public Safety Leadership Program of Study 33 Credits

Area I The Foundation (6 Credits)

Political Theory, Public Safety Leadership and Public Law

- GOVT 500 Issues in Public Safety Leadership (3)
GOVT 501 Legal Issues in Public Safety (3)

Area II The Core (12 Credits)

Public Safety System and Organizational Leadership

- GOVT 552 Quantitative Analysis (3)
GOVT 560 Policy Analysis (3)
GOVT 570 Budgeting and Grantsmanship (3)
GOVT 580 Human Resources Management (3)

Area III Specialty Courses (9 Credits)

- GOVT 550 Ethical Issues in Public Safety (3)
GOVT 600 Community Oriented Justice (3)
GOVT 620 Crisis Leadership: Preparation, Response, Recovery (3)
GOVT 640 Public Safety Information Management (3)
GOVT 695 Topics in Public Safety Leadership (3)
GOVT 699 Independent Study in Public Safety Leadership (1-3)

Area IV Capstone Courses (6 Credits)

- GOVT 690 Leadership Integration of Public Safety Services (3)
With one of the following:
GOVT 692 Directed Readings/Thesis (3) OR
GOVT 693 Directed Readings/ Internship (3)

Total 33 credits

Graduate Assistantships

Graduate assistants are employed to perform research, teaching and/or administrative activities as directed by the graduate faculty within the department. The position requires a weekly time commitment and is awarded on a competitive basis. To qualify a student must be a degree-seeking student with no limits or provisions, be enrolled in six to nine graduate credit hours in the semester of the award. Refer to page 75 for specific terms, criteria and application procedures.

Graduation Requirements

- Successful completion of minimum hours of the master of public safety leadership degree program course work
- A cumulative graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Successful completion of capstone course requirements

FIVE-YEAR BSGA/MPSL PROGRAM

The Department of Government and Public Affairs offers an outstanding program for qualified and highly motivated students to achieve a Bachelor of Science in Governmental Administration (BSGA) in four years and a Master of Public Safety Leadership (MPSL) graduate degree with an additional year of study. The program will allow CNU students to obtain both degrees in five years to support the attainment of career goals.

The BSGA/MPSL program is designed for high achieving undergraduates who wish to work in the challenging environment of public safety organizations: law enforcement, corrections, fire, rescue, medical and emergency management. Those selected for the program will be approved to take up to four specified graduate courses during their senior year (GOVT 550 **Ethical Issues in Public Safety**, GOVT 560 **Policy Analysis**, GOVT 570 **Budgeting and Grant Writing**, GOVT 580 **Human Resource Management**.) The graduate credit hours will count toward the required 120 credit hours for the BSGA. Five-year program students who successfully complete a graduate course as an undergraduate will not be required to re-enroll in these courses for the MPSL degree.

Admission to this five-year program is competitive and requires a cumulative GPA of 3.0 or higher, successful completion of the GRE, and three letters of recommendation.

Certificate in Public Safety Management (15 credits)

- Certificate students may be admitted as degree-seeking or as non-degree seeking students.
- The **CPSM** requires successful completion of 15 graduate credits with no transfer credits allowed.
- Participation in or completion of the certificate will not automatically qualify a student for admission into the MPSL degree program. If a student earning a certificate wishes to earn a master's degree, he/she will be required to apply for degree-seeking status.

Foundation Courses (6 credits)

Required:

- GOVT 500 Issues in Public Safety Leadership (3)
GOVT 501 Legal Issues in Public Safety (3)

Core Courses (6 credits)

Choose two of the four core courses:

- GOVT 552 Quantitative Analysis (3)
GOVT 560 Policy Analysis (3)
GOVT 570 Budgeting & Grant Writing (3)
GOVT 580 Human Resources Management (3)

Specialty Courses (3 credits)

Select one of the specialty courses from the MPSL program courses.

MASTER OF PUBLIC SAFETY LEADERSHIP COURSES OF INSTRUCTION

GOVT 500. Issues in Public Safety Leadership (3-3-0)

The course examines the foundational concepts of leadership, contemporary societal concerns and the critical issues in public safety leadership, especially as they present the need for inter-agency and inter-community coordination.

GOVT 501. Legal Issues in Public Safety (3-3-0)

This course presents an overview of constitutional and other legal issues that have evolved from the historical provision of public service in the fields of law enforcement, corrections, fire, rescue, emergency management and other areas of public administration. The focus is on the administrative and operational management of these public safety programs in the context of our American constitutional democracy.

GOVT 550. Ethical Issues In Public Safety (3-3-0)

Students will examine the myriad of ethical issues associated with public safety in administrative and enforcement agencies. Principles of ethics will be applied in all case studies and the decision-making process will be evaluated in the context of leadership situations.

GOVT 552. Quantitative Analysis (3-3-0)

The course is designed to assist students in developing their skills in quantitative analysis of information relevant to leaders in the public arena. The course focuses on research designs and basic data analysis techniques, including statistical analysis, measurement, hypothesis testing, multivariate analysis and measures of association.

GOVT 560. Policy Analysis (3-3-0)

The course provides students with an advanced understanding of public policy analysis. The focus is on basic and complex methods for analyzing and resolving policy issues, particularly at the state and local levels. This includes the ability to define policy problems, establish evaluation criteria, identify and evaluate alternative policies and monitor implemented policies.

GOVT 570. Budgeting and Grant Writing (3-3-0)

The course explores budgeting as a decision-making instrument for the allocation of funds and other resources to achieve goals and objectives in the management of an organization or system. Students review political aspects of the budget process, budgeting formats, accountability procedures and controlling fiscal resources. The course involves the use of electronic spreadsheets in the analysis of data and investigates the importance and relationship of grants in funding public activities. Students explore researching public and private grant sources, proposal development and grants management. Computer applications are employed to assist students in the identification of possible funding sources and the preparation of a proposal.

GOVT 580. Human Resources Management (3-3-0)

This course presents an overview of the many challenges and operational personnel issues that managers and leaders are faced with in the routine provision of public service in city/county/state/federal government and non-profit organizations. The focus is on the administrative and operational human resource management of public programs in the context of American constitutional democracy.

GOVT 600. Community Oriented Justice (3-3-0)

The course examines the movement to create an integrated model of services delivery among all components of the justice system. Community-oriented justice is an outgrowth of community-based

policing and incorporated fundamental concepts of proactivity, community coalitions and decentralization into all areas of public safety. Students explore opportunities to improve the delivery of public safety services and reduce costly duplication of effort by marshaling existing community resources.

GOVT 620. Crisis Leadership: Preparation, Response, Recovery (3-3-0)

Examines the essential leadership issues and elements of emergency preparedness, disaster recovery and mitigation and fire/emergency medical services planning and delivery. Students evaluate existing plans, analyze political and budgetary issues, read current literature regarding theories and research in the field and design integrated plans for the public safety arena.

GOVT 640. Public Safety Information Management (3-3-0)

Studies in the complex field of educating the public, responding to the public's concerns and leading the public to changed perceptions and behaviors. Reviews critical strategies of educating and responding to all public safety constituencies: elected government officials, the judiciary, the media and the public. Students evaluate educational and public relations plans, read current literature regarding theories of public relations and design integrated plans for the public safety agencies.

GOVT 690. Leadership Integration of Public Safety Services (3-3-0)

An examination of the leadership of communities, organizations, initiatives and change, recognizing the construct of leadership as being distinct form but related to management of organizations. Contemporary and historical leadership theories are explored in depth to gain an understanding of salient dimensions and elements of leadership. The role and influence of vision, values, culture, trust, empowerment and follower-developments in the transformation of people and events are studied. The integrative role of city, county, state and federal leaders is examined.

GOVT 692. Directed Readings/Professional Paper (3-3-0)

Working closely with faculty, students will research, prepare and present a professional paper. Students investigate research questions relevant to the management and leadership integration of public safety systems. Students present the paper in a public forum. The topic of the paper must be approved by the student's committee and must directly relate to the field of public safety management or leadership integration.

GOVT 693. Directed Readings/Internship (3-3-0)

The internship is an opportunity for students to apply learned programs knowledge, skills and abilities in an applied setting. Weekly journal reports and a professional, technical paper that integrates theory and practice are required. The reports and paper will be judged by the student's faculty committee.

GOVT 695. Topics In Public Safety Leadership (3-3-0)

Topic courses may be presented on the basis of faculty and student interest.

GOVT 699. Independent Study In Public Safety Leadership

One to three hours limit. This course permits student and faculty to explore special research and theoretical issues.

NON-PROGRAM COURSES

The following section contains a description of the graduate courses offered by the University that are not within a graduate program curriculum.

COURSES OF INSTRUCTION

ECON 501. Current Economic Issues (3-3-0)

This course is designed for K-12 educators and is sponsored by the Virginia Council of Economic Education which provides funds for tuition reimbursement.

EDUC 503. Comparative Education (3-3-0)

This course analyzes the manner in which education is arranged and conducted in other nations. Examination of education and cultural relations among nations and the application of cross-cultural knowledge to classroom educational practice occurs.

EDUC 531. Strategies and Models for Teaching Gifted Learners (3-3-0)

This course will enable teachers to identify specific models of instruction and practice strategies appropriate for gifted learners.

EDUC 536. Characteristics of the Learning Disabled Student (3-3-0)

This course introduces the characteristics and complexities of the learning disabled student. Educational and psychological implications of the diagnostics/prescriptive approach to the learning disabled student are studied.

EDUC 550. Developmental Reading (3-3-0)

This course is designed to help teachers understand the psychology of the reading process, strategies for helping learners in the elementary school, current practices, and interrelationships with other subjects and activities in the curriculum. The application of theory and research to classroom practice is emphasized.

EDUC 552. Diagnostic Reading (3-3-0)

This course is designed to help classroom teachers diagnose students' strengths and weaknesses, provide for the growth of developmental learners, and correct the various kinds of problems which are grouped under the heading of reading disabilities.

MATH 572. Current Issues in School Mathematics (3-3-0)

In-depth exploration of current issues in mathematics education. Topics may include: the "problem solving" centered mathematics curriculum; participation and retention of females and minorities in mathematics; mathematics anxiety; using technology in teaching mathematics; the NCTM Curriculum and Evaluation Standards for School Mathematics.

MATH 574. Discrete Mathematics (3-3-0)

A course designed to expose students to the discrete aspects of mathematics. Course emphasizes: developing basic techniques and modes of reasoning in combinatorial problem solving; describing and analyzing the algebraic structure of certain sets; relation systems; and illustrating and analyzing the wide variety of applications of discrete mathematics. Topics include logic, sets, algorithms, mathematical induction, combinatorics, number theory, graph theory and Boolean algebra.

MATH 582. Introduction to Topology (3-3-0)

An introductory course in topology. Topics include sets and functions, topology spaces, metrics spaces, connectedness, compactness, countability and separation.

MATH 583. Mathematics in the Content Areas (3-3-0)

This course assists teachers in developing creative instructional approaches which integrate mathematics with other content areas (science, social studies, language arts, fine arts, physical education) and which instill in students enthusiasm and satisfaction in learning and using mathematics. The course provides opportunities to implement these methodological practices in the classroom.

MUSC 507. American Music (3-3-0)

A course in which music is studied as a part of America's cultural history. Beginning with music transported to the New World by the Pilgrims and the Puritans, musical activity is traced chronologically into the twentieth century. Among major topics discussed are the singing school movement, nineteenth-century popular music, the development of music education, American band music, the beginnings of jazz, the establishment of an indigenously American expression, and the coming of world prominence in music of the twentieth century.

MUSC 509. Paleography (3-2-3)

Prerequisite: MUSC 303 or permission of the instructor.

This is a course in the interpretation of musical notation and texts that date from the early medieval period. The class transcribes monophonic and polyphonic examples and interpret texts from manuscript facsimiles. Students learn about style and performance practices and acquire performance skills from their required participation in the Collegium Musicum (MUSC 109 ensemble). Students prepare selections for performance and assist in the Collegium Musicum's direction.

MUSC 590. Falk Seminar in Music Historical Research (3-3-0)

A proseminar in musicology that facilitates the scholarly preparation, writing and annotation of research findings through accurate and disciplined use of conventional style sheets. This course provides an excellent initiative for teacher training and recertification and an avenue into the field of Musicology.

SUBJ 595. Topics Courses

Departments in addition to the ones listed in this catalog may, from time to time, offer topics courses at the graduate level. Consult the *Schedule of Classes* booklet each semester for further information.

SUBJ 599. Independent Study

The purpose of Independent Study is to enable qualified students to enrich their programs through directed reading or independent research, under faculty supervision and for University credit. The procedure for enrolling in Independent Study is stated on page 66 of this catalog.



POLICIES & PROCEDURES

Admission to Graduate Studies

Christopher Newport University admits graduate students whose ability and preparation indicate potential for success. Admission to graduate study is competitive and based upon a careful review of each applicant's academic and professional qualifications. CNU is an equal opportunity, coeducational university, and admission is not based on race, gender, color, age, religion, veteran status, national origin, disability or political affiliation.

Graduate Academic Policies

Students are responsible for the proper completion of their academic programs. Students must be familiar with the information contained in the *CNU Graduate Catalog* and must satisfy the requirements established by both the university and the specific master's degree program. The graduate program is administered by the Associate Provost for Research and Graduate Studies. Instruction and research are carried out by the graduate faculty. The Provost has final responsibility in all matters pertaining to instruction.

Tuition, Fees and Financial Aid

Tuition and fee rates are established each year by the Rector and Christopher Newport University Board of Visitors. Financial aid consists of scholarships, grants, graduate assistantships, loans and employment opportunities that are available to help students finance their education. Most financial aid resources serve to supplement, rather than replace, family resources.

Family Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974 requires the university to maintain the confidentiality of student educational records and is intended to be a safeguard against unauthorized release of student educational records.

Board of Visitors, Administration and Graduate Faculty

The CNU Board of Visitors, administration personnel and graduate faculty members are listed. The graduate faculty exercises faculty jurisdiction over graduate courses and programs and requirements for admission, continuation and graduation from all graduate programs.

ADMISSION TO GRADUATE STUDIES

The decision to admit an applicant to graduate studies at Christopher Newport University is determined by the graduate faculty members in the appropriate academic department(s). The Office of Admissions collects the application materials and submits the application with documentation to the Office of Graduate Studies (OGS) for distribution to the appropriate Graduate Program Coordinator (GPC). The decision is made by the GPC and the graduate faculty members in his /her department and returned to the OGS. A letter is sent to the applicant.

Applicants must read the information on the master's degree program to which they are applying for specific admission and academic requirements. Applications for admission are accepted on a rolling basis. Students may be admitted to the University for full or part-time study beginning the fall or spring semesters or prior to any summer session. Applicants are encouraged to apply well in advance of the term in which they wish to attend.

ADMISSION REQUIREMENTS

Application and Fees

Applicants must submit a completed **Application for Admission to Graduate Study**, a **Tuition Rate Determination Form** and a **\$40 application fee**.

All of the graduate application forms are included in the back section of this catalog and also are available from the Office of Admissions, Administration Building Room 112, the Office of Graduate Studies, Gosnold Hall 220 A or from www.cnu.edu/gradstudies

College Records

Applicants must submit an **official transcript of their baccalaureate degree from a regionally accredited college or university**. The transcript must indicate the date of the applicant's graduation, the degree received, and a complete list of courses taken and grades received.

Applicants also must submit **official transcripts of graduate work** taken at other institutions.

Degree-seeking applicants must have minimum grade point average of 3.0 on a 4.0 scale.

Non-degree applicants must have a minimum grade point average of 3.0 on a 4.0 scale.

Educational and Professional References

Degree-seeking applicants must provide **three letters of recommendations** written by persons qualified to judge the applicant's potential to complete the graduate program successfully. All recommendations must arrive in unopened envelopes with the reference's signature across the envelope flap. Refer to the master's degree program section for any specific reference requirements.

Entrance Examinations

Examination scores are used as one of several indicators of the applicant's ability to succeed in graduate studies. The **Graduate Record Examination** and **PRAXIS I** are offered on an individually scheduled basis through The Prometric Testing Center: www.prometric.com Refer to the master's degree program section for specific examination requirements.

Application Deadlines

The application deadlines for **Degree-Seeking Students** are:

- May 1** for Fall Semester
- November 1** for Spring Semester
- April 15** for Summer Sessions.

After these deadlines, applicants may apply to enter as non-degree students.

Application deadlines for **International Students** are:

- April 1** for Fall Semester
- October 1** for Spring Semester
- March 1** for Summer Sessions

Reactivated Applications

Students who were accepted as degree-seeking but did not enroll may reactivate their applications within a period of two semesters of the original application. After that period of time, the complete set of application materials must be re-submitted along with a new application fee.

ADMISSION STATUS

DEGREE-SEEKING STATUS

Applicants approved to participate in a graduate program leading to a master's degree will be admitted as degree-seeking students. Upon acceptance, a degree-seeking student will be assigned a graduate faculty advisor to assist the student in formulating their academic plan of study.

Students planning to use financial aid must be admitted under this status.

Admission Requirements for Degree-seeking Status

- Completed **Application for Admission to Graduate Study**
- **\$40 application fee**
- **Tuition Rate Determination Form** (if applying for in-state tuition rate eligibility)
- **Official baccalaureate transcript** from a regionally accredited college or university, indicating the successful completion of all degree requirements
- **Minimum grade point average of 3.0** on a 4.0 scale
- **Official transcripts for other graduate work** are required
- **3 letters of recommendations**
- **GRE or PRAXIS I** examination scores
- Refer to the master's degree program section for specific or additional admission requirements such as an essay.

NON-DEGREE STATUS

Applicants approved to take graduate courses apart from any program leading to a graduate degree may be admitted as non-degree students. Such students earn academic credit in the same manner as degree-seeking students, and prerequisites for individual courses must be met unless excused by the Graduate Program Coordinator. Credit received as a non-degree graduate student may be applied to a graduate degree if and when the student becomes a degree-seeking graduate student. No more than 15 graduate credit hours may be earned in non-degree status.

Admission Requirements for Non-degree Status

Submit completed application form with a \$35 application fee and college records as outlined in the "Admission Requirements" section on the previous page. The non-degree applicant must have a minimum grade point average of 3.0 on a 4.0 scale. Letters of recommendation and examination scores are not required for the non-degree applicant.

Changing from Non-degree Status to Degree-seeking Status

A non-degree student must submit the form: **Request for Status Change to Degree-seeking Status** to the Office of Admissions, the **fee of \$40.00** and **all required documentation** for degree-seeking status within a specific master's degree program in order to petition for the change in status. The amount of credit received as a non-degree student which is applicable toward a graduate degree will be determined by the appropriate Graduate Program Coordinator at the time the student changes to degree-seeking status.

Admission Requirements for Teachers in the Commonwealth of Virginia Enrolling in a Non-degree Status

Any Virginia teacher who desires to enroll in a course for **re-licensure or continued professional development** may do so in a Non-Degree status and, as such, does not need to furnish an official baccalaureate transcript. A request to change to degree-seeking status, however, will require submitting the form Request for Status Change to Degree-seeking Status, the fee of \$40.00, and all required documentation for degree-seeking status in the Master of Arts in Teaching program.

CONDITIONAL STATUS

Provisional Admission

In exceptional cases, the appropriate academic department may grant provisional admission to a degree-seeking or a non-degree applicant who does not have a complete application. Any deficiencies in the application, such as a lack of scores for the Graduate Record Examination (GRE), must be provided by the Last Day to Withdraw Without Grade Penalty of that semester or summer session in which the applicant is enrolled. Students who do not submit these materials by the deadline will be automatically withdrawn from the course(s) in which they are enrolled.

INTERNATIONAL STUDENTS

Students from other countries with adequate preparation for graduate study are invited to apply for admission to Christopher Newport University. The University is authorized under federal law to enroll non-immigrant alien students. Application deadlines for international students are: April 1 for fall semester, October 1 for spring semester, and March 1 for summer sessions.

Admission Requirements for International Students

An international student must apply to enter the University as Degree-Seeking by submitting the specific master's degree program admissions documents.

An international applicant who is not a U.S. citizen is required to:

1. Submit an **Application** for Admission to Graduate Study as a Degree-Seeking Student with the required **\$40.00 application fee**
2. Submit all documents required for degree-seeking admission to the specific master's degree program. Refer to the master's degree program section in this catalog.
3. Submit an official transcript of their baccalaureate degree, translated into English and submit official transcripts of graduate work, translated into English.
4. Submit official transcripts translated into English to the World Education Services and submit their transcript evaluation to the CNU Office of Admissions. See Evaluation of International Credits section for contact information.
5. Submit a minimum score of 237 on the computer-based Test of English as a Foreign Language (TOEFL) or an equivalent score of 580 on the paper-based TOEFL.
6. Complete a financial resource statement and provide an official bank affidavit guaranteeing that adequate funds are available for university study prior to coming to the United States.

***Because the University is a state-supported institution, it cannot provide financial aid to international students.**

Evaluation of International Credits

International students must submit official transcripts translated into English to World Education Services (WES) to have their education credentials evaluated. WES will prepare an objective, analytical report that describes the credentials and interprets them in terms of their U.S. equivalents. Visit the web site at <http://www.wes.org>, or contact WES at info@wes.org, or call 1-800-937-3895.

CONTACT INFORMATION

Office of Admissions

The Office of Admissions is located in the Administration Building Room 112, and may be contacted at (757) 594-7015, 1-800-333-4268, fax (757) 594-7333, or e-mail admit@cnu.edu.

An application may be submitted by mail to:

CNU Office of Admissions
One University Place,
Newport News, VA 23606-2998

or submitted electronically from: www.cnu.edu/gradstudies

To determine the status of your application package, you may e-mail Mrs. Chittenden at schitten@cnu.edu.

Applications cannot be processed until the application fee and all documents have been received.

A decision letter can be expected approximately 2 weeks after the complete application package is submitted to the appropriate Graduate Program Coordinator.

GRADUATE ACADEMIC POLICIES

These academic policies apply to all students who register for graduate studies at Christopher Newport University.

REGISTRATION

A student must be admitted as a Graduate Student to receive graduate credit. On receipt of notification of acceptance, the student will be allowed to register. All students registering must meet the minimum academic requirements for a specific program before taking a graduate course.

The University has established an Early Registration procedure for students already attending the University. Students who register early for fall or spring classes must pay all tuition and fees or make other arrangements with the University Business Office by the deadline dates announced in the *Schedule of Classes* on the web: <http://www.cnu.edu>. They are not registered until tuition and fee payments or other arrangements have been made with the Business Office. After payment of tuition and fees, students should begin classes at the designated time.

Students registering during one of the early registration periods will receive a bill for tuition and fees through the mail. The bill must be paid by the deadline. If the bill is not paid or if other arrangements are not made with the Business Office by the established deadline, students must contact the Business Office to avoid being removed from registered courses. The University reserves the right to cancel students' registrations if their bills are not paid or other arrangements have not been made. If students have registered during an early registration period and have not paid their bills by the deadline, they should not attempt to re-register without contacting the Business Office to determine their status.

State Immunization Requirement for New Students

Section 23-7.5 of the Code of Virginia requires that all first-time, full-time undergraduate or graduate students born after 1956 have a certificate of immunization form completed by a licensed health professional and forwarded to the Office of Registrar no later than 10 days after the first day of classes of the first semester at CNU. Students who fail to present the form will not be allowed to register. **The form is available from the Office of the Registrar.**

Schedule Adjustment(Add/Drop)

After registering for classes, students must make any changes to their class schedule through the Office of the Registrar on the schedule change form. Unless course changes are made in this manner, the University will not recognize them. Schedule changes normally are processed in the Office of the Registrar during the first five days of each semester (the Schedule Change Period). Courses dropped during this period do not become part of the student's permanent academic record. Courses may not be added after this period without the approval of the director of graduate studies.

Withdrawal from a Course

If serious and unforeseen circumstances arise, a graduate student may petition the course instructor to withdraw from a course in progress by completing a withdrawal form obtained in the Office of the Registrar. The course instructor will determine whether the request will be allowed. A student who withdraws from a course after receiving permission will receive the grade **W**. A student who withdraws from a course without receiving permission will receive a grade of **F**.

Withdrawal from the University

Withdrawal from the University means that the student ceases to attend all classes and is no longer enrolled in the University. Students desiring to withdraw from the University should do so by filing the withdrawal form or by written application to the registrar. Unless withdrawals are made in this manner, they have no official standing and will not be recognized as valid by the University. Students may withdraw from the University prior to the final examination period.

Medical Withdrawal

Students who wish to withdraw from the University for medical reasons must have a letter sent to the Office of the Registrar by a physician certifying that the student is incapable of completing the academic work for medical reasons. On receipt of the letter, all grades for the semester will be recorded as **W** on the student's transcript.

Unofficial Withdrawal

Students who stop attending classes and who do not complete a Withdrawal Form or notify the registrar will receive a grade of **F** in each course taken.

Auditing a Course

Students may audit a course with approval of their academic advisor if class size permits. Students auditing courses are subject to attendance regulations specified by the instructor but are not required to take tests or final examinations. Students may complete any of the required assignments by permission of the instructor. Students auditing a course will receive **AU** rather than a letter grade.

Changes from audit to credit status and credit to audit status may be made only during the schedule change period. Out-of-state students must make financial arrangements with the Business Office before such a change is effective. If a student registers as an auditor but fails to comply with the instructor's attendance regulations, the instructor may direct that the notation **W** be posted to their permanent academic record rather than **AU**. Tuition and fees for auditing a course are the same as the tuition and fees for taking a course for credit.

Independent Study

The purpose of independent study (shown as **SUBJ 599**) is to enable students to enrich their programs through directed reading or independent research under faculty supervision for University credit. The student and the faculty member directing the independent study agree on goals, prerequisites, stages and grading procedures in writing. This should be done by the end of the early registration period for the semester or session in which the independent study is to occur. Students may take a maximum of three credit hours of independent study in a given semester or session and a maximum of six credit hours in their total academic program.

The student and the faculty member directing the independent study must complete an **Independent Study Form**, available in the Office of the Registrar. Within five days of being signed by both parties, the Independent Study Form must be submitted to the appropriate Graduate Program Coordinator. Students must then present the completed and approved form to the Office of the Registrar at the time of registration for the purpose of enrollment.

Final Examinations

The examinations take place at times announced in the *Schedule of Classes*. Students are required to take all announced final examinations at the times scheduled unless excused as noted in the "Absence From Examinations" section. The University does not authorize re-examination, nor will changes be permitted unless the student has examinations scheduled in four consecutive periods. If a student is forced by conflict to request a change, the request must be made to the Director of Graduate Studies through the Graduate Program Coordinator or professor.

Absence from Examinations

Students may request to be excused from taking an examination at the scheduled time by presenting an acceptable reason for the expected absence to the professor before the examination. An excuse on the grounds of illness will be accepted when it is verified by a physician and received by the registrar. The professor should be notified as soon as possible if illness or other emergency causes a student to be absent from an examination. If the professor cannot be notified, the student must notify the Office of the Registrar (594-7155) as soon as possible.

ACADEMIC STANDARDS

Course Numbering

Courses numbered 500 through 699 may be applied to a graduate degree. Courses numbered 400/500 may be taken at either an undergraduate or graduate level. Additional work and/or a higher standard is required for those taking a course at the 500-level. A student who has taken a course number 400/500 as a 400-level course may not retake it as a 500-level course. The three hyphenated numbers enclosed in parentheses following the title of the course, (4-3-3) for example, have the following meanings: the first number refers to the number of credit hours awarded for successful completion of the course; the second number refers to the number of weekly lecture hours in the course; and the third number refers to the number of weekly laboratory or practicum hours in the course.

Grading System

The following grades may be earned in graduate courses:

Letter Grade	Meaning	Numerical Value
A	Excellent	4.00
B	Good	3.00
C	Passing (Poor)	2.00
F	Failing	0.00
I	Incomplete	
W	Withdrew	
P	Pass (for EDUC 695,696, and PSYC 691 only)	
S	Satisfactory (for thesis in progress)	
U	Unsatisfactory (for thesis in progress)	
AU	Audit	

Plus/Minus

The grades of A, B and C may be awarded with the "minus" suffix which subtracts three-tenths of a grade point per credit hour. The grades of B and C may be awarded with a "plus" suffix that adds three-tenths of a grade point per credit hour.

Grade of Incomplete

The grade of Incomplete (I) is given when some of the work required for a given course has not been completed because of some serious circumstance such as the student's illness. The work must be completed before the Incomplete grade can be changed. If the incomplete grade has not been changed after the first seven weeks of the next regular semester or if an appropriate extension has not been approved by the Director of Graduate Studies, the I grade will revert to a grade of F.

Grade of Satisfactory/Unsatisfactory

A grade of satisfactory (S) or unsatisfactory (U) will be given for thesis credit while the thesis is in progress. After the thesis has been written, defended and accepted, the thesis advisor will replace the S and/or U designation with a grade of numerical value. Until that time, the S or U designation assigned for thesis work in progress will not affect the student's grade point average. Thesis credit beyond the minimum required by the program will remain with an S and/or U designation.

Cumulative Graduate Grade Point Average

A student's cumulative graduate grade point average is computed by dividing the total number of grade points earned in graduate courses at Christopher Newport University by the total number of graduate credits attempted at the University. A cumulative graduate grade point average of at least 3.00 is required on all work credited toward a graduate degree. No more than six credits of C grades will be credited toward a graduate degree.

Grade Reports

Grade reports are sent at the end of the fall and spring semesters and in August for students who attend summer sessions.

Undergraduate Students Taking Graduate Courses

Graduating senior students may, under certain conditions, take graduate courses. Undergraduates seeking to enroll in a graduate course must have a grade point average of at least 3.0 and are limited to one graduate course (with any associated laboratory) per semester and to a total of two graduate courses (with any associated laboratory). **Credit for such courses may not be applied toward an undergraduate degree; however, upon graduation will be transferred to the student's graduate record at the University, if the credits apply and the student petitions the Directory of Graduate Studies.**

Approval to enroll in a graduate course must be obtained from the course instructor and the Graduate Program Coordinator before registering for a graduate course. Forms for this purpose are available from the Graduate Program Coordinators and from the Office of Graduate Studies. The form must be attached to the Registration Form at the time of registration.

Graduate Students Taking Undergraduate Courses

A graduate student may enroll in a course which carries undergraduate credit if, in the advisor's opinion, the student should be familiar with the subject matter of that course. A student registered for a course for undergraduate credit must complete all the requirements of the course and receive a grade for it. The grade will be noted on the graduate record but will not count toward a graduate degree nor be computed in any graduate grade point average.

Probation and Academic Suspension

If a degree-seeking student is not making satisfactory progress toward a graduate degree, that student may be suspended from the graduate program. Degree-seeking and non-degree students whose cumulative **graduate grade point average falls below 3.0 or who earn a grade of C will be given a Probation Warning.** Students who are on Academic Probation will be required to raise their grade point average above 3.0 or to earn at least a B in all graduate courses attempted in the next semester of enrollment. **Degree-seeking and non-degree students who fail to raise their academic status in the next semester of enrollment will receive an Academic Suspension.**

Degree-seeking students who earn a grade of F in any graduate course or who earn more than six semester hours of U or C grades in graduate courses will be suspended from the graduate program and not be permitted to register for additional graduate credits. Non-degree students who earn an F grade in any graduate course or who earn more than six semester hours of U or C grades in graduate courses will not be permitted to register for additional graduate credits.

Appeal Processes

A student wishing to appeal the grade given in a graduate course must follow the grade challenge procedures described in the *CNU Student Handbook*, with the additional stipulation that any faculty member participating in the process must be a member of the graduate faculty.

Academic Reinstatement Policy

All academic suspensions at the graduate level are made for an indefinite period of time. A suspended student must initiate an appeal for reinstatement by submitting a letter to the Director of Graduate Studies. This letter must include evidence supporting the appeal and demonstrating that the student is able to complete successfully the planned graduate program. Reinstatement of a student on academic suspension to graduate studies is a two-step process.

On receipt of the letter initiating an appeal for reinstatement, the Director of Graduate Studies selects a committee of not fewer than three members of the graduate faculty drawn from the student's area of study or related areas. This committee will review the student's record and the evidence contained in the appeal letter and recommend accepting or rejecting the appeal. A recommendation to reinstate the student must be based on evidence strongly supporting the likelihood of the student's success in graduate school. This evidence may include 1) statements from the student, 2) the student's credentials or 3) an explanation of circumstances leading to the original suspension. This committee may also impose requirements that must be completed prior to reinstatement. These requirements may include a fixed period of suspension (not to exceed one year following the semester during which the academic suspension being appealed occurred) or the taking of specific undergraduate courses designed to strengthen the student's deficiencies. The undergraduate courses must be completed with the grade of A or B.

A student may not register for any class at the University while on academic suspension.

The Director of Graduate Studies will render a final decision on the appeal based upon this committee's recommendation. A student whose appeal is rejected must wait at least one year to appeal again. A student whose appeal is accepted moves to the second step in the reinstatement process.

The second step in the reinstatement process consists of meeting all of the requirements imposed by the select committee. This same committee will review the student's progress and verify that the imposed requirements have been met completely. When they have been met, the Director of Graduate Studies will be notified and the reinstatement will be complete.

Upon reinstatement, the student will be on Probationary Status. From this point on, all of the grades on the student's graduate record earned prior to suspension which are C, F or U will not be counted toward a master's degree. If a student who has been reinstated receives a grade of C, F or U in any graduate course, that student will be suspended.

DEGREE REQUIREMENTS

The following represent the minimum University requirements for the master's degree. Individual programs may impose additional requirements.

Credits

A minimum of 30 semester hours of graduate credits is required for a master's degree. However individual programs may require additional hours. At least 24 of these hours must be taken at Christopher Newport University. As many as six semester hours of graduate credit may be transferred from another college and/or be taken elsewhere by a degree-seeking student as described below. Credit transferred from another institution will be counted toward the total number of credits required for the graduate degree but will not be computed in the student's cumulative graduate grade point average. If no thesis, portfolio, internship or culminating project is required as a part of the degree requirements, a minimum of 36 graduate credits will be required for the degree.

Transfer of Credit

As many as six semester hours of graduate credit from another regionally accredited institution may be included in a degree-seeking student's graduate record if the following conditions are met:

- A grade of A or B must have been earned
- Courses submitted for transfer credit must have been applicable toward a similar degree at the institution awarding them
- An official transcript showing the credits submitted for transfer
- Evidence of their applicability toward a graduate degree must be forwarded to the Graduate Program Coordinator
- Transfer credit must have been taken within six years prior to the award of the CNU master's degree
- Courses taken with pass/fail or satisfactory/unsatisfactory grades are not acceptable for transfer credit

The Graduate Program Coordinator must approve the transfer of credit. The request for transfer credit must be made during the student's first semester as a degree-seeking student. No transfer credit will be allowed for courses that have already been used to fulfill the requirements of another earned degree.

Transfer Credit Earned While a Degree-Seeking Student

A degree-seeking graduate student may take a graduate course at another regionally accredited institution and apply the credit toward a degree at Christopher Newport University provided that the intended transfer of credit meets all of the requirements. Approval for such credit must be obtained from the Graduate Program Coordinator before registering at the other institution. The form is submitted to the Office of Graduate Studies for final approval. Generally, permission to take a course elsewhere will not be given during the student's last semester at CNU.

Time Limit

Graduate students must complete all of their work toward a master's degree within a period of **six calendar years.** This period begins with the student's initial registration as a graduate student. Academic work, including transfer credit, taken more than six years prior to the award of the master's degree cannot be credited toward that degree. In extenuating circumstances a student may petition for a waiver of this limit. The waiver must be approved by the student's advisor, Graduate Program Coordinator and the Director of Graduate Studies. Additional conditions, imposed to verify the currency of knowledge involved in the courses for which the six-year limit might be waived, may be imposed.

Plan of Study

Each student in consultation with his or her advisor should develop a Plan of Study showing a reasonable concentration of interrelated subjects. This plan should be formulated and approved by the student's advisor before the student has completed 15 hours of graduate study. The student's advisor must approve any change in the student's plan of study. In case of changes in program requirements subsequent to the year the student became degree-seeking, the degree's program coordinator and the Director of Graduate Studies must approve changes to the standard degree program.

Full-time Status

Student who enroll in nine or more graduate credits in a given semester or six or more graduate credits in a summer session will be considered a full-time student. **Students need approval of the Director of Graduate Studies to take more than nine credits in a given semester or more than six credits in a summer session.** No student may enroll for more than 12 graduate credits in a given semester or more than nine graduate credits in a summer session under any circumstance.

Candidacy for the Master's Degree

A student must request candidacy for the master's degree prior to the semester in which he or she desires to receive the degree. To be eligible to petition for candidacy, a student must have achieved degree-seeking status, have completed 21 semester hours of graduate course work and have at least a 3.00 graduate grade point average.

Comprehensive Examination

A degree program for a master's degree may require a comprehensive examination developed to evaluate the student's proficiency in his or her field. This comprehensive examination may be written and/or oral. The nature of the comprehensive examination is determined by the department(s) involved in administering the degree. At the time of the comprehensive exam or at a specifically designated time, each student will be asked questions that specifically assess the student's mastery of course-related objectives. A student failing the comprehensive examination may request a re-examination within six months of the failure. Only one additional examination is permitted.

Thesis

Research resulting in the presentation of a thesis may be required by the degree program. Students are required to be enrolled in at least one thesis credit hour during any semester in which they are working on the thesis and must be enrolled in one thesis credit hour during the semester of degree completion. The defense of the thesis may be considered as part of the comprehensive examination. All theses presented must meet the requirements as listed in the *Policy and Style Manual for Master's Theses at Christopher Newport University*. Theses may be placed in the CNU library as research sources available to the academic community.

Culminating Project - Master of Arts in Teaching - Mathematics or Science

The purpose of the culminating project is to engage the student in an intense practical experience with science or mathematics education. Students are expected to be enrolled in at least one 699 credit hour during any semester in which they are working on the project and must be enrolled in one 699 credit hour during the semester of degree completion.

Master Portfolio Project - Master of Arts in Teaching - Language Arts

The master portfolio project is a culmination of the work done throughout the MAT language arts program. The individually designed portfolios connect program objectives to critical issues in language arts education. This is a cumulative and summative experience that requires synthesis and evaluation. The portfolio interview serves as the comprehensive final examination.

Practicum Portfolio - Master of Science in Applied Psychology - Industrial/Organizational

The purpose of the practicum is to engage the student in an intense practical experience with an organization. Students are expected to be enrolled in at least one PSYC 691 credit hour during any semester in which they are working at the practicum and must be enrolled in one PSYC691 credit hour during the semester of degree completion.

Intent to Graduate Form

Students must file the intent to graduate form, available on the web at www.cnu.edu/gradstudies with the Office of Graduate Studies by the following dates:

May Graduation	February 1
August Graduation	May 1
December Graduation	September 1

Commencement Exercises

Commencement exercises are held twice each year in May and December. Students who complete degree requirements in August and December will have degrees conferred in December, while those students who complete requirements in May will have degrees conferred in May. Diplomas will be mailed following the December ceremony and available for pick-up following the May ceremony. All prospective graduates will be contacted by the Office of the Registrar concerning rehearsal and attendance before commencement exercises. Those students planning to attend commencement must notify the Office of the Registrar by the announced deadline so that seating arrangements can be finalized for all who plan to participate. Prospective graduates will be advised when to order caps and gowns from the University Bookstore. Students who plan to attend commencement must keep the Office of the Registrar informed of any address changes so that they can receive important information concerning graduation. Students will not be permitted to participate in commencement ceremonies unless all requirements, including courses and credits, are completed prior to the ceremony.

GRADUATION REQUIREMENTS

- Successful completion of minimum hours of the master's degree program course work
- Cumulative graduate grade point average of 3.00 in all CNU courses submitted for graduate credit with no more than two grades of C
- Registration and timely petition for candidacy prior to the final semester
- Successful completion of the comprehensive examination and
- Successful defense of a culminating project, portfolio or thesis and presentation of the appropriate number of approved copies to the Office of Graduate Studies by the published deadline in the academic calendar.

TUITION AND FEES

The university reserves for itself the right to withdraw or change the fees announced in this catalog. Interpretation of matters concerning fees in this catalog is the responsibility of the executive vice president. The president of Christopher Newport University has final authority in the interpretation. Tuition and comprehensive fees are established each year by the rector and CNU Board of Visitors.

FEES AND FINANCIAL INFORMATION

Academic Tuition

In-state students	\$190 per credit hour
Out-of-state students	\$454 per credit hour

Tuition payment is based on a charge for each credit hour of instruction. Registration is not complete until a student has either made payment or arranged to make payment with the Business Office. Tuition and fees for auditing a course are the same as the tuition and fees for taking a course for credit. Questions concerning payments and fees should be directed to the Office of Student Accounts, Room 210, Administration Building, (757) 594-7195 or (757) 594-7060.

General Fees*

Application – Graduate degree-seeking	\$40
Registration Fee/Fall and Spring	\$20
Registration Fee/ Summer Terms	\$10
Academic Transcripts	No charge
Returned Check Fee (per return)	\$25
Late Penalty and Administration Fee (per payment)	\$50
Reinstatement Fee (second week of classes)	\$100
(third week of classes)	\$200
Graduation Fee**	\$25
Parking Fee (per academic year)	\$100
Parking Fee (summer only)	\$50

* The fees listed above are not refundable.

**The graduation fee is exclusive of regalia that must be purchased at the University Bookstore.

Graduate Degree-Seeking Application Fee

A degree-seeking student must pay a \$40 application fee. If the student does not enroll in the term for which he or she originally applied, the fee may be carried forward only to the next term. This fee does not need to be paid for non-degree admission.

Late Penalty and Administration Fee

The university charges a \$50 late payment fee on amounts not paid by the due date.

Schedule Adjustments (Add/Drop)

Any schedule change that results in additional funds due to the University is due and payable on the date the course is added. A \$50 late payment fee applies if the additional amount due is not paid on this date. The University refunds 75 percent during the schedule adjustment period (add/drop). If a student adds or drops courses for equal credit hours ON THE SAME DAY, there will be no financial penalty. However, if a student drops a course on one day and adds a course on another day, the student will be liable for 25 percent of the cost of the course dropped and will be charged full tuition and fees for the course added.

Students who use the Academic Management Services (AMS) annual payment plan and drop a course may reduce their payment schedules through AMS. Students should contact AMS directly at (800) 635-0120. Students may not increase their AMS payment plans for courses added during the schedule change period. Additional amounts due for added courses are payable to the University in full on the date the course is added. For students who receive financial aid, course-load reductions and additions can affect the amount of financial aid awarded. This is particularly true if a course reduction results in a full-time student becoming a part-time student. Students will be responsible for any charges after a course-load change, and any refund due under the University's policy may be refunded directly to the financial aid grantor rather than to the student if the grantor so requires. If a student receives a financial aid award and must decrease his or her academic workload, he or she should contact the Office of Financial Aid.

Residence Hall Financial Information

Cost per academic year for a standard room and board is \$6,350. (Rates are subject to change each year based on the decision of the Board of Visitors.) To apply, submit the Housing & Dining Service Contract Acceptance Form with a \$300 deposit to the Cashier's Office, Administration Building, or mail to Cashier's Office, Christopher Newport University, One University Place, Newport News, VA 23606-2998. Occupancy is on a first-come/first-serve basis. Room and Board fees must be paid in full prior to check-in. These fees are due by 5:00 p.m. on the payment due date (postmark date does not apply) unless other arrangements have been made (i.e. financial aid award, deferred payment plan, etc.) To obtain a **Contract Acceptance Form**, please contact the **Office of University Housing, Christopher Newport University, One University Place, Newport News, VA 23606-2998** or call (757) 594-7756/7574.

PAYING YOUR BILLS

Billing

Tuition bills will be mailed to students who register during early registration prior to the payment due date. Bills are mailed to the address provided to the Office of the Registrar. If the bill has not been received by the date published each term, it is the student's responsibility to contact the **Office of Student Accounts to obtain copy of the bill. Failure to receive a bill does not waive the student from financial penalties.**

For those registering after early registration but prior to payment due date, bills will be handed out by the Office of Student Accounts at the time of registration, and these bills will be due by the payment due date. For those registering after the payment due date, bills are due in full at the time of registration.

Payments

Payment must be made at the Cashiers Office with cash, check payable to Christopher Newport University (CNU) or money order. All payments except cash may be placed in the drop-box located outside the Office of Student Accounts, Administration Building, Room 210. **Social Security Number or student ID number must be enclosed with payment.** Students may also pay their tuition bills to the University through a deferred payment program offered by Academic Management Service (AMS) discussed later in the section.

TAKE CAREFUL NOTE OF THE FOLLOWING:

1. Students who owe the University any charges accrued from previous terms (i.e. tuition, parking fines, library fines, bookstore charges, etc.) are **REQUIRED** to pay these charges before being permitted to register.
2. Students who receive any form of tuition assistance must provide the Office of Student Accounts with properly approved tuition assistance forms and pay any balance by the **PAYMENT DUE DATE** or a late payment fee will be assessed.
3. Students who are receiving any form of financial aid **MUST** have their aid awarded, approved and accepted, **PRIOR TO PAYMENT DUE DATE**. Deferments will be for only the amount of the award and students are **REQUIRED** to pay any balance by the **PAYMENT DUE DATE**. (This **DOES NOT APPLY** to loan programs in which the check is not remitted directly to the university Financial Aid Office.) If the difference is not paid by the payment due date, a late payment fee will be assessed. **STUDENTS WHOSE FINANCIAL AID HAS BEEN APPROVED AND ACCEPTED WILL NOT HAVE THEIR REGISTRATION CANCELED FOR NON-PAYMENT.** If a financial aid recipient chooses to withdraw from classes, they must complete the appropriate forms with the University Registrar or they will be held liable for all classes for which they are registered. **LATE FINANCIAL AID APPLICANTS MUST BE PREPARED TO MEET THE TUITION OBLIGATION THROUGH MEANS OTHER THAN FINANCIAL AID BY THE PAYMENT DUE DATE.**
4. The University may at its sole discretion cancel a student's registration for failure to meet financial obligations at any time.

Payment Policy

Tuition and fees are considered fully earned and are due at the time of registration or no later than the payment due date established for each term. **TUITION PAYMENT MAY BE MAILED IF RECEIVED IN THE UNIVERSITY BUSINESS OFFICE BY THE PAYMENT DUE DATE.** Postmark date does **NOT** apply.

THE UNIVERSITY WILL CANCEL THE REGISTRATION FOR ALL STUDENTS WHO HAVE NOT MADE FINANCIAL ARRANGEMENTS ON THE PAYMENT DUE DATE.

Students whose registration is canceled at this time may register again during scheduled registration periods. The University does not guarantee that students will be able to obtain their original schedules. Classes are on a first-come/first-serve basis.

Reinstatement

The University will cancel the registration for all students who have not paid or made financial arrangements at the end of the add/drop period. Beginning on the Monday following the add/drop period, students whose registration was canceled on Friday may be reinstated provided they pay the full amount of their financial obligation. Students may be reinstated during the week following add/drop for a reinstatement fee of \$100 plus a \$50 late fee. Students may be reinstated during the second week following add/drop for a reinstatement fee of \$200 plus a \$50 late payment fee.

REINSTATEMENTS WILL NOT BE PROCESSED UNLESS THE STUDENT HAS PAID THE FULL FINANCIAL OBLIGATION. IF THE STUDENT PRESENTS THE UNIVERSITY WITH A CHECK THAT IS RETURNED FROM THE BANK FOR INSUFFICIENT FUNDS, THE STUDENT'S REGISTRATION WILL AUTOMATICALLY BE CANCELED, AND NO FURTHER OPPORTUNITIES FOR REINSTATEMENT WILL BE PERMITTED.

During the reinstatement period, students may not make any schedule changes. Students will be reinstated for the original schedule only. Reinstatements will only be permitted for two weeks following the week of add/drop. No reinstatements will be permitted after this date. **REINSTATEMENT DOES NOT APPLY TO STUDENTS WHOSE REGISTRATION WAS CANCELED PRIOR TO ADD/DROP WEEK.**

Academic Management Services (AMS) Tuition Payment Plan

This plan allows payment of ANNUAL tuition and fees in ten (10) equal monthly installments. The plan starts with the first payment due June 1 and the last payment March 1. Participation in the plan is on an ANNUAL basis, at an ANNUAL cost of \$50. When determining the amount to budget, please consider tuition and fees for FALL AND SPRING terms and registration fees. This plan may be used by full-time or part-time students and **MAY NOT BE USED FOR ONLY ONE TERM.** Fall term tuition and fees must be paid in full by the 5th payment, which will be made on Oct. 1. If this payment does not pay fall term charges, transcripts will be held and registration for the spring term will not be permitted.

The University assesses a \$50 late payment fee for EACH PAYMENT that is made late to AMS. This fee is payable directly to the University. Information concerning this plan will be forwarded separately or may be obtained by calling Academic Management Services directly at (800) 635-0120. Students are encouraged to apply for the AMS Plan as soon as possible. The application deadline is August 1 each year. Students who have applied for and receive financial aid may participate in the monthly tuition payment plan offered by the University through Academic Management Services. Students do not have to apply through the University's Office of Financial Aid to participate in the AMS tuition payment plan.

Refund Policy

If the University cancels a course for which a student has registered, the student is entitled to a full refund for that canceled course. Please note that refunds will not be given for any fee listed in this catalog or the *Schedule of Classes* as a non-refundable fee unless the course is canceled by the University.

Federal financial aid recipients who totally withdraw from the University will have their refund processed in accordance with Federal Law. These laws provide for a prorated refund if a student totally withdraws before the academic term is complete. These funds may be refunded to the financial aid grantor if the grantor so requires. All refund checks are processed through the state treasurer and are mailed directly from Richmond to the student. Students should receive refunds within 45 days from the date the student makes the schedule change.

For students receiving financial aid or tuition assistance, funds from these programs are applied to the student's account as received until the entire financial obligation to the University is satisfied. Refunds are made to the student from the last funds received if the student's account is overpaid.

Students must make application to the Office of the Registrar to drop a course on or before the deadline and during normal business days of the University to be eligible for a refund. Students who participate in the AMS payment budgeting plan whose payments received by the University exceed the amount owed will receive a refund from the University. Please do not attempt to obtain a refund from AMS directly.

All refunds will be processed according to the above policy. If there are extenuating circumstances (such as mandatory job transfer from the Hampton Roads area documented by a letter from the employer or extended period of hospitalization documented by a physician's statement), students should contact the Office of Student Accounts, Room 210, Administration Building, telephone (757) 594-7195 or 7060 to obtain an appeal of university refund policy form. Notification of the final decision will be made within two weeks.

Please be aware that students are held individually responsible for the information contained in this catalog. Failure to read and comply with University regulations will not exempt a student from financial penalties. All appeals must be filed by the end of the academic term to be considered. Any appeal filed after the term will be denied regardless of the circumstances.

Refund Schedule for Fall and Spring Semesters

Tuition and comprehensive fees will be refunded for fall and spring terms as follows: 100 percent for any course dropped on or before the last business day before the beginning of the academic term or for any course which is canceled by the University; 75 percent for any course dropped on the first day of the academic term through the end of the first week; 50 percent for any course dropped during the second, third and fourth week of the academic term, after which there shall be no refund.

Refund Schedule for Summer Terms

For refund policies concerning Terms 1, 2 and 3, please refer to the *Summer Schedule of Classes*.

Returned Checks

A RETURNED CHECK FEE OF \$25 will be assessed for all checks returned from the bank to the University for any reason. An individual has seven calendar days to repay the amount of the check and the returned check fee. If a check for tuition and fees is returned to the University from the bank for any reason there will be a \$25 returned check fee. If the student does not repay the check and the fee before the payment due date, a \$50 late payment fee will be assessed in addition to the returned check fee. If the student does not repay the total amount due within seven calendar days, his or her registration will be canceled. If a student who is being reinstated presents a check to the University that is returned by the bank for any reason, his or her registration will be canceled and he or she will not be permitted to return during that term. If the University receives TWO non-sufficient fund checks from a student, the University will no longer accept checks from the student.

Delinquent Financial Obligations

Students who have outstanding financial obligations to the University (including tuition and fees, room and board, bookstore charges, parking fees and fines, library fees and fines, checks returned for non-sufficient funds, etc.) will be refused all services at the University until these financial obligations have been paid in full. Students will not be permitted to register for subsequent terms, grades will be held, and the University will not issue official transcripts, etc. This also will apply to students who retain property that belongs to the University.

If a student's financial account becomes delinquent, the university charges a \$50 late payment penalty and administrative fee. The University may turn the account over to a third-party collection agency/credit bureau, the Department of Taxation, and the Attorney General's Office. The University is permitted under Virginia law to attach Virginia State income tax refunds or lottery winnings in repayment of any debt owed to the University. In the event an account becomes delinquent, the student is responsible for all reasonable administrative costs, collection fees and attorney's fees incurred in the collection of funds owed to the University.

VETERANS BENEFITS

Students who are veterans, service members or dependents using Veterans Administration education benefits must make payment by the payment deadline. Students who are using Veterans Administration education benefits for the first time should anticipate a delay of approximately eight weeks before the first education allowance check is mailed. Students who plan to use V.A. benefits should contact the University's Office of Veterans' Affairs, located in the Office of the Registrar, telephone (757) 594-7175.

SENIOR CITIZENS

The 1989 session of the Virginia General Assembly amended and re-enacted the Senior Citizen's Higher Education Act of 1974. Senior citizens are permitted to register and to enroll in courses as a full-time or part-time student for academic credit, without charge, providing taxable income for federal income tax purposes did not exceed \$15,000 for the year preceding the enrollment year. Senior citizens may also, without charge, enroll in academic credit courses for audit purposes and in non-credit courses offered by the University without regard to income. They will, however, be required to pay applied music fees for any course for which such a fee is applicable. Senior citizens must meet the applicable University admissions requirements to participate in this waiver program, and the determination of the University's ability to offer a selected course is at the discretion of the University.

The law passed by the General Assembly in the 1988 session requires the State Council of Higher Education to establish procedures to ensure that tuition-paying students are accommodated in courses before senior citizens participating in this program are enrolled. In the case of eligible senior citizens who have completed 75 percent of the requirements towards a degree, the University is authorized to make individual exceptions to such procedures as may be established by the Council of Higher Education.

Under this program, the categorization of senior citizen applies to those whose 60th birthday falls before the registration term and who have been a legal domiciliary of Virginia for one year. No limit is placed on the number of terms a senior citizen who is not enrolled for academic credit may register for courses, but the individual can take no more than three non-credit courses in any one term. The law places no restriction on the number of courses that may be taken for credit in any term or on the number of terms in which an eligible senior citizen may take courses for credit.

Forms to request the senior citizen tuition waiver are available in the Office of Student Accounts, Room 210, Administration Building, and must be completed each academic term.

CLASSIFICATION AS AN IN-STATE STUDENT

Students and applicants for admission who claim entitlement to in-state educational privileges, including in-state tuition rates, must demonstrate their eligibility in accordance with the provisions of Section 23-7.4 of the Code of Virginia. Applicants for admission who believe they qualify for in-state educational privileges must complete the **Tuition Rate Determination Form** and return it with their admission applications. Students who are already enrolled at CNU must apply for a change of status through the Office of Admissions by submitting the Tuition Rate Determination Form. Inquiries should be addressed to the CNU Office of Admissions, 1 University Place, Newport News, VA 23606-2998.

Procedure

Upon receipt in the Office of Admissions, the Tuition Rate Determination Form will be reviewed by a staff member for an initial determination. If the staff member disagrees with the student's own determination for in-state privileges, the student will be contacted and given an explanation of the determination.

Appeals

Students who disagree with the original residence decision may request an immediate appeal, orally or in writing; but it must be done within 10 working days of being notified of the initial determination. A panel of three University officials will review the appeal. Students are welcome to forward any supporting documentation (e.g., income tax returns). The panel will respond to appeals within five working days. Students who still disagree may request a final appeal. This appeal must be made in writing, addressed to the director of admissions, within five working days of the first appeal decision. Another panel of University officials will then convene to consider the appeal. A written determination will be sent to the student by U.S. Registered Mail within five days of the hearing. Should the student disagree with the final determination, he or she then has 30 days to take this matter to circuit court.

FINANCIAL AID

Graduate students must be admitted to the University, in degree-seeking status, before eligibility for financial aid can be determined. To ensure prompt processing, filing the *Free Application for Federal Student Aid* (i.e. FAFSA) by February 1st is recommended strongly. The **FAFSA form must be sent to the U.S. Department of Education's Federal Processor not CNU.** The Federal Processor will forward the results of the FAFSA to the Office of Financial Aid at CNU. The Office of Financial Aid will notify recipients in writing. Eligible applicants filing on or before March 1 of the upcoming award year may expect to receive their award notification usually during April and May. Students must apply for financial aid EVERY YEAR. In order to receive continuous aid, students must be in good academic standing and must not be in default or owe and overpayment on any grant in the federal student aid programs.

FINANCIAL AID PROGRAMS - FILING DATE

Graduate students are encouraged strongly to submit their FAFSA forms to the Federal Processor by February 1st for consideration of eligibility for financial aid for the following academic year. This allows the results of the FAFSA to be sent electronically via the Federal Processor to ensure timely processing and to meet the priority filing date of March 1st established by CNU's Office of Financial Aid.

Student Eligibility

To be eligible for financial aid, graduate students must:

- be admitted as degree-seeking
- be enrolled on at least a half-time basis
- be in good academic standing
- be making satisfactory academic progress
- be a U.S. citizen or permanent resident, and not owe an overpayment of a grant fund via Title IV Aid programs, nor be in default on a Stafford or PLUS loan

Application Requirements

All Applicants must complete a 2002-2003 Free Application for Federal Student Aid (FAFSA) form (allow three to four weeks for processing). March 1st is CNU's priority filing date but applications are accepted on a rolling basis. It is recommended that the student complete the FAFSA no later than February 1st to insure receipt of the FAFSA (via the Federal Processor) results by the March 1st priority filing date. The FAFSA must be completed annually and is available from the Office of Financial Aid, Administration Building, Room 201. Also, the Federal Processor will send each student a renewal FAFSA form, if the student filed a FAFSA form during the previous award year.

To ensure prompt processing of the FAFSA form, the Office of Financial Aid strongly recommends that student file the FAFSA electronically, whenever possible. Students with access to the internet, may electronically file a FAFSA at <http://www.fafsa.ed.gov>

Federal Work-Study Program

The Federal Work-Study Program (FWS) provides jobs for both undergraduate and graduate students with demonstrated financial need (as determined by the federal processor), allowing them to earn money to pay for both educational and living expenses incurred. Students employed through the FWS program are paid at least the current minimum wage; yet, actual the hourly wage, to a large extent, is based on the student's prior work experience or job-related skills, the final determination is made by the unit supervisor during the interview process.

FEDERAL STAFFORD STUDENT LOAN PROGRAM

Student Eligibility

A student must be admitted as a degree-seeking graduate student, and be enrolled on at least a half-time basis (5 credit hours for spring and fall semesters, 2 credit hours during the summer sessions). Note, in any case, the total aid received during the academic year cannot exceed the annual limits established by federal regulations.

Application Requirements (FAFSA)

To be considered for the Federal Stafford Student Loan, applicants must complete the FAFSA form (appropriate award year) for which the aid is intended. A separate loan application is not necessary if a lender is selected from CNU's preferred lender list, which is provided with the CNU financial aid notification letter.

Financial Need or Non-Need Based Loans

Loans made under the **Federal Stafford Student Loan Program** are variable rate interest, long-term loans. Eligible students can receive (in whole or in part) subsidized or unsubsidized Stafford loans or combination thereof. However, the Unsubsidized Stafford Loan Program is available (otherwise eligible students) irrespective of their demonstrative financial need.

Students with financial need can obtain what is called a subsidized Stafford. That means the U.S. Department of Education will pay the accrued interest to the lender on the student's behalf as long as the student remains enrolled on at least a half-time basis and during the six to nine month (if eligible) period following enrollment (grace period). At the end of the grace period, repayment of the loan must begin (unless you qualify for either deferment or forbearance) interest begins to accrue to the student borrower. The repayment period of the loan(s) can be extended beyond ten years, which is the standard repayment term, but no more than thirty years (check terms of promissory note or contact lender). However, borrowers are required to make at least the minimum payment sufficient to cover the 30 day interest accrual on the loan(s).

Students who do not qualify for the need-based (subsidized) FSSL can obtain an unsubsidized, non-need-based loan. Unlike the subsidized FSSL, the student is responsible for the interest obligation while enrolled. The student, while enrolled on at least a half-time basis, may pay interest only or have the interest capitalized (added to the principal).

Graduate students may borrow up to \$18,500 per year of which up to \$8,500 may be subsidized loans. Remember, financial aid is limited to the cost of education, which includes an allowance for both educational and living expenses. In no case, can students borrow more than the actual cost of attendance.

Federal regulations require the lender to send the loan check, made co-payable to the school and the borrower, to the school for delivery to the student. The loan must be disbursed in two equal disbursements. If the loan is for the full academic year, the first disbursement will be made at the beginning of the fall semester and the second disbursement at the beginning of the spring semester. If the loan is for only one semester, half the loan will be disbursed at the beginning of the semester and the remainder will be disbursed at the mid-point of the semester. This rule also applies to Stafford loans disbursed during summer sessions. The amount of the disbursement checks will be half the loan amount less an origination fee and guarantee fee.

SHORT-TERM EMERGENCY LOANS

John Stephen Rasmussen Memorial Fund

This fund was established by the community in 1972, in memory of John Stephen Rasmussen, a 21-year old student who lost his life in a fire while in the act of saving others. He was posthumously awarded a Carnegie Medal. Students may borrow, interest free, sums (funds permitting) for a period not to exceed 30 days. Applicants should present a valid CNU student ID card when applying to the University's Office of Student Accounts.

Emergency Loan Fund

The Emergency Loan Fund was established in 1967 by the sophomore class, in honor of former CNU President James C. Windsor. Students may borrow, interest free, sums (funds permitting) for a period not to exceed 30 days. Applicants should present a valid CNU student ID card when applying to the University's Office of Student Accounts. Emergency loans are limited to \$75 per student, and students may receive no more than two emergency loans per academic term.

GRADUATE ASSISTANTSHIPS

Terms

The length of time a graduate student may receive an assistantship is a combination of four semesters and two summers in a two-year period. Types of assistantship activities: teaching and/or related activities, research and/or related activities, or administration (e.g., of tutorial programs). Additional employment cannot exceed 10 hours per week (1/4 time) without prior approval of the Director of Graduate Studies. If the assistantship requires 20 hours per week (1/2 time) then there can be no outside employment without prior approval of the Director of Graduate Studies.

Criteria

The degree-seeking graduate student must be enrolled as a full-time student, taking a minimum of six and a maximum of nine credit hours in the semester of the award. He/she must submit a Graduate Assistantship Application and the following: scores from the standardized test required for graduate program admission, graduate grade point average, undergraduate grade point average, two letters of reference, and an essay explaining how the award will further his/her career goals.

Application Procedures

Contact the Office of Graduate Studies for a Graduate Assistantship Application and submit the application directly to your Graduate Program Coordinator and a copy to the Office of Graduate Studies.

ADDITIONAL INFORMATION

Consumer Information

Students, who file the FAFSA late, should be prepared to pay out of pocket for such expenses as tuition/fees and or books. The Office of Financial Aid cannot guarantee that aid will be available at the time such costs are due to the school. Therefore, students are encouraged strongly to meet the priority filing deadline date of March 1st as previously explained.

Estimated Costs

Budget planning for attendance at CNU should consider both direct charges (which are tuition and fees) and indirect costs (which are normal living expenses).

Contact Information

Students interested in receiving financial aid should view the CNU website at <http://www.cnu.edu/admin/finaid/>. Financial aid applications and additional information are available from the Office of Financial Aid, Administration Building, Room 201, (757) 594-7170.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

Listed below is the notification of the Family Educational Rights and Privacy Act of 1974 (FERPA). The University is required to inform enrolled students annually of their rights under the terms of FERPA. The act does not apply to students admitted to the University who have not officially enrolled.

STUDENT RECORDS

A. Policy Intent

1. The University student record policy is intended to conform with all state and federal statutes dealing with access to information held by an educational institution on present and former students.
2. The CNU student record policy is formulated to protect the privacy of student information that is maintained and yet provide access to student records for those having a legitimate educational interest in viewing such records. Regulations and procedures to ensure adequate protection of the student are provided in this policy.

B. Student Rights under FERPA:

1. Enrolled students have the right to inspect their records within 45 days of the request for inspection and are entitled to an explanation of any information therein. "Records" refers to those files and their contents that are maintained by official units of the University. Generally, students have the right to review any official record that the University maintains on them. When access is permitted, documents will be examined only under conditions that will prevent unauthorized removal, alteration, or mutilation. Information to which the student does not have access is limited to the following:
 - a. Confidential letters of recommendation placed in the student's files before January 1, 1975, and those letters for which student has signed a waiver of his or her right of access. Letters of recommendation are removed from the Admissions files before the files are forwarded to the Registrar's Office.
 - b. Parents' confidential financial statements.
 - c. Personal files and records of members of faculty or administrative personnel which are in sole possession of the maker thereof.
 - d. Records of the Admissions Office concerning students admitted but not yet enrolled at the University.
 - e. Medical/psychological records used in connection with treatment of the student. Such records can be viewed by a physician or psychologist of the student's choice;
 - f. University Police Department records, when utilized for internal purposes by this office in its official capacities;
 - g. Documents submitted to the University by or for the student will not be returned to the student. Normally, academic records received from other institutions will not be sent to third parties external to the University nor will copies of such documents be given to the student. Such records should be requested by the student from the originating institution.
2. Students have the right to request an amendment of the education record that the student believes is inaccurate or misleading. Should a student believe his or her record is incorrect, a written request should be submitted to the appropriate University official indicating the correct information that should be entered. The official will respond within a reasonable period concerning his or her action. Should the student not be satisfied, a hearing may be requested of the Registrar.
3. Students have the right to consent to disclosure of personally identifiable information contained in the student's education record, except to the extent that FERPA authorizes disclosure without consent (see C3 below).
4. Students have the right to file a complaint with the US Department of Education concerning alleged failures by CNU to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Family Policy Compliance Office
US Department of Education
600 Independence Avenue, SW
Washington, DC 20202-4605

C. Access to Student Records by Others

1. Disclosure of general directory information: Certain information may be released by the University without prior consent of the student if considered appropriate by designated officials. Such information is limited to the following:
 - a. Student's name, address, telephone number (permanent and local).
 - b. Date of birth.
 - c. Dates of attendance at the University, field of concentration, degrees, honors and awards.
 - d. Enrollment status - full-time or part-time
 - e. Height and weight of members of athletic teams.
 - f. Participation in officially recognized activities.
2. Directory information will not be released for commercial purposes by administrative offices of the University under any circumstances. Students may request that directory information not be released by written request to the Registrar's office. All other student information will be released only upon written request of the student, excepting those instances cited below.
3. Disclosure to members of the University community:
 - a. "School Official" is defined as a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including university law enforcement personnel and health staff); a person or company with whom the University has contracted (such as attorney, auditor, or collection agent); or a person serving on the Board of Trustees.
 - b. A school official must have a legitimate educational interest in order to review an education record. "Legitimate Educational Interest" is defined in the following manner: the information requested must be with in the context of the responsibilities assigned to the School Official; the information sought must be used within the context of official University business
 - c. Information requested by student organizations of any kind will be provided only when authorized by the Dean of Students.
4. Disclosure to parents and organizations providing financial support to a student: It is the University's policy to release the academic transcript to parents and/or organizations only upon the student's written request or authorization. Parents may also provide documentation showing the student as a financial dependent according tot he definition provided in section 152 of the IRS Code. Otherwise, the academic transcript will be sent only to the student, a policy consistent with the University's interpretation of FERPA.
5. Disclosure to other educational agencies and organizations. Information may be released to another institution of learning, research organization, or accrediting body for legitimate educational reasons, provided that any data shall be protected in a manner that will not permit the personal identification of the student by a third party.
6. Disclosure to local, state, and federal governmental agencies. Government agencies are permitted access to student records only when auditing, enforcing, and/or evaluating sponsored programs. In such instances, such data may not be given to a third party and will be destroyed when no longer needed for audit, enforcement, and/or evakutive purposes.

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Dorothy Doolittle, Ph.D. Associate Provost for Research and Graduate Studies, Associate Dean, College of Liberal Arts & Sciences	Ann W. Perkins, Ph.D. Associate Provost	C.J. Woollum Director of Athletics
Catherine F. Doyle University Librarian	Cynthia R. Perry Chief of Staff	Margaret O. Yancey Director of Development
Donna M. Eddleman Associate Dean of Students	Teri L. Pinkham Director Corporate & Foundation Relations	
	Kimberly M. Roeder Director of Alumni Relations	

Christopher Newport University Graduate Faculty

This list reflects the expected status of members of the graduate faculty for 2002-2003 at the time the catalog went to press.

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Fine and Performing Arts**Clyde W. Brockett, Jr.**

Professor of Music
A.B., The College of William and Mary; M.A., Ph.D., Columbia University

Management and Marketing**Walter W. Wymer, Jr.**

Assistant Professor of Management and Marketing
B.S., St. Joseph College; M.B.A., Liberty University; D.B.A., Indiana University



APPLICATION FORMS

Application for Admission to Graduate Study Master's Degree Programs

Master of Science in Applied Physics and Computer Science

Computer Science
Computer Systems Engineering and Instrumentation
Applied Physics

Master of Science in Applied Psychology

Industrial/Organizational Psychology

Master of Science in Environmental Science**Master of Public Safety Leadership****Master of Arts in Teaching**

History (K-12)
Language Arts (K-12)
Mathematics (K-12)
Science (6-12)

Master of Arts in Teaching with Licensure

Elementary Education (NK-5) with Language Arts (Elementary, Middle Level or Secondary Endorsement)
Middle Level Education with a Concentration in English or Math (5-8)

Section B: Domicile Information

For the parent/legal guardian or spouse portion of this application, answer the questions about the parent upon whom you are dependent. **This parent/legal guardian must sign and date this application.** If you are claiming eligibility for in-state rates based on your spouse's domicile, you must answer the parent/legal guardian or spouse portion of this application about your spouse. **Your spouse must sign and date this application.**

5. Are you completing the shaded areas for your (Check only one):
 Father Mother Legal Guardian Spouse

For questions 6-10, you must answer the "B" question if your response to the "A" question is "No."

- | | | |
|---|---|---|
| | Student
Yes No | Parent,
Legal
Guardian
or Spouse
Yes No |
| 6. A. Have you been employed in Virginia for the past year? | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| B. If "No," were you employed in:
Student: Another State: _____ Not Employed: _____
Parent: Another State: _____ Not Employed: _____ | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| 7. A. Was a tax return filed or income taxes paid to Virginia as a full/part-year resident on all earned income last year? | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| B. If "No," were taxes paid to:
Student: Another State: _____ Didn't File: _____
Parent: Another State: _____ Didn't File: _____ | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| 8. A. Are you a registered voter in Virginia? | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| B. If "No," are you registered to vote in:
Student: Another State: _____ Not Registered: _____
Parent: Another State: _____ Not Registered: _____ | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| 9. A. Do you hold a valid Virginia driver's license? | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| Date Issued: _____ | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| B. If "No" do you hold a license in:
Student: Another State: _____ Not Licensed: _____
Parent: Another State: _____ Not Licensed: _____ | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| 10. A. Did you operate a motor vehicle registered in Virginia during the last year? | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| B. If "No," is it registered in:
Student: Another State: _____ Not Registered: _____
Parent: Another State: _____ Not Registered: _____ | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |

Section D: Parent/Legal Guardian or Spouse Information

16. Where have you lived in the last two years? (List current address first. Include dates.)

Street Address	City	State	Zip Code	From (MM/YY)	To (MM/YY)
				/	Current
				/	/
				/	/

Section E: Certification and Signature(s)

I certify that all of the information I provided in this application is true and accurate. I understand that this application is a legally-binding document and that if I provide fraudulent information, I may be subject to repayment of tuition or dismissal. I agree to furnish the college or university with supporting documentation related to my application, if I am requested to do so.

Signature of Applicant _____ Date _____
 Signature of Parent/Legal Guardian or Spouse _____ Date _____
 (if required to furnish parental or spousal information)

- | | | |
|--|---|---|
| | Student
Yes No | Parent,
Legal
Guardian
or Spouse
Yes No |
| 11. A. Are you a member of the U.S. Armed Forces? If "No," go to Section C: Additional Information. | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| B. Have income taxes been paid to Virginia on all military income for the last year? If "No," have income taxes been paid to another state? | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |
| C. Does the current Leave/Earnings Statement reflect Virginia withholding? If "Yes," effective date of change to Virginia: _____ / _____ / _____ | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> <input type="checkbox"/> |

Section C: Additional Information

12. If your spouse is in the military, will you have: Question 12 is not applicable
- A. Resided in Virginia for the past year? Yes No
- B. Been employed and earned at least \$10,300 during the past year? Yes No
- C. Paid income taxes to Virginia on all earned income? Yes No
13. If you have lived outside Virginia for the past year, will you have: Question 13 is not applicable
- A. Been employed in Virginia and earned at the least \$10,300 during the past year? Yes No
- B. Paid Virginia income taxes on all taxable income earned in Virginia during the past year? Yes No
14. If your parent/legal guardian is in the military, will the non-military parent/legal guardian have: Question 14 is not applicable
- A. Resided in Virginia for the past year? Yes No
- B. Been employed and earned at least \$10,300 during the past year? Yes No
- C. Paid income taxes to Virginia on all earned income? Yes No
- D. Claimed you as a dependent for federal and Virginia income tax purposes? Yes No
15. If your parent/legal guardian has lived outside Virginia for the past year, will the parent/legal guardian have: Question 15 is not applicable
- A. Been employed in Virginia and earned at least \$10,300 during the past year? Yes No
- B. Paid Virginia income taxes on all taxable income earned in Virginia during the past year? Yes No
- C. Claimed you as a dependent for federal and Virginia income tax purposes? Yes No



LETTER OF RECOMMENDATION FOR GRADUATE STUDY

SECTION 1 (to be completed by applicant)

The following information must correspond to the information submitted on the Application for Admission to Graduate Study. Indicate your decision regarding a waiver of the right of access to this letter of recommendation before giving it to the person who will be submitting the recommendation. Give this form, along with a self-addressed and stamped envelope, to your reference. Have that person place the completed recommendation into the envelope, seal it, and sign across the seal. The envelope should be returned to you, and you should return it with your application. Do not return separately. Advise your reference if the letter is also to be used as a recommendation for financial assistance.

Name _____
 Last Name _____ First Name _____ Middle/Former _____
 Social Security Number _____ - _____ - _____
 Degree Program _____ Term and Year of Entry _____

Name of Reference: _____

The Family Education Rights and Privacy Act of 1974 and its amendments guarantee students access to their educational records. Students, however, are entitled to waive their right of access concerning recommendations. The following signed statement is the applicant's wish regarding this recommendation.

_____ I waive my right to inspect the contents of this recommendation. _____ I do not waive my right to inspect the contents of this recommendation.

Signature _____ Date _____ Signature _____ Date _____

SECTION 2 (to be completed by reference)

Christopher Newport University values your comments on the suitability of this applicant to do graduate work and will hold your comments in confidence if the applicant has signed the above waiver. How long and in what capacity have you known the applicant? _____

Please carefully assess the applicant in the following areas. In making the assessment, compare the applicant to other individuals you have known who have similar levels of experience and education.

	Superior	Good	Average	Poor	Unknown
Intellectual ability	—	—	—	—	—
Ability to analyze a problem and formulate a solution	—	—	—	—	—
Competence in applicant's general field	—	—	—	—	—
Self-reliance	—	—	—	—	—
Leadership	—	—	—	—	—
Creativity/innovation	—	—	—	—	—
Motivation	—	—	—	—	—
Self-discipline	—	—	—	—	—
Cooperativeness	—	—	—	—	—
Oral communication skills	—	—	—	—	—
Written communication skills	—	—	—	—	—
Initiative	—	—	—	—	—
Reliability	—	—	—	—	—

Please use the space on the other side of this application to elaborate on the applicant's qualifications.

RECOMMENDATION

Christopher Newport University is interested in obtaining an accurate profile of the applicant's capability for graduate study. The check-off items appearing on the previous page sometimes do not provide the opportunity to fully characterize an applicant. Please give any additional comments in the space below. CNU would especially appreciate comments on the applicant's intellectual capability, motivation for seeking graduate education and prospects for completing graduate education (e.g. perseverance, work habits, organization). This form may also be used as a recommendation for financial assistance, such as teaching or research assistant or fellowships.

Your overall assessment of the applicant as to his or her ability to complete an advanced academic degree:

Highly recommended Recommend with reservation

Recommend Not recommended

Signature _____ Date _____

Please print name _____

Institution _____

Position _____ Telephone number/e-mail address _____

Please place the completed form in the addressed and stamped envelope provided by the applicant. Please be sure to seal the envelope and sign it across the seal before returning it to the applicant.

Thank you for assisting Christopher Newport University with its graduate application process.



TRANSCRIPT REQUEST FORM

NOTE: This request is to be sent to your previous college, not returned to Christopher Newport University.

TO: _____
Name of College or University

PLEASE SEND AN OFFICIAL COPY OF MY TRANSCRIPT TO:
**Office of Admissions
Christopher Newport University
One University Place
Newport News, VA 23606-2998**

Name _____
Last Name First Name Middle/Former Name

Social Security Number _____

Date of Attendance _____ Date of Birth _____

Student Signature Date



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NOTE: This request is to be sent to your previous college, not returned to Christopher Newport University.

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Date of Attendance _____ Date of Birth _____

Student Signature Date

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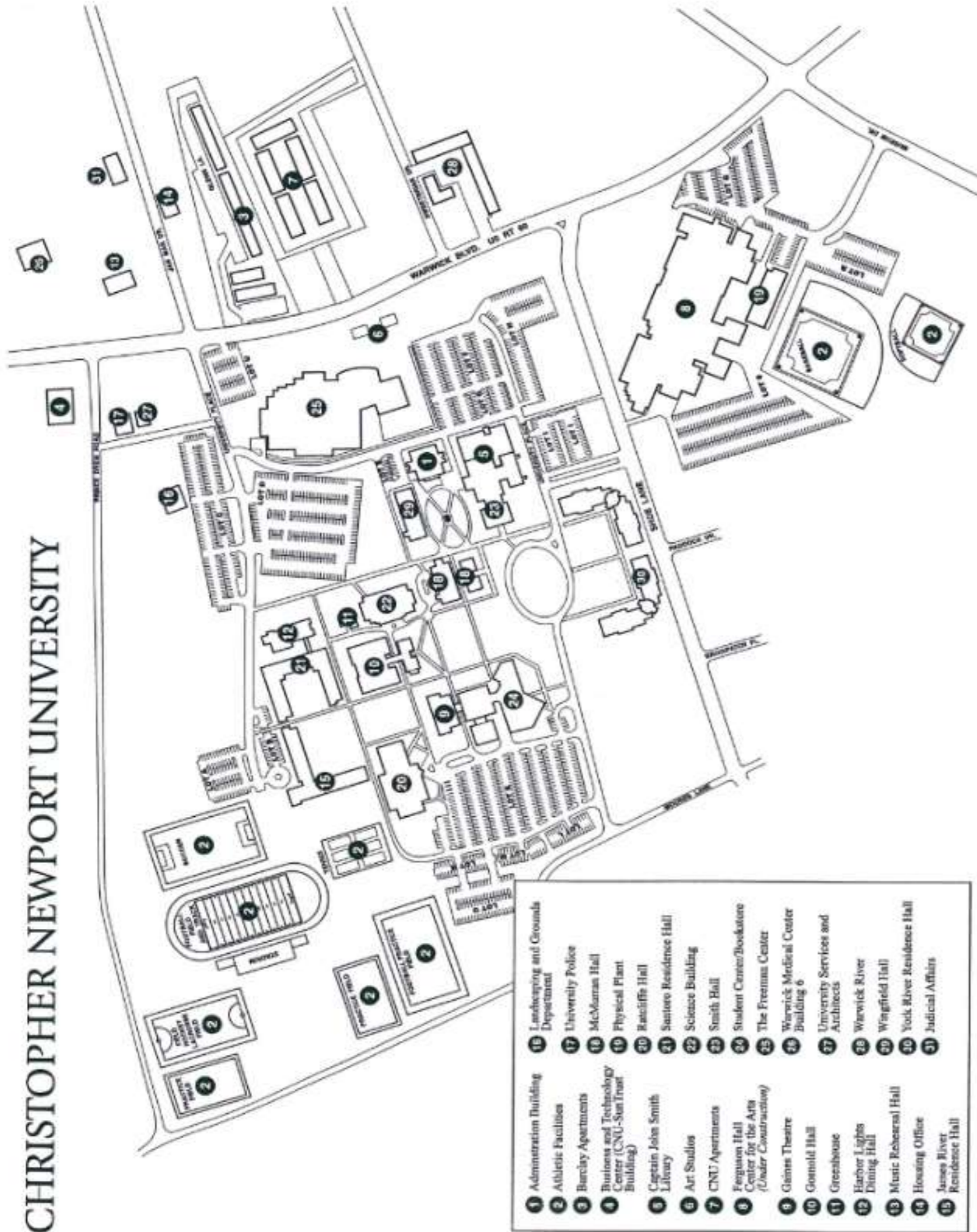
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CONTACT INFORMATION

Internet address <http://www.cnu.edu/gradstudies>
 E-mail address gradstdy@cnu.edu

Admissions Office (757) 594-7015
 Admissions Office Toll-free (800) 333-4CNU
 Admissions Office FAX (757) 594-7333
 Bookstore (757) 599-5170
 Career and Counseling Services (757) 594-7047
 Cashier's Office (757) 594-7042
 Dean of Students (757) 594-7160
 Director of Graduate Studies (757) 594-7052
 Disability Support Services (757) 594-8763
 Disability Support Services TDD (757) 594-7938
 Virginia Relay Center TDD (800) 828-1120
 Financial Aid Office (757) 594-7170
 Health and Wellness Services (757) 594-7661
 Library Information (757) 594-7133
Office of Graduate Studies (757) 594-7544 or Fax: (757) 594-7649
 President's Office (757) 594-7002
 Provost's Office (757) 594-7050
 Registrar/Student Records (757) 594-7155
 Student Accounts (757) 594-7195
 University Police (757) 594-7053
 Veterans Affairs Office (757) 594-7175

Graduate Program Coordinators:

MAT

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 (757) 594-7973 143 Smith Hall

M.S. in Applied Physics & Computer Science

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 (757) 594-7360 139 Gosnold Hall

M.S. in Applied (I/O) Psychology

Dr. Shelia Greenlee sgreenle@cnu.edu
 (757) 594-7929 113 Wingfield Hall

M.S. in Environmental Science

Dr. Gary Whiting gwhiting@cnu.edu
 (757) 594-7613 217 Science Building

Master of Public Safety Leadership

Dr. Peter Carlson pcarlson@cnu.edu
 (757) 594-7874 245 Ratcliffe Hall