

CHRISTOPHER NEWPORT

CNU

U N I V E R S I T Y

**1992-1993
Graduate Catalog**

A PROFILE OF THE UNIVERSITY

Christopher Newport University is a state-supported, comprehensive, coeducational, urban institution of higher learning; its primary mission is to provide quality education in liberal arts and professional studies leading to bachelor's and master's degrees.

LOCATION	Newport News, Virginia (Population: 165,000) Twenty-five miles from Williamsburg and 35 miles from Virginia Beach
SIZE	Approximately 5,000 students, 90 percent of whom are Virginia residents
COLLEGES	College of Arts and Humanities College of Business and Economics College of Science and Technology College of Social Science and Professional Studies
ACADEMIC CALENDAR	Two 15-week semesters and a summer session with four terms
LIBRARY HOLDINGS	More than 210,000 volumes
STUDENT-FACULTY RATIO	20.8 to one
STUDENT LIFE	More than 35 student organizations, including sororities and fraternities
ATHLETICS	Division III member of the National Collegiate Athletic Association (NCAA) and of the Dixie Intercollegiate Athletic Conference (DIAC)
CAMPUS	The 75 acre campus includes 10 buildings, tennis courts, outdoor track, and soccer field. The University library offers full-time professional reference service in support of student needs; in addition it provides access to numerous automated information retrieval systems, inter-library loan services and complete audio visual capabilities. Modern, well-equipped science laboratories and research facilities are available for student and faculty use. Up to date computing facilities which include several specialized computer laboratories support the educational needs of the students, faculty research and the investigation of information technology in modern society. The campus also serves as the permanent home of <i>The Japanese Tea-House In Virginia</i> , an exact reproduction of the <i>Enan Tea House</i> , a 17th century landmark in Kyoto, Japan. The tea house is an invaluable resource which provides insight into Japanese culture and traditions and is a valued part of the University's Japanese Studies Program.

Christopher Newport University is an affirmative action / equal opportunity institution.

Christopher Newport University

1992-1993 Graduate Catalog

Virginia's State University on the Peninsula

Office of Graduate Studies
Newport News, Virginia 23606

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**Christopher Newport University Graduate Catalog
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Student Responsibility for 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

Christopher Newport University reserves for itself and its departments the right to supplement, withdraw, or change any provision or provisions of this catalog without prior notification. Interpretations of matters in this catalog are the responsibility of the appropriate Vice President. The President of Christopher Newport University has final authority in matters of such interpretation.

Notice to Handicapped Persons

Special services are available to all students who declare handicapped status. Students who have a handicap, or who think they might have a handicap, but do not wish to declare this formally, may avail themselves of guidance and assistance by contacting the Windsor Student Development Center, at (804) 594-7046.

University Affirmative Action / Equal Opportunity Policy

Christopher Newport University, as an affirmative action / equal opportunity institution, does not discriminate in admission, employment, or any other activity, on the basis of race, sex, color, age, religion, national origin, physical handicap, veteran status, or political affiliation.

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* ADDITIONAL INFORMATION ON THE UNIVERSITY ACADEMIC AND SERVICE FACILITIES APPEARS IN THE CHRISTOPHER NEWPORT UNIVERSITY CATALOG.

CALENDAR**Summer Semester 1992****Term 2**

May 6/Wednesday
Registration and classes begin

May 7/Thursday
Drop/add and late registration

May 25/Monday
Classes end and final examinations

Term 3

May 26/Tuesday
Registration

May 27/Wednesday
Classes begin

May 27-29/Wednesday-Friday
Drop/add and late registration

June 25/Thursday
Classes end

June 26/Friday
Final examinations

Term 4

May 26/Tuesday
Registration

May 27/Wednesday
Classes begin (Monday/Wednesday)

May 27-June 3/Wednesday-Wednesday
Drop/add and late registration

May 28/Thursday
Classes begin (Tuesday/Thursday)

June 18/Thursday
Last day to withdraw without grade penalty

July 27/Monday
Classes end (Monday/Wednesday)

July 29/Wednesday
Final examinations (Monday/Wednesday)

July 30/Thursday
Classes end (Tuesday/Thursday)

July 31/Friday
Final examinations (Tuesday/Thursday)

Term 5

July 6/Monday
Registration

July 7/Tuesday
Classes begin

July 7-9/Tuesday-Thursday
Drop/add and late registration

July 16/Thursday
Last day to withdraw without grade penalty

August 5/Wednesday
Classes end

August 6/Thursday
Final examinations

Special Session

June 29/Monday
Registration and classes begin

July 1/Wednesday
Late registration
Last day to withdraw without grade penalty

July 30/Thursday
Classes end

July 31/Friday
Final examinations

CALENDAR**Fall Semester 1992**

August 24/Monday
Classes begin

August 24-28/Monday-Friday
Drop/add and late registration

September 7/Monday
Labor Day- classes will meet

October 10/Saturday
Fall recess begins at 12:00 noon

October 15/Thursday
Fall recess ends at 8:00 a.m.

October 19/Monday
Mid-term grades due

October 26/Monday
Last day to withdraw without grade penalty

November 9-12/Monday-Thursday
Early registration for Spring Semester 1993

November 25/Wednesday
Thanksgiving recess begins at 10:00 p.m.

November 30/Monday
Thanksgiving recess ends at 8:00 a.m.

December 5/Saturday
Classes end

December 7-12/Monday-Saturday
Final examinations

December 14/Monday
Final grades due at 12:00 noon

Spring Semester 1993

January 11/Monday
Classes begin

January 11-15/Monday-Friday
Drop/add and late registration

March 5/Friday
Mid-term grades due

March 6/Saturday
Spring recess begins at 12:00 noon

March 15/Monday
Spring recess ends at 8:00 a.m.

March 22/Monday
Last day to withdraw without grade penalty

April 5-8/Monday-Thursday
Early registration for Fall Semester 1993

April 24/Saturday
Classes end

April 26-May 1/Monday-Saturday
Final examinations

May 3/Monday
Final grades due at 12:00 noon

May 9/Sunday
Commencement

CALENDAR

Summer Semester 1993

Term 2

May 4/Tuesday
Registration and classes begin

May 5/Wednesday
Drop/add and late registration

May 21/Friday
Classes end and final examinations

Term 3

May 24/Monday
Registration

May 25/Tuesday
Classes begin

May 25-28/Tuesday-Friday
Drop/add and late registration

May 31/Monday
Memorial Day - No classes

June 23/Wednesday
Classes end

June 24/Thursday
Final examinations

Term 4

May 24/Monday
Registration

May 25/Tuesday
Classes begin (Tuesday/Thursday)

May 26/Wednesday
Classes begin (Monday/Wednesday)

May 25-June 2/Tuesday-Wednesday
Drop/add and late registration

May 31/Monday
Memorial Day - No classes

June 16/Wednesday
Last day to withdraw without grade penalty

July 5/Monday
Holiday - No Classes

July 22/Thursday
Classes end (Tuesday/Thursday)

July 23/Friday
Final examinations (Tuesday/Thursday)

August 2/Monday
Classes end (Monday/Wednesday)

August 3/Tuesday
Final examinations (Monday/Wednesday)

Term 5

July 6/Tuesday
Registration

July 7/Wednesday
Classes begin

July 7-9/Wednesday-Friday
Drop/add and late registration

July 15/Thursday
Last day to withdraw without grade penalty

August 5/Thursday
Classes end

August 6/Friday
Final examinations

GENERAL INFORMATION

Mission

Christopher Newport University is a state-supported, comprehensive, coeducational, urban institution of higher learning; its primary mission is to provide quality education in liberal arts and professional studies leading to bachelor's and master's degrees. Within the context of liberal learning, the University is committed to meeting the needs of its constituencies through excellence in instruction and research, and through public service.

Purpose

The University is committed to a core of liberal arts studies. Building upon these, it develops and maintains programs of professional education that respond to students' learning interests at the bachelor's and master's levels. As part of its general mission, the University is committed to new ways of implementing liberal and professional programs which value the students' learning needs and prior life experiences, and which combine theoretical knowledge and practical problem-solving. Such programs provide opportunities for self-development and a number of career options to citizens of all ages.

As an urban institution, the University is committed to education as a total community process. This is manifest in several ways: (1) Christopher Newport University serves a primarily local student body; (2) it makes use of the community as an instructional resource; (3) it draws upon the cooperation and talent of those who reside on the Virginia Peninsula and surrounding regions; and (4) faculty and staff contribute significantly to the community in areas such as consulting and serving on local and state committees and service organizations.

History

Christopher Newport University is the youngest four-year university in the Commonwealth of Virginia. At the same time, it came into being as part of the oldest academic institution in the Commonwealth. For this reason, then, it combines the best of both long heritage and the contemporary outlook. CNU was established and authorized by the Virginia General Assembly in its 1960 session as a two-year branch of The College

of William and Mary.

The University derives its name from Captain Christopher Newport, the English mariner who was among the most important men connected with the permanent settling of Virginia. It was Captain Newport who was put "in sole charge and command" of the small squadron of three ships which made the historic voyage, culminating with the landing at Jamestown in 1607.

Initially established as a two-year college called Christopher Newport College, it became a four-year, baccalaureate institution in 1971 and, in July of 1977, became totally independent of The College of William and Mary. The College began offering graduate programs in July of 1991 and in July 1992 was renamed Christopher Newport University.

The University first enrolled 171 students in September, 1961, at its initial home, a former public school building in downtown Newport News that was provided through the generosity of the City of Newport News and its School Board. The City of Newport News then purchased the site of the present campus, a 75-acre tract deeded to the Commonwealth of Virginia in 1963.

Organization

The University is organized and instruction is provided to take into consideration the life-long learning interests and needs of a mobile student body that includes many part-time students. The University cooperates with other colleges and local agencies with diverse missions. In these ways the University expands its learning resources and offers programs to meet the needs of its students.

The University derives its financial support from the Virginia General Assembly and from the tuition and fees paid by its students. The affairs of the University are directed by the Board of Visitors of Christopher Newport University, members of which are appointed by the Governor of Virginia. The President of the University, appointed by the Board of Visitors, has delegated authority over the administration and the courses of instruction of the University.

The University is divided into four Colleges: College of Arts and Humanities, College of Business and Economics, College of Science and Technology, and College of Social Science and

GENERAL INFORMATION

Professional Studies, each administered by a College dean. Individual faculty members are responsible to the College deans and to the Vice President for Academic Affairs in all matters pertaining to instruction. The Graduate Program is administered by the Director of Graduate Studies, with teaching and research carried out by the graduate faculty.

Organization of the Academic Year

The University year is divided into two semesters, August to December (Fall Semester) and January to May (Spring Semester); a mini session beginning in mid-May and ending in late May; and three summer sessions. Graduate students may apply for admission to the University at the opening of either semester, or summer session.

Location

The University is located in suburban Newport News, midway between Williamsburg and Norfolk. The campus is readily accessible to residents of the cities of Newport News, Hampton, Williamsburg, Virginia Beach, Chesapeake, Portsmouth, Smithfield, Gloucester, Poquoson, and the many surrounding counties. Air service is available at the nearby Newport News/Williamsburg International Airport and at the Norfolk International Airport.

Student Services

All of the University's student development services and facilities are available to all students, including graduate students. These services and facilities are described fully in the Christopher Newport University Catalog.

ADMISSION TO GRADUATE STUDIES

**Office of Admissions
Administration, Room 112
(804) 594-7015**

Dean: Keith F. McLoughland

It is the policy of Christopher Newport University to admit graduate students whose ability and preparation indicate potential for success in the programs offered. Admission to graduate study is competitive and based upon a careful review of each applicant's academic and professional qualifications. Students may be admitted to the University beginning the fall or spring semesters or prior to the summer session. Applicants are encouraged to apply well in advance of the term in which they wish to attend. Because CNU is an equal opportunity, coeducational university, admission is not based upon race, sex, color, age, religion, national origin, physical handicap, veteran status, or political affiliation.

The decision to admit an applicant to graduate studies at Christopher Newport University is based upon the recommendation of graduate faculty members in the appropriate academic department or departments. The Office of Admissions collects and reviews application materials. It then passes this information to the departments for their evaluation and recommendation. After an applicant has been notified of his or her acceptance as a classified student, a graduate faculty advisor and an advisory committee are appointed. Together, the student and the advisory committee develop a plan of study.

Classified Status

Applicants approved to participate in a graduate program leading to a master's degree will be admitted as classified students. Students planning to use financial aid must be admitted under this status.

Unclassified Status

Applicants approved to take graduate courses apart from any program leading to a graduate degree may be admitted as unclassified students. Such students earn academic credit in the same way as classified students. Unclassified students are not eligible for financial aid.

Changing Status From Unclassified to Classified

An unclassified student must apply to the Director of Graduate Studies in order to change to classified status. Credit received as an unclassified graduate student may then be applied to a graduate degree. The amount of credit received as an unclassified student which is applicable toward a graduate degree will be determined by the student's advisory committee and the Director of Graduate Studies at the time the student changes to classified status.

Provisional Admission

In exceptional cases, the appropriate academic department may grant provisional admission as a classified or an unclassified student to an 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 before the completion of six graduate credit hours in order to be able to continue as a graduate student.

Probationary Admission

If an applicant fails to meet the minimum standards for admission, but is judged to have academic and professional potential, the appropriate department may grant probationary admission. A student admitted with probationary status must earn a minimum 3.00 grade point average on the first 6 hours of course work attempted to be eligible to continue in the graduate school.

Application Deadlines

The deadlines for applying as a classified student are August 1 and December 15 for the fall and spring semesters, respectively, and May 31 for the summer session. Application deadlines for international students are July 1 and November 15 for fall and spring semesters respectively and May 1 for summer session. After these deadlines, applicants may be required to apply for unclassified status.

ADMISSION TO GRADUATE STUDIES

CLASSIFIED ADMISSION

An applicant seeking classified status must present the following credentials:

- a) a transcript indicating the successful completion of all requirements for a baccalaureate degree from a regionally accredited college or university and a minimum grade point average of 3.0 (on a 4.0 scale) in the applicant's major field of study and for the applicant's last 60 semester hours of all undergraduate work;
- b) transcripts for all graduate work taken at other institutions;
- c) three letters of recommendation from persons able to judge the applicant's potential to complete the graduate program successfully;
- d) scores from the general test of the Graduate Record Examination (GRE) taken within the last 5 years.

Any other material which the applicant thinks is relevant to the admission decision is welcome. Individual departments may impose additional requirements for admission.

Documentation Requirements

A student applying for admission as a classified graduate student must present:

1. Completed application forms. These include the Application for Admission to Graduate Study and, for Virginia residents, an Application for In-State Tuition Rates.

2. Transcripts. Official transcripts of academic work from the college or university which awarded the baccalaureate degree and transcripts for other graduate work should be sent to the Admissions Office. These transcripts must indicate the date of the applicant's graduation, the degree received and a complete list of courses taken and grades received. Prospective students may also wish to submit official transcripts of undergraduate work taken at other institutions.

3. GRE Scores. Admission to graduate studies as a classified student requires taking the General Test of the Graduate Record Examination (GRE) within five years prior to the date of admission. This test is given five times each year (February, April,

June, October and December). Test dates, registration deadlines, and other information are published each year in the *GRE Information Bulletin*. Copies of the *Information Bulletin* may be obtained from Educational Testing Service, Graduate Record Examination, P.O. Box 6000, Princeton, NJ 08541-6000. General information about the GRE can be obtained by calling (609) 771-7670 or for hearing disabled callers (TDD): (609) 771-7150.

4. Letters of Recommendation. Forms for the letters of recommendation are available from the Office of Admissions.

These application materials should be sent to the Admissions Office in time to allow evaluation.

Admission for International Students

Students from other countries with adequate preparation for graduate study are invited to apply for admission at Christopher Newport University. The University is authorized under federal law to enroll non-immigrant alien students. Deadlines for applications from international students are given in the section on Application Deadlines.

International applicants who are not U.S. citizens are required to:

1. Submit an application for admission under classified (degree-seeking) status.
2. Have official, translated academic transcripts from all colleges and universities currently attending or previously attended sent to the Office of Admissions.
3. Submit scores from the Test of English as a Foreign Language (TOEFL). Students whose native language is not English or students who have not received a degree from an institution in an English-speaking country must present a minimum score of 550 on the TOEFL.
4. Complete a financial certification form, guaranteeing that adequate funds are available for university study, prior to coming to the United States. Since the University is a state-supported institution without residence facilities, it cannot provide either housing or financial aid to international students.

UNCLASSIFIED ADMISSION

The University recognizes its obligation to students whose interests may not necessarily be served through immediate participation in the University's graduate degree programs. To meet this need, the University permits such individuals to enroll under unclassified (non-degree-seeking) status. Unclassified students may be in several categories:

1. Students who, at the time they enroll, do not wish to pursue a degree program.
2. Students whose prior academic records indicate that they would benefit by taking courses of their choosing before they commit themselves to a degree program.
3. Students who want to earn academic credit applicable to a degree from another college or university.

Unclassified students earn academic credit in the same manner as classified students, and they must meet prerequisites for individual courses unless excused by the Director of Graduate Studies.

Applicants seeking unclassified status must submit the following credentials:

- a) a transcript indicating the successful completion of all requirements for a baccalaureate degree from a regionally accredited college or university and a minimum grade point average of 2.5 (on a 4.0 scale) in the applicant's major field of study and for the applicant's last 60 semester hours of all undergraduate work;
- b) transcripts for all graduate work taken at other institutions.

Applicants who do not meet the above criteria may be admitted in unclassified probationary status. An unclassified student may not enroll in more than 15 graduate credits in any one academic year.

Students seeking admission to graduate studies at Christopher Newport University for the first time may defer submission of the complete set of admission materials until completion of six credit hours. Such students will be admitted as a provisional unclassified student. Graduate credit for the courses taken will not be awarded until the receipt of the required admission information. Continuation in graduate studies at the University may depend upon the grades received in these

ADMISSION TO GRADUATE STUDIES

courses. The application must be completed before enrollment of the seventh credit hour.

Credit received as an unclassified graduate student may be applied to a graduate degree if and when the student becomes a classified graduate student. The amount of credit received by an unclassified student which is applicable toward a graduate degree will be determined by the student's advisory committee and the Director of Graduate Studies at the time the student transfers to classified status.

Documentation Requirements

A student applying for admission as an unclassified graduate student must present:

1. Completed application forms. These include the Application for Admission to Graduate Study and, for Virginia residents, an Application for In-State Tuition Rates.

2. Transcripts. Official transcripts of academic work from the college or university which awarded the baccalaureate degree and transcripts for other graduate work should be sent to the Admissions Office. These transcripts must indicate the date of the applicant's graduation, the degree received and a complete list of courses taken and grades received.

REGISTRATION

A student must be registered as a graduate student in order to receive graduate credit. Upon receipt of notification of acceptance in the graduate school, the student will proceed to the Registrar's Office where the registration process will be completed. The final step in this process is the payment of fees.

A classified graduate student will initiate subsequent registrations by submitting a course schedule approval by his or her advisor to the Office of the Registrar.

GRADUATE ACADEMIC POLICIES

The academic policies stated hereafter apply to all students who register for graduate studies at Christopher Newport University. Matters of interpretation of these policies are decided by the Vice President for Academic Affairs or his designate.

Program Planning

Each classified graduate student must consult with his or her advisory committee to formulate a plan of study organizing the student's work toward a graduate degree. This plan of study should be completed prior to the completion of the first 15 hours of graduate study. Changes to this plan may be made only with the approval of the advisor.

Registration

The University has established a pre-registration procedure for students already attending the University. This procedure is published prior to each semester, in time for students to take advantage of this option. Students who pre-register 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 Registration News. Students are not considered to be officially registered until tuition and fee payment (or other arrangements) have been made with the Business Office. Upon payment of tuition and fees students need only to begin classes at the designated time.

When you register during one of the pre-registration periods you will receive a bill for your tuition and fees through the mail. You must pay this bill by the deadline established for that session. If you do not pay the bill or make other arrangements with the Business Office by the established deadline **you must contact the Business Office to avoid being removed from registered courses**. The University reserves the right to cancel your registration if your bill is not paid or other arrangements have not been made. If you have registered during a pre-registration period and have not paid your bill by the deadline, please do not attempt to re-register without contacting the Business Office to determine your status.

Tuition and Fees

Information concerning tuition and fees may be found in the "Tuition, Fees and Financial Information" section of this Catalog.

Changes in Registration (Add/Drop)

Any changes in schedule must be approved by the student's advisor. After registering for classes, students must make any approved changes to their class schedules at the Office of the Registrar on the Schedule Change Form. Unless course changes are made in this manner, they will not be recognized by the University.

Late registrations and schedule changes are normally processed in the Office of the Registrar during the first five days of each semester (the schedule change period). Courses may not be added after this period without the approval of the Director of Graduate Studies. Courses dropped during this period do not become part of the student's permanent academic record.

Withdrawal from a Course

If serious and unforeseen circumstances arise, a graduate student may petition the Director of Graduate Studies to **withdraw** from a course in progress. The Director, after consulting with the course instructor and the student's advisory committee, 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 an F grade.

Withdrawal from the University

Withdrawal from the University means that the student ceases to attend all classes and is not enrolled in the University. Students desiring to withdraw from the University should do so by written application to the Director of Graduate Studies. Unless withdrawals from the University 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 Director of Graduate Studies by a physician certifying that the student is incapable of completing the term's academic work for medical reasons. Upon receipt of this letter all grades for the semester in question will be recorded as a W grade on the student's transcript.

Unofficial Withdrawal

Students who cease to attend 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. See the "Tuition, Fees and Financial Information" section for details concerning audit charges. Students auditing courses are subject to attendance regulations specified by the instructor but are not required to take tests or final examinations in the audited courses. By permission of the instructor, students may complete any of the required assignments. Auditing students' academic records will indicate AU rather than a regular letter grade. Students may change from credit to audit status up to the last day of class, provided they are passing the course. Changes from audit to credit 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.

Examinations

The examinations given at the end of each semester take place at times announced on the examination schedule (in the Registration News). Students are required to take all announced final examinations at the times scheduled unless excused as noted below (see "Absence From Examinations"). The University does not authorize

GRADUATE ACADEMIC POLICIES

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 department chairman or instructor.

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 instructor before the examination. The instructor should be notified as soon as possible if illness or other emergency causes a student to be absent from an examination. If the instructor cannot be notified the student must notify the Office of the Registrar as soon as possible.

Commencement Exercises

Commencement exercises (graduation ceremonies) are held once each year, in May, when degrees are conferred upon all graduates who have completed degree requirements in the preceding August, preceding December, or May. Students who complete degree requirements in August or December will have diplomas mailed to them. Those who complete degree requirements in May will receive diplomas at the May ceremonies. All prospective graduates will be contacted by the Office of the Registrar concerning attendance at the annual commencement exercises. Those planning to attend must notify the Office of the Registrar by the announced deadline so that academic caps, gowns, and hoods can be ordered for all who plan to participate. All prospective graduates must keep the Office of the Registrar informed of any address changes. If all requirements, including courses and credits, are not met by the end of the spring semester, students will not be permitted to participate in the May ceremonies.

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.

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	
S	Satisfactory (for thesis courses)	
U	Unsatisfactory (for thesis courses)	
AU	Audit	

An overall graduate grade point average of at least 3.00 is required on all work credited toward a graduate degree. No more than 6 credits of C grades will be credited toward a graduate degree.

An **Incomplete** or I grade 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 uncompleted work must be completed before the incomplete grade can be changed. If the incomplete grade has not been changed after the first 7 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 an F grade.

If serious and unforeseen circumstances arise, a graduate student may petition the Director of Graduate Studies to **withdraw** from a course in progress. See the paragraphs on withdrawal from a course or from the University on pages 12-13.

A grade of **satisfactory**, S, or **unsatisfactory**,

U, will be given for thesis courses until all the work on the thesis is completed. After the thesis has been written, defended, and accepted, the thesis director 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.

Undergraduate Students Taking Graduate Courses

Graduating senior students may, under certain conditions, take graduate courses. Credit for such courses may not be applied toward an undergraduate degree but, upon graduation, will be transferred to the student's graduate record at the University.

Written permission from the Director of the Graduate Studies is required before an undergraduate student may register for a graduate course. Forms for this purpose are available in the Graduate Studies Office. Undergraduates seeking graduate credit must have a grade point average of at least 3.0, and they are limited to one graduate course (with any associated laboratory) per semester and to a total of two graduate courses (with any associated laboratory).

Taking a Course For Undergraduate Credit

A graduate student may enroll in a course that 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.

Overall Graduate Grade Point Average

A student's overall graduate grade point average (OGGPA) 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.

Grade Reports

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

Probation and Academic Suspension

If a classified student is not making satisfactory progress toward a graduate degree, that student may be suspended from the graduate program, and thereby be denied permission to continue in it. The determination of unsatisfactory progress must be made by the student's advisory committee and approved by the Director of Graduate Studies.

A classified student who earns an F grade in any graduate course or who earns more than six semester hours of U or C grades in graduate courses will be suspended from the graduate program.

Any student whose overall graduate grade point average falls below 3.0 or who earns a grade of C will be given a probation warning.

Appeal Processes

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

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 the graduate school is a two step process.

First, upon 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 on academic suspension may not take graduate courses.

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 on 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**Departmental Requirements**

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

Credits

A minimum of 30 semester hour credits is required for a master's degree. At least 24 of these credits must be taken at Christopher Newport University. As many as 6 semester hours of graduate credit may be transferred from another college and/or be taken elsewhere by a classified student as described below. Credit transferred from another institution will be counted toward the total number of credits required for the graduate degree but it will not be computed in the student's overall graduate grade point average.

Transfer of Credit

As many as 6 semester hours of graduate credit from another regionally accredited institution may be included in a classified student's graduate record if the following conditions are met: a grade of A or B must have been earned; courses taken with pass/fail or satisfactory/unsatisfactory grades are not acceptable for transfer credit. 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 and evidence of their applicability toward a graduate degree must be forwarded to the Admissions Office. The transfer of credit must be approved by the student's advisor and the Director of Graduate Studies. The request for transfer credit must be made during the student's first semester as a classified 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 Classified

A classified 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 for transfer credit described above. Approval for such credit must be obtained from the student's advisor and from the Director of Graduate Studies before registering at the other institution. Generally, permission to take a course elsewhere will not be given during the student's last semester at Christopher Newport University.

Time Limit

Graduate students must complete all of their work toward a master's degree within a period of 6 calendar years. This period begins with the student's initial registration as a graduate student. Academic work, including transfer credit, taken more than 6 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. A request for a waiver of this time limit must be approved by the student's advisor 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.

Course of Study

A plan of study showing a reasonable concentration of interrelated subjects must be developed by each student in consultation with his or her advisor. This plan must be formulated and approved by the appropriate Departmental Graduate Committee, and filed with the Director of Graduate Studies before the student has completed 15 hours of graduate study. Any change in the student's plan of study must be approved by the student's advisor and filed in the Graduate Studies Office.

Academic Load

A student taking nine or more graduate credits during a regular semester or six or more graduate credits during a summer session will be considered a full time student. Students need approval of the Director of Graduate Studies in order to take more than 9 credits in a regular semester or more than 6 credits in a summer. No student may enroll for more than 12 graduate credits in a regular semester or more than 9 graduate credits in a summer under any circumstance.

Admission to Candidacy

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, students must have achieved classified status and completed 24 or more semester hours of graduate coursework with an overall graduate grade point average of at least 3.0.

Final Comprehensive Examination

A comprehensive examination aimed at evaluating the student's proficiency in his or her field is required of all candidates for a master's degree. This comprehensive examination may be written and/or oral, as determined by the department(s) offering the degree. It must be taken at the completion of the student's graduate studies and will cover all of the work offered toward the degree.

A student is eligible to take the comprehensive examination only after all required coursework has been completed (or will be completed by the end of the semester during which the examination is given) and after his or her admission to candidacy for the master's degree. The nature of the comprehensive examination is determined by the department(s) involved in administering the degree.

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 department or departments involved in the degree program. In this case, the defense of the thesis will be considered as part of the final comprehensive examination.

If no thesis is required as a part of the degree requirements, a minimum of 36 graduate credits will be required for the degree.

Summary of Minimum Requirements for a Master's Degree

- a) Successful completion of at least 30 semester hours of graduate course work (36 credits if no thesis is required);
- b) an overall graduate grade point average of 3.00 in all CNU courses submitted for graduate credit (no more than two grades of C);
- c) registration and timely petition for candidacy prior to the final semester;
- d) successful completion of the comprehensive examination;
- e) presentation of three approved copies of the thesis to the Graduate Studies Office (if thesis is required).

TUITION, FEES AND FINANCIAL INFORMATION

Office of Student Accounts
Administration, Room 210
(804) 594-7195

Comptroller: Maribeth Trun
Assistant Comptroller: Patrese F. Hall

Students Accounts and Cashier's Office Hours:

Monday: 8:30 a.m.-3:30 p.m.
Tuesday: 8:30 a.m.-3:30 p.m.
Wednesday: 8:30 a.m.-3:30 p.m.
Thursday: 10:30 a.m.-5:00 p.m.
Friday: 8:30 a.m.-3:30 p.m.

Tuition and Mandatory Fees

Tuition and comprehensive fees for graduate students during the academic year 1992-1993 were established by the Board of Visitors of Christopher Newport University at its meeting April 22, 1992.

\$119 per credit hour for in-state students

\$285 per credit hour for out-of-state students

In addition, the following non-refundable general fees are applicable to graduate students at Christopher Newport University in the 1992-1993 academic year:

General Fees	
Application Fee.....	\$10.00
Classified Status Fee.....	\$25.00
Registration Fee.....	\$20.00
Late Registration Fee (additional).....	\$25.00
Laboratory Fee.....	\$20.00
Academic Transcripts.....	No Charge
Returned Check Fee (per return).....	\$20.00
Late Penalty and Administration Fee..... (per payment)	\$50.00
Graduation Fee*.....	\$25.00

The graduation fee (*) is exclusive of regalia, which must be purchased at the University Bookstore.

TUITION, FEES AND FINANCIAL INFORMATION

Paying Your Bills at the University (We Honor MasterCard and VISA)

Any payment that you must make to the University may be made using cash, check made out to Christopher Newport University (or "CNU"), money order, VISA card, or MasterCard. You may also pay your bills to the University through the program offered by Academic Management Services (AMS). If you pay through the AMS Plan, you should apply to AMS as early as your plans for the school year will allow. AMS should have your application at least three weeks before billing for the fall semester occurs. See the Registration News for this date.

It is important to note that your financial obligation to the University includes the sum of all tuition and applicable fees.

Please note that the University may deny you the privilege of payment by personal check if you have a record of checks being returned for insufficient funds. If you use VISA or MasterCard, the cashier will determine that you have sufficient unused credit to allow the charge.

General Fees

You must pay a one-time **application fee** for your initial admission to graduate studies at the University. The application fee is not refundable, may not be applied to other fees, and will not have to be paid more than once, as long as you register for one or more credit-instruction courses during each academic year beginning in the academic year following your payment of the fee. The fee is normally paid to the University's Office of Admissions and should be paid by check or money order if you apply through the mail. The fee must accompany your application for admission.

If you wish to be admitted to classified (degree-seeking) candidacy, you must also pay a **classified status fee**. This fee is not refundable, may not be applied to other fees, and will not have to be paid more than once. If you pay this fee with your initial application for admission but do not enroll in the semester for which you originally applied, it may be carried forward only to the next semester. You do not have to pay this fee unless you wish to be admitted to classified status.

A **registration fee** is charged for fall and spring semester terms and for mini and summer sessions. The registration fee is not refundable, and does not apply to continuing education courses.

If you register late, you will be required to pay a **late registration fee**. The late fee is in addition to the normal registration fee. You must pay this fee if you do not complete your registration within the announced preregistration or regular registration periods.

If you register for a course which requires the payment of a **laboratory fee**, you will be required to pay the applicable fee for that course. Courses which require the payment of this fee are listed in the Registration News or this catalog. Laboratory fees are not refundable after the last business day before the beginning of the academic semester or summer term.

Please consult the Registration News for announced registration periods and other requirements. Questions concerning payments and fees should be directed to the Office of Student Accounts, Room 210, Administration Building, telephone (804) 594-7195.

Tuition

Your tuition payment will depend upon the number of courses you take and is based on a charge for each credit hour of instruction. Please note that the tuition rate is established or reviewed each year by the Rector and Visitors of Christopher Newport University.

Academic Management Services (AMS) Tuition Payment Plan

If you desire to take advantage of an **annual** payment plan, you may do so through the Academic Management Services (AMS) Plan. This plan allows you to pay University fees in 10 convenient monthly payments. The cost of this plan is \$45, which includes Life Benefit Coverage. There are no fees or interest charges. (However, if you become delinquent in your agreed schedule of payments with AMS, your account with the University will be assessed a late payment fee of \$50.) Information concerning the AMS Plan will be

forwarded to you separately. You may call Academic Management Services directly, toll-free at (800) 556-6684 for information. You are encouraged to apply for the AMS Plan as soon as possible, since later application for the plan requires a larger downpayment. You may participate in the monthly tuition payment plan offered by the University through Academic Management Services even though you apply for and receive financial aid. You do not have to apply through the University's Office of Financial Aid to participate in the AMS tuition payment plan. Your bill will be mailed to you and may be paid by mail or in person by a date established for each semester.

If you do not pay the bill or make other arrangements with the Business Office by the established deadline, you must contact the Business Office to avoid being removed from registered classes.

The University reserves the right to cancel your registration if your bill is not paid or other arrangements have not been made. If you have registered during a pre-registration period and have not paid your bill by the deadline, please do not attempt to re-register without first contacting the Business Office to determine your status.

If you have applied to AMS and received your payment schedule notice, you should bring this notice with you when you register. If you do not bring this notice, and your name is not on the list of Plan participants which the University receives from AMS, your registration may be delayed until the University contacts AMS to ascertain that you have applied. To assure that your registration is complete, you must make payment or payment arrangement with the Business Office.

Please take careful note of the following:

1. If you are receiving any form of financial aid, you must provide the Office of Student Accounts with a properly approved tuition assistance form and pay the balance due by the appropriate deadline.
2. If you owe the University any charges accrued from previous semesters, you will be expected to pay those previous charges, before you will be permitted to register.
3. If you do not properly settle any account you have with the Business Office, the University can cancel your registration at its sole discretion.

Checks

Checks for payment of tuition and fees should be made payable to Christopher Newport University. A **returned check fee** will be assessed to your account for checks returned for non-sufficient funds. If you do not cover a returned check within seven calendar days of the date it is returned, your registration will be cancelled at the discretion of the University.

Impound Policies

You may be denied registration at the University if you have previously unmet financial obligations or if you have retained University property. If your account with the University becomes delinquent, the University may turn over the account for collection with a third-party collection agency or with the Attorney General of the Commonwealth of Virginia. The University is allowed under Virginia law to attach your Virginia state income tax refund in the repayment of any debt which you may owe to the University.

In the event of default, or the return of a check for insufficient funds, the student is responsible for all reasonable administrative costs, collection fees, and attorney's fees incurred in the collection of the funds which are due to the Commonwealth.

Veterans Benefits

If you are a veteran, service member, or dependent using Veterans Administration education benefits, you must make financial arrangements at the time of registration. If you are using Veterans Administration education benefits for the first time, you should anticipate a delay of approximately eight weeks before the first education allowance check is mailed to you. You should contact the University's Office of Veterans' Affairs, located in Room 116 of the Administration Building, if you plan to use V.A. benefits. Telephone: (804) 594-7175.

Notice to Students Receiving Financial Aid

If you plan to receive or are receiving financial aid, courseload reductions and additions can affect the amount of financial aid awarded to you. This is particularly true if you are a full-time student and a course reduction results in your becoming a

part-time student. You will be responsible for any charges remaining after a coursework load change, and any amount due as a refund under the University's refund policy may be refunded directly to the financial aid grantor, rather than to you, if the rules of the grantor so require. If you have received a financial aid award and must decrease your academic workload to fewer than 9 credit hours, you must contact the Office of Financial Aid, Room 203, Administration Building.

Late Registration, Drops, and Adds

If you register late, you will be required to pay an additional **late registration fee**. This fee is not refundable and is charged in addition to the regular registration fee.

When you drop or add a course or courses, you must make arrangements with the Business Office, in addition to correcting your registration with the Office of the Registrar. Added courses are payable immediately.

If you are using the annual payment plan offered through AMS and drop a course or courses, you may reduce your payment schedule through AMS. You should contact AMS directly to take this action, but must also notify the Business Office.

You must not use the AMS annual payment plan to add courses during the schedule change period (drop/add period), and any increase in the amount you owe the University will become payable at the time you increase your obligation to the University. Refund, if any, will be based on the established refund policy of the University.

Refund Policy

If the University cancels a course for which you have registered, you are entitled to a full refund for that cancelled course. Please take careful note of the following.

Tuition and comprehensive fees will be refunded for the fall and spring semesters according to the following policy:

100% for any course dropped on or before the last business day before the beginning of the academic semester or for any course which is cancelled by the University;

75% for any course dropped on the first day of the academic semester through the end of the first week;

50% for any course you dropped during the second, third and fourth week of the academic semester, after which there shall be no refund.

For refund policies concerning Terms 2, 3, 4 and 5, please refer to the appropriate *Summer Session Registration Bulletin*.

The University does not normally refund fees for non-credit courses.

You must make application to the Office of the Registrar to drop a course on or before the deadlines listed above and during normal business days of the University in order to be eligible for a refund. The Office of the Registrar will determine the number of credit hours for which you are entitled to a refund, and the date of your application determines the amount of your refund.

Refunds are normally submitted in batches to the Treasurer of the Commonwealth and you will receive refunds by check through the mail. Although you may expect a refund within several weeks, refunds may take as much as 90 days after registration for this process to be completed.

If you are participating in the AMS annual tuition payment budgeting plan and your payments received by the University exceed the amount you owe in accord with the policy listed above, the University will refund to you directly. Please do not attempt to obtain a refund from AMS directly. Please note that if you have budgeted through AMS for annual payment of your tuition and fees and must withdraw from the University after the fall semester dates listed above, the refund that is due to you will be based on your registration for the fall semester. You will receive a refund of all payments to AMS which exceed your obligation for the fall semester, and you should contact AMS to cancel your payment plan. All refunds will be processed in accordance with the above policy. If you have extenuating circumstances, (i.e. medical or work related circumstances beyond your control), you should contact the Office of Student Accounts, Room 210, Administration Building, telephone (804) 594-7195 or 7060.

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 set forth below. Applicants for admission who believe they qualify for in-state educational privileges should complete the "Application for In-State Tuition Rates" and return it with their applications for admission.

Students who are already enrolled at the University must apply for a change of status through the Office of Admissions. Such requests must be made on the Application for Virginia In-State Tuition Rates form. Inquiries should be addressed to the Office of Admissions, CNU, 50 Shoe Lane, Newport News, Virginia 23606-2998.

Eligibility for In-State Tuition Charges.

A. For purposes of this section the following definitions shall apply:

Date of the alleged entitlement means the first official day of class within the term, semester or quarter of the student's program.

Dependent student means one who is listed as a dependent on the federal or state income tax return of his/her parents or legal guardian or who receives substantial financial support from his/her parents or legal guardian.

Domicile means the present, fixed home of an individual to which he/she returns following temporary absences and at which he/she intends to stay indefinitely. No individual may have more than one domicile at a time. Domicile, once established, shall not be affected by mere transient or temporary physical presence in another jurisdiction.

Domiciliary intent means present intent to remain indefinitely.

Emancipated minor means a student under age of eighteen on the date of the alleged entitlement whose parents or guardians have surrendered the right to his/her care, custody and earnings and who no longer claim him/her as a dependent for tax purposes.

Full-time employment means employment resulting in, at least, an annual earned income reported for tax purposes equivalent to fifty work weeks of forty hours at minimum wage (\$8,500 per calendar year).

Independent student means one whose parents have surrendered the right to his/her care, custody and earnings, have ceased to support him/her,

and have not claimed him/her as a dependent on federal and state income tax returns for at least twelve months prior to the date of the alleged entitlement.

Special arrangement contract means a contract between a Virginia employer or the authorities controlling a federal installation or agency located in Virginia and a public institution of higher education for reduced rate tuition charges as described in paragraph G of this section.

Substantial financial support means financial support in an amount which equals or exceeds that required to qualify the individual to be listed as a dependent on federal and state income tax returns.

Unemancipated minor means a student under the age of eighteen on the date of the alleged entitlement who is under the legal control of and is financially supported by either of his/her parents, legal guardian or other person having legal custody.

Virginia employer means an employing unit organized under the laws of Virginia or having income from Virginia sources regardless of its organizational structure, or any public or nonprofit organization authorized to operate in Virginia.

B. In order to become eligible for in-state tuition, an independent student shall establish by clear and convincing evidence that for a period of at least one year immediately prior to the date of the alleged entitlement, he/she was domiciled in Virginia and had abandoned any previous domicile, if such existed.

In order to become eligible for in-state tuition, a dependent student or unemancipated minor shall establish by clear and convincing evidence that for a period of at least one year prior to the date of the alleged entitlement, the person through whom he/she claims eligibility was domiciled in Virginia and had abandoned any previous domicile, if such existed.

In determining domiciliary intent, all of the following applicable factors shall be considered: continuous residence for at least one year prior to the date of alleged entitlement; state to which income taxes are filed or paid; driver's license; motor vehicle registration; voter registration; employment; property ownership; sources of financial support; location of checking or passbook

savings accounts and any other social or economic relationships with the Commonwealth and other jurisdictions. Domiciliary status shall not ordinarily be conferred by the performance of acts which are auxiliary to fulfilling educational objectives or are required or routinely performed by temporary residents of the Commonwealth. *Mere physical presence or residence primarily for educational purposes shall not confer domiciliary status.*

Those factors presented in support of entitlement to in-state tuition shall have existed for the one-year period prior to the date of the alleged entitlement.

C. The domicile of a married person shall be determined in the same manner as the domicile of an unmarried person.

The domicile of an emancipated minor shall be established in the same manner as any other independent student.

Any alien holding an immigration visa or classified as a political refugee shall also establish eligibility for in-state tuition in the same manner as any other student. However, absent Congressional intent to the contrary, any person holding a student or other temporary visa shall not have the capacity to intend to remain in Virginia indefinitely and, therefore, shall be ineligible for Virginia domicile and for in-state tuition charges.

The domicile of a dependent student shall be rebuttably presumed to be the domicile of the parent or legal guardian claiming him/her as an exemption on federal or state income tax returns currently and for the tax year prior to the date of the alleged entitlement or providing him/her substantial financial support.

A matriculating student who has entered an institution classified as out-of-state shall be required to rebut by clear and convincing evidence the presumption that he/she is in the Commonwealth for the purpose of attending school and not as a bona fide domicile.

For the purposes of this section, the domicile of an unemancipated minor or a dependent student eighteen years of age or older may be either the domicile of the parent with whom he/she resides or the parent who claims the student as a dependent for federal and Virginia income tax purposes for the tax year prior to the date of the alleged entitlement and is currently so claiming the student. If there is

no surviving parent or the whereabouts of the parents are unknown, then the domicile of an unemancipated minor shall be the domicile of the legal guardian of such unemancipated minor unless there are circumstances indicating that such guardianship was created primarily for the purpose of conferring a Virginia domicile on the unemancipated minor.

D. *It is incumbent on the student to apply for change in domiciliary status to become eligible for such change. Changes in domiciliary status shall only be granted prospectively from the date such application is received.*

A student who knowingly provides erroneous information in an attempt to evade payment of out-of-state fees shall be charged out-of-state tuition fees for each term, semester or quarter attended and may be subject to dismissal from the institution. All disputes related to the veracity of information provided to establish Virginia domicile shall be appealable through the due process procedure required by paragraph H below.

E. A non-military student whose parent or spouse is a member of the armed forces may establish domicile in the same manner as any other student. However, a non-military student, not otherwise eligible for in-state tuition, whose parent or spouse is a member of the military stationed or residing in the Commonwealth pursuant to military orders and claiming a state other than Virginia on their State of Legal Residence Certificate, shall be entitled to in-state tuition charges when the following conditions are met: (1) if the student is a child of a member of the armed forces, then the non-military parent shall have, for at least one year immediately prior to the date of alleged entitlement for in-state tuition charges, resided in Virginia, been employed full-time and paid individual income taxes to Virginia. Such student shall be eligible for in-state tuition charges only if the non-military parent claims him/her as a dependent for Virginia and federal income tax purposes; or (2) if the student is the spouse of a member of the armed forces, then such student shall have, for at least one year immediately prior to the date of alleged entitlement for in-state tuition, resided in Virginia, been employed full-time and paid individual income taxes to Virginia. Any student whose spouse or parent is a member of

the armed forces shall be eligible for in-state tuition charges for so long as these conditions continue to be met.

F. Students who live outside this Commonwealth and have been employed full-time inside Virginia for at least one year immediately prior to the date of the alleged entitlement for in-state tuition shall be eligible for in-state tuition charges if such student has paid Virginia income taxes on all taxable income earned in this Commonwealth for the tax year prior to the date of the alleged entitlement. Students claimed as dependents for federal and Virginia income tax purposes who live outside this Commonwealth shall become eligible for in-state tuition charges if the non-resident parent claiming him/her as a dependent has been employed full-time inside Virginia for at least one year immediately prior to the date of the alleged entitlement and paid Virginia income taxes on all taxable income earned in this Commonwealth for the tax year prior to the date of the alleged entitlement. Such students shall continue to be eligible for in-state tuition charges for so long as they or their qualifying parent are employed full-time in Virginia, paying Virginia income taxes on all taxable income earned in this Commonwealth and the student is claimed as a dependent for Virginia and federal income tax purposes.

G. Public institutions of higher education may enter into special arrangement contracts with Virginia employers or authorities controlling federal installations or agencies located in Virginia. The special arrangement contracts shall be for the purpose of providing reduced-rate tuition charges for the employees of the Virginia employers or federal personnel when the employers or federal authorities are assuming the liability for paying, to the extent permitted by federal law, the tuition for the employees or personnel in question and the employees or personnel are classified by the requirements of this section as out-of-state.

Special arrangement contracts with Virginia employers or federal installations or agencies may be for group instruction in facilities provided by the employer or in the institution's facilities or on a student-by-student basis for specific employment-related programs.

Special arrangement contracts shall be valid for a

period not to exceed two years and shall be reviewed for legal sufficiency by the Office of the Attorney General prior to signing. All rates agreed to by the public institutions shall be at least equal to in-state tuition and shall only be granted by the institution with which the employer or the federal authorities have a valid contract for students for whom the employer or federal authorities are paying the tuition.

All such contracts shall be registered with the State Council of Higher Education to assure accurate tabulation of the domiciles of the students.

All special arrangement contracts with authorities controlling federal installations or agencies shall include a specific number of students to be served at reduced rates. In any fiscal year, the total number of such students at all state-supported institutions of higher education shall not exceed one-half of one percent of the projected annual full-time equivalent student enrollment in the state-supported institutions of higher education.

Nothing in this subsection shall change the domiciliary status of any student for the purposes of enrollment reporting or calculating the proportions of general funds and tuition and fees contributed to the cost of education.

H. Each public institution of higher education shall establish an appeals process for those students who are aggrieved by decisions on eligibility for in-state tuition charges. The Administrative Process Act (SS9-6.14:1 et seq.) shall not apply to these administrative reviews. An initial determination shall be made. Each appeals process shall include an intermediate review of the initial determination and a final administrative review. The final administrative decision shall be in writing. A copy of this decision shall be sent to the student. Either the intermediate review or the final administrative review shall be conducted by an appeals committee consisting of an odd number of members. No person who serves at one level of this appeals process shall be eligible to serve at any other level of this review. All such due process procedures shall be in writing and shall include time limitations in order to provide for orderly and timely resolutions of all disputes.

Any party aggrieved by a final administrative decision shall have the right to review in the circuit

court for the jurisdiction in which the relevant institution is located. A petition for review of the final administrative decision shall be filed within thirty days of receiving the written decision. In any such action, the institution shall forward the record to the court, whose function shall be only to determine whether the decision reached by the institution could reasonably be said, on the basis of the record, to be supported by substantial evidence and not to be arbitrary, capricious or otherwise contrary to law.

I. In order to ensure the application of uniform criteria in administering this section and determining eligibility for in-state tuition charges, the State Council of Higher Education shall issue and from time to time revise guidelines, including domiciliary status questions to be incorporated by all state institutions of higher education in their admissions applications. These guidelines shall not be subject to the Administrative Process Act (SS9-6.14:1 et seq.) of this Code.

An advisory committee, composed of ten representatives of the public institutions, shall be appointed by the Council each year to cooperate with the Council in developing the guidelines for determining eligibility or revisions thereof. The Council shall consult with the Office of the Attorney General and provide opportunity for public comment prior to issuing any such guidelines.

Procedure

Upon receipt in the Office of Admissions, your "Application for Virginia In-State Tuition Rates" form will be reviewed by a staff member for an initial determination. If the staff member disagrees with your own determination for in-state privileges, you will be contacted immediately and given an explanation of the determination.

In-State Tuition for Spouses and Dependents of Active Duty Military Personnel

If you are the dependent or spouse of active duty military personnel who reside in Virginia pursuant to military orders you are entitled to one year of in-state tuition rates at any time during which the military person is residing in Virginia. The dependent or spouse may take advantage of the

entitlement at any time during the period that the military person is residing in Virginia.

In order to be eligible for this provision you must be eligible on the first day of class for any semester or the first day of a session for any summer session. In the case where your eligibility expires during the semester or session you will be allowed to complete the semester or session even though your eligibility expires during the session.

In order to qualify for the lower tuition rate you must provide a copy of the military permanent change of station order for the sponsor, and show your military dependent identification card to establish that you are a bona fide dependent of the military sponsor. The Office of Admissions will determine your eligibility for the lower rate under this provision.

Appeals

If you disagree, you may request an immediate appeal. You may make this request orally or in writing, but it must be done within 10 working days of being notified of the initial determination. A panel of three staff members in the Office of Admissions will then meet with you to hear your appeal. You are welcome to bring any supporting documentation with you (e.g., income tax returns) that you think may help. The panel will respond to your appeal within five working days.

If you still disagree, you may request a final appeal. This appeal must be made in writing, addressed to the Dean of Admissions and Records, within five working days of the first appeal decision. A panel of University officials will then convene to consider your appeal. A written determination will be sent to you by U.S. Registered Mail within five days of the hearing. Should you disagree with the final determination, you then have 30 days to take this matter to the appropriate Circuit Court.

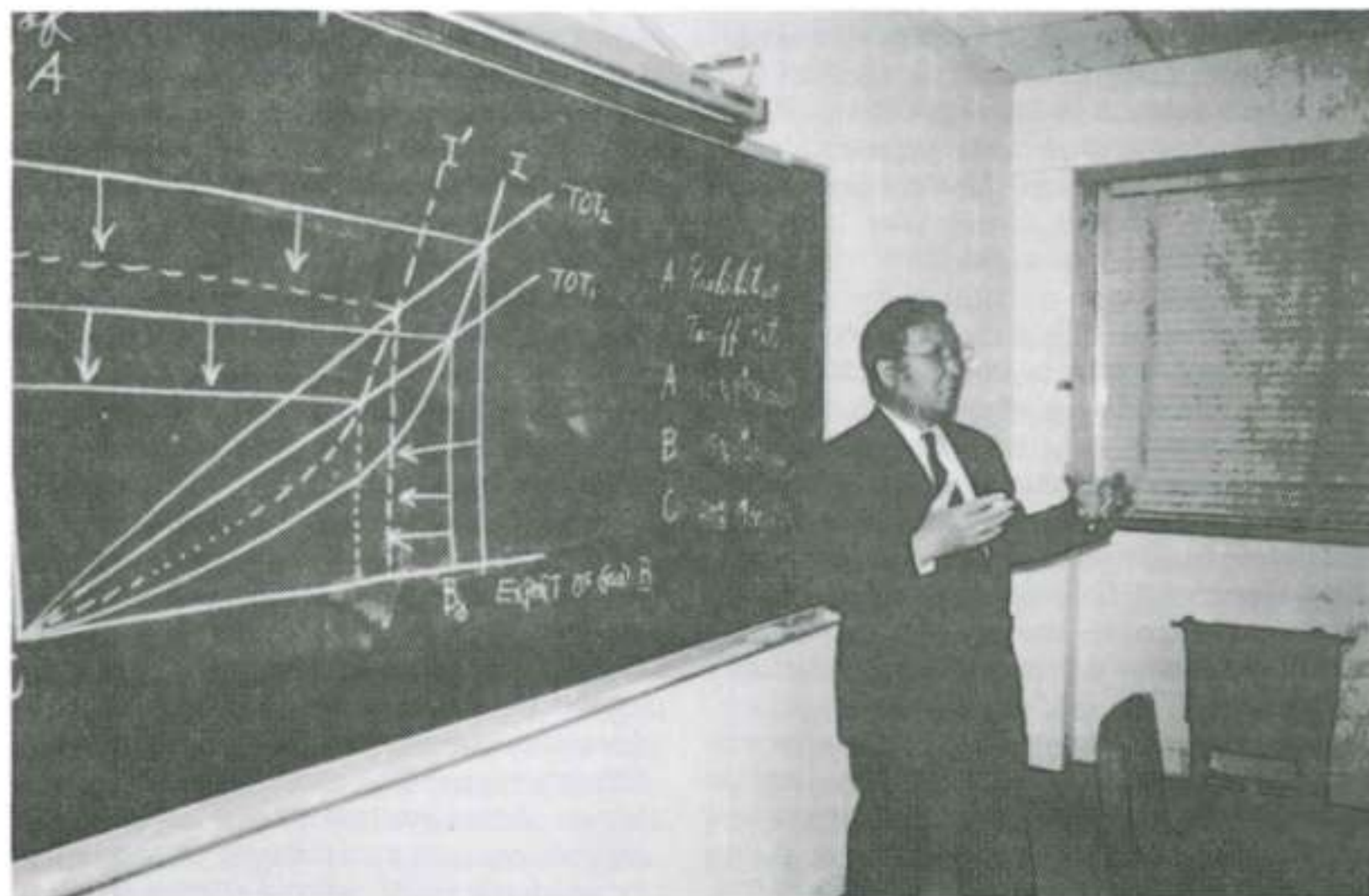
Senior Citizens

The 1989 session of the Virginia General Assembly amended and reenacted the Senior Citizen's Higher Education Act of 1974. If you are a senior citizen you are permitted to register and enroll in courses as a full-time or part-time student for academic credit, without charge, if your taxable income for federal income tax purposes did not

TUITION, FEES AND FINANCIAL INFORMATION

exceed \$10,000 for the year preceding the year in which you wish to enroll. You may also without charge enroll in academic credit courses for audit purposes and you may enroll in non-credit courses offered by the University without regard to your income. You will, however, be required to pay for laboratory fees for any course for which such a fee is applicable. You must meet the applicable University admissions requirements to participate in this waiver program, and the determination of the University's ability to offer a course which you seek to take 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. If you are an eligible senior citizen who has 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. You are a senior citizen under this program if your sixtieth birthday falls before the term for which you are registering and you have been a legal domiciliary of Virginia for one year. Your free enrollment in credit courses under this program is limited by the law to no more than three courses in any term or semester. There is no limit to the number of courses you may audit or on continuing education courses. The continuing education program welcomes the participation of senior citizens with the understanding that their registration is contingent on a minimum number of paying students to allow the course's formation. You may exceed the three course limit if you desire to pay for any additional courses. Your enrollment in this program is not limited with respect to the number of semesters or terms. Forms to request the senior citizen tuition waiver are available in the Office of Student Accounts.



FINANCIAL AID

Office of Financial Aid Administration
Room 203
(804) 594-7170
Director: Sidney P. Dugas
Assistant Director: Susan P. Glaude
Hours: Monday-Friday: 9:30 a.m.-4:00 p.m.

Christopher Newport University offers financial assistance to qualified graduate students who wish to defray part of their total University expenses. The University participates in several aid programs which are administered through the Office of Financial Aid.

Types of aid include loans and student employment. Although most financial aid programs are based on financial need, some use criteria other than financial need for eligibility. Applications and additional information are available in this office.

To be eligible for most financial aid programs, a student must: 1) be enrolled as a classified student; 2) be enrolled on at least a half-time basis; 3) be in good academic standing; and 4) be making satisfactory academic progress. Some programs, however, may require full-time enrollment.

Financial aid is awarded for one academic year only, but, upon re-application and continued eligibility, may be renewed for succeeding years. The deadline for applying for financial aid administered by Christopher Newport University is April 1, for consideration in the following academic year. Later deadlines are established on an annual basis for the Student Loan programs.

Entering students must be admitted to the University before receiving a decision letter regarding financial aid. Announcements of financial aid decisions for on-time applicants are normally made by June 1. Applicants for financial aid will be notified in writing by the Office of Financial Aid.

Application Requirements

To be considered for financial aid, applicants must:

1. Be enrolled or accepted for enrollment at the University in classified status;
2. File an application for financial aid with the Christopher Newport University Office of Financial

Aid by April 1. This application must be completed annually.

3. File a Financial Aid Form (FAF) with the College Scholarship Service, the results of which must be received by the University's Office of Financial Aid by April 1 (allow four to six weeks for processing). The FAF must be filed each year students apply for financial aid.

Financial Aid Available at Christopher Newport University

The following financial aid programs administered by the Financial Aid Office are available for graduate students at CNU:

- University Work-Study (employment)
- Perkins Loans (formerly known as NDSL)

Student Loans From Commercial Lenders

Students who need assistance in addition to those programs listed above may want to consider the following student loan programs:

Stafford Student Loans

Formerly known as Guaranteed Student Loans, Stafford Student Loans are need-based loans made by commercial lenders such as banks and credit unions. Eligible graduate students may borrow up to \$7,500 for each year of graduate study. Since these loans are based on the applicant's financial need, students must submit a Financial Aid Form (FAF) to the College Scholarship Service (CSS) for a needs determination. The federal government pays the interest to the lender for the student while enrolled on at least a half-time basis, and for the six-month grace period following enrollment. Students pay eight percent interest during the first four years of repayment and 10 percent during the remainder of the repayment period.

Supplemental Student Loans

Supplemental Student Loans (SLS) are non-need-based loans made by commercial lenders to eligible independent students. Although this loan is not based on financial need, students must complete a Financial Aid Form (FAF) to determine eligibility or ineligibility for the Stafford Student Loan before an SLS application can be

FINANCIAL AID

processed. Eligible graduate students may borrow up to \$4,000 per school year. The SLS loan is a variable interest rate loan. The interest rate is adjusted each July 1 and is capped at 12%. The current rate (until July 1, 1992) is 9.34%. Repayment must begin within 60 days. While enrolled, students may elect to pay interest only, or have interest added to the principal.

Short-term Emergency Loans

The 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 Christopher Newport University student ID card when they apply to the University's Business Office.

Emergency Loan Fund

An emergency loan fund was established in 1967 by the sophomore class, in honor of former Christopher Newport University 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 Christopher Newport University student ID card when they apply to the University's Business Office. Emergency loans are limited to \$25 per student.

Satisfactory Academic Progress

Students receiving financial aid must remain in good academic standing and must be making satisfactory academic progress toward the completion of their degree. For an explanation of what constitutes "good academic standing" and "satisfactory academic progress," please refer to the CNU Financial Aid Guide or visit the Office of Financial Aid.

Estimated Costs

Budget planning for attendance at Christopher Newport University should consider both direct and indirect costs. Direct charges are tuition and fees. For such information, see the "Tuition and Fees" section of the catalog. Indirect costs are the normal expenses for living. Estimated living expenses are discussed in detail in the CNU Financial Aid Guide.

Additional Information

Students interested in receiving financial aid are strongly encouraged to obtain a copy of the CNU Financial Aid Guide and read it thoroughly. The Guide is available in the Office of Financial Aid. Additional questions, concerns or information requests should be directed to the staff of the Office of Financial Aid.

STUDENTS' RIGHTS

Listed below is the notification of the Family Rights and Privacy Act of 1974. The University is to inform enrolled students annually of their rights under the terms of the Family Educational Rights and Privacy Act of 1974. The act does not apply to students admitted to the University who have not officially enrolled.

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 University student record policy is formulated to protect the privacy of that student information that is maintained, and yet provide access to student records for those having a legitimate purpose to view such records. The regulations and procedure to ensure adequate protection of the student are provided in this policy.

3. "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. Access to records by others, without student permission, is limited to purposes of an educational nature. 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.

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 and which are not accessible or revealed to any person except a substitute."

d. Records of the Admissions Office concerning students admitted but not yet enrolled at the University. Letters of recommendation are removed from the Admissions files before the files are forwarded to the Registrar's Office.

e. Medical-psychological records used in connection with treatment of the student. Such records are however, reviewable by a physician or psychologist of the student's choice; and

f. Department of Safety and Security Office records, when utilized for internal purposes by those offices in their official capacities.

4. Only the following offices are authorized to release nondirectory information: Registrar, Placement, Financial Aid, Vice President for Student Affairs, Vice President for Academic Affairs, and President.

5. Copies of this policy are available upon request from the Registrar, who is responsible for the administration of the student record policy.

Access to Student Records by the Student

1. Students have the right to inspect their records (as defined above) and are entitled to an explanation of any information therein.

2. 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. Such records should be requested by the student from the originating institution.

3. Official records and transcripts of the University (signature and/or seal affixed) are mailed directly to other institutions or agencies at the student's request. When extreme circumstances warrant, official records may be given directly to the student at the discretion of the proper University official. In such cases, the record will be clearly marked to indicate issuance to the student.

4. 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. 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.

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 and place of birth.

c. Dates of attendance at the University, field of concentration, current classification, degrees, honors and awards.

d. Previous schools attended and degrees awarded.

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. By written request to the Registrar's office, students may request that directory information not be released. 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. Access to student records for administrative reasons for faculty and administrative staff is permissible provided that such persons are properly identified and can demonstrate a legitimate interest in the materials.

b. Access for the purpose of research by faculty, administrative staff, and graduate students is permissible when authorized by the department head and the administrator of the office concerned.

c. Information requested by student organizations of any kind will be provided only when authorized by the Vice President for Student Affairs.

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. Otherwise, the academic transcript will be sent only to the student. This policy is consistent with the University's interpretation of the Family Education Rights and Privacy Act of 1974, popularly known as the "Buckley Amendment."

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. 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 third party and will be destroyed when no longer needed for audit, enforcement, and/or evaluative purposes.

COURSES OF INSTRUCTION

The following section contains a description of the Graduate Programs offered by the University. It is followed by a description of the participating departments, including a description of the individual courses of instruction. Course descriptions appear in ascending numerical order, with graduate courses numbered between 500 and 699 and undergraduate courses between 100 and 499.

The three hyphenated numbers enclosed in parentheses following the title of the course 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, practicum, or studio hours in the course. A course designated as (4-3-2), for example, refers to a four-credit course, which has three lecture hours and two laboratory/practicum/studio hours each week. Following the credit hours designation is an indication as to when that course is normally offered (e.g. Fall, Spring, etc.). Where such designations do not appear, please consult with the appropriate department chairman.

NOTICE

While the information provided in the following department entries is materially complete and correct at the time this Catalog goes to press, it is nonetheless the case that, pursuant to the reservation stated under "University Catalog Information" on the inside front cover of this document, the University may effect changes in these offerings, timetables and/or requirements during the period of applicability of this Catalog. Accordingly, students are advised to consult with the Director of Graduate Studies, the appropriate department chairperson, program director or coordinator concerning the official approval of any such changes and their effective dates of implementation.

The Master of Arts in Teaching (MAT) in Mathematics and Science

The Master of Arts in Teaching (MAT) in Mathematics and Science is a practitioner-oriented degree designed to integrate pedagogy with specific academic subject areas. In addition, the program emphasizes research and theory related to human learning with an emphasis on critical thinking, an understanding of the multicultural differences among students and an understanding of education and life from an international perspective. The program is specifically designed to strengthen the content knowledge of teachers and to demonstrate teaching strategies appropriate to each concentration. The program is based on recognized needs in teacher education as identified by bodies such as the National Commission on Excellence in Education and the Holmes Group.

Goals of the MAT Program

As a practitioner's degree, the MAT program is designed to assist students in the development of specific qualities recognized in master teachers. The curriculum contributes to growth in the following areas of desirable teacher qualities:

- a. Possession of well-grounded content knowledge;
- b. An understanding of learning behavior;
- c. An understanding of students' abilities and needs;
- d. Demonstration of sound habits of the mind for creative and critical thinking and problem solving;
- e. Knowledge of teaching strategies; and
- f. Professional identity.

Tracks for Students Entering With or Without Certification

Two tracks, based on different background preparation, are available. One track is intended for, but not limited to, currently certified teachers; it leads to an MAT degree with no additional certification. The other track is for persons who are not certified or who seek additional certification; it leads to an MAT degree with certification in Middle School Education.

Both tracks include an internship: the certified teachers are supervised in their own classrooms, and the students seeking certification teach under the supervision of a clinical faculty teacher as well as a CNU faculty member.

Admission Requirements

A detailed description of the requirements for admission and graduation appears in the Graduate Academic Policies section of this catalog. The following is a summary of those requirements as they pertain to the MAT program.

The following standards and criteria must be met for classified admission to the MAT program by students in either track:

1. A baccalaureate degree with a minimum grade point average of 3.00;
2. Three letters of recommendation. Those who are currently teaching must have letters from two professional educators: one who has observed the applicant's teaching and one who has served as a principal or supervisor of the applicant. Those entering the program for certification must have at least one letter from a person who can attest that the applicant will be able to be successful in academic work at the graduate level;
3. Graduate Record Examination (GRE) scores taken within five years of admission. GRE scores are used as one of several indicators of the applicant's ability to succeed in graduate studies; they are never the sole criterion for admission, nor is there a minimum acceptable or cutoff score.

Provisional and/or probationary admission may be possible for students who have not met these requirements.

Individual courses in the Curriculum may be taken by students not pursuing an advanced degree at the University by registering as an unclassified student.

Academic prerequisites for MAT students

It is generally expected that students entering the program leading to an MAT in science or mathematics will have a broad undergraduate background in these areas.

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, Chemistry and Physics; at least two of the four science courses must include a laboratory component.

Students concentrating in mathematics must have at least four semester courses in mathematics and two in science. The mathematics courses must include college algebra and elementary statistics.

Additional requirements for students seeking certification.

Students who seek certification in addition to the MAT degree must comply with current Virginia requirements. Consequently, they must have undergraduate credit for the following areas:

English (freshman level)	6
Mathematics	6
Humanities	12
Social Science	12
Natural Science	8
Physical Education or Health	2

Most of these courses likely will have been completed with the baccalaureate degree. Two specific courses, Psychology 211 or 309 and Mathematics 309, must have been taken.

Middle school certification requires specific coursework in two of the following areas: mathematics, science, social studies or language arts. Because of the MAT prerequisite requirements, one or both of the areas will be satisfied with completion of the graduate degree. The social studies and/or language arts areas may have been satisfied with the undergraduate programs and either of these areas may be selected as a second concentration. If one of these areas is selected as a concentration area, courses may be added to complete the number of credits required.

Prospective teachers must have earned passing scores on the communications skills and general knowledge tests of the National Teachers Examination before the internship semester. During the internship semester the professional knowledge and specialty area tests must be successfully completed.

Graduation Requirements

Minimum requirements for graduation include the completion of the minimum course work hours for the appropriate track, a minimum overall graduate grade point average of at least 3.00, an appropriate internship and the successful defense of a thesis. An oral and written exit evaluation of the MAT program is also required.

A thesis is required of all students.

Specialties, concentration, and tracks

The MAT has two specialty areas: mathematics and science. The initial concentration will be at the middle school level. Students entering the program without certification may select a single content field or combine courses from two specialty fields. Students who wish to be certified in both mathematics and science must complete a minimum of 15 hours in mathematics and 16 hours in science. Students seeking certification must conform to the Teacher Education Program Requirements. A portion of the certification requirement may be met by appropriate undergraduate coursework upon the approval of the student's advisory committee. The core graduate level courses or their equivalents in both disciplines will be required of all students choosing to certify in both specialties.

Curriculum

An outline of two tracks for students seeking the MAT degree with or without certification is presented on the following page. The actual plan of study for individual students will be determined by the student's advisor and an advisory committee. The academic background of the student will be taken into consideration in determining the student's program. However, all students must successfully complete courses from each of three areas: Introductory, Specialty and Capstone. Students seeking certification will take additional professional courses, including a classroom teacher supervised internship.

MAT: MATHEMATICS & SCIENCE

TWO TRACKS FOR THE MAT IN MATHEMATICS AND SCIENCE		
STUDENTS SEEKING THE MAT DEGREE WITH:	NO ADDITIONAL CERTIFICATION (Semester Hours)	MIDDLE SCHOOL CERTIFICATION (Semester Hours)
AREA I: INTRODUCTORY COURSES		
PSYC 500 Human Learning	3	3
EDUC 501 Multicultural Education	3	3
EDUC 502 Teachers as Researchers	3	3
	9	9
AREA II: SPECIALTY COURSES		
Specialty Courses (see below)	15	15
Advanced Educational Strategies with Internship, MATH 570 or PHYS 689	3	0
	18	15
AREA III: CAPSTONE AND THESIS		
EDUC 595 Capstone Seminar	1	1
Thesis	6	6
	7	7
CERTIFICATION COURSES		
EDUC 510 Teaching Internship	0	6
EDUC 407 Foundations	0	1
EDUC 516 The Middle School	0	3
EDUC 423 Teaching Reading and Writing	0	2
EDUC 535 The Exceptional Learner	0	2
EDUC 543 Classroom Management and Discipline	0	2
EDUC 544 Evaluation of Learning	0	2
	0	18
TOTAL	34	49

LIST OF SPECIALTY COURSES († REQUIRED COURSES)

Science Specialty Courses

BIOL 582	Life †
BIOL 582L	Life Laboratory †
BIOL 583	General Ecology
BIOL 584	The Environment
BIOL 585	Marine Biology
BIOL 585L	Marine Biology Laboratory
BIOL 586	Geology and Paleontology
BIOL 587	Physical Geology
BIOL 589	Oceanography
BIOL 589L	Oceanography Laboratory
PHYS 581	The Universe †
PHYS 581L	The Universe Laboratory †
PHYS 582	Energy and the Environment
PHYS 583	High Technology in Contemporary Applications
PHYS 584	The Development of Scientific Thought
PHYS 689	Advanced Instructional Strategies in Science Teaching †

Mathematics Specialty Courses

MATH 570	Advanced Instructional Strategies in Mathematics †
MATH 572	Current Issues in School Mathematics †
MATH 573	History of Mathematics
MATH 574	Discrete Mathematics
MATH 575	Computer Software & Calculators in School Mathematics
MATH 576	Mathematical Connections †
MATH 578	Elementary Geometry from an Advanced Viewpoint †

MS: APPLIED PHYSICS

The Master of Science in Applied Physics

The Master of Science in Applied Physics, a thirty credit-hour program, is built around a core of physics and computer science courses that are the foundation of the three areas of concentration: instrumentation and advanced computer systems, dynamical systems and solid state systems. Four courses make up the core curriculum: Models of Dynamical Systems (PHYS 501), Electromagnetic Theory (PHYS 504), Software System Design and Implementation (CPSC 501), Communications I (CPSC 502). These courses are the basis for the design of both the hardware and software for systems of instrumentation and analysis. Each of the three concentrations requires the four core courses, plus five concentration courses and a thesis that includes a capstone seminar.

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 capstone seminars for the concentrations, Computer Systems Design (CPSC 619), Instrumentation System Design (PHYS 629), Design of Integrated Computational Environments (PHYS 649) and Design of Solid State Systems and Sensors (PHYS 639), tie these elements securely and are an integral part of the thesis.

Goals of the Program

The program's overall goal is to provide its graduates with the scientific background and technical tools to:

1. understand and critically evaluate other scientists' work;
2. present logically and clearly the results of their own scientific investigation;
3. advance an experimental technique, extend the application of a theory, or produce new data or observations; and
4. design, build and evaluate a system of instrumentation, computers, software and/or graphical computer interfaces to stated specification.

The Applied Physics program is designed to serve students with a baccalaureate degree in applied physics, computer science, electrical

and/or computer engineering and mathematics, or students who want advanced study in the electronic or optical properties of materials, computer systems or computer controlled instrumentation.

The emphasis of the program on experimentation, instrumentation and computer analysis is important. According to The Report on Material Science and Engineering for the 1990s by the National Research Council, over 30% of all employed physicists, astronomers and chemists work in the area of material properties, and the report documents the failure of the current curricula to deal with this subject in a satisfactory manner. The CNU master's degree program is designed to produce graduates ready to make strong contributions to the professions and, if they so desire, to continue toward a Ph.D. degree in applied physics, computer engineering or computer science.

Admission

To be accepted as a classified student in the master's program, applicants are expected to have a baccalaureate degree with a grade point average of at least 3.0 (on a 4.0 scale) in their major undergraduate program. All applicants must submit transcripts of their undergraduate record, three letters of recommendation from professors who know their capabilities, and scores for the aptitude part of the Graduate Record Examination. International applicants from non-English speaking countries must submit their TOEFL scores. Applicants wishing to be considered for a teaching assistantship must apply by May 1 for the following fall semester. Research Assistantships are generally only awarded to second year students.

All applicants for regular admission 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, linear algebra 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; Boyce and DiPrima, Ordinary Differential Equations; Dale, Lilly and Weems, Pascal

Programming; Aho, Hopcroft and Ullman, Data Structures; Mano, Computer Engineering; Hayt and Kemmerly, Circuit Theory. An accelerated schedule of undergraduate prerequisites can be arranged for applicants whose qualifications do not entirely satisfy the prerequisites for graduate study.

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.

Retention in the Program

Retention in the program requires the maintaining of a quality point average of 3.0 on a 4.0 scale in all courses taken for graduate credit at Christopher Newport University. Within one semester of completing the core courses, a candi-

date for the master's degree must pass a comprehensive written examination dealing with material from the core courses in order to continue in the program. A thesis is required. Students must defend their thesis at an oral examination before a panel of faculty and invited guests.

The Curriculum

Each student's curriculum is arranged with the student's advisory committee. The general requirements listed below are guides and serve as models for students' planning for each of the three departmental concentrations. Graduate course offerings by other colleges in the area may also form a part of a student's program, giving the student a rich resource of courses from which to set a curriculum.



Requirements:

1. 30 Semester hours minimum (9-12 hours of core courses; 12 -15 hours of specialty courses in an area of concentration; 6 hours of thesis, three of which are included in the design courses listed below with an asterisk in each concentration);
2. Written comprehensive exam on the core and the prerequisite undergraduate courses;
3. Written thesis and oral defense of the thesis.

Core courses:

PHYS 501 Models of Dynamical Systems (1st semester)
 PHYS 504 Electromagnetic Theory (2nd semester)
 CPSC 501 Software System Design and Implementation (1st semester)
 CPSC 502 Communications I (Computer Networks) (2nd semester)

Specialty courses and design courses for the concentrations:

Instrumentation and Advanced Computer Systems

PHYS 521 Computer Architecture
 PHYS 503 Data Acquisition & Instrumentation (in lieu of PHYS 504 in the core)
 PHYS 522 Microprocessor-based Systems
 CPSC 621 Parallel Processing

and either :

PHYS 621 Digital Signal Processing
 PHYS 629 Instrumentation Systems Design*

or:

CPSC 611 Communications II
 CPSC 619 Computer Systems Design*

Dynamical Systems

PHYS 502 Quantum Physics
 PHYS 506 Thermodynamics and Statistical Physics
 MATH 680 Numerical Methods II (Computational Physics I)
 PHYS 641 Computational Physics
 PHYS 649 Design of Integrated Computational Environments
 CPSC 642 Qualitative Modeling (suggested elective course)

Solid State Systems

PHYS 502 Quantum Physics
 PHYS 506 Thermodynamics and Statistical Physics
 PHYS 631 Physics of Solids
 PHYS 503 Data Acquisition and Instrumentation (in lieu of CPSC 502 in the core)
 PHYS 639 Design of Solid State Systems and Sensors

and either:

PHYS 531 Fundamentals of Optics
 PHYS 632 Optoelectronic Materials and Devices

or:

PHYS 634 Superconducting Materials and Devices

**Department of Biology, Chemistry
and Environmental Science**

(College of Science and Technology)
New Science Building, Room 218
(804) 594-7126

Chairman: Dr. Harold N. Cones

Faculty

PROFESSORS: David A. Bankes, Ph.D.; C. Ken. Chang, Ph.D.; Harold N. Cones, Ph.D.; Gary G. Hammer, Ph.D.; Ronald S. Mollick, Ph.D.; Lee C. Olson, Ph.D.; Lawrence J. Sacks, Ph.D.
ASSOCIATE PROFESSORS: Richard W. Cheney, Jr., Ph.D.; T. Edward Weiss, Jr., Ph.D.
ASSISTANT PROFESSORS: Charlotte L. Otts, Ph.D.; Barbara A. Savitzky, Ph.D.

Emeritus Faculty

PROFESSORS: Robert J. Edwards, Ph.D.; Aletha S. Markusen, Ph.D.; Jean E. Pugh, Ph.D.; E. Spencer Wise, Ph.D.
ASSISTANT PROFESSOR: Ruth O. Simmons, M.Ed.

About the Department

The Department of Biology, Chemistry and Environmental Science offers a broad spectrum of courses suitable for an undergraduate BS and BA degree, teacher recertification, or the science specialty of the MAT degree. Undergraduate course offerings are divided into tracks, each with specific upper-level biology courses and supportive lower-level courses. Undergraduates may specialize in botany, cell biology and biochemistry, environmental science, horticulture, premedical/preveterinary/predental, secondary education, zoology and, may minor in biology or chemistry. The all-Ph.D. departmental faculty is actively engaged in teaching and research and encompasses a depth and breadth of scholarly activity far greater than its numbers would indicate.

All departmental course offerings are taught in a new 14,000 square foot biology/chemistry building containing 14 modern and exceptionally well-equipped laboratories and 21 support areas. Three walk-in controlled environment chambers and a new greenhouse complement the facilities. Additionally, the department has a multi-acre ecological study site in rural Gloucester County which supports staff and student research.

Courses of Instruction

BIOL 582. Life (3-3-0)
Corequisite: BIOL 582L

Course completes sequence with PHYS 581. Investigation of the geological development of the Earth and the biological and chemical evolution of life on Earth.

BIOL 582L. Life Laboratory (1-0-3)

Course complements the biology and chemistry learned in studying the origin of life. An exploration of the biology and chemistry used in describing the evolution of life. Experiences encountered designed to be integrated into the middle school teaching environment.

BIOL 583. General Ecology (4-3-4)

Prerequisite: BIOL 582

Study of living organisms and their biological, chemical and physical environment in ecosystems, communities and populations, with consideration given to human influence on each level.

BIOL 584. The Environment (4-3-4)

Prerequisite: BIOL 582

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

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

Prerequisite: BIOL 582

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

BIOL 585L. Marine Biology Laboratory (1-0-4)

Laboratory experience to accompany marine biology studies.

BIOL 586. Historical Geology (4-3-4)

Prerequisite: BIOL 582, 587 or consent of instructor

A survey of the geological history of the earth, including plate tectonics, techniques of relative and absolute dating of rocks, and the paleontological and paleoenvironmental history of the earth. Involves field and laboratory work.

BIOL 587. Physical Geology (4-3-4)

Study of the earth and its structure, the causes and effects of plate tectonics, the formation and modification of minerals and rocks, weathering and erosion, and geological processes occurring in different environments. Involves field and laboratory work.

BIOL 589. Oceanography (3-3-0)

Prerequisite: BIOL 582

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

BIOL 589L. Oceanography Laboratory (1-0-4)

Laboratory experience to accompany Oceanography.

BIOL 699. Thesis Research. Credits vary.

**Department of Education
and Leisure Studies**

(College of Social Science and Professional Studies)
Smith Hall, Room 154
(804) 594-7388

Chairman: Dr. Lora R. Friedman

Faculty

PROFESSORS: Robert H. Cummings, Ph.D.; Lora R. Friedman, Ed.D.
ASSOCIATE PROFESSORS: Sandra L. Bryan, Ed.D.; Linda T. Morgan, Ed.D.; Mary Lu Royall, Ed.D.;
Aline M. Storfay-Stitz, Ed.D.
ASSISTANT PROFESSORS: Michael B. Brown, Ed.D.; Linda R. Sanders, Ph.D.

Emeritus Faculty

ASSOCIATE PROFESSORS: James N. Hubbard, III, M.Ed.; John E. Jenkins, M.Ed.

About the Department

The Department of Education and Leisure Studies provides courses appropriate for the MAT degree; for baccalaureate certification in early childhood, middle school and selected secondary school education; and for the Bachelor of Science degree in Leisure Studies. The faculty has extensive and comprehensive K-12 teaching and administrative experience and continues to be involved actively in many facets of public instruction. Through the Peninsula Cooperative Clinical Faculty Program, students in the final stage of the certification process have the opportunity for a clinical internship teaching semester in the public schools. This program was selected by the State Council of Higher Education for Virginia (SCHEV) to be a model clinical faculty initiative. As part of the University's International Education Program, students may also select an internship in one of the American Overseas Schools in Latin America. Education courses often incorporate practicum components in the public schools to observe, instruct or assist the teacher.

The Education Faculty is involved in ongoing active research and grant writing and implementation. Through an Economic Security Act (Title II) Grant, the Peninsula Institute for Mathematics Teachers was funded. The Peninsula Cooperative Clinical Faculty Program, funded by a SCHEV grant awarded jointly to Christopher Newport University and Hampton University, has implemented the clinical supervision model in area classrooms and has trained clinical faculty from the public schools and from liberal arts faculties.

The restructured undergraduate teacher education programs are administered through the Center for Effective Teaching (CET). The Center, with appropriate academic departments, is responsible for the development, organization, administration, and evaluation of the teacher education programs of the University. The CET faculty includes members of the Department of Education and Leisure Studies, designated arts and science, faculty and clinical faculty from the public schools. The CET is advised by the Teacher Education Board, which consists of representatives from the public schools of the University's service area.

The Education Faculty uses the facilities of the University and of various public schools, as provided in cooperative arrangements. Students use the Co-operative Learning Laboratory in Smith Hall for group work and computer assignments. The Learning Resource section of the Captain John Smith Library houses the education collection, curriculum guides, sample textbooks, instructional aids, and children's literature books. With the assistance of the faculty and staff of the library media center, hands-on instruction utilizing educational technology is provided. The University's IBM-PC and Apple computer laboratories are also available with flexible hours. Students in teacher education courses may also use the Newport News Teacher Resource Center to supplement the University's collection of professional journals and curricular materials.

Courses of Instruction

EDUC 501. Multicultural Education (3-3-0)
Study of the multicultural character of the American society, intercultural relations 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, basic data analysis and application to educational problems.

EDUC 510. Teaching Internship (6-0-12)
A full-time clinical teaching experience in the public schools.

EDUC 516. The Middle School (3-3-0)
Course examines the middle school concept, including its basic components, characteristics of the learner, appropriate instructional strategies and curriculum design.

EDUC 535. The Exceptional Learner (2-2-0)
Strategies for teaching all types of exceptionality: gifted, learning disabled, visually impaired, hearing impaired, physically handicapped, emotionally disordered and mentally retarded; and strategies for the development, implementation and evaluation of individual education programs.

EDUC 543. Classroom Management and Discipline (2-2-0)
Classroom organization and management for optimal student learning; practical approaches for preventing and coping with behavior problems.

EDUC 544. Evaluation of Learning (2-2-0)
Construction and selection of measurement and evaluation instruments, interpretation and use of test results and communication of data with parents.

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

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.

EDUC 595. Teaching in a Changing World (3-3-0)

Seminar for advanced graduate students to study the impact of the changing world on multidisciplinary education with emphasis on science and mathematics education. Capstone course.

EDUC 699. Thesis Research. Credits vary.**Department of Mathematics****(College of Science and Technology)****Gosnold Hall, Room 201****(804) 594-7194****Chairman: Dr. Stavroula E. Kostaki-Gailey****Faculty****PROFESSORS:** John J. Avioli, Ph.D.; Martin W. Bartelt, Ph.D.; Richard M. Summerville, Ph.D.**ASSOCIATE PROFESSORS:** Parviz Khajeh-Khalili, Ph.D.; Stavroula E. Kostaki-Gailey, Ed.D.; Glen M. Weber, Ph.D.**ASSISTANT PROFESSORS:** Hongwei Chen, Ph.D.; Wing Man Kwok, Ph.D.; Ronald L. Persky, M.A.**Emeritus Faculty****ASSOCIATE PROFESSOR:** Daisy D. Bright, M.A.**About the Department**

The Department of Mathematics offers a variety of courses for those who wish to develop general or specific skills in mathematics, to satisfy the undergraduate mathematics distribution requirement, to study mathematics for aesthetic reasons, or to pursue the Bachelor of Arts or Bachelor of Science degrees in mathematics or the minor in mathematics. The department offers courses for those who seek the Master of Arts in Teaching degree and also offers courses for the Master of Science in Applied Physics.

The department is involved in mathematics education related activities such as supervising student teachers, alliances with public schools, grants and mathematics research.

Since education is a lifelong activity, it is imperative that teachers of mathematics continue to be students of mathematics. The mathematics specialty of the MAT program provides professional development activities that blend mathematics content, instructional pedagogy and instructional resources. The courses are based on recommendations of the Mathematical Association of America (MAA) and the National Council of Teachers of Mathematics (NCTM).

Courses of Instruction**MATH 570. Advanced Instructional Strategies in Mathematics (3-3-0)**

An update of the methodological background necessary for teaching school mathematics, based upon current understanding and insights derived from both content and pedagogy. Development of creative instructional approaches that are meaningful and mathematically correct and instill in students enthusiasm and satisfaction in learning and using mathematics. Opportunities to implement methodological practices in the classroom and to consider their impact on the performance of both students and teachers. Includes internship in classroom environment.

MATHEMATICS

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

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

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 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 given to ideas involved in teaching geometry.

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.

MATH 699. Thesis Research. Credits vary.

PHYSICS AND COMPUTER SCIENCE

Department of Physics and Computer Science

(College of Science and Technology)
Gosnold Hall, Room 130
(804) 594-7065

Chairman: Dr. George R. Webb

Faculty

PROFESSORS: John J. Avioli, Ph.D.; A. Martin Buoncristiani, Ph.D.; George R. Webb, Ph.D.

ASSOCIATE PROFESSORS: Joshua C. Anyiwo, Ph.D.; Hitohisa Asai, Ph.D.; Randall H. Caton, Ph.D.; David C. Doughty, Jr., Ph.D.; David E. Game, Ph.D.; James I. Moore, Ph.D.; David L. Hibler, Ph.D.; Jane C. Webb, Ph.D.

ASSISTANT PROFESSORS: Frederick F. Hartline, Ph.D.; David P. Heddle, Ph.D.; David L. Hibler, Ph.D.; Robert F. Hodson, Ph.D.; Bo Jin, Ph.D.; Peter A. Knipp, Ph.D.; Lynn Lambert, Ph.D.; Zhujun Liz Li, Ph.D.; Kathryn O. McCubbin, M.S.; Raouf L. Selim, Ph.D.; Antonio C. Siochi, Ph.D.

VISITING FACULTY: Joseph Hafele, Ph.D.; Shouben Zhou

About the Department

The Department of Physics and Computer Science offers courses in two degree programs: a Master of Science in Applied Physics and a Master of Arts in Teaching.

The Master of Science in Applied Physics addresses the needs for graduate education in applied physics and computer science 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. Our 24-person department, twenty-two of whom hold the Ph.D., has amassed a strong record of research and publications in four areas:

- solid state (lasers and superconductors),
- dynamical systems,
- 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, NASA-Langley Research Center and the Continuous Electron Beam Accelerator Facility (CEBAF). Furthermore, individual faculty have cooperative research projects with faculty from Boston College, Vanderbilt University, Clemson University, University of Georgia, Old Dominion University, and Stanford University. Our international connections include relationships with professors and researchers in Russia, Zimbabwe, Italy, and the Peoples Republic of China.

The department's contribution to the science specialty for the MAT degree is made by departmental faculty members with experience in science education at the K-12 levels. The department has obtained grants for several projects relating to education. The MIRACLES program received recognition for promoting interest in science and mathematics among minority students in the middle schools. The SCHOOL SCIENCE COMES ALIVE program is designed to create an exciting, science-enrichment

experience for third graders in four elementary schools on Virginia's Peninsula. Projects involving innovative applications of technology to teaching at all levels have been and are being developed. The CLASSTALK system is currently in use at CNU. The Information Technology Center is bringing the power of computer technology to the classroom at the university level. The SMART CLASSROOM PROJECT, currently under development, will apply advanced technology to teaching in the public schools.

The department also offers graduate courses in physics and computer science to non-degree seeking students.

Equipment and Laboratories in the Department

The department has four major teaching-research labs: the Hunter Creech Computer Graphics Lab, the Superconductivity Lab, the Digital Design Lab and the Data Acquisition Lab. In addition, it has two general purpose laboratories and a large commons area for student-faculty collaborations and study. Furthermore, the department makes extensive use of two computer classrooms in its space in Gosnold Hall. The James I. Moore Computer Classroom features a NOVELL network of thirty computers, and Gosnold's large lecture room has an interactive computer system with 64 keypad stations, a host computer and a projection video system.

Major computer equipment in these departmental labs includes eighteen Sun IPC color workstations, and three HP 300 computers and data acquisition subsystems. The department has, in addition, two schematic capture workstations, twelve Zenith 286 machines, a network of six Macintosh computers, three 386-machines, two Tektronix logic analyzers, two digital storage scopes, and an Altera foundry for erasable programmable logic devices. The MasPar parallel-processing computer that the department has just purchased is the only massively parallel machine in a college or university in the Commonwealth.

The superconductivity lab features two displax closed cycle refrigerators, a 25 ton Carver press, a computer controlled Marshall furnace (2350°F), and five other processing ovens, all in a highly instrumented and computer-controlled environment. This equipment is complemented by an X-ray diffraction machine.

Major software includes the mathematical computation tools MACSYMA, MATHEMATICA, and MATHCAD; printed circuit design with schematic capture and circuit simulation systems PCAD and VERILOG; system simulation and analysis software SLAM and EXCELERATOR; publishing and color drawing packages FRAMEMAKER, ARTISAN and ISLAND GRAPHICS; ANSYS for finite element computer analysis; and languages such as ADA, FORTRAN; PASCAL; C; C++.

The office network and the Sun network are connected by VERNET to INTERNET. Communication can be made with the department by EMAIL: GWEBB@PCS.CNC.EDU

Research Projects

The Department of Physics and Computer Science has at present projects sponsored by the National Aeronautics and Space Administration (NASA), the National Science Foundation, the Continuous Electron Beam Accelerator Facility (CEBAF), the Center for Innovative Technology, and the Council of Higher Education. Faculty are involved with local companies in research and development efforts as well.

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.

Continuum and discrete models for physical systems. The classical models of physical phenomena such as elasticity, electromagnetism and fluids, 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.

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 Shroedinger 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.

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.

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.

Review of thermodynamics followed by advanced topics in thermodynamics: first-order phase transitions, critical phenomena, the Nernst postulate, and irreversible thermodynamics. Statistical mechanics: entropy representation, microcanonical, 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.

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. Survey of parallel architectures.

PHYSICS AND COMPUTER SCIENCE

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

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

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.

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, Advanced Topics (1-1-0)

Prerequisites: PHYS 422 or equivalent.

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. Fundamentals of Optics (3-3-0)

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

This course lays the foundation of modern optical science. It presents an overview of the properties of light, describes basic principles for control and detection of light beams and surveys optical components in use today. The use of computer software for optical analysis is emphasized.

PHYS 581. The Universe (3-3-0)

Prerequisites: Graduate standing (MAT) or permission of the instructor.

The origin of the universe, galaxies, stars, solar system and the earth. Part of an interdisciplinary sequence with BIOL 582. Course addresses the State of Virginia Standards of Learning objectives for physical science.

PHYS 581L. The Universe Laboratory (1-0-3)

Hands-on material that complements PHYS 581 and gives middle school teachers experiences that can be integrated into their own teaching environment. The use of simple apparatus and experiments as well as computer simulations are explored.

PHYS 582. Energy and the Environment (3-3-0)

Prerequisites: PHYS 581 or permission of the instructor.

Environmental issues important to the middle-school curriculum are explored using basic physical principles. Typical topics include: fossil fuels and power production, the greenhouse effect and the ozone depletion, automobile emissions, radon gas, nuclear energy and wastes, solar and other alternative energies, and energy conversion. Course addresses the State of Virginia Standards of Learning objective to "study the physical sciences as they apply to the environment."

PHYS 583. High Technology in Contemporary Applications (4-4-0)

Prerequisites: PHYS 581 or permission of the instructor.

This course enables middle school teachers to address current technological issues and understand current technological devices by learning the underlying concepts behind the technology. The focus is on the basic digital and optical concepts that are used in designing modern high technology applications. Simple hands-on experiences are emphasized and laboratory activities on each topic will be part of the course. Computers, lasers, and many other everyday practical applications such as traffic light controllers and microwave oven controllers are discussed in a qualitative approach.

PHYSICS AND COMPUTER SCIENCE

PHYS 584. Development of Scientific Thought (3-3-0)

Prerequisites: PHYS 581 or permission of the instructor.

Designed to give to teachers an understanding of the origin and growth of scientific values and of how people have developed science to predict, control and live in harmony with the natural world. These goals are achieved through the study of selected periods of the history of science in the West. The course also presents the role of history in transmitting relevant historical as well as modern scientific information to middle school students. The teachers will attain the Commonwealth of Virginia's SOL objectives concerning the development of scientific values, the scientific world view, and the use of scientific concepts process skills and values in society. Guest speakers will be used where appropriate.

PHYS 591. Directed Research and Internship for Educators

Credit varies; maximum credit 6 hours

Research in physics, applied physics or engineering on a topic of interest to a national laboratory and development of educational units for presenting the area of research to school science students. The project chosen is explored in depth; the exploration must draw upon the participant's science and mathematical background. A final written report, oral report, product designed for use in the schools, and demonstration of that product are required. Course is open only to participants in summer programs of CEBAF and NASA Langley Research Center.

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

Prerequisites: PHYS 503, PHYS 522

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 will correlate 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

This advanced instrumentation systems course is directed at understanding a comprehensive system's problem and formulating a design approach based on sound computer engineering principles. This course is a precursor to the student's thesis work in Instrumentation and Advanced Computer Systems. Students will select computer system research areas and formulate problem solving approaches under instructor supervision. Background research, trade off studies and alternative implementations will be explored. Course will be held in a seminar setting to allow students to provide weekly reports on the progress of their work. It will also serve as a peer/faculty review process to assist the student in designing a project suitable for the thesis.

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

Prerequisites: PHYS 502 and PHYS 506 or consent of instructor. 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. Optoelectronic Materials and Devices (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 the laser and its varied uses in meteorology. Extensive laboratory experimentation.

PHYSICS AND COMPUTER SCIENCE

PHYS 634. Superconducting Materials and Devices (3-3-0)

Prerequisite: PHYS 631

Introduction to superconductivity. Properties of conventional superconductors. Theory of type-II superconductors and the Josephson effect. Properties of high temperature superconductors including crystallography, electronic structure, synthesis, thermal and transport properties, and magnetic properties. Overview of applications of superconductors. Extensive laboratory experimentation.

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

A design course to integrate knowledge acquired in the solid state program into a research/design effort. Course will be held in a seminar setting to allow students to provide weekly reports on the progress of their work. It will also serve as a peer/faculty review process to assist the student in designing a project suitable for the thesis.

PHYS 641. Computational Physics (3-3-0)

Prerequisites: PHYS 501, PHYS 502, MATH 580, CPSC 510, C or Fortran 90.

Development of advanced analytical, numerical and analytic-numerical algorithms for computational systems dynamics (CSD) on serial and parallel machines. Projects-oriented computation of dynamical systems models on serial and parallel machines.

PHYS 649. Design of Integrated Computational Environments (3-3-0)

Prerequisite: PHYS 641

Conceptualize, design, develop and test an integrated computational environment suitable for the analysis of dynamical systems, and the appropriate presentation of results therefrom. Course will be held in a seminar setting to allow students to provide weekly reports on the progress of their work. It will also serve as a peer/faculty review process to assist the student in designing a project suitable for the thesis.

PHYS 689. Advanced Instructional Strategies with Internship (3-3-0)

Prerequisites: PHYS 581L, BIOL 582L

State of the art strategies and technologies for effective science teaching in the middle school are applied and tested in student developed units. Strategies included advanced implementations of active learning methods (such as hands-on explorations, field trips, science projects, and take-home activities); and advanced classroom uses of new technologies such as computers, multimedia (CD-ROM, videotape, and videodisk), E-mail, networks, and electronic bulletin boards.

Courses of Instruction – Computer Science

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

Prerequisites: Graduate standing or permission of the instructor.

The management, specification, design, implementation and documentation of complex software systems. A major project is to be done in the last half of the course. A paper or class presentations based on independent reading of research papers concerning new developments in software engineering will be required. Students will be expected to learn to use software systems such as CASE tools.

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

Prerequisites: Graduate standing or permission of the instructor.

A comprehensive view of data communications with an emphasis of 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. Analysis of networks emphasizes simulation techniques.

PHYSICS AND COMPUTER SCIENCE

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

Prerequisite: CPSC 502

Advanced communications topics including internetworking and transport level protocols, bridges and routers, integrated network traffic, network management software with an emphasis on Unix tools, coding theory and mathematical modelling to include queuing theory.

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

Prerequisites: Completion of 16-24 hours of program requirements.

A design course to integrate knowledge acquired in the program into a research/design effort. This course will serve as a structure for beginning the research/design effort. Course will be held in a seminar setting to allow students to provide weekly reports on the progress of their work. It will also serve as a peer/faculty review process to assist the student in designing a project suitable for the thesis.

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

Prerequisite: PHYS 521

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. Architectural simulation. Programming experiments on various parallel machines.

CPSC 642. Qualitative Modeling (3-3-0)

Prerequisite: PHYS 501 and CPSC 501

The purpose of this course is to acquaint student with the basic techniques used for qualitative reasoning about physical systems. To understand how to apply these methodologies for design, control, and diagnostic purposes. Students will use state of the art computer tools for building qualitative models and for applying these models for failure diagnosis and other types of analysis.

APCS 699. Thesis Research. Credits vary.

Department of Psychology

(College of Social Science and Professional Studies)
Wingfield Hall, Room 116
(804) 594-7094

Chairman: Dr. F. Samuel Bauer

Faculty

PROFESSORS: F. Samuel Bauer, Ph.D.; Lee E. Doerries, Ph.D.; Robert W. Herrmann, Ph.D.; Sanford E. Lopater, Ph.D.

ASSOCIATE PROFESSORS: David E. Dooley, Ed.D.; Dorothy C. Doolittle, Ph.D.; Shelia P. Greenlee, Ph.D.

ASSISTANT PROFESSORS: Karen H. Barnett, Ed.D.; Diane Catanzaro, Ph.D.; James W. Ness, Ph.D.

Emeritus Faculty

PROFESSORS: Joanne S. Squires, Ph.D.; James C. Windsor, Ed.D.

About the Department

The Department of Psychology serves over 300 undergraduate majors, and supports many other majors by offering service courses, as well as two introductory sequences in the Social Sciences. The department offers a particularly wide range of experiences, including many laboratory and experiential courses in addition to more traditional lecture courses. This broad coverage of the discipline reflects a faculty which is diverse and eclectic.

The undergraduate program is subdivided into three concentrations, each preparing students for specific objectives. The General Concentration serves most students who intend to continue their education in clinical/counseling, experimental or most other areas of Psychology. The Industrial/Organizational Concentration serves students who intend to pursue a career in I/O Psychology which is currently an area in great demand. The Early Child Psychology Concentration emphasizes the early developmental phases of human growth, and is structured to serve students who are also seeking State Teaching Certificates in Elementary Education through the Education Department.

The Psychology Department has dedicated laboratories, including an Organizational Psychology Laboratory, and laboratories for General Experimental Psychology, Sensation and Perception, Operant Learning, and Psychophysiology. These laboratories are equipped with state-of-the-art equipment, and are used in support of teaching and both student and faculty research.

The majority of Psychology graduates continue their education in some area of Psychology or Education. The central philosophy of the department is to emphasize the fundamentals of the discipline, presenting Psychology as an objective science. This emphasis is consistent with the entry requirements of most American graduate schools of Psychology.

The Department of Psychology currently provides a key course in the MAT degree program, and soon will be proposing additional courses and one or more graduate programs.

Courses of Instruction

PSYC 500. Human Learning (3-3-0)

Review of contemporary theories of cognitive development and learning as they address issues related to the individual's interaction with teacher, peers and educational technologies. Practical applications of theory to classroom environments will be emphasized.

PSYC 699. Thesis Research. Credits vary.



BOARD OF VISITORS

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Newport News, Virginia
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Term Expires June 30, 1994

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Gordon L. Gentry, Jr.
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Newport News, Virginia
Term Expires June 30, 1993

William T. O'Neill
Williamsburg, Virginia
Term Expires June 30, 1994

ADMINISTRATION

Office of the President

Anthony R. Santoro
President

Mario D. Mazzarella
Executive Assistant to the
President

Louis J. Noisin
Assistant to the President for
Multicultural Affairs and
Affirmative Action

Mary E. Cotton
Internal Auditor

Academic Affairs

Richard M. Summerville
Provost

Patricia Harvey
Assistant to the Provost

Jouett L. Powell
Dean of the College of Arts
and Humanities; Director,
Graduate Studies

Wesley L. Pendergrass
Acting Dean of the College of
Business and Economics
(through June 30, 1992)

George R. Webb
Acting Dean of the College of
Science and Technology

Virginia S. Purtle
Dean of the College of Social
Science and Professional
Studies

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Director of International Studies

Kathryn O. McCubbin
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Becky F. Moore
Director of Personnel

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Director of University Services

Richard T. White
Director of Plant Operations

Jacqueline T. Haskins
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Student Services

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Services

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Director of Student Assessment

Glen C. Vought
Counselor

Tisa A. Mason
Director of Student Life

Marian D. Carrington
Director of Minority Student
Services

C. J. Woollum
Director of Athletics

Gerald J. Bright
Campus Police Chief

Development

John W. Campbell, Jr.
Acting Vice President for
Development and University
Relations

James D. Eagle
Director of Grants Development

Norma J. Brown
Director of the Annual Fund

GRADUATE FACULTY

Members of the Graduate Faculty of Christopher Newport University are responsible for teaching graduate courses, advising graduate students, directing theses, serving on graduate committees, providing for governance of the graduate programs, and carrying out and encouraging scholarship and research. The Graduate Faculty exercises faculty jurisdiction over graduate courses and programs; requirements for admission to, continuation in, and graduation from all graduate programs; policies and plans for future development of graduate programs; selection and continuance of Graduate Faculty members; and the awarding of graduate degrees. The Director of Graduate Studies chairs the Graduate Faculty Council and directs the affairs of the graduate program. The Graduate Faculty also includes certain associate members, drawn from the Faculty of the University, who are responsible for teaching certain courses in the graduate program. A full listing of all Faculty of the University can be found in the General University Catalog. Members of the Graduate Faculty are listed below. This list reflects the status of members of the Graduate Faculty for 1992-1993 at the time the catalog went to press. Where dates appear, the first date indicates the year when the individual was first appointed as a member of the Christopher Newport University Faculty; the second date indicates the year when the present rank was attained.

HITOHISA ASAI (1978, 1985), Associate Professor of Computer Science, B.S., Meijo University; M.S. Tokyo Electrical Engineering College; M.S. University of Wisconsin; Ph.D. University of Houston.

MARTIN W. BARTELT (1975, 1982), Professor of Mathematics, B.A., Hofstra University; M.A., Ph.D., University of Wisconsin.

H. MARSHALL BOOKER (1969, 1971), Professor of Economics, B.A., Lynchburg College; Ph.D., University of Virginia.

A. MARTIN BUONCRISTIANI (1974, 1978), Professor of Physics, B.S., University of Santa Clara; Ph.D., University of Notre Dame.

RANDALL H. CATON (1986, 1988), Associate Professor of Physics, B.S., University of Minnesota; M.S., University of Pennsylvania; Ph.D., City University of New York.

HAROLD N. CONES, JR. (1968, 1982), Professor of Biology, B.S., Maryville College; M.A., The College of William and Mary; Ph.D., Bowling Green State University.

LEE E. DOERRIES (1971, 1983), Professor of Psychology, B.A., M.A., The College of William and Mary; Ph.D., University of Rhode Island.

DOROTHY C. DOOLITTLE (1988, 1990), Associate Professor of Psychology, B.A., University of Georgia; M.S., Ph.D., University of Tennessee.

DAVID C. DOUGHTY, JR. (1984, 1989), Associate Professor of Physics, B.A., Rutgers University; Ph.D., University of Pennsylvania.

ROBERT J. DUREL (1971, 1987), Professor of Sociology, A.A., St. Joseph Seminary; B.A., Notre Dame Seminary; M.A., Ph.D., University of Notre Dame.

DAVID E. GAME (1978, 1991), Associate Professor of Computer Science, B.S., Massachusetts Institute of Technology; M.S., The College of William and Mary; Ph.D., Old Dominion University.

GRADUATE FACULTY

J. RICHARD GUTHRIE, JR. (1967, 1978), Associate Professor of German and French, A.B., The College of William and Mary; M.A., Middlebury College; Ph.D., University of North Carolina, Chapel Hill.

FREDERICK F. HARTLINE (1985, 1985), Assistant Professor of Physics, (part-time), B.A., Reed College; Ph.D., University of Washington.

DAVID P. HEDDLE (1989, 1989), Assistant Professor of Physics, B.S., M.S., Ph.D., Carnegie-Mellon University.

DAVID L. HIBLER (1989, 1985), Assistant Professor of Computer Science, B.S., University of Texas; M.S., University of South Carolina; Ph.D., University of Texas.

DONALD W. HICKS (1990, 1991), Associate Professor of Accounting, B.S., C.P.A., University of Virginia; M.S., Louisiana State University; Ph.D., Michigan State University.

ROBERT F. HODSON (1990, 1989), Assistant Professor of Computer Science, B.S.E., University of Connecticut; M.S.E., University of Central Florida; Ph.D., Florida State University.

KWOK, WING MAN (1990, 1990), Assistant Professor of Mathematics, B.Sc., Chinese University of Hong Kong; Ph.D., Ohio State University.

STAVROULA E. KOSTAKI-GAILEY (1974, 1980), Associate Professor of Mathematics, A.A., Warren Wilson College; B.A., University of North Carolina, Asheville; M.A., Western Carolina University; Ed.D., University of North Carolina, Greensboro.

BUCK G. MILLER (1976, 1984), Associate Professor of Government and Public Affairs, B.A., Gettysburg College; M.P.A., Ph.D., New York University.

LINDA T. MORGAN (1976, 1985), Associate Professor of Education, B.S., Longwood College; M.Ed., Texas A&M University; Ed.D., Virginia Polytechnic Institute and State University.

JAMES M. MORRIS (1971, 1977), Professor of History, A.B., Aquinas College; M.A., Central Michigan University; Ph.D., University of Cincinnati.

JAMES W. NESS (1990, 1990), Assistant Professor of Psychology, B.S., Florida Institute of Technology; M.S., Ph.D., Virginia Polytechnic Institute and State University.

CHARLOTTE L. OTTS (1989, 1989), Instructor in Biology and Geology, B.A., M.A.T., University of North Carolina; M.S., North Carolina State University; Ph.D. University of Arizona.

WESLEY L. PENDERGRASS (1982, 1988), Associate Professor of Management and Marketing and Acting Dean of the College of Business and Economics, B.S., M.B.A., J.D., University of Tennessee.

JOUETT L. POWELL (1978, 1989), Professor of Philosophy and Religious Studies and Dean of the College of Letters and Natural Science and Director of Graduate Studies, B.A., Baylor University; B.D., Southern Baptist Theological Seminary; M.Phil., Ph.D., Yale University.

VIRGINIA S. PURTLE (1989, 1981), Professor of Sociology and Dean of the College of Social Science and Professional Studies, B.S., M.S., Oklahoma State University; Ph.D., Louisiana State University.

GRADUATE FACULTY

ROBERTA K. ROSENBERG (1986, 1986), Assistant Professor of English, B.A., Queens College (CUNY); Ph.D., University of North Carolina, Chapel Hill.

LINDA R. SANDERS (1991, 1991), Assistant Professor of Education, B.A., University of Nebraska; M.A., Ph.D., University of Maryland.

ANTHONY R. SANTORO (1987, 1976), Professor of History and President of the College, A.B., College of the Holy Cross; M.A., University of California; Ph.D., Rutgers University.

RAOUF L. SELIM (1986, 1991), Associate Professor of Physics, B.S.E.E., Cairo University; B.S., Ain Shams University (Cairo); M.A., Ph.D., Temple University.

ALINE M. STOMFAY-STITZ (1991, 1991), Associate Professor of Education, B.A., Barnard College of Columbia University; M.A., Case Western Reserve University; Ed.D., Northern Illinois University.

RICHARD M. SUMMERVILLE (1980, 1973), Professor of Mathematics and Vice President for Academic Affairs, B.S., Clarion State College; A.M., Washington University; Ph.D., Syracuse University.

GEORGE R. WEBB (1973, 1976), Professor of Physics and Acting Dean of the College of Science and Technology, A.A., Old Dominion University; B.S. Massachusetts Institute of Technology; Ph.D., Virginia Polytechnic Institute and State University.

ROBERT C. WINDER (1991, 1986), Associate Professor of Economics and Finance, A.B., Rutgers College; M.A., University of Connecticut; Ph.D., Rutgers University.

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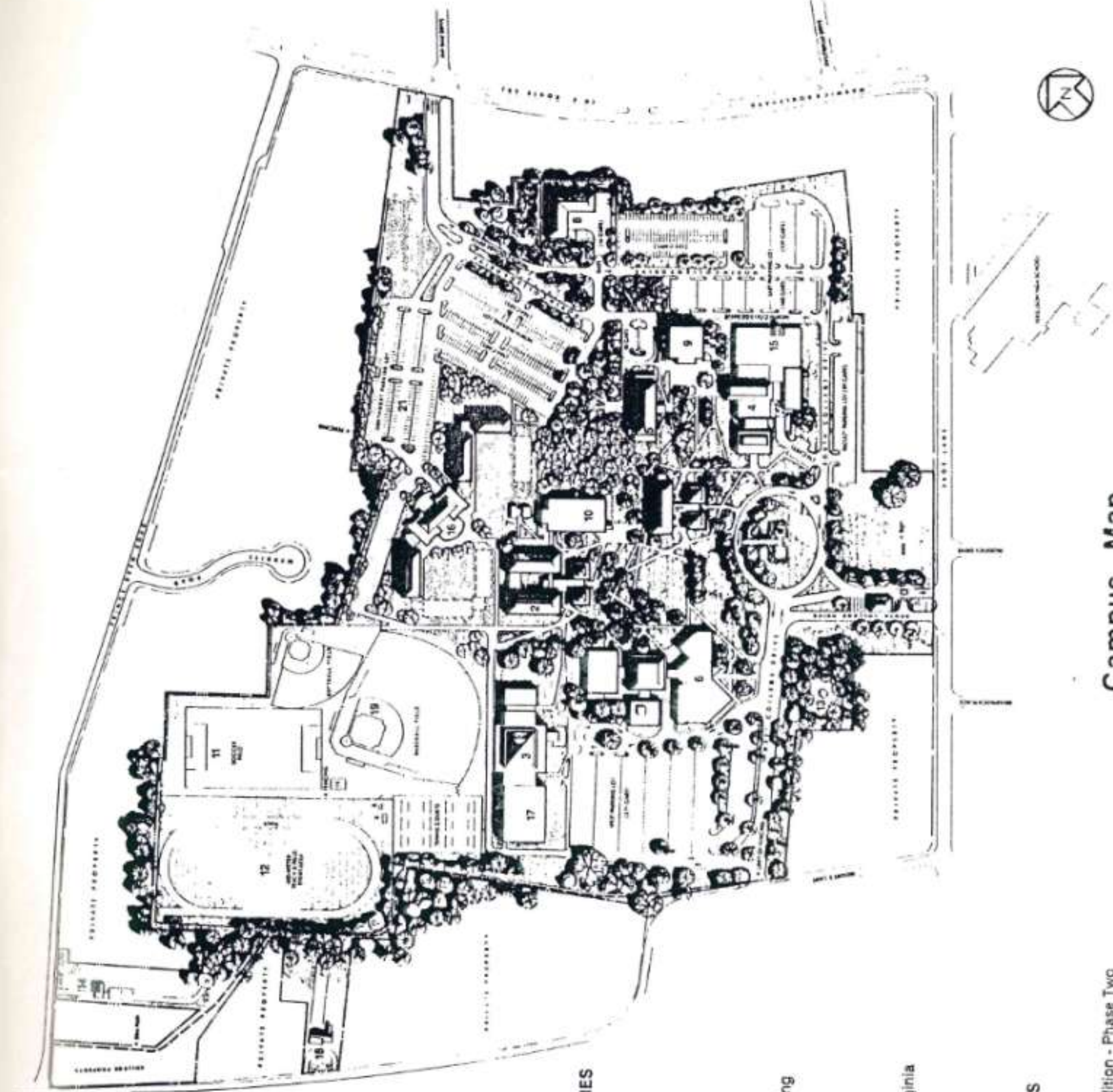
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EXISTING BUILDINGS AND FACILITIES

- 1 McMurrin Hall
- 2 Gosnold Hall
- 3 Ratcliffe Gymnasium
- 4 Captain John Smith Hall
- 5 Wingfield Hall
- 6 Campus Center
- 7 Greenhouse
- 8 Service and Maintenance Building
- 9 Administration Building
- 10 Science Building
- 11 Soccer Field
- 12 400-Meter Track and Field
- 13 The Japanese Tea House in Virginia
- 14 Office Building
- 18 Office Building
- 21 Northwest Parking Lot

FUTURE BUILDINGS AND FACILITIES

- 15 Library Addition - Phase Three
- 16 Residence Hall
- 17 Physical Education Building Addition - Phase Two
- 19 Baseball/Softball Complex
- 20 Safety Building